



**A A S** 225<sup>TH</sup> MEETING

AMERICAN ASTRONOMICAL SOCIETY  
SEATTLE, WASHINGTON • 4-8 JANUARY 2015

**IN CONJUNCTION WITH:**

High Energy Astrophysics Division & Historical Astronomy Division



225th Meeting of the  
**American Astronomical Society**  
with High Energy Astrophysics Division (HEAD) and  
Historical Astronomy Division (HAD)

4-8 January 2015 | Seattle, WA

**Session Numbering Key**

- 100s Monday
- 200s Tuesday
- 300s Wednesday
- 400s Thursday

*Sessions are numbered in the Program Book by day and time.*

*Posters will be on display Monday - Thursday*

*Changes after 5 December are included only in the online program materials.*



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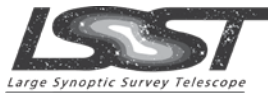
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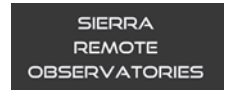
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## CONTRIBUTORS



# We would like to thank our **PLATINUM & GOLD SPONSORS** for the generous support of the 225th AAS Meeting.

## **Northrop Grumman**

***NORTHROP GRUMMAN***

Since the dawn of the space age, Northrop Grumman has put good ideas into orbit and beyond. From systems engineering, spacecraft manufacturing, precision sensors, space instrument design, ground stations development and orbiting space platforms, Northrop Grumman's space capabilities have transformed lofty concepts into high-flying realities for a wide variety of missions.

## **Apogee Imaging Systems**



Apogee has been manufacturing and supplying cooled CCD cameras to astronomers around the world since it was founded in 1993. Apogee's Alta camera series is designed to offer a broad range of sensor options attractive to the Astronomy community.

The new Aspen and Ascent cameras further extends the Apogee portfolio providing higher performance and better affordability. In 2013 Apogee was acquired by Andor Technology, adding further expertise in camera development, manufacturing and customer support.

## **USRA**



Universities Space Research Association, an independent, nonprofit research corporation that combines efforts of in-house talent and university-based expertise to advance space science & technology. USRA was founded in 1969, near the beginning of the Space Age, driven by the vision of two individuals, James Webb (NASA Administrator 1961-1968) and Frederick Seitz (National Academy of Sciences President 1962-1969). Together, they worked to create USRA to satisfy not only the ongoing need for innovation in space, but also the need to involve society more broadly so the benefits of space activities would be realized.

Today, USRA works across a wide spectrum of disciplines stemming from the range of challenges originally posed by the space program. From biomedicine to astrophysics, from basic research to facility management and operations, USRA is helping enable the study of the Universe from ground, airborne, and orbiting observatories, the study of Earth from space-based platforms, and more.

## SPONSORED ACTIVITIES

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### Mobile App

Universities Space Research  
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### Program Booklet

Apogee Imaging Systems

### Mobile Device Charging Station

Northrop Grumman

### Cybercafe & Wireless

Northrop Grumman

### Career Networking and Job Fair

Microsoft

### Career Center

Microsoft

### Student Education and Public Outreach Event

Associated Universities, Inc.

### Hack Day

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### Plenary Talks

Royal Society Publishing, USRA and  
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University of Virginia  
University of Washington  
University of Wisconsin, Madison  
University of Wisconsin, Milwaukee  
Wesleyan University  
Yale University

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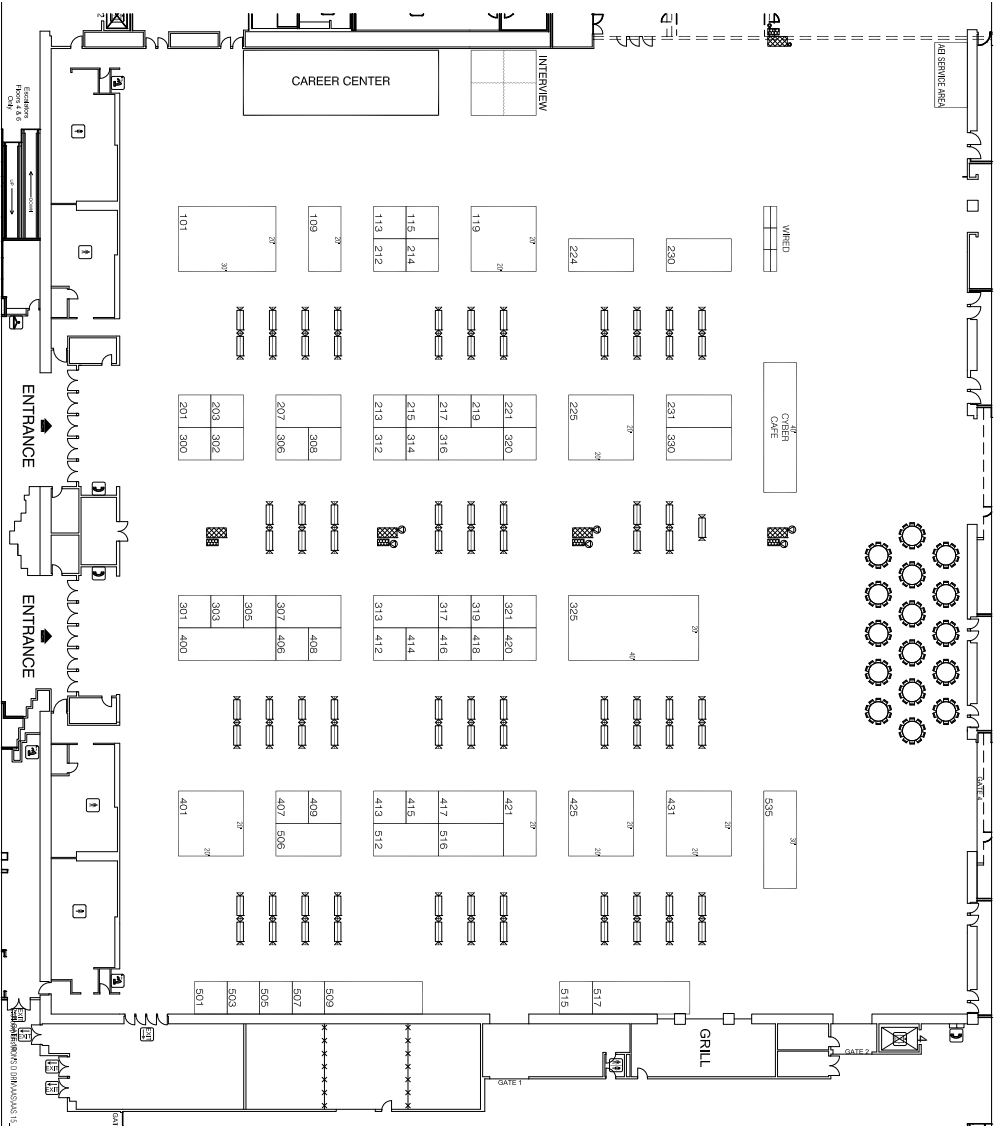
101	American Astronomical Society, Historical Astronomy Division, High Energy Astrophysics Division
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321	Submillimeter Array
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330	Sloan Digital Sky Survey

**EXHIBITORS (BY BOOTH NUMBER) continued**

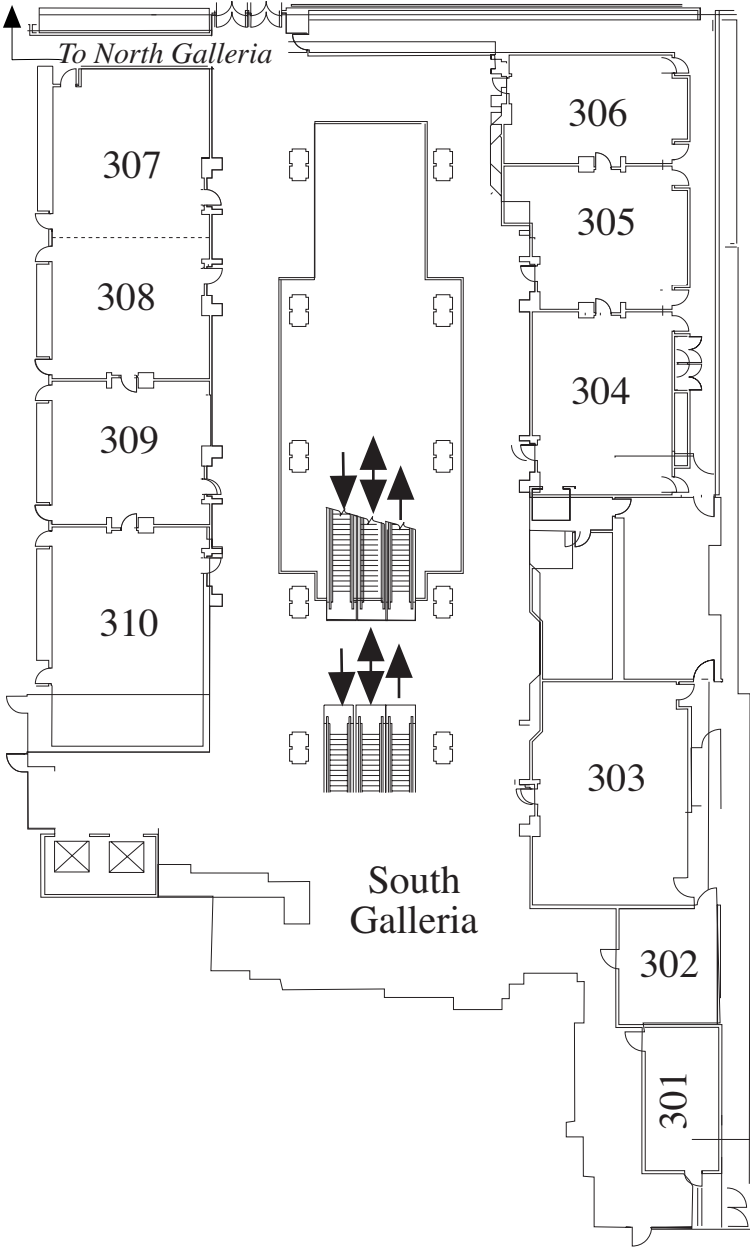
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<b>400</b>	Northrop Grumman
<b>401</b>	National Radio Astronomy Observatory
<b>406</b>	Universities Space Research Association - USRA
<b>407</b>	Associated Universities, Inc. - AUI
<b>408</b>	Arecibo Observatory
<b>409</b>	Space Science Institute
<b>412</b>	NASA Stratospheric Observatory for Infrared Astronomy - SOFIA
<b>413</b>	Princeton University Press
<b>414</b>	Finger Lakes Instrumentation
<b>415</b>	Genesis Engineering Solutions, Inc.
<b>416</b>	NASA Astrophysics Data System - ADS
<b>417</b>	The National Optical Astronomy Observatory
<b>418</b>	SIMBAD
<b>420</b>	Oxford University Press
<b>421</b>	The National Science Foundation
<b>425</b>	Space Telescope Science Institute
<b>431</b>	Fermi / NuStar / Swift
<b>501</b>	Sapling Learning
<b>503</b>	University of Hawaii Institute for Astronomy Pan-STARRS
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<b>506</b>	Large Synoptic Survey Telescope - LSST
<b>507</b>	SBIG Astronomical Instruments
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<b>512</b>	Association of Universities for Research in Astronomy - AURA
<b>515</b>	TMT International Observatory
<b>516</b>	Gemini Observatory/AURA
<b>517</b>	Infrared Processing and Analysis Center - IPAC
<b>535</b>	NASA Exoplanet Exploration
<b>Level 4 Foyer</b>	International Year of Light Travelling Exhibit
<b>Level 6 Foyer</b>	Hubble 25th Anniversary Exhibit
<b>100</b>	Shared Book Exhibit The University of Arizona Press • Turner Publishing

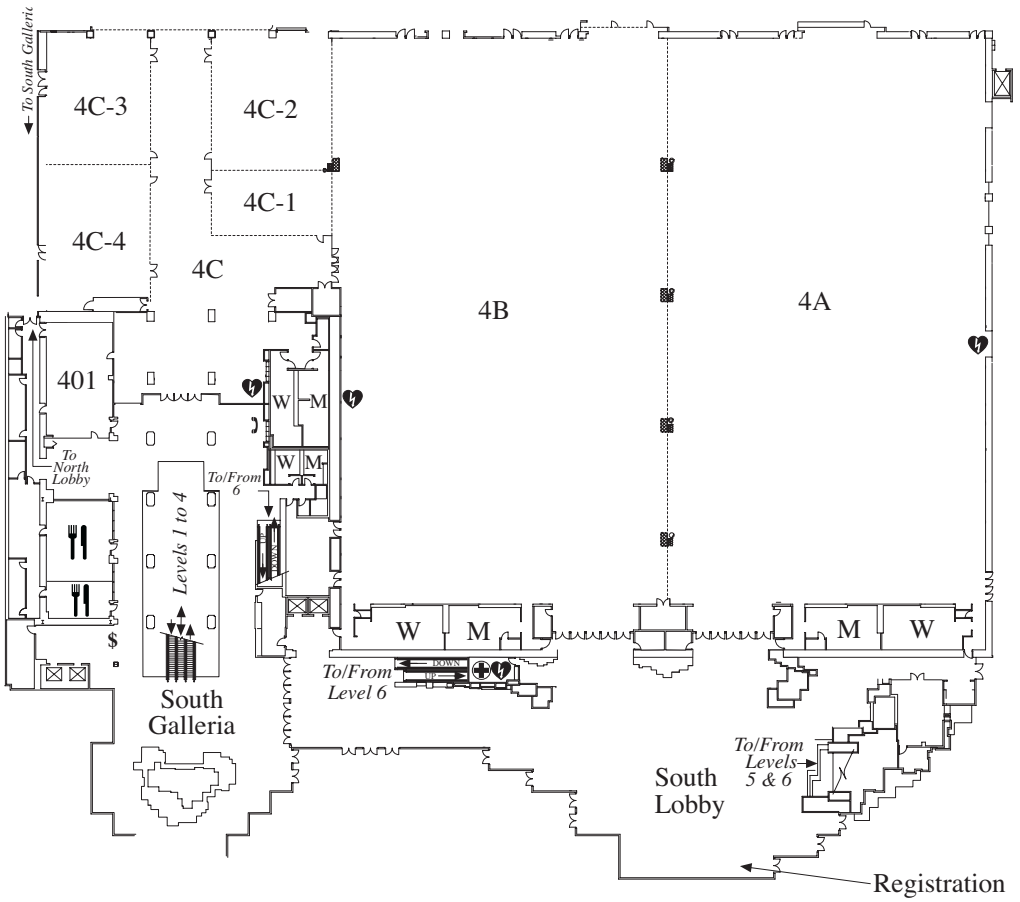
# EXHIBITOR HALL FLOOR PLAN



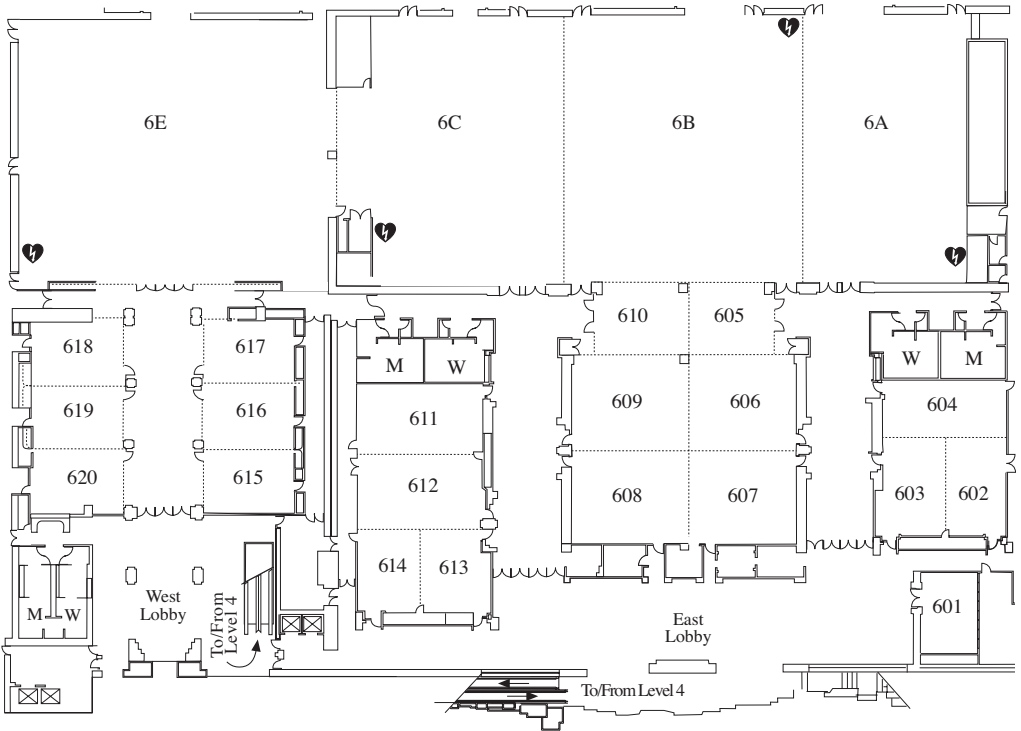
THIRD FLOOR



# FOURTH FLOOR



# SIXTH FLOOR



# ATTENDEE SERVICES

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Wear your badge at all times during the meeting. Attendees who do not have their name badges on will be denied entrance to meeting rooms, the exhibit hall, etc. Please do not leave personal items unattended. The AAS is not responsible for lost or stolen property.

## Registration

### South Lobby

Sunday: 3:00 pm - 8:00 pm

Monday: 7:30 am - 5:00 pm

Tuesday-Wednesday: 8:00 am - 5:00 pm

Thursday: 8:00 am - 12:00 pm

## Exhibit Hall

### Hall 4AB

Monday - Wednesday: 9:00 am - 6:30 pm

Thursday: 9:00 am - 2:00 pm

## Exhibit Hall Events

- **Morning Coffee Break**

Monday - Thursday: 9:30 am - 10:00 am

- **Poster Sessions**

Monday-Wednesday: 5:30 pm - 6:30 pm with cash bar

Thursday: 1:00 pm - 2:00 pm

*Posters not removed by closing time each day will be recycled.*

## Speaker Ready Room

### Room 603

Sunday: 3:00 pm - 5:00 pm

Monday - Friday: 7:30 am - 4:00 pm

Thursday: 7:30 am - 2:00 pm



## Cyber Cafe - Sponsored by Northrop Grumman

***NORTHROP GRUMMAN***



Hall 4AB

Monday-Wednesday: 9:00 am - 6:30 pm

Thursday: 9:00 pm - 2:00 pm

*Absolutely no food or drink is permitted in the Cyber Café.*

## Donor and Sponsor Lounge

*Attendance by Invitation Only*

Room 601

Monday - Wednesday: 7:30 am - 5:30 pm

Thursday: 7:30 am - 2:00 pm

## What's New at the Meeting

### For Undergrads & Other Inquiring Minds

- Gamma Ray Bursts and the Birth of Black Holes,  
Neil A. Gehrels (Goddard Space Flight Center)  
**Monday, 1:15 pm - 2:00 pm, Room 6C**
- Dwarf Irregular Galaxies, Deidre A. Hunter (Lowell Observatory)  
**Tuesday, 1:15 pm - 2:00 pm, Room 6C**
- Dust in Space, Geoffrey C. Clayton (Louisiana State University)  
**Wednesday, 1:15 pm - 2:00 pm, Room 6C**

### Job Fair at the Career Networking Event

Meet with representatives to discuss possible employment opportunities. Learn about the various companies advertising with the AAS in the Job Register and Career Center.

**Monday, 6:30 pm - 8:00 pm - Room 4C-3**

## **Using Your Own Laptop or Mobile Device While at the Meeting**

- The network is monitored throughout the meeting, and the AAS staff reserves the right to disconnect any device that is causing network problems or harm to other devices.
- Please keep your software up to date and use a firewall and virus/spyware protection when necessary.
- No device should be running as a server for offsite clients.
- Absolutely no routers may be attached to the network without prior authorization from the AAS IT staff.
- Wireless service will be available throughout the entire meeting space, though some areas may experience limited connectivity. Wireless access information is printed on the back of your badge. Please note that the wireless is not encrypted.
- Due to FCC regulations and physical laws, some of the available wireless spectrum can become overcrowded and temporarily unusable, which limits connectivity and speeds. We work hard to avoid this without breaking the laws set by the government or physics.
- Wireless connections will be dropped after 40 minutes of inactivity.

### **A Special Thank You To Our Abstract Sorters**

Gina Brissenden

Kathryn Grasha

Michael Rutkowski

Amy Campbell

Nimish Hathi

Terry Oswald

Jeff Carlin

Sebastien Lepine

Allyn Smith

Scott Fleming

Tony Mallama

Joe Tenn

# PRIZE WINNERS

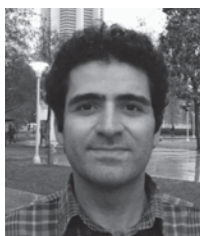
## Rodger Doxsey Travel Prize

The Rodger Doxsey Travel Prize, established through the support of his father, John Doxsey, and other friends, family, and colleagues, provides graduate students within one year of receiving or receipt of their PhD a monetary prize to enable the oral presentation of their dissertation research at a winter AAS meeting.

### Winners:



Sirio Belli



Behnam Darvish



James Davenport



Brian Friesen



Korey Haynes



Myoungwon Jeon



Claude "Trey" Mack



Brett McGuire



Katherine Rabidoux



Aomawa Shields (photo credit: Martin Cox)

### Honorable Mentions:



Camille Avestruz



L. Ilsedore Cleeves



Tyler Desjardins



Daniel Foreman-Mackey



Jordan Mirocha

# A GUIDE TO AAS MEETING ETIQUETTE

---

AAS meetings are the largest and most logistically complex astronomy meetings in the world. We ask all attendees to work together to enhance the value of the meetings by keeping in mind the following points.

## Executive Summary

- Do wear your AAS identification badge at all times during the meeting.
- Do obey the “golden rule,” i.e., treat others as you would have them treat you.
- Do not hog wireless bandwidth; use the AAS wireless service sparingly.
- Do be quiet during presentations; use computers and mobile devices discretely.
- Do silence all cell phones and other electronic devices with audible alerts.
- Do not blog, tweet, or otherwise post private conversations online.
- Do not panic if reporters attend your talk on results under journal embargo.
- Do pick up after yourself by depositing trash in the appropriate receptacles.

## General Considerations

Meetings of the American Astronomical Society are not public events. All attendees must register at the applicable rate; registration types are structured to cover all situations. The only exceptions involve sessions or other activities specifically noted as being open to the public, such as public talks or star parties held in collaboration with local amateur astronomers.

Identification badges must be worn at all times during the meeting. These badges help meeting attendees, AAS staff, and security personnel identify registered participants. Attendees not wearing their name badges will be denied entrance to session rooms, the exhibit hall, and other meeting venues. If you lose your name badge, visit the AAS registration desk to obtain a new one. Note that the design of AAS meeting badges changes regularly to prevent the inappropriate reuse of old badges.

Attendance at AAS meetings is not a right but a privilege, and attendees are expected to behave professionally. The AAS is committed to providing an atmosphere that encourages the free expression and exchange of scientific ideas. The AAS is further dedicated to the philosophy of equality of opportunity and treatment for all members and other meeting attendees, regardless of gender, race, ethnic origin, religion, age, marital status, sexual orientation, disabilities, or any other reason not related to scientific merit. It is AAS policy that all participants in Society activities will enjoy an environment free from all forms of discrimination, harassment, and retaliation. Harassment, sexual or otherwise, is a form of misconduct that undermines the integrity of Society meetings. Violators will be subject to discipline. (Full AAS anti-harassment policy: <http://aas.org/policies/anti-harassment-policy>)

AAS-meeting staff are trained professionals, expert at organizing and conducting scientific meetings. They work with professional contractors who specialize in providing audio-visual and other services, and with professional hotel and convention-center

staff as well. The AAS retains security services, sometimes through the meeting venue and sometimes privately, to ensure the safety and security of all meeting attendees and exhibitors. Help us ensure a safe, secure, and professional environment by acting appropriately, reporting inappropriate behavior, and paying attention to those around you and your environment.

Attendees who are notably disrespectful or who act in an unprofessional manner toward meeting staff, contractors, other attendees, or hotel or convention-center staff will be required to leave the meeting and may have their registration rescinded without refund. In extreme cases, the AAS may call law-enforcement authorities and/or pursue legal action.

Note that all sessions except those marked “private” by the AAS are open to all registered attendees, including scientists, educators, students, journalists, and guests. All are due the same level of professional respect and courtesy. Only with your help can we ensure the most productive scientific conference.

### **Computers & Internet Service**

The AAS provides wireless Internet service throughout each meeting, but we cannot guarantee full coverage in all locations. We provide priority access in the common areas. This means you may experience limited connectivity in the session rooms.

If you do make use of wireless Internet access during a presentation, or even if you are just taking notes on your computer, please keep your activities as quiet as possible so as to minimize distractions to other attendees and the speaker. If you must use a computer during a session, please consider sitting near the back of the room so as not to distract the speaker or session chair. These same guidelines apply to mobile phones, tablets, and other electronic devices.

One of the cost drivers for meeting registration is provision of adequate bandwidth, which — believe it or not — costs tens of thousands of dollars per meeting. Excessive downloading or uploading of files, software updates, streaming video, and other bandwidth-hungry activities (e.g., gaming, exploring virtual worlds) increases the costs for all attendees. The AAS reserves the right to ban excessive users from its meeting network and to use site blocking, port blocking, and traffic shaping to ensure adequate bandwidth for all.

### **Mobile Phones & Related Devices**

Cell phones, tablets, pagers, and similar electronic devices should be silenced. Before each session begins and before you enter an active session, please silence your cell phone and any other devices that have audible alerts. Switching phones to vibrate rather than ring is not sufficient, as the vibrations can be heard or felt by those nearby.

Do not dial or take a phone call during a session. Please exit the session room before beginning or answering a call. All modern mobile phones have caller-ID and call-back features — please make use of them.

### **Blogging & Tweeting**

If you blog, tweet, or otherwise post near-real-time material from the meeting online, you must follow the guidelines above concerning the use of computers, tablets, mobile phones, and AAS wireless bandwidth.

Please do not publicly report private conversations — only scheduled presentations and public comments are fair game for blogging, tweeting, etc.

Remember that many presentations at AAS meetings concern work that has not yet been peer-reviewed. So think twice before posting a blog entry or tweet that is critical of such work. It is helpful to receive constructive criticism during the Q&A after your talk or while standing next to your poster, but it is hurtful to be raked over the coals online before your session is even over and with no easy way to respond.

*New York Times* editor Bill Keller said it well. When it comes to meetings among colleagues, he explained, “We need a zone of trust, where people can say what is on their minds without fear of having an unscripted remark or a partially baked idea zapped into cyberspace. Think of it as common courtesy.”

### **Sessions & Questions**

If you are giving a presentation, please be sure you have read the speaker and AV instructions on the AAS website (<http://aas.org/meetings/aas-speaker-ready-and-audio-visual-information>). All oral presentations must be uploaded to the internal network in the Speaker Ready Room. Personal laptops and USB drives will not be permitted for presentations in session rooms. We ask that you upload your presentation at least 24 hours in advance. Be sure to show up at your session on time.

The session chair is in charge of the session. He or she is empowered to stop questioning and to rearrange or otherwise adjust time slots (or not) based on tardiness or non-attendance of a scheduled speaker. The chair cannot extend talk times beyond the common limits of 10 minutes for regular contributions and 20 minutes for dissertation contributions (including time allotted for Q&A). When asking questions of speakers please be professional, courteous, and polite. This is especially important when questioning students presenting their dissertation research. Be considerate of other people wishing to ask questions. If you have multiple or detailed questions, speak with the presenter after the session.

### **Journalists & Embargoes**

If your presentation covers results that have been, or will be, submitted to *Nature* or *Science* or any other journal with a strict embargo policy, be sure you understand how that policy applies to scientific meetings. No journal wishes to hinder communication between scientists. For example, both *Science* and *Nature* state explicitly that conference presentations do not violate their embargo policies. Both journals also state that if your presentation covers work that has been, or will be, submitted to them, you should limit your interaction with reporters to clarifying the specifics of your presentation. As *Science*

puts it, “We ask that you do not expand beyond the content of your talk or give copies of the paper, data, overheads, or slides to reporters.” That does not mean you should be rude if a reporter asks you for such materials or poses a question that you do not want to answer — just explain that your results are under embargo at *Science or Nature*, and the reporter will understand why you cannot be more forthcoming.

### **Photography & Video**

Many events and presentations at AAS meetings are recorded for posterity by a Society photographer. Some sessions, and all press conferences, are videotaped and eventually posted on the AAS members website as a member benefit. Your attendance at an AAS meeting signifies your agreement to be photographed or videotaped in the course of normal meeting business. Invited and prize lecturers *will* be asked to sign a form for legal clarity. If you take pictures during the meeting, please be considerate of others. Do not use a flash when taking pictures during sessions.

### **Eating, Drinking & Smoking**

Because our meetings are so full of great content, it can be hard to find time to eat breakfast or lunch. If you must eat or drink while attending a session, please do so quietly and be sure to deposit your trash properly after the session ends. Additional cleaning services cost the AAS money and increase registration costs.

Some venues have strict policies against eating or drinking in particular areas. Meeting attendees are expected to follow these policies. Attendees may not bring their own alcoholic beverages or drink them at the meeting venue outside of areas or times when they are sold. Obviously this does not apply to bars, restaurants, or other facilities co-located with our meeting venues. AAS meetings are strictly non-smoking, consistent with laws in the localities where we hold our conferences. When possible, smoking areas will be clearly identified.

### **Activities Other than Official AAS Events**

AAS members are reminded that social interactions that occur outside of official AAS activities are not sponsored by AAS and should not be considered AAS activities. AAS’s business and social programs and activities are limited to those that are planned and officially publicized through AAS, and AAS is not responsible for any other activities that may take place before or after such programs and activities. Participation in any such outside activities is purely voluntary. *Any such outside gatherings or events are solely the responsibility of those who decide to participate in them.*

If you choose to attend any outside gathering or participate in any such non-AAS sponsored activity, however, please be mindful that that as AAS members you are still expected to uphold the same standards of personal conduct with respect to fellow members as you would at an AAS-sponsored program or activity. Please also be extremely mindful of your own safety as well as that of your colleagues at all times: if you choose to use alcohol, do so only in moderation; and keep the safety and behavior of yourself and colleagues uppermost in your mind.

# SCHEDULE AT-A-GLANCE

Saturday, 3 January 2015 • Sunday, 4 January 2015

<b>Saturday, 3 January 2015</b>	
9:00 am	AAS Astronomy Ambassadors Workshop, 9:00 am - 5:30 pm, Room 615
	CAE's Tier I Teaching Excellence Two-Day Workshop, 9:00 am - 5:30 pm, Room 608
	Exoplanet Exploration Program Analysis Group (ExoPAG-11), 9:00 am - 5:00 pm, Room 6A
	Software Carpentry Bootcamp, 9:00 am - 5:30 pm, Room 609
1:00 pm	2015 NSF Postdoctoral Fellow Symposium, 1:00 pm - 6:00 pm, Room 606
<b>Sunday, 4 January 2015</b>	
8:00 am	CAE's Tier I Teaching Excellence Two-Day Workshop, 8:00 am - 5:30 pm, Room 608
	Exoplanet Exploration Program Analysis Group (ExoPAG-11), 8:00 am - 2:00 pm, Room 6A
	AstropI Tutorial, 8:00 am - 11:00 am, Room 612
	AAS Council Meeting, 8:00 am - 4:00 pm, Room 611
8:30 am	COR - Spitzer Observing Campaigns Prior to JWST, 8:30 am - 11:30 am, Room 306
9:00 am	Software Carpentry Bootcamp, 9:00 am - 5:30 pm, Room 609
	COR - UV/Visible Science and Technology, 9:00 am - 12:00 pm, Room 304
	Next Generation Very Large Array, 9:00 am - 6:00 pm, Room 616/617
	Connecting with the International Year of Light 2015, 9:00 am - 5:00 pm, Room 620
	AAS Astronomy Ambassadors Workshop, 9:00 am - 5:30 pm, Room 615
	Leadership and Teambuilding for Astronomers, 9:00 am - 4:00 pm, Room 614
	SciCoder@AAS: Intro to Databases for Astronomers, 9:00 am - 5:00 pm, Room 607
	NASA Physics of the Cosmos - XRSIG Meeting, 9:00 am - 12:00 pm, Room 6C
	NASA Physics of the Cosmos - GammaSIG, 9:00 am - 12:00 pm, Room 6B
	COR - Far-Infrared Science and Technology, 9:00 am - 12:00 pm, Room 309
	2015 NSF Postdoctoral Fellow Symposium, 9:00 am - 6:00 pm, Room 606
9:30 am	Astrostatistics, 9:30 am - 6:00 pm, Room 618/619
	COR - Far-Infrared Science and Technology, 9:30 am - 12:30 pm, Room 309
12:00 pm	Collaborating Online with Github and Other Tools, 12:00 pm - 5:00 pm, Room 303
	NASA Physics of the Cosmos, 12:00 pm - 6:00 pm, Room 6C
12:30 pm	PAG Session with Paul Hertz, 12:30 pm - 2:30 pm, Room 6B
1:30 pm	90 HAD I: Astronomy and the First World War, 1:30 pm - 3:30 pm, Room 610
2:00 pm	ExoPAG/COPAG Joint Meeting, 2:00 pm - 5:00 pm, Room 6A
3:00 pm	Speaker Ready Room, 3:00 pm - 5:00 pm, Room 603
	Registration, 3:00 pm - 8:00 pm, South Lobby
4:00 pm	91 HAD II: Ideas of Evolution Inside and Outside of Astronomy During the Long 19th Century, 4:00 pm - 6:00 pm, Room 610
4:30 pm	K-12 Educator Reception, 5:00 pm - 6:30 pm, Redwood A (Sheraton)
5:30 pm	Undergraduate Orientation, 5:30 pm - 7:00 pm, Hall 4C
7:00 pm	AAS Opening Reception, 7:00 pm - 9:00 pm, Grand Ballroom (Sheraton Hotel)



# SCHEDULE AT-A-GLANCE

## Monday, 5 January 2015

Monday, 5 January 2015	
7:30 am	Session Chair Breakfast, 7:30 am - 8:00 am, Room 614 Speaker Ready Room, 7:30 am - 4:00 pm, Room 603 Registration, 7:30 am - 5:00 pm, South Lobby
8:00 am	<b>100 Plenary Session:</b> Welcome Address by AAS President Meg Urry (Yale University), 8:00 am - 8:30 am, Room 6E
8:30 am	<b>101 Plenary Session:</b> Kavi Foundation Lecture: New Results About the Earth's Van Allen Radiation Belts, Daniel Baker (University of Colorado), 8:30 am - 9:20 am, Room 6E
9:00 am	Exhibit Hall, 9:00 am - 6:30 pm, Hall 4AB Cyber Café, 9:00 am - 6:30 pm, Hall 4AB Posters <b>137 - 145, 9:00 am - 6:30 pm, Hall 4AB</b>
9:30 am	<b>137</b> The Sun and Solar System in Perspective Posters <b>138</b> Low Mass Stars and Brown Dwarfs Posters <b>139</b> The Emerging Multiwavelength View of Planetary Nebulae Posters <b>140</b> Supernovae, SNe Remnants and Planetary Nebulae Posters <b>141</b> Molecular Clouds, HII Regions, Interstellar Medium Posters Coffee Break, 9:30 am - 10:00 am, Hall 4AB
10:00 am	Careers 101: Career Planning Workshop and Panel for Graduate Students and Postdocs, 9:30 am - 11:30 am, Room 618/619 <b>Oral and Special Sessions 102 - 115, 10:00 am - 11:30 am</b>
10:15 am	<b>102</b> The Milky Way, The Galactic Center I Room 6A <b>103</b> AGN, QSO, Blazars I Room 6B <b>104</b> Supernovae I Room 6C <b>105</b> Extrasolar Planets: Kepler's Legacy I Room 6E
11:00 am	<b>106</b> HEAD I: Centennial of General Relativity: An Astrophysical Perspective Room 610 <b>107</b> Extrasolar Planets: Atmospheres I Room 616/617 <b>108</b> The Emerging Multiwavelength View of Planetary Nebulae Room 606 <b>109</b> Molecular Clouds, HII Regions, Interstellar Medium I Room 607 <b>110</b> Star Formation I Room 608 <b>111</b> Evolution of Early-type Galaxies Room 609 <b>112</b> Fundamental Properties of Low and Intermediate Mass Stars Room 611 <b>113</b> Catalogs/Surveys/Computation - SDSS and Radio Room 612
11:15 am	<b>114</b> HAD IV: Preserving the Material Legacy of the American Observatory Movement Room 615 <b>115</b> The Sun and Solar System in Perspective Room 620
12:00 pm	Press Conference, 10:15 am - 11:15 am, Room 307/308 <b>116 Plenary Session:</b> What Do We Expect of a Space Program?, John M. Logsdon (Space Policy Institute, The George Washington University), 11:40 am - 12:30 pm, Room 6E Career Hour 1: Accessing Hidden Career Opportunities through Networking and Reputation Management, 12:30 pm - 1:30 pm, Room 618/619 Engaging Scientists in NASA Astrophysics E/PO, 12:30 pm - 2:00pm, Room 4C-1
12:45 pm	<b>117 Town Hall:</b> NSF Town Hall, 12:45 pm - 1:45 pm, Room 6A <b>118 Town Hall:</b> HAD Business Meeting, 12:45 pm - 1:45 pm, Room 615
1:15 pm	For Undergrads & Other Inquiring Minds: Gamma Ray Bursts and the Birth of Black Holes, Neil A. Gehrels (Goddard Space Flight Center), 1:15 pm - 2:00 pm, Room 6C
2:00 pm	<b>Oral and Special Sessions 119 - 133, 2:00 pm - 3:30 pm</b>
2:15 pm	<b>119</b> The Milky Way, The Galactic Center II Room 6A <b>120</b> AGN, QSO, Blazars II Room 6B <b>121</b> Supernovae II Room 6C <b>122</b> Extrasolar Planets: Kepler's Legacy II Room 6E
3:00 pm	<b>123</b> HEAD II: Centennial of General Relativity: Looking Forward Room 610 <b>124</b> Extrasolar Planets: Atmospheres II Room 616/617 <b>125</b> Final Results from BOSS Room 618/619 <b>126</b> Astronomy Across Africa: A New Dawn II Room 606 <b>127</b> Molecular Clouds, HII Regions, Interstellar Medium II Room 608 <b>128</b> Star Formation II Room 609 <b>129</b> Dwarf and Irregular Galaxies I Room 609 <b>130</b> Low-Mass Stars and Brown Dwarfs Room 611 <b>131</b> Infrared Properties of Galaxies Room 612 <b>132</b> HAD V: Contributed Talks & Osterbrock Book Prize Talk Room 615
4:30 pm	Press Conference, 2:15 pm - 3:15 pm, Room 307/308 <b>134 Plenary Session:</b> Back to the Beginning: The Rosetta Mission at Comet 67P/Churyumov-Gerasimenko, Paul R. Weissman (JPL/Caltech), 3:40 pm - 4:30 pm, Room 6E <b>135 Plenary Session:</b> The Discovery of High Energy Astrophysical Neutrinos: First Light, New Questions, Kara Hoffman (University of Maryland), 4:30 pm - 5:20 pm, Room 6E

# SCHEDULE AT-A-GLANCE

Monday, 5 January 2015

<b>Monday, 5 January 2015 continued</b>	
5:30 pm	Evening Poster Session, 5:30 pm-6:30 pm, Room 6AB Thirty Meter Telescope Open House, 5:30 pm - 6:30 pm, Room 6B
6:30 pm	Career Hour 2: Leveraging Social Media for Networking and Career Advancement, 5:30 pm - 6:30 pm, Room 618/619 <b>136 Town Hall:</b> AAS Publications Town Hall, 6:30 pm - 7:30 pm, Room 6A SPS Evening of Undergraduate Science, 6:30 pm - 8:30 pm, Room 4C-2 Observatory Site Protection: Challenges & Solutions, 6:30 pm - 8:30 pm, Room 608 LGBTIQ Networking Dinner, 6:30 pm - 8:30 pm, Meet at AAS Reg Desk, South Lobby SOFIA Mission Status and Science Update, 6:30 pm - 8:00 pm, Room 6E Career Discovery Networking Reception and Job Fair, 6:30 pm - 8:00 pm, Room 4C-3
7:30 pm	The NASA K2 Mission, 7:30 pm - 8:30 pm, Room 606 UVOIR Space Astronomy beyond the 2020s, 7:30 pm - 9:00 pm, Room 6C

# SCHEDULE AT-A-GLANCE

Tuesday, 6 January 2015

<b>Tuesday, 6 January 2015</b>	
7:30 am	Speaker Ready Room, 7:30 am - 4:00 pm, Room 603
8:00 am	Registration, 8:00 am - 5:00 pm, South Lobby
8:30 am	Session Chair Breakfast, 8:00 am - 8:30 am, Room 614
9:00 am	<b>200 Plenary Session:</b> Gaia - ESA's Galactic Census Mission, Gerry Gilmore (Institute of Astronomy), 8:30 am - 9:20 am, Room 6E
	Exhibit Hall, 9:00 am-6:30 pm, Hall 4AB
	Cyber Café, 9:00 am - 6:30 pm, Hall 4AB
	<b>Posters 240 - 261, 9:00 am - 6:30 pm, Hall 4AB</b>
	<b>239</b> Celebrating 10 Years of Diversity in Astronomy with Pre-MAP Posters
	<b>240</b> Undergraduate Majors and Graduate Students: Diversity, Retention, Mentorship and Research Posters
	<b>241</b> Education Practice: Undergraduate Non-Science Majors Posters
	<b>242</b> Extending the Reach of Astronomical Professionals Posters
	<b>243</b> Education and Public Outreach Posters
	<b>244</b> NASA/IPAC Teacher Archive Research Program (NITARP) Posters
	<b>245</b> Astronomy Education Research Posters
	<b>246</b> Astronomy Research for K-12 Students and Teachers Posters
	<b>247</b> Star Associations, Star Clusters - Galactic & Extra-galactic Posters
	<b>248</b> Dwarf and Irregular Galaxies Posters
	<b>249</b> Elliptical Galaxies Posters
9:20 am	<b>250</b> Spiral Galaxies Posters
9:40 am	<b>251</b> Starburst Galaxies Posters
	<b>252</b> Galaxy Cluster Posters
	<b>253</b> Large Scale Structure, Cosmic Distance Scale and Intergalactic Medium, QSO Absorption Line Systems Posters
	<b>254</b> Gamma Ray Burst Posters
	<b>255</b> Cosmology, CMB, and Dark Matter Posters
	<b>256</b> Dust Posters
	<b>257</b> Extrasolar Planets: Characterization Posters
	<b>258</b> Extrasolar Planets: Detection Posters
	<b>259</b> Probe-Scale Exoplanet Mission Concept Posters
	<b>260</b> Astrobiology Posters
9:20 am	<b>201 Plenary Session:</b> AAS Prize Presentations: Weber, Van Biesbroeck, Education, 9:20 am - 9:40 am, Room 6E
9:40 am	Coffee Break, 9:40 am - 10:00 am, Hall 4AB
10:00am	<b>Oral and Special Sessions 202 - 216, 10:00 am - 11:30 am</b>
	<b>202</b> Extrasolar Planets: Ground and Space Based
	Surveys I
	Room 6A
	<b>206</b> Science with the 3D-HST Survey
	Room 610
	<b>210</b> Molecular Clouds, HII Regions, Interstellar Medium III
	Room 607
	<b>214</b> Pulsars in the High Energy Regime
	Room 612
	<b>203</b> The Milky Way, The Galactic Center III
	Room 6B
	<b>207</b> Extrasolar Planets: Dynamics and Stability of Planetary Systems
	Room 616/617
	<b>211</b> Star Formation III
	Room 608
	<b>215</b> HAD VI: History of Astronomy
	Room 615
	<b>204</b> AGN, QSO, Blazars III
	Room 6C
	<b>205</b> Supernovae III
	Room 6E
	<b>209</b> What Have We Learned from the NSF ADVANCE Program and What's Next?
	Room 606
	<b>213</b> Star Associations, Star Clusters - Galactic & Extra-galactic I
	Room 611
	<b>216</b> Dust
	Room 620
10:15 am	Press Conference, 10:15 am - 11:15 am, Room 307/308
11:30 am	Education and Public Outreach, Student Welcome: Dr. Aomawa Shields, 11:30 am - 12:00 pm, 4C-3, followed by event in Exhibit Hall until 2:00 pm
11:40 am	<b>217 Plenary Session:</b> Cannon Award: New Frontiers in Stellar Astrophysics: Massive Stars as Cosmological Tools, Emily Levesque (University of Colorado Boulder), 11:40 am - 12:30 pm, Room 6E
12:30 pm	Career Hour 3: Developing Your 30-Second Value Statement (aka Your Elevator Pitch), 12:30 pm - 1:30 pm, Room 618/619
12:45 pm	<b>218 Town Hall:</b> Transforming NOAO - A Status Report, 12:45 pm - 1:45 pm, Room 6A
1:15 pm	For Undergrads & Other Inquiring Minds: Dwarf Irregular Galaxies, Deidre A. Hunter (Lowell Observatory), 1:15 pm - 2:00 pm, Room 6C
1:30 pm	New Capabilities at the National Radio Astronomy Observatory (NRAO), 1:30 pm - 3:30 pm, Room 303

# SCHEDULE AT-A-GLANCE

Tuesday, 6 January 2015

<b>Tuesday, 6 January 2015 continued</b>			
2:00 pm	<b>Oral and Special Sessions 219 - 233, 2:00 pm - 3:30 pm</b>		
	<b>219</b> Extrasolar Planets: Ground and Space Based Surveys II Room 6A	<b>220</b> Cosmic Microwave Background Room 6B	<b>221</b> AGN, QSO, Blazars IV Room 6C
	<b>223</b> Luminous Stars in Nearby Galaxies and the Local Group Room 610	<b>224</b> Extrasolar Planets: Formation and Evolution Room 616/617	<b>225</b> Stellar and Intermediate-Mass Black Holes Room 618/619
	<b>227</b> Spiral Galaxies Room 607	<b>228</b> The International Year of Light 2015 (IYL2015): Education and Outreach Opportunities Room 608	<b>229</b> Activity and Variability in Low-Mass Stars Room 609
	<b>231</b> Galaxy Simulations and Techniques Room 612	<b>232</b> Licensing Astrophysics Codes: What You Need to Know Room 615	<b>233</b> Celebrating 10 Years of Diversity in Astronomy with Pre-MAP Room 620
2:15 pm	Press Conference, 2:15 pm - 3:15 pm, Room 307/308		
3:40 pm	<b>234 Plenary Session:</b> Heintman Prize: The Dark and Light Side of Galaxy Formation, Piero Madau (University of California, Santa Cruz), 3:40 pm - 4:30 pm, Room 6E		
4:30 pm	<b>235 Plenary Session:</b> HEAD Rossi Prize: The Fermi Bubbles; Douglas Finkbeiner, Tracy Slatyer, Meng Su, 4:30 pm - 5:20 pm, Room 6E		
5:30 pm	<b>Evening Poster Session, 5:30 pm - 6:30 pm, Hall 4AB</b>		
	Career Hour 4: Transitioning Your Career Beyond Academia, 5:30 pm - 6:30 pm, Room 618/619		
6:30 pm	<b>236 Town Hall:</b> JWST Town Hall, 6:30 pm - 8:00 pm, Room 6E		
	<b>237 Town Hall:</b> NRAO Town Hall, 6:30 pm - 8:30 pm, Room 4C-3/4		
	<b>238 Town Hall:</b> HEAD Business Meeting, 6:30 pm - 7:30 pm, Room 6B		
	Gemini Open House, 6:30 pm - 8:30 pm, Room 6A		
8:00 pm	Open Mic Night, 8:00 pm - 9:00 pm, Room 616/617		
			<b>222</b> The NuSTAR Extended Mission Room 6E
			<b>226</b> Tech Industry Careers: AAS Employment Committee Panel Discussion Room 606
			<b>230</b> Star Associations, Star Clusters - Galactic & Extra-galactic II Room 611

# SCHEDULE AT-A-GLANCE

Wednesday, 7 January 2015

<b>Wednesday, 7 January 2015</b>	
7:30 am	Speaker Ready Room, 7:30 am - 4:00 pm, Room 603
8:00 am	Registration, 8:00 am - 5:00 pm, South Lobby
8:30 am	Session Chair Breakfast, 8:00 am - 8:30 am, Room 614
9:00 am	<b>300 Plenary Session:</b> The Interactions of Exoplanets with their Parent Stars, Katja Poppenhaeger (Harvard-Smithsonian Center for Astrophysics), 8:30 am - 9:20 am, Room 6E
	Exhibit Hall, 9:00 am - 6:30 pm, Hall 4AB
	Cyber Café, 9:00 am - 6:30 pm, Hall 4AB
	<b>Posters 336 - 349, 9:00 am - 6:30 pm, Hall 4AB</b>
	<b>336</b> Catalogs, Surveys, and Computation Posters
	<b>337</b> Instrumentation: Ground Based or Airborne Posters
	<b>338</b> Instrumentation: Space Mission Posters
	<b>339</b> Laboratory Astrophysics Posters
	<b>340</b> Results from the SDSS-III/APOGEE Survey Posters
	<b>341</b> Relativistic Astrophysics, Gravitational Lenses & Waves Posters
	<b>342</b> Stellar Evolution and Stellar Population Posters
9:30 am	Coffee Break, 9:30 am-10:00 am, Hall 4AB
10:00am	<b>Oral and Special Sessions 301 - 315, 10:00 am - 11:30 am</b>
	<b>301</b> Cosmology I Room 6A
	<b>305</b> Supermassive Black Holes Room 610
	<b>309</b> Elliptical Galaxies Room 607
	<b>313</b> Protoplanetary Disks and Stellar Accretion Room 612
10:15 am	Press Conference, 10:15 am - 11:15 am, Room 307/308
11:40 am	<b>316 Plenary Talk:</b> Inflation and Parallel Universes: Science or Fiction?, Max Tegmark (MIT), 11:40 am - 12:30 pm, Room 6E
12:30 pm	Career Hour 5: Interviewing: What You Need to Do Before, During, and After to Get the Job, 12:30 pm - 1:30 pm, Room 618/619
	Astronomers: Teach Climate Change!, 12:30 pm - 2:00pm, Room 4C-3
	The SKA Telescope: Global Project, Revolutionary Science, Extreme Computing Challenges, 12:30 pm - 3:30 pm, Room 4C-4
12:45 pm	<b>317 Town Hall:</b> NASA Town Hall, 12:45 pm - 1:45 pm, Room 6E
1:15 pm	For Undergrads & Other Inquiring Minds: Dust in Space, Geoffrey C. Clayton (Louisiana State University), 1:15 pm - 2:00 pm, Room 6C
	<b>303</b> AGN, QSO, Blazars V Room 6C
	<b>307</b> Neutron Stars in Binary Systems and Millisecond Pulsars Room 618/619
	<b>311</b> Instrumentation: Space Missions - Ground Based or Airborne I Room 609
	<b>315</b> Astroinformatics and Astrostatistics in Astronomical Research: Steps Towards Better Curricular Room 620
	<b>304</b> Galaxy Clusters I Room 6E
	<b>308</b> Reports from NASA's Program Analysis Groups (CoPAG, PhysPAG and ExoPAG) Room 606
	<b>312</b> Relativistic Astrophysics, Gravitational Lenses & Waves Room 611
	<b>343</b> Variable Stars and White Dwarf Posters
	<b>344</b> Cataclysmic Variables, Stellar Winds and Ejecta, and Eta Carina Posters
	<b>345</b> Binary Stellar Systems & X-Ray Binaries Posters
	<b>346</b> Pulsars and Neutron Star Posters
	<b>347</b> Black Hole Posters
	<b>348</b> Young Stellar Objects, Very Young Stars, T-Tauri Stars, H-H Objects Posters
	<b>349</b> Circumstellar Disk Posters

# SCHEDULE AT-A-GLANCE

Wednesday, 7 January 2015

<b>Wednesday, 7 January 2015 continued</b>			
2:00 pm			
	<b>Oral and Special Sessions 318 - 332, 2:00 pm - 3:30 pm</b>		
	<b>318</b> Cosmology II Room 6A	<b>319</b> Results from the SDSS-III/APOGEE Survey II Room 6B	<b>321</b> Galaxy Clusters II Room 6E
	<b>322</b> The Quest for Gravitational Waves, 100 Years After Einstein Room 610	<b>323</b> Extrasolar Planets: Individual Systems Room 616/617	<b>325</b> Public Policy Panel: Former Agency Rotators Room 606
	<b>326</b> Low Redshift ( $z < 3$ ) Galaxies Room 607	<b>327</b> Astronomy Education Research Room 608	<b>329</b> Galaxy Star Formation Rate and Stellar Mass Room 611
	<b>330</b> Circumstellar and Debris Disks Room 612	<b>331</b> Intergalactic Medium QSO, Absorption Line Systems II Room 615	
2:15 pm	Press Conference, 2:15 pm - 3:15 pm, Room 307/308		
2:30 pm	NOAO Data Reduction Mini-Workshop: Near-IR Data, 2:30 pm - 4:00 pm, Room 401		
3:40 pm	<b>333 Plenary Session:</b> Bringing the High Energy Universe into Focus: Science Highlights from the NuSTAR Mission, Fiona Harrison (Caltech), 3:40 pm - 4:30 pm, Room 6E		
4:30 pm	<b>334 Plenary Session:</b> Cosmological Results from Planck 2014, Martin White (University of California, Berkeley), 4:30 pm - 5:20 pm, Room 6E		
5:30 pm	<b>Evening Poster Session, 5:30 pm - 6:30 pm, Hall 4AB</b>		
	<b>Workshop:</b> Imposter: Understanding, Discussing, and Overcoming Imposter Syndrome, 5:30 pm - 7:00 pm, Room 616/617		
6:00 pm	WFIRST Science Planning, 6:00 pm - 8:00 pm, Room 607		
6:30 pm	<b>335 Town Hall:</b> Astronomical Science Policy and AAS Advocacy Town Hall, 6:30 pm - 7:30 pm, Room 606		
8:00 pm	<b>350 Plenary Session:</b> RAS Gold Medal Winner Talk: Looking for the Identity of Dark Matter in and Around the Milky Way, Carlos Frenk (University of Durham) 8:00 pm - 9:00 pm, Room 6A		

# SCHEDULE AT-A-GLANCE

Thursday, 8 January 2015

<b>Thursday, 8 January 2015</b>	
7:30 am	Speaker Ready Room, 7:30 am - 2:00 pm, Room 603
8:00 am	Registration, 8:00 am - 12:00 pm, South Lobby Session Chair Breakfast, 8:00 am - 8:30 am, Room 614
8:30 am	<b>400 Plenary Session:</b> Planetary Nebulae: Reviews and Previews of a Rapidly Evolving World, Bruce Balick (University of Washington), 8:30 am - 9:20 am, Room 6E
9:00 am	Exhibit Hall, 9:00 am - 2:00 pm, Hall 4AB Cyber Café, 9:00 am - 2:00 pm, Hall 4AB
	<b>Posters 432-453, 9:00 am - 2:00 pm, Hall 4AB</b>
	<p><b>432</b> AGN and Friends Posters</p> <p><b>433</b> Catalogs and Surveys Posters</p> <p><b>434</b> Computation, Data Handling and Other Matters Posters</p> <p><b>435</b> Dwarf and Irregular Galaxies Posters</p> <p><b>436</b> Education and Public Outreach Thursday Posters</p> <p><b>437</b> Evolution of Galaxies Posters</p> <p><b>438</b> Extrasolar Planets Posters</p> <p><b>439</b> Galaxy Clusters Posters</p> <p><b>440</b> Gravitational Waves Posters</p> <p><b>441</b> GRBs Posters</p> <p><b>442</b> Instrumentation: Space and Ground Posters</p> <p><b>443</b> Large Scale Structure and Cosmological Topics Posters</p> <p><b>444</b> Not Quite and Brand New Stars Posters</p> <p><b>445</b> Pulsars, Black Holes and Their Environments Posters</p> <p><b>446</b> Spiral Galaxies Thursday Posters</p> <p><b>447</b> Star Clusters and Associations Posters</p> <p><b>448</b> Starburst Galaxies Thursday Posters</p> <p><b>449</b> Stars and Friends Posters</p> <p><b>450</b> Supernovae Posters</p> <p><b>451</b> The ISM and Its Denizens Posters</p> <p><b>452</b> The Milky Way Posters</p> <p><b>453</b> The Sun and Solar System Thursday Posters</p>
9:30 am	Coffee Break, 9:30 am - 10:00 am, Hall 4AB
10:00 am	<b>Oral and Special Sessions 401 - 415, 10:00 am - 11:30 am</b>
	<p><b>401</b> Galaxy Clusters III Room 6A</p> <p><b>402</b> Dark Matter &amp; Dark Energy Room 6B</p> <p><b>403</b> Cosmology III Room 6C</p> <p><b>404</b> Planck 2014 Results Room 6E</p> <p><b>405</b> Large Scale Structure, Cosmic Distance Scale I Room 610</p> <p><b>406</b> Extrasolar Planets: Habitable and/or Earthlike Room 616/617</p> <p><b>407</b> Laboratory Astrophysics and Astrobiology Room 618/619</p> <p><b>408</b> From Hot Jupiters to Scorched Earths: Understanding the Shortest-Period Exoplanets Room 606</p> <p><b>409</b> Extrasolar Planets: Radial Velocities Room 607</p> <p><b>410</b> Formal and Informal Education I Room 608</p> <p><b>411</b> Starburst Galaxies I Room 609</p> <p><b>412</b> High Redshift (<math>z &gt; 3</math>) Galaxies Room 611</p> <p><b>413</b> Instrumentation: Space Missions - Ground Based or Airborne III Room 612</p> <p><b>414</b> Young Stellar Objects, Very Young Stars, T-Tauri Stars, H-H Objects Room 615</p> <p><b>415</b> Binaries - Stellar Room 620</p>
	Hack Day, 10:00 am - 7:00 pm, Room 4C-2
10:15 am	Press Conference, 10:15 am - 11:15 am, Room 307/308
11:40 am	<b>416 Plenary Session:</b> Alma Presents a Transformational View of the Universe, Al Wootten (NRAO), 11:40 am - 12:30 pm, Room 6E
12:30 pm	Career Hour 6: Negotiation Strategy and Tactics, 12:30 pm - 1:30 pm, Room 618/619
12:45 pm	<b>417 Town Hall:</b> Hubble Space Telescope Town Hall, 12:45 pm - 1:45 pm, Room 6E
1:00 pm	<b>Afternoon Poster Session,</b> 1:00 pm - 2:00 pm, Hall 4AB

# SCHEDULE AT-A-GLANCE

Thursday, 8 January 2015

<b>Thursday, 8 January 2015 continued</b>		
2:00 pm	<b>418</b> Galaxy Clusters IV Room 6A	<b>419</b> Large Scale Structure, Cosmic Distance Scale II Room 610
		<b>420</b> Extrasolar Planets: Binararity, Multiplicity and Moons Room 616/617
	<b>422</b> Catalogs/Surveys/Computation - High Energy, Large Data, and Classification Room 606	<b>423</b> Extrasolar Planets: Imaging and Detection Strategies Room 607
	<b>425</b> Galaxy Morphology Room 611	<b>424</b> Formal and Informal Education II Room 608
		<b>428</b> Binaries: White Dwarf, X-Ray, and Gamma-Ray Room 615
		<b>429</b> The Andromeda Galaxy Room 620
2:15 pm	Press Conference, 2:15 pm - 3:15 pm, Room 307/308	
3:40 pm	<b>430 Plenary Session:</b> Henry Norris Russell Lecture: A Historical and Scientific Perspective on Harvard College Observatory and CfA, George Field (Harvard-Smithsonian CfA), 3:40 pm - 4:30 pm, Room 6E	
4:30 pm	<b>431 Plenary Session:</b> Lancelot M. Berkeley Prize: Cosmological Highlights from the Sloan Digital Sky Survey, David Weinberg (Ohio State University), 4:30 pm - 5:20 pm, Room 6E	
5:30 pm	Closing Reception, 5:30 pm - 7:00 pm, Leonesa Ballroom (Grand Hyatt Hotel)	

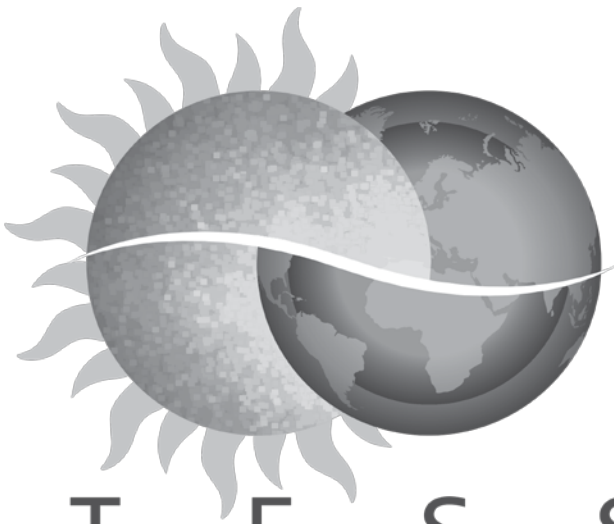


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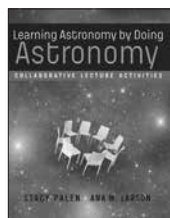


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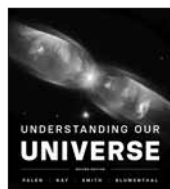
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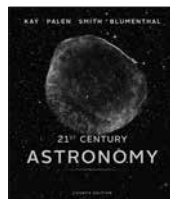
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## SATURDAY, 3 JANUARY 2015

### AAS/DPS Astronomy Ambassadors Outreach Workshop

**Sunday, 8:00 am - 5:00 pm; Tucson Ballroom I**

Are you excited about what you do and want to gain some skills in sharing that enthusiasm with the public? Do you wonder why they look at you blankly when you discuss small-scale structure of the plasma convection and electron content within the subauroral polarization stream? This workshop is an opportunity to gain some basic communication skills for bringing your research to the public, to discover great resources for outreach activities, and network with others motivated to make outreach an integral part of their professional identity.

**Chair(s): Suzanne Gurton** (*Astronomical Society of the Pacific*)

### Exoplanet Exploration Program Analysis Group (ExoPAG-11)

**Saturday, 9:00 am - 5:00 pm; 6A**

NASA's Exoplanet Exploration Program Analysis Group (ExoPAG) will hold its eleventh meeting in Seattle. ExoPAG meetings are open to the entire scientific community, and offer an opportunity to participate in discussions of scientific and technical issues in exoplanet exploration, and to provide input into NASA's Exoplanet Exploration Program (ExEP). All interested members of the astronomical and planetary science communities are invited to attend and participate. ExoPAG-11 will continue to focus on soliciting input from the wider exoplanet community on ways in which NASA might facilitate exoplanet research over the next few years, as well as input on how it should prioritize its ExEP activities. There will be reports from the active Study Analysis Groups (SAGs), as well as from the newly-constituted Science Interest Group (SIG) entitled "Toward a Near-Term Exoplanet Community Plan".

**Organizer(s): Ozhen Pananyan** (*JPL*)

**Chair(s): Stephen Unwin** (*JPL*)

### CAE's Tier I Teaching Excellence 2-Day Workshop

**Saturday, 9:00 am - 5:30 pm; 608**

Are you a current or future instructor teaching Earth, Astronomy, or Space Science? Would you like your classroom to actively engage your students in discourse about the big ideas of your class; how evidence is used to understand the universe; and the role of science in society? We invite you to come to our CAE Teaching Excellence Workshop. Spend time with your colleagues becoming an effective implementor of active-learning instructional strategies. Learn how to transform your classroom into a vibrant learning environment that will: (1) increase students' conceptual understandings; (2) improve their abilities to think critically, interpret graphs, and reason about quantitative data; (3) motivate them to actively engage in their learning; and (4) improve their self-efficacy. This Workshop will provide you with the experiences you need to create effective and productive active-learning classroom environments. We will model best practices in implementing many different classroom-tested instructional strategies. But

## SATURDAY, 3 JANUARY 2015

most importantly, you and your workshop colleagues will gain first-hand experience implementing these strategies yourselves. During our many microteaching events, you'll have the opportunity to role-play the parts of student and instructor. You'll assess and critique each other's implementation in real-time, as part of a supportive learning community. You'll have the opportunity to face and conquer your fears of unfamiliar teaching in collaboration with kind and gentle friends and mentors before you try them by yourself in front of your students. Workshop topics will include: creating inclusive classroom environments; strategies to improve retention & diversity of STEM majors & grads; collaborative group learning; interactive lectures, demonstrations, and videos; effective use of writing; Think-Pair-Share (Peer Instruction, Clicker Questions); Lecture-Tutorials; Ranking Tasks; assessment strategies (including homework, grading, and exams). Presented by Edward Prather and Gina Brissenden (Center for Astronomy Education (CAE), along with Seth Hornstein (Univ. of Colorado Boulder).

**Organizer(s):** Gina Brissenden (*Center for Astronomy Education (CAE), Steward Observatory, Univ. of Arizona*)

### AAS Astronomy Ambassadors Workshop

**Saturday, 9:00 am - 5:30 pm; 615**

The AAS Astronomy Ambassadors program is designed to support early-career AAS members with training in resources and techniques for effective outreach to K-12 students, families, and the public. Workshop participants will learn to communicate more effectively with public and school audiences; find outreach opportunities and establish ongoing partnerships with local schools, museums, parks, and/or community centers; reach audiences with personal stories, hands-on activities, and jargon-free language; identify strategies and techniques to improve their presentation skills; gain access to a menu of outreach resources that work in a variety of settings; and become part of an active community of astronomers who do outreach. Participation in the program includes a few hours of pre-workshop online activities to help us get to know your needs; the two-day workshop, for which lunches and up to 2 nights' lodging will be provided; and certification as an AAS Astronomy Ambassador, once you have logged three successful outreach events. The workshop includes presenters from the American Astronomical Society, the Astronomical Society of the Pacific, and the Pacific Science Center. The number of participants is limited, and the application requires consent from your department chair. We invite applications from graduate students, postdocs and new faculty in their first two years after receipt of their PhD, and advanced undergraduates doing research and committed to continuing in astronomy. Early-career astronomers who are interested in doing outreach, but who haven't done much yet, are encouraged to apply; we will have sessions appropriate for both those who have done some outreach already and those just starting their outreach adventures. We especially encourage applications from members of groups that are presently underrepresented in science.

**Organizer(s):** Suzanne Gurton (*Astronomical Society of the Pacific*)

## SATURDAY, 3 JANUARY 2015

### Software Carpentry Bootcamp

**Saturday, 9:00 am - 5:30 pm; 609**

Computing is now an integral part of every aspect of science, but most scientists are never taught how to build, use, validate, and share software well. As a result, many spend hours or days doing things badly that could be done well in just a few minutes. The goal of AAS 225 Software Carpentry 2 day “bootcamp” is to change that so that astronomers can spend less time wrestling with software and more time doing useful research. Further, good quality, well tested code means science results are easier to verify, share, and update. More information on the Software Carpentry project can be found [. The AAS 225 Software Carpentry bootcamp consists of short tutorials alternating with hands-on practical exercises and will cover the core software skills needed build, use, validate, and share software in astronomy: Saturday’s tutorials will comprise shell automation, basic python programming, and unit testing; Sunday’s sessions will shift to focus on advanced python, including numerical and astronomy oriented computing, and version control. Registration is for both days. The target audience for the bootcamp consists of graduate students and early career scientists. The Software Carpentry @ AAS 225 Bootcamp will be run by a set of three certified instructors and a team of helpers. Participants will be required to bring laptops and to install software in advance of the workshop. Some basic familiarity with shell based computing was assumed in setting the bootcamp schedule. See also a FAQ at \[for more information.\]\(#\)](#)

**Organizer(s): August Muench** (*Smithsonian Astrophysical Observatory*)

### 2015 NSF Postdoctoral Fellows Symposium

**Saturday, 1:00 pm - 6:00 pm; 606**

This is the annual meeting of the NSF Astronomy & Astrophysics Postdoctoral Fellows (AAPF). The NSF AAPF program supports young scientists who carry out an integrated program of independent research and education/public outreach. During this two-day annual symposium, the Fellows gather to give talks on their current research and outreach projects. Several outside speakers are also invited to give keynote talks and participate in discussion panels on a range of topics such as exploring non-traditional outreach methods, addressing the next big problems in astronomy, and exploring alternative careers outside of academia. This meeting provides an opportunity for the current, past, and prospective Fellows to meet and discuss their work with members of the community, learn from each other’s experiences, and to foster new collaborations. All members of the astronomical community are welcome and encouraged to attend.

**Organizer(s): Jeffrey Silverman** (*University of Texas at Austin*)

## AAS Council Meeting

Sunday, 8:00 am - 4:00 pm; 611

The AAS Council is the board of directors for the AAS, which is a 501(c)3 non-profit corporation incorporated in the District of Columbia. The Council meeting, which is open to AAS members except for any executive sessions (note: limited seating is available due to space constraints), allows for routine corporate business (such as approval of prize winners and setting each year's budget) as well as discussion of current conditions in the field of astronomy and closely related sciences, setting of long-term goals, and allocation of resources to achieve these goals.

## CAE's Tier I Teaching Excellence 2-Day Workshop

Sunday, 8:00 am - 5:30 pm; 608

Are you a current or future instructor teaching Earth, Astronomy, or Space Science? Would you like your classroom to actively engage your students in discourse about the big ideas of your class; how evidence is used to understand the universe; and the role of science in society? We invite you to come to our CAE Teaching Excellence Workshop. Spend time with your colleagues becoming an effective implementor of active-learning instructional strategies. Learn how to transform your classroom into a vibrant learning environment that will: (1) increase students' conceptual understandings; (2) improve their abilities to think critically, interpret graphs, and reason about quantitative data; (3) motivate them to actively engage in their learning; and (4) improve their self-efficacy. This Workshop will provide you with the experiences you need to create effective and productive active-learning classroom environments. We will model best practices in implementing many different classroom-tested instructional strategies. But most importantly, you and your workshop colleagues will gain first-hand experience implementing these strategies yourselves. During our many microteaching events, you'll have the opportunity to role-play the parts of student and instructor. You'll assess and critique each other's implementation in real-time, as part of a supportive learning community. You'll have the opportunity to face and conquer your fears of unfamiliar teaching in collaboration with kind and gentle friends and mentors before you try them by yourself in front of your students. Workshop topics will include: creating inclusive classroom environments; strategies to improve retention & diversity of STEM majors & grads; collaborative group learning; interactive lectures, demonstrations, and videos; effective use of writing; Think-Pair-Share (Peer Instruction, Clicker Questions); Lecture-Tutorials; Ranking Tasks; assessment strategies (including homework, grading, and exams). Presented by Edward Prather and Gina Brissenden (Center for Astronomy Education (CAE), along with Seth Hornstein (Univ. of Colorado Boulder).

**Organizer(s):** **Gina Brissenden** (*Center for Astronomy Education (CAE), Steward Observatory, Univ. of Arizona*)

# SUNDAY, 4 JANUARY 2015

SUNDAY

## Astropi Tutorial

Sunday, 8:00 am - 11:00 am; 612

This tutorial will cover the features and capabilities of astropy and affiliated packages.

**Organizer(s): Perry Greenfield**

## Exoplanet Exploration Program Analysis Group (ExoPAG-11)

Sunday, 8:00 am - 2:00 pm; 6A

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**Organizer(s): Ozhen Pananyan (JPL)**

**Chair(s): Stephen Unwin (JPL)**

## COR - Spitzer Observing Campaigns prior to JWST

Sunday, 8:30 am - 11:30 am; 306

The COPAG serves as a community-based, interdisciplinary forum for analysis in support of Cosmic Origins objectives and of their implications for mission planning, technology prioritization and for future studies and exploration. It provides findings and analysis to NASA through the NASA Advisory Council (NAC) via the COPAG Chair, who is a member of the Astrophysics Subcommittee. We will present a description of the on-going COPAG activities, in particular focusing on efforts to formulate science drivers for near-term mission concepts, primarily for the UV/Visible but not precluding other wavelengths, and on technology development activities. All interested parties are encouraged to participate and provide their thoughts and suggestions.

**Organizer(s): Susan Neff (NASA's GSFC)**



## **COR - UV/Visible Science and Technology**

**Sunday, 9:00 am - 12:00 am; 304**

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**Organizer(s): Jeffrey Silverman (University of Texas at Austin)**

## **AAS Astronomy Ambassadors Workshop**

**Sunday, 9:00 am - 5:30 pm; 615**

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## SUNDAY, 4 JANUARY 2015

logged three successful outreach events. The workshop includes presenters from the American Astronomical Society, the Astronomical Society of the Pacific, and the Pacific Science Center. The number of participants is limited, and the application requires consent from your department chair. We invite applications from graduate students, postdocs and new faculty in their first two years after receipt of their PhD, and advanced undergraduates doing research and committed to continuing in astronomy. Early-career astronomers who are interested in doing outreach, but who haven't done much yet, are encouraged to apply; we will have sessions appropriate for both those who have done some outreach already and those just starting their outreach adventures. We especially encourage applications from members of groups that are presently underrepresented in science.

**Organizer(s): Suzanne Gurton** (*Astronomical Society of the Pacific*)

### Connecting with the International Year of Light 2015

**Sunday, 9:00 am - 5:00 pm; 620**

Improving people's perceptions of science and technology through hands-on experiences are the goals of many UN-sanctioned international years. In 2009, The International Year of Astronomy amazed the world with its programs on astronomy. The International Year of Light (IYL) is in 2015 and the National Optical Astronomy Observatory would like to connect astronomers with two themes from IYA: Dark Skies Awareness and Galileoscopes. These two areas are part of the Cosmic Light cornerstone selected for IYL 2015. As a Cosmic Light cornerstone project, NOAO is designing and building "Quality Lighting Teaching Kits" to encourage the best use of light for illumination. The U.S. National Optical Astronomy Observatory (NOAO) and its partners, CIE, IDA and SPIE, are developing this program, building on our work in the last ten years on lighting and optics education. Our goal is to increase student and public awareness of quality lighting issues and solutions through tutorial videos, Google+ Hangouts, teaching kits and hands-on activities. The kit materials for the activities will help students identify and reduce wasteful/inefficient lighting, minimizing energy consumption and cost. The Galileoscope, another Cosmic Light cornerstone project, is a low-cost, high optical quality telescope kit designed for the International Year of Astronomy (IYA) in 2009. The Galileoscope gives students the ability to recreate Galileo's historic observations. The process of assembling the telescope gives students insight into how a telescope works and the principles of optics that a telescopes employs to focus light. NOAO is developing new optics activities to support the use of the Galileoscope during IYL 2015. Workshop participants will explore the Galileoscope and Quality Lighting kits in new ways and will learn about how these two sets of kits and activities can be incorporated into IYL events at their home institutions. We will also describe some of the other cornerstone projects.

**Organizer(s): Constance Walker** (*NOAO*)

## COR Far-Infrared Science and Technology

**Sunday, 9:30 am - 12:30 pm; 309**

The COPAG serves as a community-based, interdisciplinary forum for analysis in support of Cosmic Origins objectives and of their implications for mission planning, technology prioritization and for future studies and exploration. It provides findings and analysis to NASA through the NASA Advisory Council (NAC) via the COPAG Chair, who is a member of the Astrophysics Subcommittee. We will present a description of the on-going COPAG activities, in particular focusing on efforts to formulate science drivers for near-term mission concepts, primarily for the UV/Visible but not precluding other wavelengths, and on technology development activities. All interested parties are encouraged to participate and provide their thoughts and suggestions.

**Organizer(s): Susan Neff (NASA's GSFC)**

## Leadership and Teambuilding for Astronomers

**Sunday, 9:00 am - 4:00 pm; 614**

In this interactive, day-long workshop, you will be introduced to techniques that with practice will enhance your skill in effectively leading and managing innovative research teams. These skills will be developed beginning with conceptual study and then applied in structured activities. Specific topics will include:

- o Leadership: Recognize the difference between leadership and management, review the characteristics of an effective leader, and seize opportunities to develop and hone your own leadership skills.
- o Project Management: Apply the basic elements of strategic project management, starting with the creation of a strategic hypothesis, and develop that into a logical framework of measurable goals, purpose and outcomes.
- o Management and Teambuilding: Build and organize higher functioning teams, enhance innovation and motivate people.
- o Conflict Management: Identify the underlying conditions that lead to conflict, and apply techniques to move away from blame to more constructive action.

Audience: Postdocs and early-career faculty will find this workshop especially helpful as they begin to build and lead their research groups. Enrollment will be limited to 30 participants.

## NASA Physics of the Cosmos - XRSIG Meeting

**Sunday, 9:00 am - 12:00 pm; 6C**

NASA's Physics of the Cosmos Program Analysis Group will hold their community meeting. The PhysPAG is a forum for soliciting and coordinating input from the science community to advance the science objectives of the Physics of the Cosmos program. The five Science Analysis Groups in the areas of X-rays, Gravitational Waves, Inflation Probe, Gamma Rays and Cosmic Rays will report on progress within their groups and there will also be discussion of dark energy science. All interested members of the community are encouraged to participate.

**Organizer(s): Ann Hornschemeier (NASA GSFC)**

# SUNDAY, 4 JANUARY 2015

## NASA Physics of the Cosmos - GammaSIG

**Sunday, 9:00 am - 12:00 pm; 6B**

NASA's Physics of the Cosmos Program Analysis Group will hold their community meeting. The PhysPAG is a forum for soliciting and coordinating input from the science community to advance the science objectives of the Physics of the Cosmos program. The five Science Analysis Groups in the areas of X-rays, Gravitational Waves, Inflation Probe, Gamma Rays and Cosmic Rays will report on progress within their groups and there will also be discussion of dark energy science. All interested members of the community are encouraged to participate.

**Organizer(s): Ann Hornschemeier (NASA GSFC)**

## Next Generation Very Large Array

**Sunday, 9:00 am - 6:00 pm; 616/617**

Organized by the National Radio Astronomy Observatory (NRAO), this workshop will discuss the long-term scientific, technological, and community development for the Jansky Very Large Array (VLA), the Atacama Large Millimeter/submillimeter Array (ALMA), and the next decade successors to current long-wavelength arrays such as the Hydrogen Epoch of Reionization Array (HERA), Murchison Widefield Array, and Long Wavelength Array. NRAO has received numerous ideas from the community regarding future ALMA development, how the VLA might bridge to a next-generation facility, and the development of other key research facilities. This workshop will broaden our discussions with the community, develop a deeper understanding of the future science opportunities at meter to submillimeter wavelengths, and foster new interactions with the US university community. With the recent completion of ALMA construction and the VLA upgrade, this is an excellent time to consider the new science that these instruments and others could address in ten and twenty years. What new science opportunities should drive radio-wavelength technology development in the next decade? The VLA upgrade greatly improved the array's sensitivity, bandwidth, frequency coverage, and more; but it did not improve angular resolution or collecting area. Imagine a VLA with five times the current collecting area operating across 1-100 GHz (30 - 0.3 cm) at ten times the current resolution. What should ALMA be in 2035? Imagine increasing ALMA's resolution by an order of magnitude, and both ALMA and the VLA with phased array feeds. What other facilities are required to address the community's highest priority science? Imagine a HERA capable of full tomographic imaging. What science frontiers would these instruments open, and how would they complement the capabilities of the James Webb Space Telescope, the Large Synoptic Survey Telescope, and a Phase-1 Square Kilometre Array? How can the US university community and international partners participate in any new endeavors?

**Organizer(s): Bryan Butler (NRAO) Chris Carilli (NRAO)**

## SciCoder@AAS: Intro to Databases for Astronomers

**Sunday, 9:00 am - 5:00 pm; 607**

The volume of data available to astronomers today is enormous. The standard pattern of working with flat files doesn't scale to what's available now, let alone with the increasing amount of data that is coming. Every astronomer should have the skills to work with databases both for their own data sets and what is publicly available. This workshop will teach how a database is designed, how to create your own, how to populate it with data, how to query that data, how to work with other databases, and how to write scripts against a database. Exercises and examples will be geared to astronomical data but will be applicable to nearly any data. Participants should have a basic comfort level with Python and will be required to install some software on their laptops before the workshop. The workshop will be presented by Demitri Muna (Ohio State University), creator of the SciCoder workshop, and Alex Hagen (Pennsylvania State University).

**Organizer(s): Demitri Muna** (*New York University*)

## Software Carpentry Bootcamp

**Sunday, 9:00 am - 5:30 pm; 609**

Computing is now an integral part of every aspect of science, but most scientists are never taught how to build, use, validate, and share software well. As a result, many spend hours or days doing things badly that could be done well in just a few minutes. The goal of AAS 225 Software Carpentry 2 day "bootcamp" is to change that so that astronomers can spend less time wrestling with software and more time doing useful research. Further, good quality, well tested code means science results are easier to verify, share, and update. More information on the Software Carpentry project can be found . The AAS 225 Software Carpentry bootcamp consists of short tutorials alternating with hands-on practical exercises and will cover the core software skills needed build, use, validate, and share software in astronomy: Saturday's tutorials will comprise shell automation, basic python programming, and unit testing; Sunday's sessions will shift to focus on advanced python, including numerical and astronomy oriented computing, and version control. Registration is for both days. The target audience for the bootcamp consists of graduate students and early career scientists. The Software Carpentry @ AAS 225 Bootcamp will be run by a set of three certified instructors and a team of helpers. Participants will be required to bring laptops and to install software in advance of the workshop. Some basic familiarity with shell based computing was assumed in setting the bootcamp schedule. See also a FAQ at for more information.

**Organizer(s): August Muench** (*Smithsonian Astrophysical Observatory*)

# SUNDAY, 4 JANUARY 2015

## Astrostatistics

Sunday, 9:30 am - 6:00 pm; 618/619

The fields of astronomy and statistics diverged in the 20th century so that astronomers are often not well informed about the wealth of powerful modern methodologies developed by statisticians. Statistics is needed for: characterizing astronomical images, spectra and lightcurves; inferring properties of underlying populations from limited samples; linking astronomical observations to astrophysical theories; and many other aspects of data and science analysis. An additional difficulty has been the inaccessibility of software implementing modern statistical methods for most astronomers. Fortunately, a large, integrated and user-friendly public domain software system has emerged in recent years to implement modern methods. R with its >5000 add-on CRAN packages has >100,000 statistical functionalities, extensive graphics, links to other languages, and more. Over 100 recipe books and extensive on-line support provide guidance for the sophisticated R user. The AAS astrostatistics tutorials are presented by astronomer Eric D. Feigelson and statistician G. Jogesh Babu, authors of the textbook 'Modern Statistical Methods for Astronomy with R Applications' that won the PROSE Award for best astronomy book of 2012. Participants should bring laptops with R installed (<http://www.r-project.org>). R scripts and astronomical datasets will be provided. Schedule for Sunday January 4: 9:30-10:30 Introduction to astrostatistics (lecture) 10:30-11:30 Fundamentals of statistical inference (lecture) 11:30-12:30 Introduction to R (tutorial) -- Lunch (not provided) -- 2:00-3:00 Density estimation or data smoothing (tutorial) 3:00-4:00 Fitting models to data (lecture) 4:00-5:00 Multivariate clustering and classification (tutorial)

**Organizer(s):** Eric Feigelson (*Penn State Univ.*)

## Collaborating Online with Github and Other Tools

Sunday, 12:00 pm - 5:00 pm; 303

Distributed collaboration is a hallmark of modern international astronomical research. We collaborate on everything from software development to paper and grant writing to sharing new results, plots, and data files. The goal of this workshop to provide new tools and techniques for productive efficient collaboration online. This workshop will begin with a hands on tutorial of GitHub. This will include reviewing distributed version control systems and learning collaboration workflows using the GitHub system. During the second part of the workshop we will explore an array of other online tools, ranging from cloud storage (DropBox, Google Drive) to collaborative document creation (Google Documents, online LaTeX editors) to feature tracking platforms (Trello, Jira) and much more. We intend to provide concrete workflows and to imbue you with tips and tricks for using these online tools in your research groups. The target audience for the workshop consists of astronomers at all points in their careers. Presenters will include Arfon Smith, PhD Astronomer turned Zooniverse developer turned Github Science head, Brent Beer, a GitHub Trainer, and August Muench (Smithsonian). Participants will be required to bring laptops and to install software in advance of the workshop. Familiarity with git or other version control systems is not a prerequisite.

**Organizer(s):** August Muench (*Smithsonian Astrophysical Observatory*)

## NASA Physics of the Cosmos

**Sunday, 12:00 pm - 6:00 pm; 6C**

NASA's Physics of the Cosmos Program Analysis Group will hold their community meeting. The PhysPAG is a forum for soliciting and coordinating input from the science community to advance the science objectives of the Physics of the Cosmos program. The five Science Analysis Groups in the areas of X-rays, Gravitational Waves, Inflation Probe, Gamma Rays and Cosmic Rays will report on progress within their groups and there will also be discussion of dark energy science. All interested members of the community are encouraged to participate.

**Organizer(s): Ann Hornschemeier (NASA GSFC)**

## PAG Session With Paul Hertz

**Sunday, 12:30 pm - 2:30 pm; 6B**

The current Head of the Astrophysics Division at NASA HQ will address the three Program Analysis Groups to discuss current status and plans for NASA's Astrophysics Program, in the current environment.

**Organizer(s): Susan Neff (NASA's GSFC)**

## 90 HAD I: Astronomy and the First World War

**Sunday, 1:30 pm - 3:30 pm; 610**

World War II (1939-45) has been called the physicists' war, for radar, rockets, and nuclear bombs, and World War I the chemists' war, for advances in nitrogen fixation, synthetic rubber, poison gases, and much else. But in fact both wars and the years between caused and witnessed enormous changes in all the sciences, including astronomy. The session (currently consisting of 7 talks of varying length) will glance at chemistry and physics and a bit about WWII (whose centenary we may not all be here to observe), but will focus on the significance of WWI for astronomy, its practitioners, institutions, infrastructure, and available tools and resources. A logical starting point is the Russian imprisonment of a German solar eclipse expedition that had gone to the Crimea to observe the 21 August 1914 event under Erwin Freundlich. Since they had hoped to measure gravitational bending of light by the sun, you might choose the 1919 British expedition that did measure the effect as your end point. An alternative is the founding of the International Astronomical Union in Brussels in 1919, spearheaded by George Ellery Hale, whose International Solar Union had been dissolved by the war and resulting treaties, just as the members were planning to expand the organization to include all of astronomy.

**Chair(s): Virginia Trimble (UC, Irvine)**

### 90.01 Physics in WWI: Fighting the Acoustic War

**Author(s): Daniel Kevles<sup>1</sup>**

*Institution(s): <sup>1</sup> Yale University*

## SUNDAY, 4 JANUARY 2015

- 90.02 **Two Eclipses, a Theory, and a World War**  
**Author(s):** Alan H. Batten<sup>1</sup>  
*Institution(s):* <sup>1</sup> *retired*
- 90.03 **G.W. Ritchey's Optical Work for the Army during WWI.**  
**Author(s):** Peter Abrahams<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Independent*
- 90.04 **The War's Positive Impact on the Canadian Astronomical Community**  
**Author(s):** Peter Broughton<sup>1</sup>  
*Institution(s):* <sup>1</sup> *RASC*
- 90.05 **Impact of World War I on Chemistry**  
**Author(s):** Virginia L. Trimble<sup>1</sup>  
*Institution(s):* <sup>1</sup> *UC, Irvine*
- 90.06 **The Impacts of Military, Industrial, and Private Support on Modern Astronomy**  
**Author(s):** Martin Harwit<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Cornell University*

### ExoPAG/COPAG Joint Meeting

Sunday, 2:00 pm - 5:00 pm; 6A

**Organizer(s):** Susan Neff (*NASA's GSFC*)

### 91 HAD II: Ideas of Evolution Inside and Outside of Astronomy during the Long 19th Century

Sunday, 4:00 pm - 6:00 pm; 610

**Chair(s):** Woodruff Sullivan (*Univ. of Washington*)

- 91.01 **William Herschel during the 1780-1810 era: A natural historian studies "maturation" of stars over immeasurable time**  
**Author(s):** Woody Sullivan<sup>1</sup>  
*Institution(s):* <sup>1</sup> *U. of Washington*
- 91.02 **John Herschel, Charles Lyell, and the planet Earth**  
**Author(s):** Gregory Good<sup>1</sup>  
*Institution(s):* <sup>1</sup> *AIP*
- 91.03 **Thermodynamics, Life, the Universe and Everything**  
**Author(s):** Elizabeth Neswald<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Brock University*
- 91.04 **The William Ellery Hale Lectures at the National Academy of Sciences, 1914-1918**  
**Author(s):** David H. DeVorkin<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Smithsonian Inst.*



## K12 Educator Reception

**Sunday, 5:00 pm - 6:30 pm; Redwood A, Sheraton Hotel**

Join us for an opportunity for Astronomers and K12 Educators to meet and mingle in a relaxed social environment, hosted by InsightSTEM and the Association for Astronomy Education. Our K12 Educator Reception brings together Astronomy Research professionals, Astronomy Education professionals, and K12 Astronomy Educators to share the latest in research and education in astronomy ahead of the semi-annual meeting of the American Astronomical Society. Please join us to reconnect with colleagues, and to form new partnerships and contacts. Drinks and light snacks are provided. Space is limited: please register at <http://bit.ly/K12seattle>

**Organizer(s): Gina Brissenden** (*Center for Astronomy Education (CAE), Steward Observatory, Univ. of Arizona*)

## Undergraduate Orientation

**Sunday, 5:30 pm - 7:00 pm; 4C**

Undergraduate students, their advisors, and those interested in attracting undergraduate students to their graduate program, or undergraduate research opportunity are invited to attend this event. Members of the AAS Council and of the Astronomy Education Board will be there to meet and chat with students. For the benefit of those students attending an AAS meeting for the first time, we will explain how to get the most out of an AAS meeting and outline how the meeting works. Sign up, free of charge to all undergrads, their advisors and those offering research opportunities (or jobs) to undergraduates, through the meeting registration form. Light snacks and refreshments will be provided.

## Opening Reception

**Sunday, 7:00 pm - 9:00 pm; Grand Ballroom, Sheraton Hotel**

Open to all attendees and registered guests, the Opening Reception at the Sheraton Seattle kicks off the 225th meeting of the American Astronomical Society.

# MONDAY, 5 JANUARY 2015

## 101 Kavli Foundation Lecture: New Results About the Earth's Van Allen Radiation Belts

Monday, 8:30 am - 9:20 am; 6E

Chair(s): C. Megan Urry (*Yale University*)



**Daniel Baker** (*University of Colorado*)

The Kavli Foundation Plenary Lectureship is awarded to Dr. Daniel Baker, Director of the Laboratory for Atmospheric and Space Physics, for his outstanding scientific work with the Van Allen Probes mission, which has provided a new and deeper understanding of the structure and dynamics of MeV particles in the radiation belts surrounding the Earth, including the discovery of a new third relativistic electron storage ring in the outer Van Allen belt.

### 101.01 New Results About the Earth's Van Allen Radiation Belts

Author(s): Daniel Baker<sup>1</sup>

Institution(s):<sup>1</sup> *University of Colorado*

## Careers 101: Career Planning Workshop and Panel for Graduate Students and Postdocs

Monday, 9:30 am - 11:30 am; 618/619

This FREE workshop and panel discussion will center on the current and expanding crisis in the job and career market for astronomers. Specifically targeted towards graduate students and Postdocs, this workshop will identify and investigate the shortage of traditional astronomy jobs, and how early-career scientists can best prepare for this challenge. Our focus will be on career planning for traditional astronomy positions. We will demonstrate how to orchestrate a personal career plan and develop a Plan B and Plan C for contingencies. We will discuss what early-career astronomers should do now to enhance their CVs and research reputations, and what they should look for in and how they can leverage a Postdoc appointment to that can set themselves up for success in the field. We will also discuss non-traditional jobs and career paths in astronomy, and introduce the skills that are needed to pursue these. Q and A between panelists and workshop participants will be highly encouraged.

Organizer(s): Alaina Levine (*Quantum Success Solutions*)

## 102 The Milky Way, The Galactic Center I

Monday, 10:00 am - 11:30 am; 6A

Chair(s): Q. Wang (*Univ. of Massachusetts*)

### 102.01 Does the Milky Way lie on the Tully-Fisher Relation?

Author(s): Timothy Licquia<sup>1</sup>, Jeffrey Newman<sup>1</sup>

Institution(s):<sup>1</sup> *University of Pittsburgh*

- 102.02 A New Luminosity Function for Stars in the Galactic Bulge**  
**Author(s):** Emily Gilbert<sup>1</sup>, Sean Terry<sup>1</sup>, Ryan Pfeifle<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA Goddard Space Flight Center
- 102.03 The Best and Brightest Metal-Poor Stars**  
**Author(s):** Kevin Schlaufman<sup>1</sup>  
*Institution(s):* <sup>1</sup> MIT Kavli Institute for Astrophysics and Space Research
- 102.04 The GALAH Survey: overview and goals**  
**Author(s):** Jonathan Bland-Hawthorn<sup>1</sup>  
*Institution(s):* <sup>1</sup> The University of Sydney  
Contributing team(s): The GALAH Team
- 102.05 The GALAH Survey: observational overview**  
**Author(s):** Sarah L. Martell<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of New South Wales  
Contributing team(s): GALAH Survey team
- 102.06 The GALAH Survey: Early Science Results**  
**Author(s):** Daniel B. Zucker<sup>1</sup>  
*Institution(s):* <sup>1</sup> Macquarie University  
Contributing team(s): GALAH Team
- 102.07 Galactic Center Source G1 and other G2-like Sources**  
**Author(s):** Breann Sitarski<sup>4</sup>, Andrea M. Ghez<sup>4</sup>, Mark Morris<sup>4</sup>, Gunther Witzel<sup>4</sup>, Jessica R. Lu<sup>3</sup>, Tuan Do<sup>2</sup>, Anna Boehle<sup>4</sup>, Randall Campbell<sup>5</sup>, Leo Meyer<sup>4</sup>, Sylvana Yelda<sup>4</sup>, Keith Matthews<sup>1</sup>  
*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Dunlap Institute, University of Toronto, <sup>3</sup> Institute for Astronomy, University of Hawaii, <sup>4</sup> UCLA, <sup>5</sup> W. M. Keck Observatory
- 102.08 G2's closest approach to the Galactic Center black hole**  
**Author(s):** Gunther Witzel<sup>2</sup>, Andrea M. Ghez<sup>2</sup>, Mark Morris<sup>2</sup>, Breann Sitarski<sup>2</sup>, Anna Boehle<sup>2</sup>, Randall Campbell<sup>1</sup>  
*Institution(s):* <sup>1</sup> Keck observatory, <sup>2</sup> UCLA
- 102.09 An Update on Chandra/VLA Galactic Center Campaigns Targeting Sgr A\* and G2**  
**Author(s):** Daryl Haggard<sup>1</sup>, Frederick K. Baganoff<sup>2</sup>, Gabriele Ponti<sup>3</sup>, Craig O. Heinke<sup>6</sup>, Nanda Rea<sup>7</sup>, Joseph Neilsen<sup>2</sup>, Michael Nowak<sup>2</sup>, Sera Markoff<sup>7</sup>, Nathalie Degenaar<sup>8</sup>, Farhad Yusef-Zadeh<sup>4</sup>, Douglas A. Roberts<sup>4</sup>, Christaan Brinkerink<sup>9</sup>, Casey J. Law<sup>5</sup>, Stefan Gillessen<sup>3</sup>, Riley Connors<sup>7</sup>  
*Institution(s):* <sup>1</sup> Amherst College, <sup>2</sup> Massachusetts Institute of Technology, <sup>3</sup> Max-Planck-Institut für extraterrestrische Physik, <sup>4</sup> Northwestern University/CIERA, <sup>5</sup> UC Berkeley, <sup>6</sup> University of Alberta, <sup>7</sup> University of Amsterdam, <sup>8</sup> University of Michigan, <sup>9</sup> University of Nijmegen

# MONDAY, 5 JANUARY 2015

## 103 AGN, QSO, Blazars I

Monday, 10:00 am - 11:30 am; 6B

Chair(s): D. Harris (*HEA- Center for Astrophysics*)

**103.01 AGN Space Telescope and Optical Reverberation Mapping Project. I. Hubble Space Telescope Spectroscopy of NGC 5548**

**Author(s):** Bradley M. Peterson<sup>1</sup>

*Institution(s):* <sup>1</sup> *Ohio State Univ.*

Contributing team(s): The AGN STORM Team

**103.02 AGN Space Telescope and Optical Reverberation Mapping Project II. Ultraviolet and Optical Continuum Analysis**

**Author(s):** Michael Fausnaugh<sup>1</sup>

*Institution(s):* <sup>1</sup> *Department of Astronomy, The Ohio State University*

Contributing team(s): The AGN STORM Team

**103.03 AGN Space Telescope and Optical Reverberation Mapping Project. III. Optical Emission Line Analysis of NGC 5548**

**Author(s):** Liuyi Pei<sup>1</sup>

*Institution(s):* <sup>1</sup> *University of California Irvine*

Contributing team(s): The AGN STORM Team

**103.04 AGN Space Telescope and Optical Reverberation Mapping Project. IV. Velocity-Delay Mapping of Broad Emission Lines in NGC 5548**

**Author(s):** Keith D. Horne<sup>1</sup>

*Institution(s):* <sup>1</sup> *Univ. of St. Andrews*

Contributing team(s): The AGN STORM Team

**103.05 AGN Space Telescope and Optical Reverberation Mapping Project V. Continuum Time Delays and Disk Inclinations**

**Author(s):** David Starkey<sup>1</sup>

*Institution(s):* <sup>1</sup> *University of St Andrews*

Contributing team(s): The AGN STORM Team

**103.06 Space Telescope and Optical Reverberation Mapping Project VI. Variations of the Intrinsic Absorption Lines in NGC 5548**

**Author(s):** Gerard A. Kriss<sup>1</sup>

*Institution(s):* <sup>1</sup> *STScI*

Contributing team(s): AGN STORM Team

**103.07 New insights from deep JVLA data on the candidate recoiling super massive black hole CID-42**

**Author(s):** Francesca M. Civano<sup>2</sup>, Mladen Novak<sup>1</sup>, Vernesa Smolicic<sup>1</sup>

*Institution(s):* <sup>1</sup> *University of Zagreb*, <sup>2</sup> *Yale University*

**103.08D Modeling Reverberation Mapping Data: Precise Black Hole Masses and Constraints on the Geometry and Dynamics of the Broad Line Region**

**Author(s):** Anna Pancoast<sup>4</sup>, Brendon J. Brewer<sup>3</sup>, Tommaso Treu<sup>2</sup>, Catherine Grier<sup>1</sup>

*Institution(s):* <sup>1</sup> *Penn State*, <sup>2</sup> *University of California Los Angeles*, <sup>3</sup> *University of Auckland*, <sup>4</sup> *University of California Santa Barbara*

Contributing team(s): LAMP 2008

## 104 Supernovae I

Monday, 10:00 am - 11:30 am; 6C

Chair(s): Christopher Stockdale (*Marquette University*)

### 104.01 Interaction of a Type Ia Supernovae with Circumstellar Mass

Author(s): Chelsea Harris<sup>1</sup>, Peter E. Nugent<sup>2</sup>, Daniel Kasen<sup>1</sup>, Nathaniel Roth<sup>1</sup>

Institution(s): <sup>1</sup> *California - Berkeley, University of*, <sup>2</sup> *Lawrence Berkeley National Laboratory*

### 104.02D Spectrum formation at late times in type Ia supernovae

Author(s): Brian Friesen<sup>1</sup>

Institution(s): <sup>1</sup> *University of Oklahoma*

### 104.03D Helium Shells on Sub-Chandrasekhar White Dwarfs: Ignition and Convection

Author(s): Adam M. Jacobs<sup>2</sup>, Michael Zingale<sup>2</sup>, Andrew Nonaka<sup>1</sup>, Ann Almgren<sup>1</sup>, John Bell<sup>1</sup>

Institution(s): <sup>1</sup> *Lawrence Berkeley National Laboratory*, <sup>2</sup> *Stony Brook University*

### 104.04 The Progenitor System of the Type Ia SN 2012Z

Author(s): Curtis McCully<sup>2</sup>, Saurabh Jha<sup>3</sup>, Ryan J. Foley<sup>1</sup>

Institution(s): <sup>1</sup> *University of Illinois at Urbana-Champaign*, <sup>2</sup> *Las Cumbres Observatory Global Telescope Network*, <sup>3</sup> *Rutgers, The State University of New Jersey*

### 104.05D Superluminous Supernovae: A Pan-STARRS1 Perspective

Author(s): Ragnhild Lunnan<sup>1</sup>, Ryan Chornock<sup>2</sup>, Edo Berger<sup>1</sup>

Institution(s): <sup>1</sup> *Harvard University*, <sup>2</sup> *Ohio University*

Contributing team(s): Pan-STARRS1 CfA/JHU Transient Team

### 104.06 Superluminous Supernovae in the Dark Energy Survey

Author(s): Christopher D'Andrea<sup>1</sup>, Andreas Papadopoulos<sup>1</sup>, Mark Sullivan<sup>2</sup>, Robert Nichol<sup>1</sup>

Institution(s): <sup>1</sup> *Institute of Cosmology and Gravitation, University of Portsmouth*, <sup>2</sup> *University of Southampton*

Contributing team(s): The Dark Energy Survey

## 105 Extrasolar Planets: Kepler's Legacy I

Monday, 10:00 am - 11:30 am; 6E

Chair(s): Laura Schaefer (*Washington Univ.*)

### 105.01D Increasing the sensitivity of Kepler to Earth-like exoplanets

Author(s): Daniel Foreman-Mackey<sup>2</sup>, David W. Hogg<sup>2</sup>, Bernhard Schölkopf<sup>1</sup>, Dun Wang<sup>2</sup>

Institution(s): <sup>1</sup> *Max Planck Institute for Intelligent Systems*, <sup>2</sup> *New York University*

### 105.02 Implications for the False-positive Rate in Kepler Planet Systems from Transit Duration Ratios

Author(s): Robert C. Morehead<sup>1</sup>, Eric B Ford<sup>1</sup>

Institution(s): <sup>1</sup> *The Pennsylvania State University*

# MONDAY, 5 JANUARY 2015

## 105.03 New Constraints on the False Positive Rate for Short-Period Kepler Planet Candidates

**Author(s):** Knicole D. Colón<sup>1</sup>, Robert C. Morehead<sup>2</sup>, Eric B. Ford<sup>2</sup>

*Institution(s):* <sup>1</sup> Lehigh University, <sup>2</sup> The Pennsylvania State University

## 105.04 Kepler's Missing Planets: Using QATS to Search for Planets with TTVs

**Author(s):** Ethan Kruse<sup>1</sup>, Eric Agol<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

## 105.05 The distribution of period ratios in Kepler planetary systems

**Author(s):** Jason H. Steffen<sup>1</sup>, Jason A. Hwang<sup>1</sup>

*Institution(s):* <sup>1</sup> Northwestern University

## 105.06 Dissecting Kepler's Objects of Interest: Complete Uniform MCMC modeling of the KOI Database

**Author(s):** Jason Rowe<sup>4</sup>, Thomas Barclay<sup>1</sup>, Natalie M. Batalha<sup>2</sup>, Christopher J. Burke<sup>4</sup>, Joseph Catanzarite<sup>4</sup>, Jessie Christiansen<sup>3</sup>, Jeffrey Coughlin<sup>4</sup>, Michael R Haas<sup>2</sup>, Kelsey L. Hoffman<sup>4</sup>, Fergal Mullally<sup>4</sup>, Elisa V. Quintana<sup>2</sup>, Susan E. Thompson<sup>4</sup>

*Institution(s):* <sup>1</sup> BAERI, <sup>2</sup> NASA-Ames Research Center, <sup>3</sup> NExSCI, <sup>4</sup> SETI Institute  
Contributing team(s): Kepler Team

## 105.07 Delivering on the promise of transit timing variations

**Author(s):** Eric Agol<sup>2</sup>, Katherine Deck<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Univ. of Washington

## 105.08 Planet Hunters 2 in the K2 Era

**Author(s):** Megan E. Schwamb<sup>2</sup>, Debra Fischer<sup>5</sup>, Tabetha S. Boyajian<sup>5</sup>, Matthew J. Giguere<sup>5</sup>, Sascha Ishikawa<sup>1</sup>, Chris Lintott<sup>4</sup>, Stuart Lynn<sup>1</sup>, Joseph Schmitt<sup>5</sup>, Chris Snyder<sup>1</sup>, Ji Wang<sup>5</sup>, Thomas Barclay<sup>3</sup>

*Institution(s):* <sup>1</sup> Adler Planetarium, <sup>2</sup> Institute of Astronomy & Astrophysics, Academia Sinica (ASIAA), <sup>3</sup> NASA Ames Research Center, <sup>4</sup> University of Oxford, <sup>5</sup> Yale University

## 106 HEAD I: Centennial of General Relativity: An Astrophysical Perspective

**Monday, 10:00 am - 11:30 am; 610**

To celebrate the centenary of the publication of Einstein's Field Equations, the AAS High Energy Astrophysics Division and NASA's Physics of the Cosmos program are pleased to co-host two special sessions on Theory of General Relativity. The first session provides a historical perspective on the development of the theory of general relativity and astrophysical constraints of General Relativity. The second session looks forward from current astrophysical constraints to next-generation measurements ranging from space-based measurements of gravitational waves and the powerful tests made possible through studies of binary pulsars through to cosmological tests of General Relativity.

**Chair(s):** Ann Hornschemeier (NASA GSFC)

**106.01 A History of High Energy Astrophysics, the Subject and the Section**

**Author(s):** Virginia L. Trimble<sup>1</sup>

*Institution(s):* <sup>1</sup> UC, Irvine

**106.02 Testing General Relativity in the Strong-Field Dynamical Regime**

**Author(s):** Clifford M. Will<sup>1</sup>

*Institution(s):* <sup>1</sup> Univ. of Florida

**106.03 The Black Hole concept circa 1960 with recent comments**

**Author(s):** Charles W Misner<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Maryland

## 107 Extrasolar Planets: Atmospheres I

Monday, 10:00 am - 11:30 am; 616/617

**Chair(s):** Evgenya Shkolnik (*Lowell Observatory*)

**107.01 An Open-Source Bayesian Atmospheric Radiative Transfer (BART) Code, with Application to WASP-12b**

**Author(s):** Joseph Harrington<sup>3</sup>, Jasmina Blečić<sup>3</sup>, Patricio Cubillos<sup>3</sup>, Patricio Rojo<sup>2</sup>, Thomas J. Loredó<sup>1</sup>, M. Oliver Bowman<sup>3</sup>, Andrew S. D. Foster<sup>3</sup>, Madison M. Stemm<sup>3</sup>, Nate B. Lust<sup>3</sup>

*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> Universidad de Chile, <sup>3</sup> University of Central Florida

**107.02D Observations and Thermochemical Calculations for Hot-Jupiter Atmospheres**

**Author(s):** Jasmina Blečić<sup>1</sup>, Joseph Harrington<sup>1</sup>, M. Oliver Bowman<sup>1</sup>, Patricio Cubillos<sup>1</sup>, Madison Stemm<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Central Florida

**107.03D Exoplanet Atmospheres: From Light-Curve Analyses to Radiative-Transfer Modeling**

**Author(s):** Patricio Cubillos<sup>3</sup>, Joseph Harrington<sup>3</sup>, Jasmina Blečić<sup>3</sup>, Patricio Rojo<sup>2</sup>, Madison Stemm<sup>3</sup>, Nathaniel B. Lust<sup>3</sup>, Andrew S. Foster<sup>3</sup>, Thomas J. Loredó<sup>1</sup>

*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> Universidad de Chile, <sup>3</sup> University of Central Florida

**107.04 Features in the broad-band eclipse spectra of exoplanets: signal or noise?**

**Author(s):** Nicolas B. Cowan<sup>1</sup>, Christopher James Hansen<sup>2</sup>, Joel Colin Schwartz<sup>2</sup>

*Institution(s):* <sup>1</sup> Amherst College, <sup>2</sup> Northwestern University

**107.05 Balancing the Energy Budget of Short-Period Giant Planets**

**Author(s):** Joel Colin Schwartz<sup>2</sup>, Nicolas B. Cowan<sup>1</sup>

*Institution(s):* <sup>1</sup> Amherst College, <sup>2</sup> Northwestern University

**107.06 The Elemental Compositions and Cloud Properties of Hot Jupiters: A Comprehensive Atmospheric Retrieval Study of Hot Jupiter Transmission Spectra**

**Author(s):** Björn Benneke<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech

**107.07 Magnetohydrodynamic Simulations of Hot Jupiter Thermospheres**

**Author(s):** Duncan Christie<sup>1</sup>, Phil Arras<sup>1</sup>, Zhi-Yun Li<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Virginia

# MONDAY, 5 JANUARY 2015

## 108 The Emerging Multiwavelength View of Planetary Nebulae

Monday, 10:00 am - 11:30 am; 606

The traditional view of the formation and evolution of planetary nebulae (PNe) as the simple interaction of two epochs of spherical mass loss -- a slow wind from an expiring asymptotic giant branch (AGB) star, followed by a fast wind from the newly-exposed, proto-white dwarf at the AGB star's core -- has been challenged by observations from modern telescopes and satellite observatories. From the radio to X-ray, the emerging view of PNe is reshaping and potentially redefining our understanding of these iconic celestial objects. Multiwavelength observations of PNe hold the potential to test theories invoking, e.g., magnetic fields, jets, and binary interactions in generating asymmetric PN outflows and structures. In this Special Session we showcase the new perspectives of PNe afforded by multiwavelength observations, and the efforts to reconcile theory and observations, with emphasis on the latest results from the Chandra (X-ray) and Herschel (far-IR) Planetary Nebula Surveys (ChanPlaNS and HerPlaNS).

**Chair(s):** Djazia Ladjal (*University of Denver*) & Rodolfo Montez (*Vanderbilt University*)

### 108.01 ChanPlaNS: The Chandra Planetary Nebula Survey

**Author(s):** Joel Kastner<sup>1</sup>, Rodolfo Montez<sup>2</sup>, Marcus Freeman<sup>1</sup>

*Institution(s):* <sup>1</sup> Rochester Institute of Technology, <sup>2</sup> Vanderbilt University  
Contributing team(s): ChanPlaNS Team

### 108.02 Emerging Trends Gleaned from Central Star and Hot Bubble X-ray Emission of ChanPlaNS Planetary Nebulae

**Author(s):** Rodolfo Montez<sup>2</sup>, Joel H. Kastner<sup>1</sup>, Marcus Freeman<sup>1</sup>

*Institution(s):* <sup>1</sup> Center for Imaging Science, Rochester Institute of Technology, <sup>2</sup> Vanderbilt University  
Contributing team(s): ChanPlaNS Team

### 108.03 Herschel Planetary Nebula Survey: Spectroscopic Probing of the Nebular Components

**Author(s):** Toshiya Ueta<sup>2</sup>, Djazia Ladjal<sup>1</sup>, Rebecca Rattray<sup>2</sup>

*Institution(s):* <sup>1</sup> Gemini Observatory, <sup>2</sup> University of Denver  
Contributing team(s): The HerPlaNS team

### 108.04 The HerPlaNS far-IR photometric survey of Planetary Nebulae and its contribution to the Emerging Multi-wavelength View

**Author(s):** Djazia Ladjal<sup>1</sup>

*Institution(s):* <sup>1</sup> Gemini Observatory  
Contributing team(s): the HerPlaNS Consortium

### 108.05 Herschel Planetary Nebula Survey (HerPlaNS): First Detection of OH+ in Planetary Nebulae

**Author(s):** Isabel Aleman<sup>5</sup>, Toshiya Ueta<sup>12</sup>, Djazia Ladjal<sup>12</sup>, Katrina Exter<sup>4</sup>, Joel Kastner<sup>8</sup>, Rodolfo Montez<sup>14</sup>, Xander Tielens<sup>5</sup>, You-Hua Chu<sup>13</sup>, Hideyuki Izumiura<sup>6</sup>, Iain McDonald<sup>10</sup>, Raghvendra Sahai<sup>3</sup>, Natasza Siódmiak<sup>7</sup>, Ryszard Szerba<sup>7</sup>, Peter A. M. van Hoof<sup>9</sup>, Eva Villaver<sup>11</sup>, Wouter Vlemmings<sup>1</sup>, Markus Wittkowski<sup>2</sup>, Albert Zijlstra<sup>10</sup>



*Institution(s):* <sup>1</sup>. Chalmers University of Technology, <sup>2</sup>. ESO, <sup>3</sup>. Jet Propulsion Laboratory, <sup>4</sup>. Katholieke Universiteit Leuven, <sup>5</sup>. Leiden University, <sup>6</sup>. National Astronomical Observatory of Japan, <sup>7</sup>. Nicolaus Copernicus Astronomical Center, <sup>8</sup>. Rochester Institute of Technology,, <sup>9</sup>. Royal Observatory of Belgium, <sup>10</sup>. The University of Manchester, <sup>11</sup>. Universidad Autonoma de Madrid, <sup>12</sup>. University of Denver, <sup>13</sup>. University of Illinois, <sup>14</sup>. Vanderbilt University,

## **108.06 The new MQ/AAO/Strasbourg mutli-wavelength and spectroscopic PNE database: MASP**

**Author(s):** Quentin Andrew Parker<sup>1</sup>

*Institution(s):* <sup>1</sup>. Macquarie University

*Contributing team(s):* And the MASP database Team (key members: Dr Ivan Bojicic, Dr David Frew, Prof Agnes Acker)

## **108.07 What Are M31 Disk Planetary Nebulae Trying to Tell Us?**

**Author(s):** Karen B. Kwitter<sup>4</sup>, Bruce Balick<sup>3</sup>, Richard B. C. Henry<sup>2</sup>, Romano L.M. Corradi<sup>1</sup>

*Institution(s):* <sup>1</sup>. IAC, <sup>2</sup>. University of Oklahoma, <sup>3</sup>. University of Washington, <sup>4</sup>. Williams College

## **108.08 Observing Planetary Nebulae with JWST and Extremely Large Telescopes**

**Author(s):** Raghvendra Sahai<sup>1</sup>

*Institution(s):* <sup>1</sup>. JPL, Caltech

## **108.09 Binary Interactions and the Formation of Planetary Nebula**

**Author(s):** Adam Frank<sup>1</sup>

*Institution(s):* <sup>1</sup>. Univ. of Rochester

# **109 Molecular Clouds, HII Regions, Interstellar Medium I**

Monday, 10:00 am - 11:30 am; 607

**Chair(s):** Jason Glenn (*Univ. of Colorado*)

## **109.01 A 20pc Resolution Dust Map of M31 from the Panchromatic Hubble Andromeda Treasury (PHAT)**

**Author(s):** Julianne Dalcanton<sup>6</sup>, Morgan Fouesneau<sup>2</sup>, David W. Hogg<sup>3</sup>, Dustin Lang<sup>1</sup>, Adam K. Leroy<sup>5</sup>, Karl D. Gordon<sup>4</sup>, Karin Sandstrom<sup>7</sup>, Daniel R. Weisz<sup>6</sup>, Benjamin F. Williams<sup>6</sup>

*Institution(s):* <sup>1</sup>. CMU, <sup>2</sup>. MPIA, <sup>3</sup>. New York University, <sup>4</sup>. STScI, <sup>5</sup>. The Ohio State University, <sup>6</sup>. Univ. of Washington, <sup>7</sup>. University of Arizona

*Contributing team(s):* The Panchromatic Hubble Andromeda Treasury Team

## **109.02D Probing the Multiphase Interstellar Medium and Star Formation in Nearby Galaxies through Far Infrared Emission**

**Author(s):** Rodrigo Herrera-Camus<sup>4</sup>, Alberto D. Bolatto<sup>4</sup>, Mark G. Wolfire<sup>4</sup>, John-David T. Smith<sup>6</sup>, Robert Kennicutt<sup>3</sup>, Daniela Calzetti<sup>5</sup>, Kevin V. Croxall<sup>2</sup>, David B. Fisher<sup>1</sup>

*Institution(s):* <sup>1</sup>. Centre for Astrophysics and Supercomputing, Swinburne University of Technology, <sup>2</sup>. The Ohio State University, <sup>3</sup>. University of Cambridge, <sup>4</sup>. University of Maryland, <sup>5</sup>. University of Massachusetts, <sup>6</sup>. University of Toledo

*Contributing team(s):* KINGFISH, Beyond the Peak

# MONDAY, 5 JANUARY 2015

## 109.03 Comparing polarized submm emission and near-infrared extinction polarization in the Vela C giant molecular cloud

**Author(s):** Fabio P. Santos<sup>9</sup>, Peter A. R. Ade<sup>3</sup>, Peter Ashton<sup>9</sup>, Francesco E Angilè<sup>13</sup>, Steven J. Benton<sup>14</sup>, Mark J. Devlin<sup>13</sup>, Bradley J. Dober<sup>13</sup>, Laura M. Fissel<sup>9</sup>, Yasuo Fukui<sup>6</sup>, Nicholas Galitzki<sup>13</sup>, Natalie N. Gandilo<sup>14</sup>, Jeffrey Klein<sup>13</sup>, Andrei L. Korotkov<sup>1</sup>, Zhi-Yun Li<sup>15</sup>, Lorenzo Moncelsi<sup>2</sup>, Tristan G. Matthews<sup>9</sup>, Fumitaka Nakamura<sup>8</sup>, Calvin B. Netterfield<sup>14</sup>, Giles Novak<sup>9</sup>, Enzo Pascale<sup>3</sup>, Frédéric Poidevin<sup>4</sup>, Giorgio Savini<sup>10</sup>, Douglas Scott<sup>11</sup>, Jamil A. Shariff<sup>14</sup>, Juan D. Soler<sup>5</sup>, Nicholas E. Thomas<sup>7</sup>, Carole E. Tucker<sup>3</sup>, Gregory S. Tucker<sup>1</sup>, Derek Ward-Thompson<sup>12</sup>

*Institution(s):* <sup>1</sup> Brown University, <sup>2</sup> California Institute of Technology, <sup>3</sup> Cardiff University, <sup>4</sup> Inst. de Astrofísica de Canarias, <sup>5</sup> Institut d'astrophysique spatiale, <sup>6</sup> Nagoya University, <sup>7</sup> NASA Goddard Space Flight Center, <sup>8</sup> National Astronomical Observatory of Japan, <sup>9</sup> Northwestern University, <sup>10</sup> University College London, <sup>11</sup> University of British Columbia, <sup>12</sup> University of Central Lancashire, <sup>13</sup> University of Pennsylvania, <sup>14</sup> University of Toronto, <sup>15</sup> University of Virginia  
Contributing team(s): BLASTPol

## 109.04 Are PAH molecules the carriers of Unidentified Infrared Emission bands?

**Author(s):** Sun Kwok<sup>1</sup>, Yong Zhang<sup>1</sup>

*Institution(s):* <sup>1</sup> The University of Hong Kong

## 109.05 NGC 1976 in the Radio Range with the Green Bank Telescope

**Author(s):** Thomas L. Wilson<sup>3</sup>, Thomas M. Bania<sup>1</sup>, Dana S. Balsler<sup>2</sup>

*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> National Radio Astronomy Observatory, <sup>3</sup> US Naval Research Laboratory

## 109.06 The role of the magnetic field in the formation of structure in molecular clouds as revealed by Planck

**Author(s):** Juan Diego Soler<sup>1</sup>

*Institution(s):* <sup>1</sup> Institute d'Astrophysique Spatiale

Contributing team(s): the Planck Collaboration

## 109.07 Magnetic field in Photodissociation Regions (PDRs) : A case study of PDR in NGC 2024

**Author(s):** D. Anish Rishi<sup>1</sup>, Miller Goss<sup>2</sup>, S. Jeyakumar<sup>3</sup>

*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory, <sup>2</sup> National Radio Astronomy Observatory, <sup>3</sup> Universidad de Guanajuato

## 110 Star Formation I

Monday, 10:00 am - 11:30 am; 608

Chair(s): Scott Wolk (SAO)

## 110.01 A survey of ionized carbon in starburst galaxies at high redshift

**Author(s):** Joaquin D. Vieira<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Illinois at Urbana-Champaign

Contributing team(s): SPT SMG

## 110.02D Formation of Magnetized Prestellar Cores in Turbulent Cloud

**Author(s):** Che-Yu Chen<sup>2</sup>, Eve C. Ostriker<sup>1</sup>

*Institution(s):* <sup>1</sup> Princeton University, <sup>2</sup> University of Maryland

Contributing team(s): CLASSy Team

## 110.03 CARMA observations of magnetic fields in star-forming filaments

**Author(s):** Chat Hull<sup>1</sup>, Melvyn Wright<sup>4</sup>, Thushara Pillai<sup>2</sup>, Jun-Hui Zhao<sup>1</sup>, Goran H. L. Sandell<sup>3</sup>

*Institution(s):* <sup>1</sup> Harvard, <sup>2</sup> MPIfR, <sup>3</sup> NASA Ames, <sup>4</sup> UC Berkeley

## 110.04D Filament and core formation in nearby molecular clouds: results from the CARMA Large Area Star Formation Survey

**Author(s):** Shaye Storm<sup>4</sup>, Lee G. Mundy<sup>4</sup>, Manuel Fernández-López<sup>1</sup>, Katherine I Lee<sup>4</sup>, Eve C. Ostriker<sup>2</sup>, Leslie Looney<sup>3</sup>, Che-Yu Chen<sup>4</sup>

*Institution(s):* <sup>1</sup> Instituto Argentino de Radioastronomía, <sup>2</sup> Princeton University, <sup>3</sup> University of Illinois, <sup>4</sup> University of Maryland

Contributing team(s): The CLASSy Collaboration

## 110.05 The SMA Legacy Survey of the Central Molecular Zone

**Author(s):** Cara Battersby<sup>2</sup>, Eric R. Keto<sup>2</sup>, Qizhou Zhang<sup>2</sup>, Jens Kauffmann<sup>5</sup>, Thushara Pillai<sup>5</sup>, Xing Lu<sup>2</sup>, Steve Longmore<sup>4</sup>, Daniel Walker<sup>4</sup>, Mark Graham<sup>2</sup>, Adam Ginsburg<sup>1</sup>, John Bally<sup>6</sup>, Diederik Kruijssen<sup>5</sup>, Nimesh A. Patel<sup>2</sup>, Volker Toll<sup>2</sup>, Luis C. Ho<sup>3</sup>

*Institution(s):* <sup>1</sup> European Southern Observatory, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Kavli Institute for Astronomy and Astrophysics at Peking University, <sup>4</sup> Liverpool John Moores University, <sup>5</sup> Max Planck Institute for Radio Astronomy, <sup>6</sup> University of Colorado at Boulder

## 110.06 Investigating the Milky Way Using the Cosinusoidal Potential

**Author(s):** John Perry Cumalat<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Colorado, Boulder

## 110.07 Cosinusoidal Potential with Separate Z's for the formation of Galaxies and Clusters of Galaxies

**Author(s):** David F. Bartlett<sup>1</sup>

*Institution(s):* <sup>1</sup> Univ. of Colorado

## 111 Evolution of Early-type Galaxies

Monday, 10:00 am - 11:30 am; 609

**Chair(s):** Christine Jones (Harvard-Smithsonian, CfA)

### 111.01 Shocked Post-starburst Galaxy Survey: Candidate Post-Starburst Galaxies with Narrow Emission Line Ratios Arising from Shocks

**Author(s):** Sabrina Cales<sup>5</sup>, Katherine A. Alatalo<sup>3</sup>, Philip N. Appleton<sup>3</sup>, Ute Lisenfeld<sup>2</sup>, Jeffrey Rich<sup>3</sup>, Kristina Nyland<sup>4</sup>, Mark Lacy<sup>4</sup>, Lisa J. Kewley<sup>1</sup>

*Institution(s):* <sup>1</sup> Australian National University, <sup>2</sup> Departamento de Física Teórica y del Cosmos, <sup>3</sup> IPAC, <sup>4</sup> NRAO, <sup>5</sup> Yale University

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## 111.02 Using SDSS and WISE to Catch Quenching Galaxies

**Author(s):** Katherine A. Alatalo<sup>1</sup>, Sabrina Cales<sup>2</sup>  
*Institution(s):* <sup>1</sup> IPAC/Caltech, <sup>2</sup> Yale University  
Contributing team(s): The SPOGS Team

## 111.03D On the Formation of Elliptical Galaxies via Mergers in Galaxy Groups

**Author(s):** Dan Taranu<sup>1</sup>, John Dubinski<sup>1</sup>, Howard K. C. Yee<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Toronto, Dept. of Astronomy & Astrophysics

## 111.04 Dissecting the Assembly Histories of Spheroidal Post-merger and Unusually Blue Elliptical Galaxies from the SDSS

**Author(s):** Daniel H. McIntosh<sup>4</sup>, Tim Haines<sup>3</sup>, Sebastian Sanchez<sup>1</sup>, Christina A. Tremonti<sup>3</sup>, Gregory Rudnick<sup>2</sup>  
*Institution(s):* <sup>1</sup> Instituto de Astronomia, Universidad Nacional Autonoma de Mexico, <sup>2</sup> U Kansas, <sup>3</sup> U Wisconsin, <sup>4</sup> University of Missouri-Kansas City

## 111.05D Star formation in the most massive galaxies

**Author(s):** Michael J. I. Brown<sup>1</sup>, Amelia Fraser-McKelvie<sup>1</sup>, Nicolas Bonne<sup>1</sup>  
*Institution(s):* <sup>1</sup> Monash Univ.

## 111.06 How did Quiescent Galaxies Grow in Size? New Results from Deep Keck Spectroscopy

**Author(s):** Sirio Belli<sup>1</sup>, Andrew Newman<sup>2</sup>, Richard S. Ellis<sup>1</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> The Observatories of the Carnegie Institution for Science

## 111.07 Extreme gas velocity dispersions in progenitors of massive, compact quiescent galaxies at $z \sim 2$

**Author(s):** Guillermo Barro<sup>3</sup>, Jonathan Trump<sup>3</sup>, David C. Koo<sup>3</sup>, Avishai Dekel<sup>2</sup>, Susan A. Kassin<sup>1</sup>, Dale Kocevski<sup>4</sup>, Sandra M. Faber<sup>3</sup>  
*Institution(s):* <sup>1</sup> Space Telescope Science Institute, <sup>2</sup> The Hebrew University, <sup>3</sup> University of California Santa Cruz, <sup>4</sup> University of Kentucky  
Contributing team(s): CANDELS

## 112 Fundamental Properties of Low and Intermediate Mass Stars

Monday, 10:00 am - 11:30 am; 611

**Chair(s):** Douglas Geisler

## 112.01 Absolute Optical Photometry and a Photometric Metallicity Relation for the Nearby Cool Stars from the MEarth Project

**Author(s):** Jason Dittmann<sup>1</sup>, Jonathan Irwin<sup>2</sup>, David Charbonneau<sup>1</sup>, Elisabeth R. Newton<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard University, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics

## 112.02DM Dwarf Multiplicity in the Solar Neighborhood

**Author(s):** Jennifer G. Winters<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia State University

**112.03 The Age of the Ursa Major Moving Group from Interferometric Measurements of Its A-type Members**

**Author(s):** Jeremy Jones<sup>3</sup>, Russel J. White<sup>3</sup>, Tabettha S. Boyajian<sup>5</sup>, Gail Schaefer<sup>3</sup>, Ellyn K. Baines<sup>4</sup>, Michael Ireland<sup>2</sup>, Jenny Patience<sup>1</sup>, Harold A. McAlister<sup>3</sup>, Theo Ten Brummelaar<sup>3</sup>

*Institution(s):* <sup>1.</sup> Arizona State University, <sup>2.</sup> Australian National University, <sup>3.</sup> Georgia State University, <sup>4.</sup> Naval Research Laboratory, <sup>5.</sup> Yale University

**112.04 Calibrating Gyrochronology using Kepler Asteroseismic Targets**

**Author(s):** Ruth Angus<sup>1</sup>

*Institution(s):* <sup>1.</sup> University of Oxford

Contributing team(s): Suzanne Aigrain, Amy McQuillan, Daniel Foreman-Mackey, William J. Chaplin, Tsevi Mazeh

**112.05 Properties of 75 Solar-type Kepler Targets from the Asteroseismic Modeling Portal**

**Author(s):** Travis S. Metcalfe<sup>1</sup>

*Institution(s):* <sup>1.</sup> Space Science Institute

Contributing team(s): Kepler Asteroseismic Science Consortium

**112.06D Characterizing M dwarf planet hosts and enabling precise radial velocities in the near-infrared**

**Author(s):** Ryan Terrien<sup>1</sup>, Suvrath Mahadevan<sup>1</sup>, Rohit Deshpande<sup>1</sup>, Chad F. Bender<sup>1</sup>, Lawrence W. Ramsey<sup>1</sup>

*Institution(s):* <sup>1.</sup> Pennsylvania State University

**112.07 Confronting predictions of stellar evolution theory: the case of single field M dwarf stars**

**Author(s):** Gregory A. Feiden<sup>3</sup>, Andrew W. Mann<sup>1</sup>, Eric Gaidos<sup>2</sup>

*Institution(s):* <sup>1.</sup> The University of Texas at Austin, <sup>2.</sup> University of Hawai'i at Manoa, <sup>3.</sup> Uppsala University

## 113 Catalogs/Surveys/Computation - SDSS and Radio

Monday, 10:00 am - 11:30 am; 612

**Chair(s):** Zeljko Ivezic (*Univ. of Washington*)

**113.01 First Results from the Survey of the MAgellanic Stellar History (SMASH)**

**Author(s):** David L. Nidever<sup>19</sup>, Knut A. Olsen<sup>11</sup>, Robert A. Gruendl<sup>18</sup>, Gurtina Besla<sup>15</sup>, Abi Saha<sup>11</sup>, Edward Olszewski<sup>15</sup>, Ricardo Munoz<sup>14</sup>, Carme Gallart<sup>8</sup>, Matteo Monelli<sup>8</sup>, Alistair R. Walker<sup>5</sup>, Robert D. Blum<sup>11</sup>, Catherine C. Kaleida<sup>2</sup>, Kathy Vivas<sup>5</sup>, Steven R. Majewski<sup>21</sup>, Dennis F. Zaritsky<sup>15</sup>, Roeland P. Van Der Marel<sup>12</sup>, Eric F. Bell<sup>19</sup>, Blair Conn<sup>6</sup>, Guy S. Stringfellow<sup>4</sup>, Shoko Jin<sup>16</sup>, Lara Monteagudo Nervion<sup>8</sup>, Maria-Rosa Cioni<sup>17</sup>, Noelia Noel<sup>20</sup>, Nicolas Martin<sup>13</sup>, Antonela Monachesi<sup>10</sup>, Thomas de Boer<sup>7</sup>, You-Hua Chu<sup>9</sup>, Hwihyun Kim<sup>2</sup>, David Martinez-Delgado<sup>1</sup>, Lent C. Johnson<sup>22</sup>, Andrea Kunder<sup>3</sup>

*Institution(s):* <sup>1.</sup> ARI Heidelberg, <sup>2.</sup> Arizona State University, <sup>3.</sup> Astronomische Institut Potsdam, <sup>4.</sup> Colorado State University, <sup>5.</sup> CTIO, <sup>6.</sup> Gemini Observatory, <sup>7.</sup> Institute of Astronomy, Cambridge University, <sup>8.</sup> Instituto de Astrofísica

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Canarias, <sup>9</sup> KITP Taiwan, <sup>10</sup> MPIA, <sup>11</sup> NOAO, <sup>12</sup> Space Telescope Science Institute, <sup>13</sup> Strasbourg University, <sup>14</sup> Universidad de Chile, <sup>15</sup> University of Arizona, <sup>16</sup> University of Groningen, <sup>17</sup> University of Hertfordshire, <sup>18</sup> University of Illinois at Urbana-Champaign, <sup>19</sup> University of Michigan, <sup>20</sup> University of Surrey, <sup>21</sup> University of Virginia, <sup>22</sup> University of Washington  
Contributing team(s): SMASH

## 113.02 The Time Domain Spectroscopic Survey: Taking Spectra of 250,000 Optical Variables

**Author(s):** Eric Morganson<sup>1</sup>, Paul J. Green<sup>1</sup>, Scott F. Anderson<sup>2</sup>, John J. Ruan<sup>2</sup>  
*Institution(s):* <sup>1</sup> CFA, <sup>2</sup> University of Washington  
Contributing team(s): TDSS Team, SDSS Collaboration, PS1 Consortium

## 113.03 Science with the VLA Sky Survey (VLASS)

**Author(s):** Eric J. Murphy<sup>1</sup>, Stefi Alison Baum<sup>16</sup>, W. Niel Brandt<sup>10</sup>, Claire J. Chandler<sup>8</sup>, Tracy E. Clarke<sup>9</sup>, James J. Condon<sup>7</sup>, James M. Cordes<sup>2</sup>, Susana E. Deustua<sup>13</sup>, Mark Dickinson<sup>6</sup>, Nicole E. Gugliucci<sup>12</sup>, Gregg Hallinan<sup>1</sup>, Jacqueline Hodge<sup>7</sup>, Cornelia C. Lang<sup>15</sup>, Casey J. Law<sup>14</sup>, Joseph Lazio<sup>5</sup>, Sui Ann Mao<sup>17</sup>, Steven T. Myers<sup>8</sup>, Rachel A. Osten<sup>13</sup>, Gordon T. Richards<sup>3</sup>, Michael A. Strauss<sup>11</sup>, Richard L. White<sup>13</sup>, Bevin Zauderer<sup>4</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Cornell University, <sup>3</sup> Drexel University, <sup>4</sup> Harvard University, <sup>5</sup> JPL, <sup>6</sup> NOAO, <sup>7</sup> NRAO, <sup>8</sup> NRAO, <sup>9</sup> NRL, <sup>10</sup> Penn State University, <sup>11</sup> Princeton University, <sup>12</sup> SIUE, <sup>13</sup> STSCI, <sup>14</sup> UC Berkeley, <sup>15</sup> University of Iowa, <sup>16</sup> University of Manitoba, <sup>17</sup> University of Wisconsin  
Contributing team(s): Extragalactic Science Working Group, Galactic Science Working Group, Transient Science Working Group

## 113.04 Technical Implementation Plan for the VLA Sky Survey (VLASS)

**Author(s):** Steven T. Myers<sup>9</sup>, Casey J. Law<sup>15</sup>, Stefi Alison Baum<sup>17</sup>, W. Niel Brandt<sup>11</sup>, Claire J. Chandler<sup>9</sup>, Tracy E. Clarke<sup>10</sup>, James J. Condon<sup>8</sup>, James M. Cordes<sup>2</sup>, Susana E. Deustua<sup>14</sup>, Mark Dickinson<sup>7</sup>, Nicole E. Gugliucci<sup>13</sup>, Gregg Hallinan<sup>1</sup>, Joseph Lazio<sup>6</sup>, Jacqueline Hodge<sup>8</sup>, Cornelia C. Lang<sup>16</sup>, Sui Ann Mao<sup>18</sup>, Eric J. Murphy<sup>5</sup>, Rachel A. Osten<sup>14</sup>, Gordon T. Richards<sup>3</sup>, Michael A. Strauss<sup>12</sup>, Richard L. White<sup>14</sup>, Bevin Zauderer<sup>4</sup>  
*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Cornell University, <sup>3</sup> Drexel University, <sup>4</sup> Harvard University, <sup>5</sup> IPAC, <sup>6</sup> JPL, <sup>7</sup> NOAO, <sup>8</sup> NRAO, <sup>9</sup> NRAO, <sup>10</sup> NRL, <sup>11</sup> Penn State University, <sup>12</sup> Princeton University, <sup>13</sup> SIUE, <sup>14</sup> STSCI, <sup>15</sup> UC Berkeley, <sup>16</sup> University of Iowa, <sup>17</sup> University of Manitoba, <sup>18</sup> University of Wisconsin

## 113.05D Exploring the Dynamic Radio Sky

**Author(s):** Kunal P Mooley<sup>1</sup>, Gregg Hallinan<sup>1</sup>, Dale A. Frail<sup>2</sup>, Steven T. Myers<sup>2</sup>, Shrinivas R. Kulkarni<sup>1</sup>, Stephen Bourke<sup>1</sup>, Assaf Horesh<sup>1</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> NRAO

## 113.06 The LWA1 Low Frequency Sky Survey

**Author(s):** Jayce Dowell<sup>1</sup>, Gregory B. Taylor<sup>1</sup>

*Institution(s):*<sup>1</sup> University of New Mexico

Contributing team(s): LWA Collaboration

## 113.07 Advancing Astrometry: Revisiting the VLBA Calibrator Surveys

**Author(s):** Anthony J. Beasley<sup>1</sup>

*Institution(s):*<sup>1</sup> National Radio Astronomy Observatory

Contributing team(s): VCS Team

## 113.08 Murchison Widefield Array (MWA) - 1st Year Science Results

**Author(s):** Judd D. Bowman<sup>1</sup>

*Institution(s):*<sup>1</sup> Arizona State University

Contributing team(s): Murchison Widefield Array (MWA) Collaboration

## 114 HAD IV: Preserving the Material Legacy of the American Observatory Movement

**Monday, 10:00 am - 11:30 am; 615**

The “American Observatory Movement” was a term coined by historian David Musto who identified the motives of private individuals, colleges and communities who succeeded in building the first wave of astronomical observatories in the United States in the first half of the 19th Century. The Federal government joined in building the USNO in what was the second wave, fueled by the spectacular growth of American philanthropy in the second half of the century, when the movement produced some of the largest and most powerful telescopes in the world, and continued to do so in the first half of the 20th as corporate philanthropy was added to the recipe. While the major institutions that grew out of this movement still thrive, their founding observatories have closed, are closing, or are threatened with closure. This special session examines the state of preservation of the original structures and facilities of four observatories that helped to establish the world-wide dominance of the United States in observational astronomy and astrophysics, and explores the strategies their descendant institutions have chosen to preserve them as national assets. The four observatories to be represented are: Lick Observatory (Sandra Faber); Yerkes (Doyal Harper); Mount Wilson (Hal McAlister), and Lowell (Jeff Hall). Each speaker will describe present and planned efforts to preserve the material legacy of their observatories (instruments, buildings, libraries, archives, plate vaults, infrastructure) through programmatic fund raising schemes (public and private), endowments, educational and public programming, and specific business models that have been applied, including collaborations, consortia, educational services. After they speak, there will be open discussion between the speakers and the audience that will be directed to searching for viable schemes that might be helpful to other important American observatories now in distress.

**Organizer(s):** David DeVorkin (*Smithsonian Inst.*)

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## 115 The Sun and Solar System in Perspective

Monday, 10:00 am - 11:30 am; 620

Chair(s): John Armstrong (*Weber State Univ.*)

**115.01 Is the Alfvén wave propagation in the solar atmosphere affected by cutoff frequencies or not?**

**Author(s):** Zdzislaw E. Musielak<sup>2</sup>, Harsha K. Perera<sup>2</sup>, Krzysztof Murawski<sup>1</sup>  
*Institution(s):*<sup>1</sup>. *Uni. Marie Curie-Sklodowska*, <sup>2</sup>. *Univ. of Texas, Arlington*

**115.02 The Corona at Solar Maximum as Imaged during the Total Solar Eclipses of 2012 November 13-14 and 2013 November 3-4**

**Author(s):** Shadia R. Habbal<sup>4</sup>, Miloslav Druckmuller<sup>2</sup>, Constantinos Emmanouilides<sup>3</sup>, Huw Morgan<sup>1</sup>  
*Institution(s):*<sup>1</sup>. *Aberystwyth University*, <sup>2</sup>. *Brno University of Technology*,  
<sup>3</sup>. *HELIOS*, <sup>4</sup>. *Univ. of Hawaii at Manoa*

**115.03 Comparing Accretion Histories of Earth, Mars, and Theia Analogs**

**Author(s):** Nathan A. Kaib<sup>1</sup>, Nicolas B. Cowan<sup>1</sup>  
*Institution(s):*<sup>1</sup>. *Northwestern University*

**115.04 Transit Spectra of a Hazy World Revealed by Titan**

**Author(s):** Tyler D. Robinson<sup>1</sup>, Luca Maltagliati<sup>2</sup>, Mark S. Marley<sup>1</sup>  
*Institution(s):*<sup>1</sup>. *NASA Ames Research Center*, <sup>2</sup>. *Université Pierre et Marie Curie*

**115.05 DTNOs as probes of planet building: the Plutino size- & colour-distributions**

**Author(s):** Mike Alexandersen<sup>3</sup>, Brett Gladman<sup>3</sup>, JJ Kavelaars<sup>2</sup>, Jean-Marc Petit<sup>1</sup>, Stephen Gwyn<sup>2</sup>, Rosemary E. Pike<sup>2</sup>, Cory Shankman<sup>2</sup>  
*Institution(s):*<sup>1</sup>. *Institut UTINAM, Observatoire de Besancon*, <sup>2</sup>. *National Research Council of Canada*, <sup>3</sup>. *University of British Columbia*

**115.06 Near-infrared spatially resolved spectroscopy of 136108 Haumea's multiple system**

**Author(s):** Christophe Dumas<sup>1</sup>, Florian Gougéot<sup>5</sup>, Benoit Carry<sup>2</sup>, Pedro Lacerda<sup>3</sup>, Frederic Merlin<sup>4</sup>, Frederic Vachier<sup>2</sup>, Maria Antonietta Barucci<sup>4</sup>, Jerome Berthier<sup>2</sup>  
*Institution(s):*<sup>1</sup>. *European Southern Observatory*, <sup>2</sup>. *IMCCE*, <sup>3</sup>. *Max-Planck-Institut für Sonnensystemforschung*, <sup>4</sup>. *Observatoire de Paris-Meudon*, <sup>5</sup>. *Observatório Nacional*

**115.07 The Whipple Mission: Exploring the Kuiper Belt and the Oort Cloud**

**Author(s):** Matthew J. Holman<sup>2</sup>, Charles Alcock<sup>2</sup>, Almus T. Kenter<sup>2</sup>, Ralph P. Kraft<sup>2</sup>, Paul Nulsen<sup>2</sup>, Matthew John Payne<sup>2</sup>, Jan M. Vrtilik<sup>2</sup>, Stephen S. Murray<sup>3</sup>, Ruth Murray-Clay<sup>6</sup>, Hilke Schlichting<sup>5</sup>, Michael E. Brown<sup>1</sup>, John H. Livingston<sup>4</sup>, Amy R. Tringsrud<sup>4</sup>, Michael W. Werner<sup>4</sup>  
*Institution(s):*<sup>1</sup>. *Caltech*, <sup>2</sup>. *Harvard-Smithsonian, CfA*, <sup>3</sup>. *Johns Hopkins University*,  
<sup>4</sup>. *JPL*, <sup>5</sup>. *MIT*, <sup>6</sup>. *University of California, Santa Barbara*



## Science Policy Plenary Talk: What Do We Expect of a Space Program?

Monday, 11:40 am - 12:30 pm, 6E

Chair(s): C. Megan Urry (*Yale University*)



**John M. Logsdon** (*Space Policy Institute, The George Washington University*)

Dr. Logsdon is the “dean” of space policy, as the founder of GWU’s Space Policy Institute and a leading authority on the U.S. space program. He recently authored a book about President Kennedy’s role in the Apollo program and a new book on President Nixon’s pivotal post-Apollo policy decisions is due out this spring. His remarks will cover the current policy landscape for our national space program, how it got here, and prospects for the future.

## 117 NSF Town Hall

Monday, 12:30 pm - 1:30 pm; 6A

National Science Foundation personnel will discuss progress on decadal survey recommendations, status of facilities, mid-scale, and individual investigator programs, budget outcomes and plans, and other topical items of current interest to the AAS community.

Chair(s): James Ulvestad (*National Science Foundation*)

## Career Hour 1: Accessing Hidden Career Opportunities through Networking and Reputation Management

Monday, 12:30 pm - 1:30 pm; 618/619

Most jobs and other game-changing career opportunities are not advertised, and even if they are, there is usually a short-list of candidates already in mind. So how do you find out about and access the 90% of jobs and other opportunities that are “hidden”? In this workshop, we will focus on strategies and tactics to identify new opportunities, locate decision-makers within organizations, solidify your reputation and brand in the minds of those who hire, and gain access to hidden jobs and career-changing opportunities. Our guiding mantra is: seek out as many opportunities as you can; if you don’t see an opportunity that you need, ask for it; if you ask and it doesn’t exist, create it yourself!

Organizer(s): Alaina Levine (*Quantum Success Solutions*)

## Engaging Scientists in NASA Astrophysics E/PO

Monday, 12:30 pm - 2:00 pm, 4C-1

This 90-minute session will provide an opportunity for scientists and the NASA Science Mission Directorate (SMD) Astrophysics education and public outreach (E/PO) community to connect directly with each other, increase awareness and accessibility of NASA SMD E/PO resources and activities, and assist scientists in enhancing their E/PO efforts. The scientist-educator partnership is a key strength of the NASA SMD E/PO program, and one we hope to help foster through this session.

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MONDAY

The NASA SMD Astrophysics E/PO portfolio includes a large number of peer-reviewed, externally evaluated resources and opportunities. The session will provide an opportunity to become more familiar with a variety of E/PO resources and programs, how they can be accessed by scientists and educators, and how the Astrophysics E/PO community can assist. This session will include an introduction to the SMD E/PO community and its efforts to engage the scientific community in various aspects of E/PO. We will facilitate awareness, access, and use of resources. Following the short introduction, participants will explore a selection of E/PO resources designed for use in the college or university setting; K-12 classrooms; museums and planetariums, after-school programs; and, public outreach venues. Resources and strategies to enhance scientists' efforts to share their work and passion with students and the public will also be highlighted. The session will provide demonstrations and hands-on experience with NASA SMD E/PO resources and one-on-one conversations with professionals. Participants will leave with an introductory inventory of resource samplers and quick-start guides.

**Organizer(s): Bonnie Meinke (STScI)**

## 118 HAD Business Meeting

Monday, 12:45 pm - 1:45 pm; 610

**Chair(s): Jay Pasachoff (Williams College)**

## For Undergrads & Other Inquiring Minds: Gamma Ray Bursts and the Birth of Black Holes, Neil A. Gehrels (Goddard Space Flight Center)

Monday, 1:15 pm – 2:00 pm; 6C

Gamma-ray bursts (GRBs) are powerful explosions, visible across the universe, and thought to be the signature of black hole formation. The NASA Swift observatory was designed specifically to observe GRBs and has detected more than 900 since launch in 2004. The observatory has a novel design that allows it to rapidly repoint itself when a GRB is detected and alert the world in minutes. This talk will highlight the latest discoveries from Swift including bursts from coalescing neutron stars and from the early stars in the distant universe.

## 119 The Milky Way, The Galactic Center II

Monday, 2:00 pm - 3:30 pm; 6A

**Chair(s): Verne Smith (NOAO)**

### 119.01 The CRRP and SMHASH programs: Mapping the Milky Way and its neighbours with RR Lyraes in the mid IR

**Author(s): Victoria Scowcroft<sup>1</sup>, Wendy L. Freedman<sup>1</sup>, Kathryn V. Johnston<sup>2</sup>, Barry Madore<sup>1</sup>**

**Institution(s):** <sup>1</sup> *Carnegie Institution for Science*, <sup>2</sup> *Columbia University*  
**Contributing team(s):** CRRP team, SMHASH team

### 119.02 Inferring the Galactic gravitational potential with Gaia and friends

**Author(s): Robyn Ellyn Sanderson<sup>2</sup>, Johanna Hartke<sup>3</sup>, Amina Helmi<sup>3</sup>, David W. Hogg<sup>1</sup>**

*Institution(s):* <sup>1</sup> Center for Cosmology and Particle Physics, Department of Physics, New York University, <sup>2</sup> Columbia University Department of Astronomy, <sup>3</sup> Kapteyn Institute, University of Groningen

## 119.03D Hypervelocity Stars in the Sloan Digital Sky Survey

**Author(s):** Lauren E. P. Campbell<sup>1</sup>, Kelly Holley-Bockelmann<sup>1</sup>

*Institution(s):* <sup>1</sup> Vanderbilt University

## 119.04 Reinterpreting The Sagittarius Dwarf Tidal Debris

**Author(s):** Matthew T. Newby<sup>1</sup>, Heidi Jo Newberg<sup>1</sup>, Jeffery M. Thompson<sup>1</sup>, Jake Weiss<sup>1</sup>

*Institution(s):* <sup>1</sup> Rensselaer Polytechnic Institute

## 119.05 Orbit of the Ophiuchus Stream

**Author(s):** Branimir Sesar<sup>5</sup>, Edouard J. Bernard<sup>4</sup>, Jo Bovy<sup>3</sup>, Judith G. Cohen<sup>1</sup>, Nelson Caldwell<sup>2</sup>, Melissa Ness<sup>5</sup>, Christian I. Johnson<sup>2</sup>, Annette M. N. Ferguson<sup>4</sup>, Nicolas Martin<sup>5</sup>, Hans-Walter Rix<sup>5</sup>, Eddie Ford Schlafly<sup>5</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup>

*Institute for Advanced Study, <sup>4</sup> Institute for Astronomy, University of Edinburgh, Royal Observatory, <sup>5</sup> Max Planck Institute for Astronomy*

Contributing team(s): Pan-STARRS1 Collaboration

## 119.07 Rings and Radial Waves in the Disk of the Milky Way

**Author(s):** Heidi Jo Newberg<sup>4</sup>, Yan Xu<sup>3</sup>, Jeffrey L. Carlin<sup>4</sup>, Chao Liu<sup>3</sup>, Licai Deng<sup>3</sup>, Jing Li<sup>2</sup>, Ralph Schoenrich<sup>5</sup>, Brian Yanny<sup>1</sup>

*Institution(s):* <sup>1</sup> Experimental Astrophysics Group, Fermi National Accelerator

*Laboratory, <sup>2</sup> Key Laboratory for Research in Galaxies and Cosmology, Shanghai Astronomical Observatory, <sup>3</sup> National Astronomical Observatories, Chinese*

*Academy of Sciences, <sup>4</sup> Rensselaer Polytechnic Inst., <sup>5</sup> Rudolf-Peierls Centre for Theoretical Physics, University of Oxford*

## 120 AGN, QSO, Blazars II

Monday, 2:00 pm - 3:30 pm; 6B

**Chair(s):** Ryan Hickox (*Dartmouth College*)

### 120.01 Bayesian analysis of X-ray jet features of the high redshift quasar jets observed with Chandra

**Author(s):** Kathryn McKeough<sup>1</sup>, Aneta Siemiginowska<sup>2</sup>, Vinay Kashyap<sup>2</sup>, Nathan Stein<sup>4</sup>, Chi C. Cheung<sup>3</sup>

*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> Harvard Smithsonian Center for Astrophysics, <sup>3</sup> Naval Research Laboratory, <sup>4</sup> University of Pennsylvania

### 120.02 A census of gas outflows in type 2 AGNs out to $z \sim 0.2$

**Author(s):** Jong-Hak Woo<sup>1</sup>, Hyun-Jin Bae<sup>1</sup>

*Institution(s):* <sup>1</sup> Seoul National University

### 120.03 Superluminal Motions at 500 Mpc: New Results on Nearby AGN Jets with HST

**Author(s):** Eileen T. Meyer<sup>2</sup>, Markos Georganopoulos<sup>3</sup>, William B. Sparks<sup>2</sup>, John A. Biretta<sup>2</sup>, Roeland P. Van Der Marel<sup>2</sup>, Jay Anderson<sup>2</sup>, Marco Chiaberge<sup>2</sup>, Eric S. Perlman<sup>1</sup>, Colin Arthur Norman<sup>2</sup>

*Institution(s):* <sup>1</sup> FIT, <sup>2</sup> Space Telescope Science Institute, <sup>3</sup> UMBC

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- 120.04 5-day photo-polarimetric WEBT Campaign on Blazar S5 0716+714 – a Study of Microvariability in Blazar**  
**Author(s):** Gopal Bhatta<sup>5</sup>, Michal Ostrwoski<sup>5</sup>, Lukasz Stawarz<sup>13</sup>, Staszek Zola<sup>5</sup>, Damian Jableka<sup>5</sup>, R Bachev<sup>12</sup>, Erika Benitez<sup>14</sup>, Sarah M. Dhalla<sup>10</sup>, Andy Cason<sup>17</sup>, Daniele Carosati<sup>9</sup>, Goran Damjanovic<sup>6</sup>, A. Frasca<sup>15</sup>, Shao Ming Hu<sup>18</sup>, Svetlana G. Jorstad<sup>11</sup>, O Kurtanidze<sup>3</sup>, Valeri Larionov<sup>4</sup>, Giuseppe Leto<sup>15</sup>, Alan P. Marscher<sup>11</sup>, Joseph Moody<sup>16</sup>, Johannes Ohlert<sup>7</sup>, Nicola Rizzi<sup>19</sup>, Alberto C. Sadun<sup>2</sup>, Mahito Sasada<sup>1</sup>, Sergey Sergeev<sup>8</sup>, Anton Strigachev<sup>12</sup>, Oliver Vince<sup>6</sup>, James Raymond Webb<sup>10</sup>  
*Institution(s):* <sup>1</sup> Department of Physical Science, Hiroshima University, <sup>2</sup> Department of Physics, Univ. of Colorado Denver, <sup>3</sup> Abastumani Astrophysical Observatory, <sup>4</sup> Astronomical Institute, St. Petersburg State University, <sup>5</sup> Astronomical Observatory of Jagiellonian University, <sup>6</sup> Astronomical Station Vidojevica, <sup>7</sup> Astronomie Stiftung Tebur, Fichtenstrasse 7, <sup>8</sup> Crimean Astrophysical Observatory, <sup>9</sup> EPT Observatories, Tjarafe, <sup>10</sup> Florida International University, <sup>11</sup> Institute for Astrophysical Research, Boston University, <sup>12</sup> Institute of Astronomy, Bulgarian Academy of Sciences, <sup>13</sup> Institute of Space and Astronautical Science JAXA, 3-1-1 Yoshinodai, Chuo-ku, Sagami-hara, <sup>14</sup> Instituto de Astronomia, Universidad Nacional Autonoma de Mexico, <sup>15</sup> Osservatorio Astrofisico di Catania, Viale A. Doria 6, <sup>16</sup> Physics and Astronomy Department, Brigham Young University, <sup>17</sup> Private, <sup>18</sup> School of Space Science and Physics, Shandong University, <sup>19</sup> Sirio Astronomical Observatory  
Contributing team(s): Whole Earth Blazar Telescope
- 120.05 Investigating a Correlation Between AGN Inclination and Mid-IR Color**  
**Author(s):** D. Michael Crenshaw<sup>1</sup>, Travis C. Fischer<sup>1</sup>, Steven B. Kraemer<sup>3</sup>, Henrique R. Schmitt<sup>2</sup>  
*Institution(s):* <sup>1</sup> Georgia State Univ., <sup>2</sup> Naval Research Laboratory, <sup>3</sup> The Catholic University of America
- 120.06 Implications of Asymmetric Broad-Line Reverberation for Binary Black Hole Searches**  
**Author(s):** Aaron J. Barth<sup>1</sup>  
*Institution(s):* <sup>1</sup> UC Irvine  
Contributing team(s): LAMP2011 Collaboration
- 120.07 Exploring AGN Unification through Mid-Infrared Spectroscopic Analysis**  
**Author(s):** Grant D. Thompson<sup>2</sup>, Murray E. Macnamara<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia Regents University Augusta, <sup>2</sup> Wingate University
- 120.08 High Resolution Radio Imaging of Powerful, Distant, Heavily Obscured Active Galaxies**  
**Author(s):** Colin J. Lonsdale<sup>2</sup>, Carol J. Lonsdale<sup>3</sup>, Rachel Thorp<sup>1</sup>, Mark Lacy<sup>3</sup>, Mark Whittle<sup>4</sup>, Andrew Blain<sup>5</sup>, Amy E. Kimball<sup>3</sup>, Palavi Patil<sup>4</sup>, Adam Tripp<sup>4</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> MIT Haystack Observatory, <sup>3</sup> NRAO, <sup>4</sup> Univ. of Virginia, <sup>5</sup> University of Leicester
- 120.09 Observational signatures of Intermediate Mass Black Holes in AGN disks**  
**Author(s):** K.E. Saavik Ford<sup>2</sup>, Barry McKernan<sup>2</sup>, Bence Kocsis<sup>3</sup>, Wladimir Lyra<sup>4</sup>, Lisa M. Winter<sup>1</sup>  
*Institution(s):* <sup>1</sup> Atmospheric and Environmental Research, <sup>2</sup> Borough of Manhattan Community College - CUNY, <sup>3</sup> Institute for Advanced Study, <sup>4</sup> Jet Propulsion Laboratory

## 121 Supernovae II

Monday, 2:00 pm - 3:30 pm; 6C

Chair(s): Peter Garnavich (*Univ. of Notre Dame*)

### 121.01 Strongly Lensed Supernovae from the HST Frontier Fields

Author(s): Steven A. Rodney<sup>1</sup>

Institution(s): <sup>1</sup> Johns Hopkins University

Contributing team(s): the FrontierSN Team

### 121.02 Exploring the unified class of Type II Supernovae with the Las Cumbres Observatory Global Telescope Network

Author(s): Stefano Valenti<sup>1</sup>, Dale Andrew Howell<sup>1</sup>, David J. Sand<sup>2</sup>, Iair Arcavi<sup>1</sup>, Griffin Hosseinzadeh<sup>1</sup>, Curtis McCully<sup>1</sup>

Institution(s): <sup>1</sup> Las Cumbres Observatory Global Telescope Network, <sup>2</sup> Texas Tech University

### 121.03 Explaining the Type II supernova rate-mass relation as a combination of galaxy downsizing and star-formation rates

Author(s): Or Graur<sup>1</sup>, Maryam Modjaz<sup>1</sup>

Institution(s): <sup>1</sup> New York University

### 121.04 The first homogeneous, multi-color photometric and spectroscopic sample of Stripped Envelope Super Novae and what it can tell us about their progenitors

Author(s): Federica Bianco<sup>1</sup>, Maryam Modjaz<sup>1</sup>, Yuqian Liu<sup>1</sup>

Institution(s): <sup>1</sup> New York University

Contributing team(s): the CfA supernova group

### 121.05 Neutrino Emission from Core-Collapse Supernovae

Author(s): Evan O'Connor<sup>1</sup>

Institution(s): <sup>1</sup> North Carolina State University

### 121.07D Nucleosynthesis in Axisymmetric Ab Initio Core-Collapse Supernova Simulations of 12-25 M<sub>⊙</sub> Stars

Author(s): James Austin Harris<sup>5</sup>, William R. Hix<sup>4</sup>, Merek A Chertkow<sup>5</sup>, Stephen W. Bruenn<sup>1</sup>, Eric J. Lentz<sup>5</sup>, O. E. Bronson Messer<sup>4</sup>, Anthony Mezzacappa<sup>5</sup>, John M. Blondin<sup>3</sup>, Pedro Marronetti<sup>2</sup>, Konstantin Yakunin<sup>5</sup>

Institution(s): <sup>1</sup> Florida Atlantic University, <sup>2</sup> National Science Foundation, <sup>3</sup> North Carolina State University, <sup>4</sup> Oak Ridge National Lab, <sup>5</sup> University of Tennessee-Knoxville

### 121.08 Impact of the third dimension on simulations of core-collapse supernovae

Author(s): Eric J. Lentz<sup>5</sup>, Stephen W. Bruenn<sup>1</sup>, William R. Hix<sup>4</sup>, O. E. Bronson Messer<sup>4</sup>, Anthony Mezzacappa<sup>5</sup>, John M. Blondin<sup>2</sup>, Eirik Endeve<sup>4</sup>, James Austin Harris<sup>5</sup>, Pedro Marronetti<sup>3</sup>, Konstantin Yakunin<sup>5</sup>

Institution(s): <sup>1</sup> FAU, <sup>2</sup> NCSU, <sup>3</sup> NSF, <sup>4</sup> ORNL, <sup>5</sup> Univ. of Tennessee

# MONDAY, 5 JANUARY 2015

## 122 Extrasolar Planets: Kepler's Legacy II

Monday, 2:00 pm - 3:30 pm; 6E

Chair(s): Joshua Pepper (*Vanderbilt University*)

### 122.01D The Power of a Planet Population: Kepler's Super-Earth Compositions, Mass-Radius Relation, and Host Star Multiplicity

Author(s): Angie Wolfgang<sup>1</sup>

Institution(s): <sup>1</sup> *University of California, Santa Cruz*

### 122.02 Characterizing K2 Planet Discoveries

Author(s): Andrew Vanderburg<sup>3</sup>, Benjamin Montet<sup>1</sup>, John Johnson<sup>3</sup>, Lars A Buchhave<sup>3</sup>, Li Zeng<sup>3</sup>, Allyson Bieryla<sup>3</sup>, David W. Latham<sup>2</sup>, David Charbonneau<sup>3</sup>

Institution(s): <sup>1</sup> *California Institute of Technology*, <sup>2</sup> *Harvard University*, <sup>3</sup> *Harvard-Smithsonian Center for Astrophysics*

Contributing team(s): The HARPS-N Collaboration, The Robo-AO team

### 122.03 The Kepler Q1 - Q16 Planet Candidate Catalog

Author(s): Fergal Mullally<sup>1</sup>

Institution(s): <sup>1</sup> *NASA Ames/SETI*

Contributing team(s): Kepler Team

### 122.04 Planet Population Statistics With Kepler Q1-Q16: Stellar Effective Temperature Dependence

Author(s): Christopher J. Burke<sup>3</sup>, Fergal Mullally<sup>3</sup>, Jessie Christiansen<sup>2</sup>, Daniel Huber<sup>1</sup>, Shawn Seader<sup>3</sup>, Joseph Catanzarite<sup>3</sup>, Steve Bryson<sup>1</sup>, Jeffrey Coughlin<sup>3</sup>, Jason Rowe<sup>3</sup>, Susan E. Thompson<sup>3</sup>, Bruce Clarke<sup>3</sup>, Peter Tenenbaum<sup>3</sup>, Natalie M. Batalha<sup>1</sup>, Michael R Haas<sup>1</sup>, Jon Michael Jenkins<sup>1</sup>

Institution(s): <sup>1</sup> *NASA Ames Research Center*, <sup>2</sup> *NASA Exoplanet Science Institute/Caltech*, <sup>3</sup> *SETI Institute*

Contributing team(s): Kepler Project

### 122.05 Expected Exoplanet Yields of Direct-Imaging Missions, Based on the Kepler Population

Author(s): Wesley A. Traub<sup>1</sup>

Institution(s): <sup>1</sup> *Jet Propulsion Laboratory*

### 122.06 A Transit Timing Posterior Distribution Catalog for all Kepler Planet Candidates

Author(s): Benjamin Montet<sup>1</sup>, Juliette Becker<sup>3</sup>, John Johnson<sup>2</sup>

Institution(s): <sup>1</sup> *California Institute of Technology*, <sup>2</sup> *Harvard-Smithsonian Center for Astrophysics*, <sup>3</sup> *University of Michigan*

### 122.07 Statistical Eclipses of Kepler Neptune-like Candidates

Author(s): Holly A. Sheets<sup>1</sup>, Drake Deming<sup>1</sup>

Institution(s): <sup>1</sup> *University of Maryland*

### 122.08 Preparing for the Kepler K2 Microlensing Survey: A Call to Arms

Author(s): Matthew Penny<sup>1</sup>

Institution(s): <sup>1</sup> *Ohio State University*

## 123 HEAD II: Centennial of General Relativity: Looking Forward

Monday, 2:00 pm - 3:30 pm; 610

To celebrate the centenary of the publication of Einstein's Field Equations, the AAS High Energy Astrophysics Division and NASA's Physics of the Cosmos program are pleased to co-host two special sessions on Theory of General Relativity. The first session provides a historical perspective on the development of the theory of general relativity and astrophysical constraints of General Relativity. The second session looks forward from current astrophysical constraints to next-generation measurements ranging from space-based measurements of gravitational waves and the powerful tests made possible through studies of binary pulsars through to cosmological tests of General Relativity.

**Organizer(s):** Ann Hornschemeier (*NASA GSFC*)

### 123.01 Binary Pulsar Constraints on General Relativity

**Author(s):** Michael Kramer<sup>1</sup>

*Institution(s):* <sup>1</sup> *Max-Planck-Institut fuer Radioastronomie*

### 123.02 Cosmological tests of GR

**Author(s):** Rachel Bean<sup>1</sup>

*Institution(s):* <sup>1</sup> *Cornell Univ.*

### 123.03 The Centennial of GR: Looking forward to Black Hole Mergers at Cosmic Dawn

**Author(s):** Neil J. Cornish<sup>1</sup>

*Institution(s):* <sup>1</sup> *Montana State Univ.*

## 124 Extrasolar Planets: Atmospheres II

Monday, 2:00 pm - 3:30 pm; 616/617

**Chair(s):** Victoria Meadows (*University of Washington*)

### 124.01D Super-Earths, Warm Neptunes, and Hot Jupiters: Transmission Spectroscopy for Comparative Planetology

**Author(s):** Jonathan D. Fraine<sup>3</sup>, Drake Deming<sup>3</sup>, Andres Jordan<sup>2</sup>, Heather Knutson<sup>1</sup>

*Institution(s):* <sup>1</sup> *California Institute of Technology Division of Geological & Planetary Sciences*, <sup>2</sup> *Pontificia Universidad Católica de Chile Instituto de Astrofísica*, <sup>3</sup> *University of Maryland*

### 124.02D Spectral Fingerprints of Earth-like Planets Orbiting Other Stars

**Author(s):** Sarah Rugheimer<sup>2</sup>, Lisa Kaltenegger<sup>1</sup>, Dimitar Sasselov<sup>2</sup>

*Institution(s):* <sup>1</sup> *Cornell University*, <sup>2</sup> *Harvard University*

### 124.03 On the Confidence of Molecular Detections in the Atmospheres of Exoplanets from Secondary Eclipse Spectra

**Author(s):** Jacob A Lustig-Yaeger<sup>2</sup>, Michael R. Line<sup>1</sup>, Jonathan J. Fortney<sup>1</sup>

*Institution(s):* <sup>1</sup> *University of California, Santa Cruz*, <sup>2</sup> *University of Washington*

### 124.04 The Thermal Emission and Albedo of Super-Earths with Flat Transmission Spectra

**Author(s):** Caroline Morley<sup>2</sup>, Jonathan J. Fortney<sup>2</sup>, Mark Marley<sup>1</sup>

*Institution(s):* <sup>1</sup> *NASA Ames Research Center*, <sup>2</sup> *University of CA - Santa Cruz*

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## 124.05 Characterizing Transiting Exoplanet Atmospheres with Gemini/GMOS: First Results

**Author(s):** Catherine Huitson<sup>4</sup>, Jean-Michel Desert<sup>4</sup>, Jacob Bean<sup>3</sup>, Jonathan J. Fortney<sup>2</sup>, Kevin B. Stevenson<sup>3</sup>, Marcel Bergmann<sup>1</sup>

*Institution(s):* <sup>1</sup> NOAO/Gemini, <sup>2</sup> University of California at Santa Cruz, <sup>3</sup> University of Chicago, <sup>4</sup> University of Colorado at Boulder

## 124.06 Probing exoplanet atmospheres through their Rayleigh scattering signatures

**Author(s):** Diana Dragomir<sup>3</sup>, Ian Crossfield<sup>2</sup>, Bjoern Benneke<sup>1</sup>, Kyle Pearson<sup>2</sup>, Lauren I Biddle<sup>2</sup>

*Institution(s):* <sup>1</sup> CALTECH, <sup>2</sup> University of Arizona, <sup>3</sup> University of California Santa Barbara

## 124.07 Highly Evolved Exoplanet Atmospheres

**Author(s):** Renyu Hu<sup>1</sup>

*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory

## 125 Final Results from BOSS

**Monday, 2:00 pm - 3:30 pm; 618/619**

The Baryon Oscillation Spectroscopic Survey (BOSS) of the Sloan Digital Sky Survey III has completed a 6-year effort to map the spatial distribution of luminous galaxies and quasars and probe the inter-galactic medium. The goals of the survey were to constrain the characteristic scale imprinted by baryon acoustic oscillations in the early universe, the growth of structure through redshift space distortions, the matter power spectrum and the evolution of massive galaxies and quasars. This session highlights science results from the completed survey. This special session follows the final data release of the SDSS-III/BOSS data. This includes spectra and redshifts for 1.35 million unique Luminous Red Galaxies spanning redshifts  $0.15 < z < 0.7$  and 230,000 quasars of which 169,000 are at  $z > 2.15$  and appropriate for Lyman-alpha forest studies. These objects cover a footprint of 10,200 square degrees of the extragalactic sky at declinations  $-11 < \text{dec} < +69$  deg.

**Organizer(s):** David Schlegel (LBNL)

### 125.01 Overview of the Baryon Acoustic Oscillation Survey (BOSS)

**Author(s):** David J. Schlegel<sup>1</sup>

*Institution(s):* <sup>1</sup> LBNL

Contributing team(s): SDSS-III collaboration

### 125.02 Cosmology from BOSS Galaxy Clustering and Redshift-Space Distortions

**Author(s):** Ashley J Ross<sup>1</sup>

*Institution(s):* <sup>1</sup> CCAPP, Ohio State University

Contributing team(s): SDSS-III collaboration

### 125.03 Cosmology from the BOSS Lyman-Alpha Forest

**Author(s):** Andreu Font-Ribera<sup>1</sup>

*Institution(s):* <sup>1</sup> Lawrence Berkeley National Laboratory

Contributing team(s): SDSS-III collaboration

### 125.04 What BOSS has taught us about Quasars

**Author(s):** Nicholas Ross<sup>1</sup>

*Institution(s):* <sup>1</sup> Drexel University

Contributing team(s): The SDSS-III BOSS Quasar Science Working Group



## 125.05 The BOSS Cosmological Model

**Author(s):** Daniel Eisenstein<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard Univ.

Contributing team(s): SDSS-III Collaboration

## 125.06 The Start of SDSS-IV and eBOSS

**Author(s):** Jeremy Tinker<sup>1</sup>

*Institution(s):* <sup>1</sup> New York University

Contributing team(s): SDSS-IV Collaboration

## 126 Astronomy Across Africa: A New Dawn - II

**Monday, 2:00 pm - 3:30 pm; 606**

In January 2013 we requested two special sessions entitled, "Astronomy Across Africa: A New Dawn." The AAS received a record number of requests for special sessions for that meeting but the Society was able to grant us one session, which was scheduled on Thursday morning. All of our speakers, including four from Africa, were able to attend the meeting and the session. We had an incredible turnout with a standing room only crowd and at least six current directors and a previous director of major facilities and observatories in the audience. The session has since been featured in a number of news articles and various member of the AAS community have expressed an interest in becoming more involved in collaborating with the young and fast growing astronomy community on the African continent. With this proposal we request another special session to continue our goal of increasing awareness, interactions and collaboration between US and African astronomers and educators. We would also like to request that the session be scheduled on the first or second day of the meeting so that there is additional time for the speakers from Africa to communicate and interact with AAS members and vice-versa. As noted in our past proposal an explosion of cutting edge multi-wavelength facilities have begun or are expected to be operating namely SALT, HESS, MITRA, AVN, PAPER, MeerKAT, African VLBI and the SKA. The CTA is also likely to be situated in Namibia, which combined with HESS will engage in premier high energy astrophysics activity. At the same time countries across the continent are developing human capacity in science and technology using astronomy as a gateway science. As astronomy is set to explode across Africa, its astronomy community, facilities and on-going science remain relatively unknown to the US community.

With this second special session we seek to highlight the latest developments in astronomy in Africa, specifically the African-VLBI network, CTA and HESS – the high energy astrophysics facilities, and education / development projects across the continent in Ethiopia, Nigeria and Burkina Faso. We will also highlight the efforts by the US State Department in growing scientific interactions and connections with the African continent. Finally we note that the session is co-sponsored by AUI / NRAO, Committee for Status of Minorities in Astronomy (CSMA), South Africa's Department of Science and Technology (DST), and South Africa's National Research Foundation (NRF), and by members of the National Society of Black Physicists (specifically Dr. Charles Mcgruder and Dr. Lawrence Norris). All of the sponsors are particularly interested in improving diversity and broadening participation in astronomy and the advancement of African astronomers is well-aligned with the mission of the sponsors. Challenges faced by African astronomers are very

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similar to those faced by minority groups in the US and lessons can be learned between the two. For NRAO/AUI, an additional reason for the sponsorship is its mission statement to help train the next generation of scientists in radio astronomy.

**Chair(s): Kartik Sheth (NRAO)**

## 126.01 KAT-7 Science Verification Highlights

**Author(s): Danielle M. Lucero<sup>1</sup>, Claude Carignan<sup>1</sup>**

*Institution(s): <sup>1</sup> University of Cape Town*

Contributing team(s): KAT-7 Science Data and Processing Team, KAT-7 Science Commissioning Team

## 126.02 The African VLBI network project

**Author(s): Anita Loots<sup>1</sup>**

*Institution(s): <sup>1</sup> AVN/SKA-Africa*

## 126.03 Astronomy Development in Nigeria: Challenges and Advances

**Author(s): James Okwe Chibueze<sup>1</sup>**

*Institution(s): <sup>1</sup> National Astronomical Observatory of Japan*

## 126.04 The NRAO NINE Program: Faculty & Student Partnerships Across Africa

**Author(s): Kartik Sheth<sup>1</sup>**

*Institution(s): <sup>1</sup> NRAO*

## 126.05 Astronomy Landscape in Africa

**Author(s): Takalani Nemaungani<sup>1</sup>**

*Institution(s): <sup>1</sup> South African Government*

## 126.06 Joint Exchange Development Initiative (JEDI) with the SKA Africa

**Author(s): Nadeem Oozeer<sup>2</sup>, Bruce A Bassett<sup>1</sup>**

*Institution(s): <sup>1</sup> AIMS, <sup>2</sup> SKA Commissioning Team*

## 126.07 An Inquiry-based Astronomy Summer School in West Africa

**Author(s): Linda Strubbe<sup>1</sup>, Bonaventure Okere<sup>4</sup>, James Chibueze<sup>2</sup>, Kelly Lepo<sup>5</sup>, Heidi White<sup>5</sup>, Jielai Zhang<sup>5</sup>, Daniel Okoh<sup>4</sup>, Mike Reid<sup>5</sup>, Lisa Hunter<sup>3</sup>**

*Institution(s): <sup>1</sup> Canadian Institute for Theoretical Astrophysics, <sup>2</sup> NAOJ, <sup>3</sup> University of California, <sup>4</sup> University of Nigeria, <sup>5</sup> University of Toronto*

## 126.08 H.E.S.S. and CTA - Southern Africa's Involvement

**Author(s): Markus Bottcher<sup>1</sup>**

*Institution(s): <sup>1</sup> North-West University*

# 127 Molecular Clouds, HII Regions, Interstellar Medium II

Monday, 2:00 pm - 3:30 pm; 607

**Chair(s): Lori Allen (NOAO)**

## 127.01 Measuring the Mass-to-Flux Ratio in Molecular Clouds via Zeeman Observations

**Author(s): Kristen L. Thompson<sup>1</sup>, Thomas H. Troland<sup>3</sup>, Carl E. Heiles<sup>2</sup>**

*Institution(s): <sup>1</sup> Davidson College, <sup>2</sup> University of California, <sup>3</sup> University of Kentucky*

- 127.02 Observations of Turbulence Dissipating in Low Velocity Shocks in the Perseus B1-E5 Starless Core**  
**Author(s):** Andy Pon<sup>1</sup>, Doug Johnstone<sup>2</sup>, Michael J. Kaufman<sup>3</sup>, Paola Caselli<sup>1</sup>, Rene Plume<sup>4</sup>  
*Institution(s):* <sup>1</sup> Max Planck Institute for Extraterrestrial Physics, <sup>2</sup> NRC-Herzberg Institute for Astrophysics, <sup>3</sup> San Jose State University, <sup>4</sup> University of Calgary
- 127.03D Line Ratio Diagnostics Along the Disc of Two Edge-on Lenticular Galaxies, NGC 4710 and NGC 5866**  
**Author(s):** Selcuk Topal<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Oxford
- 127.04 The Envelope of the Molecular Cloud L1599B**  
**Author(s):** Paul Goldsmith<sup>1</sup>, Jorge Pineda<sup>1</sup>, William Langer<sup>1</sup>, Thangasamy Velusamy<sup>1</sup>  
*Institution(s):* <sup>1</sup> JPL
- 127.05 New perspective on the Fan Region: Polarized synchrotron emission tracing Galactic structure beyond the Perseus Arm**  
**Author(s):** Alex S. Hill<sup>3</sup>, T. L. Landecker<sup>2</sup>, E Carretti<sup>1</sup>, Kevin A. Douglas<sup>5</sup>, Xiaohui Sun<sup>7</sup>, Bryan M. Gaensler<sup>7</sup>, Sui Ann Mao<sup>4</sup>, Naomi M. McClure-Griffiths<sup>1</sup>, Maik Wolleben<sup>2</sup>, Marijke Haverkorn<sup>6</sup>, Dominic Schnitzeler<sup>4</sup>  
*Institution(s):* <sup>1</sup> CSIRO Astronomy and Space Science, <sup>2</sup> DRAO, <sup>3</sup> Haverford College, <sup>4</sup> Max Planck Institute for Radio Astronomy, <sup>5</sup> Okanagan College, <sup>6</sup> Radboud University Nijmegen, <sup>7</sup> University of Sydney
- 127.06 Collision of the Smith Cloud and its dark matter halo with the magnetized Galactic disk**  
**Author(s):** Jason Galyardt<sup>1</sup>, Robin L. Shelton<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Georgia
- 127.07 Resolving Molecular Clouds in the Nearby Galaxy NGC 300**  
**Author(s):** Christopher Faesi<sup>1</sup>, Charles J. Lada<sup>2</sup>, Jan Forbrich<sup>3</sup>  
*Institution(s):* <sup>1</sup> Harvard Univ., <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> University of Vienna

## 128 Star Formation II

Monday, 2:00 pm - 3:30 pm; 608

**Chair(s):** Hans Guenther

- 128.01 The Relationship Between Gas and Star Formation in the Magellanic Clouds**  
**Author(s):** Katherine Jameson<sup>3</sup>, Alberto D. Bolatto<sup>3</sup>, Adam K. Leroy<sup>1</sup>, Margaret Meixner<sup>2</sup>, Julia Roman-Duval<sup>2</sup>, Karl D. Gordon<sup>2</sup>  
*Institution(s):* <sup>1</sup> NRAO, <sup>2</sup> STScI, <sup>3</sup> University of Maryland  
 Contributing team(s): HERITAGE Collaboration
- 128.02DA Multi-Wavelength Survey of Intermediate-Mass Star-Forming Regions**  
**Author(s):** Michael J. Lundquist<sup>2</sup>, Henry A. Kobulnicky<sup>2</sup>, Charles R. Kerton<sup>1</sup>  
*Institution(s):* <sup>1</sup> Iowa State University, <sup>2</sup> University of Wyoming

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## 128.03 Identification of Young Stars and Sub-Clusters in Rich Cluster Environments

**Author(s):** Sarah Willis<sup>1</sup>, Joseph L. Hora<sup>1</sup>, Gozde Saral<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian CfA

## 128.04 Do filaments cross core “boundaries”?

**Author(s):** Alyssa A. Goodman<sup>2</sup>, Hope Chen<sup>2</sup>, Jaime E. Pineda<sup>1</sup>, Stella Offner<sup>3</sup>

*Institution(s):* <sup>1</sup> ETH Zurich, <sup>2</sup> Harvard-Smithsonian, CfA, <sup>3</sup> UMass Amherst

## 128.05D The ALFALFA H $\alpha$ Survey

**Author(s):** Angela Van Sistine<sup>1</sup>

*Institution(s):* <sup>1</sup> Indiana University

## 128.06 A Complete Census of Dense Cores in Chamaeleon I: Results from an ALMA Cycle 1 Survey

**Author(s):** Michael Dunham<sup>2</sup>, Scott Schnee<sup>6</sup>, Jaime E. Pineda<sup>1</sup>, Stella Offner<sup>9</sup>, Daniel Price<sup>5</sup>, Hector G. Arce<sup>10</sup>, James Di Francesco<sup>3</sup>, Doug I. Johnstone<sup>3</sup>, Tyler L. Bourke<sup>8</sup>, John J. Tobin<sup>4</sup>, Xuepeng Chen<sup>7</sup>

*Institution(s):* <sup>1</sup> ETH, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> HIA, <sup>4</sup> Leiden University, <sup>5</sup> Monash University, <sup>6</sup> NRAO, <sup>7</sup> PMO, <sup>8</sup> SKA, <sup>9</sup> UMass, <sup>10</sup> Yale

## 128.07 Detailed Magnetic Field Morphology of the Vela C Molecular Cloud from the BLASTPol 2012 flight

**Author(s):** Laura Marion Fissel<sup>9</sup>, Peter Ade<sup>3</sup>, Francesco E Angilè<sup>13</sup>, Peter Ashton<sup>9</sup>, Steven J Benton<sup>14</sup>, Mark J. Devlin<sup>13</sup>, Bradley Dober<sup>13</sup>, Yasuo Fukui<sup>6</sup>, Nicholas B Galitzki<sup>13</sup>, Natalie Gandilo<sup>14</sup>, Jeff Klein<sup>13</sup>, Andrei Korotkov<sup>1</sup>, Zhi-Yun Li<sup>15</sup>, Lorenzo Moncelsi<sup>2</sup>, Tristan Matthews<sup>9</sup>, fomitaka nakamura<sup>8</sup>, Calvin Barth Netterfield<sup>14</sup>, Giles Novak<sup>9</sup>, Enzo Pascale<sup>3</sup>, Frédéric Poidevin<sup>5</sup>, Giorgio Savini<sup>10</sup>, Fábio Pereira Santos<sup>9</sup>, Douglas Scott<sup>11</sup>, Jamil Shariff<sup>14</sup>, Juan Diego Soler<sup>4</sup>, Nicholas Thomas<sup>7</sup>, carole tucker<sup>3</sup>, Gregory S. Tucker<sup>1</sup>, Derek Ward-Thompson<sup>12</sup>

*Institution(s):* <sup>1</sup> Brown University, <sup>2</sup> California Institute of Technology, <sup>3</sup> Cardiff University, <sup>4</sup> Institut d’Astrophysique Spatiale, <sup>5</sup> Institute de Astrofísica de Canarias, <sup>6</sup> Nagoya University, <sup>7</sup> NASA Goddard, <sup>8</sup> National Astronomical Observatory of Japan, <sup>9</sup> Northwestern University, <sup>10</sup> University College London, <sup>11</sup> University of British Columbia, <sup>12</sup> University of Central Lancashire, <sup>13</sup> University of Pennsylvania, <sup>14</sup> University of Toronto, <sup>15</sup> University of Virginia

## 129 Dwarf and Irregular Galaxies I

Monday, 2:00 pm - 3:30 pm; 609

**Chair(s):** Peter Yoachim (*University of Washington*)

### 129.01 Interpreting Resolved Stellar Populations in Local Group Dwarfs

**Author(s):** Alyson Brooks<sup>1</sup>, Maureen Teyssier<sup>1</sup>

*Institution(s):* <sup>1</sup> Rutgers University

### 129.02D Exploring Dwarf Galaxy Evolution through Metallicity Distributions

**Author(s):** Teresa Ross<sup>1</sup>

*Institution(s):* <sup>1</sup> New Mexico State University

**129.03 Uncovering Blue Diffuse Dwarf Galaxies**

**Author(s):** Bethan James<sup>1</sup>, Sergey Koposov<sup>1</sup>, Daniel Stark<sup>2</sup>, Vasily Belokurov<sup>1</sup>, Max Pettini<sup>1</sup>, Edward W. Olszewski<sup>2</sup>

*Institution(s):* <sup>1</sup> Institute of Astronomy, <sup>2</sup> University of Arizona

**129.04 Two Local Dwarf Galaxies Discovered in HI**

**Author(s):** Erik Jon Tollerud<sup>1</sup>

*Institution(s):* <sup>1</sup> Yale University

**129.05 Are dwarf galaxies killed by reionization?**

**Author(s):** Kenza S. Arraki<sup>1</sup>, Anatoly A. Klypin<sup>1</sup>, Sebastian Trujillo-Gomez<sup>4</sup>, Daniel Ceverino<sup>2</sup>, Joel R. Primack<sup>3</sup>

*Institution(s):* <sup>1</sup> New Mexico State University, <sup>2</sup> Universidad Autonoma de Madrid, <sup>3</sup> University of California, Santa Cruz, <sup>4</sup> University of Zurich

**129.06DSatellite Quenching and the Lifecycle of Dwarf Galaxies**

**Author(s):** Colin Slater<sup>1</sup>, Eric F. Bell<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Michigan

**129.07 First Spectacular Panoramic UV Images of the Magellanic Clouds from GALEX**

**Author(s):** David Schiminovich<sup>2</sup>, Mark Seibert<sup>1</sup>

*Institution(s):* <sup>1</sup> Carnegie Observatories, <sup>2</sup> Columbia University

Contributing team(s): GALEX Science Team

## 130 Low-Mass Stars and Brown Dwarfs

Monday, 2:00 pm - 3:30 pm; 611

**Chair(s):** Gerard Van Hoven

**130.01 Reliable Radii for M Dwarf Stars**

**Author(s):** Andrew Mann<sup>2</sup>, Gregory A. Feiden<sup>3</sup>, Eric Gaidos<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Hawaii, <sup>2</sup> University of Texas at Austin, <sup>3</sup> Uppsala University

**130.02 Surface gravity analysis of the NIRSPEC Brown Dwarf Spectroscopic Survey**

**Author(s):** Emily Martin<sup>2</sup>, Ian S. McLean<sup>2</sup>, Gregory N. Mace<sup>3</sup>, Sarah E. Logsdon<sup>2</sup>, Emily L. Rice<sup>1</sup>

*Institution(s):* <sup>1</sup> College of Staten Island, CUNY, <sup>2</sup> UCLA, <sup>3</sup> UT Austin

**130.03 Atmospheric Characterization of T-Dwarfs via Bayesian Retrieval Methods**

**Author(s):** Michael R. Line<sup>2</sup>, Mark Marley<sup>1</sup>, Jonathan J. Fortney<sup>2</sup>

*Institution(s):* <sup>1</sup> NASA-Ames, <sup>2</sup> University of California-Santa Cruz

**130.04DConstraining the Properties of the Dust Haze in the Atmospheres of Young Brown Dwarfs**

**Author(s):** Kay Hiranaka<sup>2</sup>, Kelle L. Cruz<sup>2</sup>, Mark S. Marley<sup>3</sup>, Stephanie Douglas<sup>1</sup>

*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> Hunter College, <sup>3</sup> NASA Ames Research Center

Contributing team(s): BDNYS

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## 130.05 Clouds in the Coldest Brown Dwarfs

**Author(s):** Jacqueline K. Faherty<sup>2</sup>, Christopher G. Tinney<sup>4</sup>, J. Davy Kirkpatrick<sup>1</sup>, Andrew Skemer<sup>3</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Carnegie Institution of Washington, <sup>3</sup> University of Arizona, <sup>4</sup> UNSW

## 130.06 Watching the Weather in Real Time: Spitzer Light Curves of Variable L/T Transition Brown Dwarfs

**Author(s):** Jacqueline Radigan<sup>1</sup>, Nicolas B. Cowan<sup>2</sup>, Adam P. Showman<sup>3</sup>, Daniel Apai<sup>4</sup>, Stanimir Metchev<sup>5</sup>, Mark Marley<sup>6</sup>, Etienne Artigau<sup>7</sup>, Adam Burgasser<sup>8</sup>, Ray Jayawardhana<sup>9</sup>, Bertrand Goldman<sup>10</sup>

*Institution(s):* <sup>1</sup> STScI, <sup>2</sup> Amherst College, <sup>3</sup> LPL, <sup>4</sup> University of Arizona, <sup>5</sup> University of Western Ontario, <sup>6</sup> NASA Ames, <sup>7</sup> University of Montreal, <sup>8</sup> University of San Diego, <sup>9</sup> York University, <sup>10</sup> MPIA

## 130.07 T Dwarf Variability Amplitudes Are Likely Stronger in the Optical

**Author(s):** Aren Heinze<sup>1</sup>, Stanimir Metchev<sup>2</sup>, Kendra Kellogg<sup>2</sup>

*Institution(s):* <sup>1</sup> State University of NY, Stony Brook, <sup>2</sup> University of Western Ontario

# 131 Infrared Properties of Galaxies

Monday, 2:00 pm - 3:30 pm; 612

**Chair(s):** Pauline Barmby (*Univ. of Western Ontario*)

## 131.01D Origin and evolution of high-redshift ultraluminous infrared galaxies

**Author(s):** Chao-Ling Hung<sup>1</sup>, David B. Sanders<sup>1</sup>, Caitlin Casey<sup>3</sup>, Howard Alan Smith<sup>2</sup>

*Institution(s):* <sup>1</sup> Institute for Astronomy, University of Hawaii, <sup>2</sup> Smithsonian Astrophysical Observatory, <sup>3</sup> University of California at Irvine

## 131.02 Gravitationally Lensed Dusty Star-forming Galaxies Discovered by Herschel: A Unique Tool to Study Galaxy Evolution

**Author(s):** R. Shane Bussmann<sup>2</sup>, Dominik A. Riechers<sup>2</sup>, Anastasia Fialkov<sup>5</sup>, Chris Hayward<sup>1</sup>, Francesco De Bernardis<sup>2</sup>, Abraham Loeb<sup>3</sup>, Ismael Perez-Fournon<sup>4</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Cornell University, <sup>3</sup> Harvard University, <sup>4</sup> Instituto Astrophisico de Canarias, <sup>5</sup> International Center for fundamental Physics at Ecole Normale Supérieure

Contributing team(s): HerMES, H-ATLAS

## 131.03D Optical and Infrared Morphologies of Local Luminous Infrared Galaxies

**Author(s):** Kirsten L. Larson<sup>1</sup>, David B. Sanders<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Hawaii

Contributing team(s): GOALS Team

## 131.04 The Modes of Star Formation in Luminous and Ultraluminous Infrared Galaxies

**Author(s):** Jeyhan S. Kartaltepe<sup>1</sup>

*Institution(s):* <sup>1</sup> National Optical Astronomy Observatory

Contributing team(s): CANDELS Team

## 131.05 Are Dusty Galaxies Blue? Insights on UV Attenuation from Dust-Selected Galaxies

**Author(s):** Caitlin Casey<sup>7</sup>, Nicholas Scoville<sup>2</sup>, David B. Sanders<sup>10</sup>, Nicholas Lee<sup>10</sup>, Asantha R. Cooray<sup>7</sup>, Peter L. Capak<sup>6</sup>, Alexander J. Conley<sup>8</sup>, Gianfranco De Zotti<sup>5</sup>, Duncan Farrah<sup>12</sup>, Hai Fu<sup>11</sup>, Emeric Le Floch<sup>3</sup>, Olivier Ilbert<sup>1</sup>, Rob Ivison<sup>9</sup>, Tsutomu T Takeuchi<sup>4</sup>

*Institution(s):* <sup>1.</sup> Aix Marseille Universite/CNRS, <sup>2.</sup> Caltech, <sup>3.</sup> CEA-Saclay, <sup>4.</sup> Nagoya University, <sup>5.</sup> Osservatorio Astronomico di Padova, <sup>6.</sup> Spitzer Science Center, <sup>7.</sup> UC Irvine, <sup>8.</sup> University of Colorado, <sup>9.</sup> University of Edinburgh, <sup>10.</sup> University of Hawaii, <sup>11.</sup> University of Iowa, <sup>12.</sup> Virginia Tech

## 131.06 Evolution of Dust Obscured Star Formation

**Author(s):** Hanae Inami<sup>1</sup>, Mark Dickinson<sup>1</sup>

*Institution(s):* <sup>1.</sup> NOAO

Contributing team(s): Herschel+CANDELS Team

## 132 HAD V: Contributed Talks & Osterbrock Book Prize Talk

Monday, 2:00 pm - 3:30 pm; 615

**Chair(s):** Marc Rothenberg (*National Science Foundation*)

### 132.01 The pre-history of the University of Washington Astronomy Department: 1891-1965

**Author(s):** Woodruff T. Sullivan<sup>1</sup>

*Institution(s):* <sup>1.</sup> Univ. of Washington

### 132.02 History of the University of Washington Astronomy Department: 1965-1995

**Author(s):** Julie H. Lutz<sup>1</sup>

*Institution(s):* <sup>1.</sup> Univ. of Washington

### 132.03 Why Spectroscopy Went South

**Author(s):** Nora Mills Boyd<sup>1</sup>

*Institution(s):* <sup>1.</sup> University of Pittsburgh

### 132.04 Unravelling Starlight: William and Margaret Huggins and the Rise of the New Astronomy

**Author(s):** Barbara J. Becker<sup>1</sup>

*Institution(s):* <sup>1.</sup> UC Irvine

## 133 Stellar Abundances and Metallicity Effects

Monday, 2:00 pm - 3:30 pm; 620

**Chair(s):** Natalie Gosnell (*University of Texas at Austin*)

### 133.01 Ultraviolet Spectroscopy of Metal-Poor Stars: New Detections of Phosphorus, Germanium, Arsenic, Selenium, Cadmium, Tellurium, Lutetium, Osmium, Iridium, Platinum, Gold, and More!

**Author(s):** Ian U. Roederer<sup>1</sup>

*Institution(s):* <sup>1.</sup> University of Michigan

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## 133.02D Characterizing The Nearest Young Moving Groups Through High Resolution Spectroscopy

**Author(s):** Kyle McCarthy<sup>1</sup>, Ronald J. Wilhelm<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Kentucky

## 133.03D Magnesium isotopes in giants in the Milky Way inner disk and bulge: First results with 3D stellar atmospheres

**Author(s):** Anders Thygesen<sup>3</sup>, Luca Sbordone<sup>2</sup>, Norbert Christlieb<sup>3</sup>, Martin Asplund<sup>1</sup>

*Institution(s):* <sup>1</sup> Australian National University, <sup>2</sup> Pontificia Universidad Catolica de Chile, <sup>3</sup> ZAH Landessternwarte, Heidelberg University

## 133.04 Magnetorotational instability in the presence of composition gradients

**Author(s):** Jeffrey S. Oishi<sup>1</sup>, Kristen Menou<sup>2</sup>

*Institution(s):* <sup>1</sup> Farmingdale State College, <sup>2</sup> University of Toronto

## 133.05 A Photometric Method for Discovering Extremely Metal Poor Stars

**Author(s):** Adam Miller<sup>1</sup>

*Institution(s):* <sup>1</sup> JPL/Caltech

## 133.06 The C/M ratio in the disk of M31

**Author(s):** Katherine Hamren<sup>2</sup>, Martha L Boyer<sup>1</sup>, Puragra Guhathakurta<sup>2</sup>

*Institution(s):* <sup>1</sup> NASA Goddard Space Flight Center, <sup>2</sup> University of California Santa Cruz

Contributing team(s): SPLASH collaboration, PHAT collaboration

## 133.07 Is the Globular Cluster Colour-Metallicity Relation Universal?

**Author(s):** Christopher Usher<sup>1</sup>

*Institution(s):* <sup>1</sup> Swinburne University of Technology

Contributing team(s): The SLUGGS Survey Team

## 134 Plenary Talk: Back to the Beginning: The Rosetta Mission at Comet 67P/Churyumov-Gerasimenko

Monday, 3:40 pm - 4:30 pm; 6E

**Chair(s):** Paula Szkody (*Univ. of Washington*)

## 134.01 Back to the Beginning: The Rosetta Mission at Comet 67P/Churyumov-Gerasimenko

**Author(s):** Paul R. Weissman<sup>1</sup>

*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory/Caltech

## 135 Plenary Talk: The Discovery of High Energy Astrophysical Neutrinos: First Light, New Questions

Monday, 4:30 pm - 5:20 pm; 6E

**Chair(s):** Jack Burns (*Univ. of Colorado at Boulder*)





## 135.01 The Discovery of High Energy Astrophysical Neutrinos: First Light, New Questions

**Author(s):** Kara Hoffman<sup>1</sup>

**Institution(s):** <sup>1</sup> University of Maryland

## Career Hour 2: Leveraging Social Media for Networking and Career Advancement

**Monday, 5:30 pm - 6:30 pm; 618/619**

More and more recruiters, job decision-makers and hiring managers are using the web to find and research potential candidates. How can you make sure that you are not only found, but are ahead of the pack? In this session, we will discuss how decision-makers use LinkedIn and Facebook, and how you can use LinkedIn to establish yourself as a leader in your field, enhance your research reputation, and seek out and take advantage of innovative opportunities. We will demonstrate how to optimize your presence on Twitter, and create a winning LinkedIn profile, and how to use its multitude of features (such as joining and commenting in groups) to generate solid leads for your career.

**Organizer(s):** Alaina Levine (*Quantum Success Solutions*)

## Thirty Meter Telescope Open House

**Monday, 5:30 pm - 6:30 pm; 6B**

The Thirty Meter Telescope has entered a new phase, with the formation of the TMT International Observatory (TIO) Corporation and the start of construction on Mauna Kea. At this Open House, we will present the status of the observatory, and highlight new developments in instrumentation, adaptive optics, and science planning. TMT will have a 30-meter, filled aperture segmented primary mirror. Its first light instruments range from wide-field, multi-object, seeing-limited spectrometers to an imager and integral field spectrograph operating at the 30-m diffraction limit, and enable a vast range of new, ground-breaking science. The international TMT partnership includes Canada, China, India, Japan, Caltech, and the University of California. AURA is an Associate Member of TMT, and NOAO executes AURA's TMT-related activities on behalf of the US community. We will discuss continuing activities to develop a model for potential US national participation in TMT. The US TMT Science Working Group (SWG) consists of astronomers from institutions across the US, and is evaluating the community's interests and aspirations for science with TMT. Together with AURA's representatives on the TIO Board of Governors and Science Advisory Committee, the SWG is developing a US TMT participation plan on behalf of the NSF. This plan describes the scientific, technological, educational, and programmatic benefits of TMT participation for the US community, and considers the choices and decisions that would maximize those benefits.

At the Open House, members of the US TMT SWG will report on the development of this

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participation plan, and there will be ample time for audience questions and discussion. The session will also highlight ways in which astronomers everywhere can become involved in TMT, including opportunities for instrumentation development, membership in the TMT International Science Development Teams, and attendance at the annual TMT Science Forum. Complimentary refreshments and hors d'oeuvres will be provided.

**Organizer(s): Mark Dickinson (NOAO)**

## 136 AAS Publications Town Hall

**Monday, 6:30 pm - 7:30 pm; 6A**

The AAS publishing program continues to evolve, and this Town Hall offers the community an opportunity to hear from and interact with the leaders of the program about current issues and concerns as well as new initiatives and future directions.

**Chair(s): Greg Schwarz (American Astronomical Society (AAS))**

## Career Discovery Networking Reception and Job Fair

**Monday, 6:30 pm - 8:00 pm; 4C-3 & 4C-4**

The AAS Employment Committee invites employers and potential employees to the the Career Discovery Networking Reception. Learn about the various career services offered at the meeting and by the association, including the Career Center, Job Register, career hours, workshops and much more.

## Observatory Site Protection: Challenges & Solutions

**Monday, 6:30 pm - 8:30 pm, 608**

In the 1970s optical astronomers publicly identified the degradation of the night sky from the increase in lighting associated with development and growth. Although many communities have passed anti-light pollution ordinances, there is still need to protect dark skies near our research and college observatories and surrounding communities. Radio astronomers have also been interacting with industry and regulatory agencies to protect critical frequencies against broadcast interference and to establish radio-quiet zones around research facilities. The AAS Committee on Light Pollution, Radio Frequency Interference (RFI) and Space Debris; IAU's Commission 50 on Observatory Site Protection; and the International Dark-Sky Association (IDA) are teaming to propose a splinter session on these topics for the third consecutive year.

Chris Smith (Head of Mission, AURA, Chile), Lori Allen (Director, KPNO), Jeff Hall (Director, Lowell Observatory) and Richard Wainscoat (Pan-STARRS PI, U. Hawaii) will give presentations on the latest challenges and solutions that impact their major observatories sites. Similarly, Rick Perley (NRAO) will talk about the most significant challenges in RFI facing the radio astronomy community. Scott Kardel (Acting Executive Director, IDA) will address issues on LEDs and spectral effects of lighting at night. After the presentations, the splinter session will hold a discussion moderated by Pat Seitzer (Chair, Committee on Light Pollution, RFI and Space Debris) on how we (AAS, IAU, IDA) can help astronomical communities protect dark skies and the radio spectrum.

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Along with the image exhibit “Light: Beyond the Bulb”, the splinter session will be a part of a suite of International Year of Light (IYL) 2015 “Cosmic Light” themed events during the AAS conference: on Sunday, a workshop on IYL Cosmic Light programs, (hopefully) on Monday evening, the proposed splinter session, on Tuesday, the oral session on IYL education/ outreach, and tentatively on Wednesday, a public evening at the Pacific Science Center.

**Organizer(s):** Constance Walker (*NOAO*), Patrick Seitzer (*Univ. of Michigan*)

## LGBTIQ Networking Dinner

**Monday, 6:30 pm - 8:30 pm; AAS Registration Desk, South Lobby**

The AAS Working Group on LGBTIQ Equality (WGLE) works to promote equality for lesbian, gay, bisexual, transgender, intersex, and questioning individuals within our profession. Join us for dinner on Monday evening, January 5. We’ll meet in front of the AAS Meeting Registration Desk at 6:30 and walk to a local restaurant. Please bring a method of payment for this dinner.

**Organizer(s):** William Dixon (*Space Telescope Science Institute*)

## SOFIA Mission Status and Science Update

**Monday, 6:30 pm - 8:00 pm; 6E**

The Stratospheric Observatory for Infrared Astronomy, SOFIA, is a 2.5 meter infrared telescope mounted in a Boeing 747SP that operates at altitudes up to 45,000 feet (14 km). It is a joint program of NASA and the German Aerospace Center, DLR. SOFIA will complete its second annual Cycle of guest investigator observations in February, and start the third Cycle in March 2015. We will update the community on the progress of the observatory and its scientific instruments, including the upcoming commissioning of HAWC. We will outline our plans for the Cycle 4 Call for Proposals, during which we expect to offer over 500 hours of observing to the US community.

**Organizer(s):** Ravi Sankrit (*SOFIA/USRA*)

## SPS Evening of Undergraduate Science

**Monday, 6:30 pm - 8:30 pm; 4C-2**

The Society of Physics Students (SPS) sponsors this meeting and invites all undergraduates attending the AAS Meeting. At this meeting they have an opportunity to display their posters and showcase their research. A noted astronomer (TBD at this time) will give a short talk on astronomy as a personal endeavor, providing a perspective on the field and its future, as well as an introduction to his/her extensive research interests. The session provides an opportunity to slow down and savor the field and the accomplishments of one’s colleagues.

**Organizer(s):** Daniel Golombek (*STScI*)

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## The NASA K2 Mission

**Monday, 7:30 pm - 8:30 pm; 606**

This Special Session will present the current status of the NASA K2 Mission. Spacecraft operation, programmatic items, K2 science, and Guest Observer status will be discussed. It is anticipated that the latest scientific discoveries by the community using K2 observations will be presented as well.

**Organizer(s): Steve Howell** (*NASA ARC*)

## UVOIR Space Astronomy beyond the 2020s

**Monday, 7:30 pm - 9:00 pm; 6C**

The Association of Universities for Research in Astronomy (AURA) has commissioned a report entitled "Beyond JWST: The Future of UVOIR Space Astronomy." The committee, co-chaired by Profs. Julianne Dalcanton and Sara Seager, has been charged with studying future space-based options for UV and optical astronomy that significantly advance our understanding of the origin and evolution of the cosmos and the life within it. Specifically, the committee is tasked with constructing a coherent and well-justified path leading to a next-generation UVOIR mission with the highest possible scientific impact in the era immediately following JWST. The committee will present its main findings at this public splinter session. Presentations will include summaries of the top science cases for the next major UV-optical observatory, the technology developments that will need to be achieved in the current decade to enable its construction, and the path forward that will lead to a viable flight proposal for consideration by the NRC in their 2020 Astronomy and Astrophysics Decadal Review.

**Organizer(s): Marc Postman** (*Space Telescope Science Institute*)

POSTERS

137 The Sun and Solar System in Perspective Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

137.01 Predicting Ground Illuminance

**Author(s):** Michael V. Lesniak<sup>1</sup>, Brett D. Tregoning<sup>1</sup>, Alexandra E. Hitchens<sup>1</sup>  
*Institution(s):* <sup>1</sup> U.S. Naval Observatory

137.02 The Pisgah Astronomical Research Institute

**Author(s):** J. Donald Cline<sup>1</sup>  
*Institution(s):* <sup>1</sup> Pisgah Astronomical Research Institute

137.03 Angular Variation of Solar Feature Contrast in Full-Disk G-Band Images

**Author(s):** Sarah Caroline Blunt<sup>1</sup>, Serena Criscuoli<sup>3</sup>, Ilaria Ermolli<sup>2</sup>, Fabrizio Giorgi<sup>2</sup>  
*Institution(s):* <sup>1</sup> Brown University, <sup>2</sup> INAF Osservatorio Astronomico di Roma, <sup>3</sup> The National Solar Observatory

137.04 The relation between umbral magnetic field strength and area density of umbral dots

**Author(s):** Sierra Ferguson<sup>2</sup>, Christian Beck<sup>1</sup>  
*Institution(s):* <sup>1</sup> National Solar Observatory, <sup>2</sup> Northern Arizona University

137.05 Comparing High-speed Transition Region Jets in Coronal Holes and Quiet Sun Regions

**Author(s):** Rebecca Tate Arbacher<sup>1</sup>, Hui Tian<sup>2</sup>, Steven R. Cranmer<sup>2</sup>  
*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics

137.06 Automated Kinematics Analysis of Off-Limb Coronal Bright Fronts Observed with SDO/AIA

**Author(s):** Alexander K Kendrick<sup>2</sup>, Kamen A. Kozarev<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center For Astrophysics, <sup>2</sup> Harvey Mudd College

137.07 Modelling Magnetic Reconnection and Nano-flare Heating in the Solar Corona

**Author(s):** George Biggs<sup>2</sup>, Mahboubeh Asgari-Targhi<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard- Smithsonian Center for Astrophysics, <sup>2</sup> The University of Edinburgh

137.08 X-ray Flare Associated with a Quiescent Filament Eruption and Coronal Mass Ejection

**Author(s):** Adi Foord<sup>1</sup>, Gordon D. Holman<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA GSFC

137.09 Analysis of Polar Reversals of Solar Cycle 22 and 23

**Author(s):** Sophie Ettinger<sup>1</sup>  
*Institution(s):* <sup>1</sup> National Solar Observatory

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- 137.10 A Moderate Migration Scenario for Jupiter to form the Terrestrial Planets**  
**Author(s):** Zoe Todd<sup>1</sup>, Steinn Sigurdsson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Penn State University
- 137.11 Direct Wind Measurements in Io's Atmosphere**  
**Author(s):** Michelle Nowling<sup>2</sup>, Arielle Moullet<sup>1</sup>  
*Institution(s):* <sup>1</sup> NRAO, <sup>2</sup> University of Houston
- 137.12 Update on VLBA Astrometry of Cassini**  
**Author(s):** Dayton L. Jones<sup>1</sup>, William M. Folkner<sup>1</sup>, Robert A. Jacobson<sup>1</sup>, Christopher S. Jacobs<sup>1</sup>, Jon Romney<sup>2</sup>, Vivek Dhawan<sup>2</sup>, Edward B. Fomalont<sup>2</sup>  
*Institution(s):* <sup>1</sup> JPL/Caltech, <sup>2</sup> NRAO
- 137.13 A Hazy Situation: Using exoplanet retrieval techniques to characterize Titan's atmosphere from a Cassini transit spectrum**  
**Author(s):** Dillon J Teal<sup>1</sup>, Michael R. Line<sup>1</sup>, Caroline V Morley<sup>1</sup>, Jonathan J. Fortney<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of California, Santa Cruz
- 137.14 The Mimas 5:3 Bending Wave at Equinox: Initial Models**  
**Author(s):** Brandon Curd<sup>2</sup>, Matthew S. Tiscareno<sup>1</sup>  
*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> University of Oklahoma
- 137.15 Trio of stellar occultations by Pluto One Year Prior to New Horizons' Arrival**  
**Author(s):** Jay M. Pasachoff<sup>6</sup>, Michael J. Person<sup>2</sup>, Amanda S. Bosh<sup>2</sup>, Amanda A. S. Gulbis<sup>4</sup>, Carlos A Zuluaga<sup>2</sup>, Stephen Levine<sup>1</sup>, David J. Osip<sup>3</sup>, Adam R. Schiff<sup>6</sup>, Christina H. Seeger<sup>6</sup>, Bryce A Babcock<sup>6</sup>, Patricio Rojo<sup>5</sup>, Molly R. Kosiarek<sup>2</sup>, Elise Servajean<sup>5</sup>  
*Institution(s):* <sup>1</sup> Lowell Obs., <sup>2</sup> MIT, <sup>3</sup> OCIW, <sup>4</sup> SAAO, <sup>5</sup> U. Chile, <sup>6</sup> Williams College
- 137.16 A Targeted Search for Trojan Asteroids in Kepler Lightcurves**  
**Author(s):** David Bordenave<sup>1</sup>, Sarah Ballard<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington
- 137.17 Characterizing Asteroids Multiply-Observed at Infrared Wavelengths**  
**Author(s):** Seth Koren<sup>3</sup>, Edward L. Wright<sup>2</sup>, Amy Mainzer<sup>1</sup>, Carolyn Nugent<sup>1</sup>  
*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory, <sup>2</sup> University of California, Los Angeles, <sup>3</sup> University of Pennsylvania
- 137.18 Near-Earth Asteroid Characterisation: Gotta catch 'em All!**  
**Author(s):** Tarik Joseph Zegmott<sup>1</sup>, Jose Luis Galache<sup>2</sup>, Martin Elvis<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Minor Planet Center, Harvard-Smithsonian Center for Astrophysics
- 137.19 Using the One Degree Imager to Study Active Asteroids**  
**Author(s):** Samantha Brunker<sup>2</sup>, Jayadev Rajagopal<sup>1</sup>, Susan E. Ridgway<sup>1</sup>  
*Institution(s):* <sup>1</sup> National Optical Astronomy Observatory, <sup>2</sup> The University of Kansas
- 137.20 Planetary Embryo Bow Shocks as a Mechanism for Chondrule Formation**  
**Author(s):** Christopher Mann<sup>2</sup>, Aaron C. Boley<sup>2</sup>, Melissa A. Morris<sup>1</sup>  
*Institution(s):* <sup>1</sup> Center for Meteorite Studies, ASU, <sup>2</sup> University of British Columbia

- 137.21 Using an integral-field unit spectrograph to study radical species in cometary coma**  
**Author(s):** Benjamin Lewis<sup>1</sup>, Donna M. Pierce<sup>1</sup>, Charles M Vaughan<sup>1</sup>, Anita Cochran<sup>2</sup>  
*Institution(s):* <sup>1</sup> Mississippi State University, <sup>2</sup> University of Texas at Austin
- 137.22 LCOGT Network observations of spacecraft target comets**  
**Author(s):** Tim Lister<sup>1</sup>, Matthew M. Knight<sup>2</sup>, Colin Snodgrass<sup>3</sup>, Nalin H. Samarasinha<sup>4</sup>  
*Institution(s):* <sup>1</sup> Las Cumbres Observatory, <sup>2</sup> Lowell Observatory, <sup>3</sup> Open University, <sup>4</sup> PSI
- 137.23 Far-UV observations of comet C/2012 S1 (ISON) with FORTIS**  
**Author(s):** Stephan R. McCandliss<sup>2</sup>, Paul D. Feldman<sup>2</sup>, Harold A. Weaver<sup>3</sup>, Brian Fleming<sup>1</sup>, Keith Redwine<sup>2</sup>, Mary J. Li<sup>4</sup>, Alexander Kutyrev<sup>4</sup>, Samuel H. Moseley<sup>4</sup>  
*Institution(s):* <sup>1</sup> CU, <sup>2</sup> JHU, <sup>3</sup> JHU/APL, <sup>4</sup> NASA's GSFC
- 137.24 Photonic Local Oscillator Test System for Atacama Large Millimeter/submillimeter Array (ALMA) - Summer Student Project**  
**Author(s):** Cathleen Gross<sup>1</sup>  
*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory  
 Contributing team(s): Christophe Jacques, Jason Castro, Bill Shillue

## 138 Low Mass Stars and Brown Dwarfs Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 138.01 Accuracy of Astrometric Positions, Parallaxes, and Proper Motions**  
**Author(s):** Hugh C. Harris<sup>1</sup>, Conard C. Dahn<sup>1</sup>, John P Subasavage<sup>1</sup>  
*Institution(s):* <sup>1</sup> U.S. Naval Obs.
- 138.02 The RECONS 25 Parsec Database**  
**Author(s):** Todd J. Henry<sup>1</sup>, Wei-Chun Jao<sup>1</sup>, Tiffany Pewett<sup>1</sup>, Adric R. Riedel<sup>1</sup>, Michele L. Silverstein<sup>1</sup>, Kenneth J. Slatten<sup>1</sup>, Jennifer G. Winters<sup>1</sup>  
*Institution(s):* <sup>1</sup> RECONS  
 Contributing team(s): RECONS Team
- 138.03 Circumstellar Environments of Southern M Dwarfs in the Solar Neighborhood**  
**Author(s):** Michele L. Silverstein<sup>1</sup>, Todd J. Henry<sup>1</sup>, Wei-Chun Jao<sup>1</sup>, Jennifer G. Winters<sup>1</sup>  
*Institution(s):* <sup>1</sup> RECONS  
 Contributing team(s): RECONS Team
- 138.04 Dynamical Evolution of the Alpha and Proxima Centauri Triple System**  
**Author(s):** Rachel Worth<sup>1</sup>, Steinn Sigurdsson<sup>1</sup>  
*Institution(s):* <sup>1</sup> The Pennsylvania State University
- 138.05 V and K-band Mass-Luminosity Relations for M dwarf Stars**  
**Author(s):** G. Fritz Benedict<sup>3</sup>, Todd J. Henry<sup>4</sup>, Barbara McArthur<sup>3</sup>, Otto G. Franz<sup>2</sup>, Lawrence H. Wasserman<sup>2</sup>, Sergio Dieterich<sup>1</sup>  
*Institution(s):* <sup>1</sup> Carnegie-DTM, <sup>2</sup> Lowell Observatory, <sup>3</sup> McDonald Observatory, <sup>4</sup> RECONS Institute

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- 138.06 A SUPERBLINK look at the Hyades and Pleiades clusters**  
**Author(s):** Sebastien Lepine<sup>1</sup>  
*Institution(s):*<sup>1</sup> Georgia State University
- 138.07 Investigating the Low-Mass Stellar Initial Mass Function in Draco**  
**Author(s):** Soroush Sotoudeh<sup>2</sup>, Daniel R. Weisz<sup>3</sup>, Andrew E. Dolphin<sup>1</sup>, Evan D. Skillman<sup>2</sup>  
*Institution(s):*<sup>1</sup> Raytheon, <sup>2</sup> University of Minnesota, <sup>3</sup> University of Washington
- 138.08 Preliminary M-dwarf Binary Statistics from Kepler**  
**Author(s):** Yutong Shan<sup>1</sup>, John Johnson<sup>1</sup>  
*Institution(s):*<sup>1</sup> Harvard University
- 138.09 The Baryon Oscillation Spectroscopic Survey SLOWPoKES Catalog**  
**Author(s):** Angela P. Massey<sup>1</sup>, Saurav Dhital<sup>2</sup>, Andrew A. West<sup>1</sup>, Keivan Stassun<sup>3</sup>  
*Institution(s):*<sup>1</sup> Boston University, <sup>2</sup> Embry-Riddle Aeronautical University, <sup>3</sup> Vanderbilt University
- 138.10 Using APOGEE Data to Examine Late-K and Early-M Dwarfs**  
**Author(s):** Sarah J. Schmidt<sup>4</sup>, Erika L. Wagoner<sup>6</sup>, Jennifer Johnson<sup>4</sup>, Jose Gregorio Fernandez Trincado<sup>1</sup>, Annie Robin<sup>1</sup>, Celine Reyle<sup>1</sup>, Ryan Terrien<sup>5</sup>, Carlos Allende-Prieto<sup>2</sup>, Fred Hearty<sup>5</sup>, Steven R. Majewski<sup>7</sup>, Ricardo P. Schiavon<sup>3</sup>  
*Institution(s):*<sup>1</sup> Besancon Astronomical Observatory, <sup>2</sup> Instituto de Astrofisica de Canarias, <sup>3</sup> Liverpool John Moores University, <sup>4</sup> Ohio State University, <sup>5</sup> Pennsylvania State University, <sup>6</sup> University of Arizona, <sup>7</sup> University of Virginia
- 138.11 Accurate Alpha Abundance and C/O of Low-mass Stars**  
**Author(s):** Mark Veyette<sup>2</sup>, Philip Muirhead<sup>2</sup>, Andrew Mann<sup>1</sup>  
*Institution(s):*<sup>1</sup> University of Texas at Austin, <sup>2</sup> Boston University
- 138.12 Measuring Fundamental Stellar Properties with Theremin**  
**Author(s):** Casey Deen<sup>1</sup>, Gregory N. Mace<sup>2</sup>, Aaron Juarez<sup>2</sup>, Wolfgang Brandner<sup>1</sup>, Thomas Henning<sup>1</sup>, Daniel Thomas Jaffe<sup>2</sup>  
*Institution(s):*<sup>1</sup> Max Planck Institute for Astronomy, <sup>2</sup> University of Texas at Austin
- 138.13 SME@XSEDE: An automated spectral synthesis tool for stellar characterization**  
**Author(s):** Leslie Hebb<sup>2</sup>, Phillip Cargile<sup>1</sup>  
*Institution(s):*<sup>1</sup> Harvard Center for Astrophysics, <sup>2</sup> Hobart and William Smith Colleges
- 138.14 Resolving the Discrepancy of Low-Mass Stars with IGRINS**  
**Author(s):** Andrew Riddle<sup>1</sup>, Adam L. Kraus<sup>1</sup>  
*Institution(s):*<sup>1</sup> University of Texas at Austin
- 138.15 Stratified Convection in Stellar Interiors**  
**Author(s):** Benjamin Brown<sup>4</sup>, Keaton Burns<sup>2</sup>, Daniel Lecoanet<sup>3</sup>, Jeffery Oishi<sup>1</sup>, Geoffrey Vasil<sup>5</sup>  
*Institution(s):*<sup>1</sup> Farmingdale State College, <sup>2</sup> Massachusetts Institute of Technology, <sup>3</sup> University of California, <sup>4</sup> University of Colorado, <sup>5</sup> University of Sydney



- 138.16 Testing Stellar Evolution Models: Absolute Dimensions of the Low-Mass Eclipsing Binary Star V651 Cassiopeiae**  
**Author(s):** Allison Matthews<sup>2</sup>, Guillermo Torres<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Lafayette College
- 138.17 Rotation periods for nearby, mid-to-late M dwarfs estimated from the MEarth Project**  
**Author(s):** Elisabeth R. Newton<sup>1</sup>, Jonathan Irwin<sup>1</sup>, David Charbonneau<sup>1</sup>, Zachory K. Berta-Thompson<sup>2</sup>, Jason Dittmann<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> MIT Kavli Institute
- 138.18 Anchoring the age-rotation relation with the ZAMS cluster  $\alpha$  Per**  
**Author(s):** David Jaimes<sup>1</sup>, Marcel A. Agüeros<sup>1</sup>, Kevin R. Covey<sup>4</sup>, Adam L. Kraus<sup>3</sup>, Nicholas M. Law<sup>2</sup>  
*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> University of North Carolina, <sup>3</sup> University of Texas at Austin, <sup>4</sup> Western Washington University
- 138.19 Rotation and Activity in Praesepe and the Hyades**  
**Author(s):** Stephanie T. Douglas<sup>1</sup>, Marcel A. Agüeros<sup>1</sup>, Kevin R. Covey<sup>3</sup>, Emily C. Bowsher<sup>1</sup>, John J. Bochanski<sup>2</sup>, Phillip A. Cargile<sup>7</sup>, Adam L. Kraus<sup>5</sup>, Nicholas M. Law<sup>4</sup>, Jenna Jo Lemonias<sup>1</sup>, Hector G. Arce<sup>8</sup>, David F. Fierroz<sup>1</sup>, Alisha Kundert<sup>6</sup>  
*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> Haverford College, <sup>3</sup> Lowell Observatory, <sup>4</sup> University of North Carolina, <sup>5</sup> University of Texas at Austin, <sup>6</sup> University of Wisconsin-Madison, <sup>7</sup> Vanderbilt University, <sup>8</sup> Yale University
- 138.20 Chromospheric and coronal variation across stellar activity cycles**  
**Author(s):** Cedric Hagen<sup>2</sup>, Brendan P. Miller<sup>1</sup>, Elena Gallo<sup>6</sup>, Jason Wright<sup>3</sup>, Howard T. Isaacson<sup>5</sup>, Gregory W. Henry<sup>4</sup>  
*Institution(s):* <sup>1</sup> College of St. Scholastica, <sup>2</sup> Macalester College, <sup>3</sup> Pennsylvania State University, <sup>4</sup> Tennessee State University, <sup>5</sup> University of California, Berkeley, <sup>6</sup> University of Michigan
- 138.21 Finding X-ray Coronal Cycles in Low Mass Stars**  
**Author(s):** Maurice Wilson<sup>1</sup>, Hans Moritz Guenther<sup>2</sup>, Katie Auchettl<sup>2</sup>  
*Institution(s):* <sup>1</sup> Embry-Riddle Aeronautical University, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics
- 138.22 Connecting Flares and Transient Mass Loss Events in Active Stars**  
**Author(s):** Rachel A. Osten<sup>2</sup>, Scott J. Wolk<sup>1</sup>  
*Institution(s):* <sup>1</sup> Center for Astrophysics, <sup>2</sup> Space Telescope Science Institute
- 138.23 Flares and Antiflares on Young Solar Analog EK Draconis**  
**Author(s):** Thomas R. Ayres<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Colorado
- 138.24 Exploring a Threat to Foreign Worlds: Detecting Coronal Mass Ejections on Nearby Stars**  
**Author(s):** Jackie Villadsen<sup>1</sup>, Gregg Hallinan<sup>1</sup>, Stephen Bourke<sup>1</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology

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- 138.25 The Heating of Helium Across Interplanetary Shocks in front of Coronal Mass Ejections**  
**Author(s):** Alexander James<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Smithsonian Astrophysical Observatory*
- 138.26 HAZMAT II: Modeling the Evolution of Extreme-UV Radiation from M Stars**  
**Author(s):** Sarah Peacock<sup>2</sup>, Travis S. Barman<sup>2</sup>, Evgenya Shkolnik<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Lowell Observatory*, <sup>2</sup> *University of Arizona, LPL*
- 138.27 A comprehensive statistical assessment of star-planet interaction**  
**Author(s):** Brendan P. Miller<sup>1</sup>, Elena Gallo<sup>3</sup>, Jason Wright<sup>2</sup>, Elliott Pearson<sup>3</sup>  
*Institution(s):* <sup>1</sup> *College of St. Scholastica*, <sup>2</sup> *Pennsylvania State University*, <sup>3</sup> *University of Michigan*
- 138.28 Constraining Kepler Eclipsing Binary Properties with Time-Series and Multi-band Photometry**  
**Author(s):** Diana Windemuth<sup>1</sup>, Eric Agol<sup>1</sup>  
*Institution(s):* <sup>1</sup> *University of Washington*
- 138.29 Eclipsing the Need for Spectroscopy: Constraining Eclipsing Binary Parameters Using Only Kepler Photometry**  
**Author(s):** Kolby L. Weisenburger<sup>2</sup>, D. Windemuth<sup>2</sup>, S. Hawley<sup>2</sup>, J. R. A. Davenport<sup>2</sup>, Leslie Hebb<sup>1</sup>, T. D. Wilkinson<sup>2</sup>, K. Garofali<sup>2</sup>, E. Kruse<sup>2</sup>, R. Luger<sup>2</sup>, J. C. Lurie<sup>2</sup>, B. M. Morris<sup>2</sup>, K. Suberlak<sup>2</sup>, O. Telford<sup>2</sup>, P. Upton Sanderbeck<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Hobart and William Smith Colleges*, <sup>2</sup> *University of Washington*
- 138.30 Ground-based Data on Kepler Eclipsing Binaries**  
**Author(s):** Tessa D Wilkinson<sup>2</sup>, S. L. Hawley<sup>2</sup>, J. R. A. Davenport<sup>2</sup>, Leslie Hebb<sup>1</sup>, K. L. Weisenburger<sup>2</sup>, K. Garofali<sup>2</sup>, E. Kruse<sup>2</sup>, R. Luger<sup>2</sup>, J. C. Lurie<sup>2</sup>, B. M. Morris<sup>2</sup>, J. J. Ruan<sup>2</sup>, P. U. Sanderbeck<sup>2</sup>, K. Suberlak<sup>2</sup>, O. G. Telford<sup>2</sup>, D. Windemuth<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Hobart and William Smith Colleges*, <sup>2</sup> *University of Washington*
- 138.31 Star-spot crossing transits in long-cadence Kepler data: a search for correlations between spot and stellar properties**  
**Author(s):** Michelle Gomez<sup>1</sup>, Leslie Hebb<sup>1</sup>, Jacqueline Radigan<sup>2</sup>, Peter R. McCullough<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Hobart and William Smith Colleges*, <sup>2</sup> *Space Telescope Science Institute*
- 138.32 A Catalog of Nearby Ultracool Dwarfs**  
**Author(s):** Angelle M. Tanner<sup>3</sup>, Christopher Ramos<sup>3</sup>, Jonathan Gagne<sup>4</sup>, Adric R. Riedel<sup>1</sup>, Todd J. Henry<sup>2</sup>  
*Institution(s):* <sup>1</sup> *American Museum of Natural History*, <sup>2</sup> *Georgia State University*, <sup>3</sup> *Mississippi State University*, <sup>4</sup> *Université de Montréal, Physics*  
Contributing team(s): RECONS
- 138.33 HLIMIT 2.0: Towards a Deeper Understanding of the Low Mass End of the Main Sequence**  
**Author(s):** Sergio B. Dieterich<sup>1</sup>, Alan P. Boss<sup>1</sup>, Alycia J. Weinberger<sup>1</sup>, Todd J. Henry<sup>3</sup>, Jennifer G. Winters<sup>2</sup>, Wei-Chun Jao<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Carnegie Inst. of Washington*, <sup>2</sup> *Georgia State University*, <sup>3</sup> *RECONS*  
Contributing team(s): RECONS

- 138.34 Fundamental Parameters for an Age Calibrated Sequence of the Lowest Mass Stars to the Highest Mass Planets**  
**Author(s):** Joe Filippazzo<sup>4</sup>, Emily L. Rice<sup>3</sup>, Jacqueline K. Faherty<sup>2</sup>, Michael Cushing<sup>6</sup>, Kelle L. Cruz<sup>5</sup>, Adric R. Riedel<sup>1</sup>, Mollie Van Gordon<sup>1</sup>  
*Institution(s):* <sup>1</sup> American Museum of Natural History, <sup>2</sup> Carnegie Department of Terrestrial Magnetism, <sup>3</sup> College of Staten Island, <sup>4</sup> CUNY Graduate Center, <sup>5</sup> Hunter College, <sup>6</sup> University of Toledo  
 Contributing team(s): BDNYC
- 138.35 Identification of Young Ultracool Dwarf Candidates from the BOSS Ultracool Dwarf (BUD) Sample**  
**Author(s):** Amber Medina<sup>1</sup>, Sarah J. Schmidt<sup>1</sup>, Jennifer Johnson<sup>1</sup>  
*Institution(s):* <sup>1</sup> The Ohio State University
- 138.36 Searching for Proper-Motion Brown Dwarfs in the Mid-IR**  
**Author(s):** Zequn Li<sup>1</sup>, Matthew Ashby<sup>1</sup>, Joseph L. Hora<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics
- 138.37 Untangling Physical Parameters of Warm Brown Dwarfs**  
**Author(s):** Kelle L. Cruz<sup>2</sup>, Stephanie Douglas<sup>1</sup>  
*Institution(s):* <sup>1</sup> Columbia U., <sup>2</sup> Hunter College, CUNY  
 Contributing team(s): BDNYC
- 138.38 The Young and the Red: A study of the ages and evolution of brown dwarfs.**  
**Author(s):** Adric R. Riedel<sup>2</sup>, Jacqueline K. Faherty<sup>1</sup>, Kelle L. Cruz<sup>3</sup>, Emily L. Rice<sup>2</sup>  
*Institution(s):* <sup>1</sup> Carnegie Institute of Washington, <sup>2</sup> CUNY/College of Staten Island, <sup>3</sup> CUNY/Hunter College  
 Contributing team(s): BDNYC
- 138.39 Medium-resolution Analysis of Unusually Red and Blue L Dwarfs**  
**Author(s):** Sara Camnasio<sup>3</sup>, Munazza Khalida Alam<sup>3</sup>, Emily L. Rice<sup>2</sup>, Kelle L. Cruz<sup>3</sup>, Jacqueline K. Faherty<sup>1</sup>, Gregory N. Mace<sup>4</sup>, Emily Martin<sup>1</sup>, Sarah E. Logsdon<sup>4</sup>, Ian S. McLean<sup>4</sup>  
*Institution(s):* <sup>1</sup> Carnegie Institution of Washington, <sup>2</sup> CUNY College of Staten Island, <sup>3</sup> CUNY Hunter College, <sup>4</sup> UCLA  
 Contributing team(s): BDNYC
- 138.40 High-Resolution Spectral Analysis of KI Lines in Unusually Red & Blue L Dwarfs**  
**Author(s):** Munazza Khalida Alam<sup>3</sup>, Sara Camnasio<sup>3</sup>, Emily L. Rice<sup>2</sup>, Kelle L. Cruz<sup>3</sup>, Jacqueline K. Faherty<sup>1</sup>, Gregory N. Mace<sup>4</sup>, Emily Martin<sup>4</sup>, Sarah E. Logsdon<sup>4</sup>, Ian S. McLean<sup>4</sup>  
*Institution(s):* <sup>1</sup> Carnegie Institution of Washington, <sup>2</sup> CUNY College of Staten Island, <sup>3</sup> CUNY Hunter College, <sup>4</sup> UCLA  
 Contributing team(s): Brown Dwarfs in New York City (BDNYC)
- 138.41 Simulating Unresolved Binary Brown Dwarfs for Cameras on the Hubble Space Telescope**  
**Author(s):** Douglas B. Gardner<sup>1</sup>, Thomas E. Stephens<sup>1</sup>, Denise C. Stephens<sup>1</sup>, Elora N. Salway<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brigham Young University

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- 138.42 Extended Baseline Photometry of Rapidly Changing Weather Patterns on the Brown Dwarf Binary, Luhman-16**  
**Author(s): Rachel Street<sup>1</sup>**  
*Institution(s):* <sup>1</sup> *Las Cumbres Global Telescope Network, Inc.*
- 138.43 Brown dwarf science at Project 1640: the case of HD 19467 B**  
**Author(s): Jonathan Aguilar<sup>5</sup>, Justin R. Crepp<sup>8</sup>, Emily L. Rice<sup>3</sup>, Laurent Pueyo<sup>7</sup>, Aaron Veicht<sup>2</sup>, Ricky Nilsson<sup>2</sup>, Rebecca Oppenheimer<sup>2</sup>, Sasha Hinkley<sup>1</sup>, Douglas Brenner<sup>2</sup>, Gautam Vasisht<sup>4</sup>, Eric Cady<sup>4</sup>, Charles A. Beichman<sup>6</sup>, Lynne Hillenbrand<sup>1</sup>, Thomas Lockhart<sup>4</sup>, Christopher T. Matthews<sup>8</sup>, Lewis C. Roberts<sup>4</sup>, Anand Sivaramakrishnan<sup>7</sup>, Remi Soummer<sup>7</sup>, Chengxing Zhai<sup>4</sup>, Paige Giorla<sup>3</sup>**  
*Institution(s):* <sup>1</sup> *California Institute of Technology*, <sup>2</sup> *American Museum of Natural History*, <sup>3</sup> *College of Staten Island*, <sup>4</sup> *Jet Propulsion Laboratory*, <sup>5</sup> *Johns Hopkins University*, <sup>6</sup> *NASA Exoplanet Science Institute*, <sup>7</sup> *Space Telescope Science Institute*, <sup>8</sup> *University of Notre Dame*
- 138.44 T Dwarfs Model Fits for Spectral Standards at Low Spectral Resolution**  
**Author(s): Paige Giorla<sup>1</sup>, Emily L. Rice<sup>1</sup>, Stephanie T. Douglas<sup>2</sup>, Gregory N. Mace<sup>3</sup>, Ian S. McLean<sup>3</sup>, Emily C. Martin<sup>3</sup>, Sarah E. Logsdon<sup>3</sup>**  
*Institution(s):* <sup>1</sup> *College of Staten Island*, <sup>2</sup> *Columbia University*, <sup>3</sup> *UCLA*

## 139 The Emerging Multiwavelength View of Planetary Nebulae Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 139.01 ChanPlaNS: Investigating the Diffuse X-ray Emission within Compact Planetary Nebulae**  
**Author(s): Marcus Freeman<sup>1</sup>, Rodolfo Montez<sup>2</sup>, Joel H. Kastner<sup>1</sup>**  
*Institution(s):* <sup>1</sup> *Rochester Institute of Technology*, <sup>2</sup> *Vanderbilt University*  
Contributing team(s): ChanPlaNS Team
- 139.02 Cospacial Longslit UV-Optical Spectra of Ten Galactic Planetary Nebulae with HST STIS: Description of observations, global emission-line measurements, and empirical CNO abundances**  
**Author(s): R. J. Dufour<sup>3</sup>, K. B. Kwitter<sup>6</sup>, R. A. Shaw<sup>2</sup>, B. Balick<sup>5</sup>, R. B. C. Henry<sup>4</sup>, T. R. Miller<sup>4</sup>, R. L. M. Corradi<sup>1</sup>**  
*Institution(s):* <sup>1</sup> *IAC*, <sup>2</sup> *NOAO*, <sup>3</sup> *Rice University*, <sup>4</sup> *Univ. of Oklahoma*, <sup>5</sup> *Univ. of Washington*, <sup>6</sup> *Williams College*
- 139.03 New CNO Elemental Abundances in Planetary Nebulae from Spatially Resolved UV/Optical Emission Lines**  
**Author(s): Richard A. Shaw<sup>2</sup>, Karen B. Kwitter<sup>6</sup>, Richard B. C. Henry<sup>4</sup>, Reginald J. Dufour<sup>3</sup>, Bruce Balick<sup>5</sup>, Romano Corradi<sup>1</sup>**  
*Institution(s):* <sup>1</sup> *IAC*, <sup>2</sup> *NOAO*, <sup>3</sup> *Rice University*, <sup>4</sup> *University of Oklahoma*, <sup>5</sup> *University of Washington*, <sup>6</sup> *Williams College*

- 139.04 Geometry of the Dusty Mass Loss from Low- to Intermediate Mass Stars**  
**Author(s):** Rachael Tomasino<sup>3</sup>, Toshiya Ueta<sup>3</sup>, Issei Yamamura<sup>1</sup>, Satoshi Takita<sup>1</sup>, Hideyuki Izumiura<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency*, <sup>2</sup> *Okayama Astrophysical Observatory, National Astronomical Observatory of Japan*, <sup>3</sup> *University of Denver*
- 139.05 Spatially Resolved Far-Infrared Spectroscopic Analysis of Planetary Nebulae**  
**Author(s):** Rebecca Rattray<sup>1</sup>, Toshiya Ueta<sup>1</sup>  
*Institution(s):* <sup>1</sup> *University of Denver*
- 139.06 HST Search for Planetary Nebulae in Local Group Globular Clusters**  
**Author(s):** Howard E. Bond<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Pennsylvania State University*
- 139.07 Exploring the Late Evolutionary Stages of Sun-like Stars with LSST**  
**Author(s):** Margaret Morris<sup>1</sup>, Rodolfo Montez<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Brandeis*, <sup>2</sup> *Vanderbilt University*
- 139.08 Multiwavelength Spatial and Spectral Study of Shock Conditions in the Young Planetary Nebula NGC 7027**  
**Author(s):** Rodolfo Montez<sup>2</sup>, Joel H. Kastner<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Center for Imaging Science, Rochester Institute of Technology*, <sup>2</sup> *Vanderbilt University*

## 140 Supernova, SNe Remnants and Planetary Nebulae Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 140.01 Multi-epoch, Ultraviolet Spectroscopy of Type Ia Supernovae**  
**Author(s):** Aaron Beaudoin<sup>1</sup>, Ryan J. Foley<sup>1</sup>  
*Institution(s):* <sup>1</sup> *University of Illinois*
- 140.02 A 3D Kinematic Study of the Northern Ejecta “Jet” of the Crab Nebula**  
**Author(s):** Christine Black<sup>1</sup>, Robert A. Fesen<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Dartmouth College*
- 140.03 SweetSpot Data Release 1: 70 Type Ia Supernovae in the Near Infrared in the Nearby Hubble Flow**  
**Author(s):** W. Michael Wood-Vasey<sup>5</sup>, Anja Weyant<sup>5</sup>, Lori Allen<sup>1</sup>, Nathan Trevino Barton<sup>5</sup>, Peter M. Garnavich<sup>4</sup>, Nabila Farhin Jahan<sup>5</sup>, Saurabh Jha<sup>2</sup>, Jessica Rose Kroboth<sup>5</sup>, Kara Ann Ponder<sup>5</sup>, Richard R. Joyce<sup>1</sup>, Thomas Matheson<sup>1</sup>, Armin Rest<sup>3</sup>  
*Institution(s):* <sup>1</sup> *NOAO*, <sup>2</sup> *Rutgers Univ.*, <sup>3</sup> *Space Telescope Science Institute*, <sup>4</sup> *Univ. of Notre Dame*, <sup>5</sup> *University of Pittsburgh*
- 140.04 Systematic X-ray Mapping of Metal-Rich Ejecta in Bright Supernova Remnants.**  
**Author(s):** Andrew Schenck<sup>1</sup>, Sangwook Park<sup>1</sup>, Jayant Bhalerao<sup>1</sup>, Seth Post<sup>1</sup>, Neslihan Alan<sup>1</sup>, Mujahed Abualfoul<sup>1</sup>  
*Institution(s):* <sup>1</sup> *University of Texas at Arlington*

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- 140.05 Observing Supernovae and Supernova Remnants with JWST**  
**Author(s):** George Sonneborn<sup>1</sup>, Tea Temim<sup>1</sup>, Brian J. Williams<sup>1</sup>, William P. Blair<sup>2</sup>  
*Institution(s):* <sup>1</sup> NASA's GSFC, <sup>2</sup> The Johns Hopkins University
- 140.06 Supernova Host Galaxy Identification in the Dark Energy Survey**  
**Author(s):** Ravi R. Gupta<sup>1</sup>, Stephen Kuhlmann<sup>1</sup>, Eve Kovacs<sup>1</sup>, Harold Spinka<sup>1</sup>  
*Institution(s):* <sup>1</sup> Argonne National Laboratory  
Contributing team(s): Dark Energy Survey
- 140.07 The LCOGT Supernova Key Project**  
**Author(s):** Dale Andrew Howell<sup>1</sup>, Iair Arcavi<sup>1</sup>, Griffin Hosseinzadeh<sup>1</sup>, Curtis McCully<sup>1</sup>, Stefano Valenti<sup>1</sup>  
*Institution(s):* <sup>1</sup> Las Cumbres Global Telescope Network, Inc.  
Contributing team(s): The LCOGT Supernova Key Project
- 140.08 Diversity in Type Ibn supernovae**  
**Author(s):** Griffin Hosseinzadeh<sup>1</sup>, Stefano Valenti<sup>1</sup>, Iair Arcavi<sup>1</sup>, Dale Andrew Howell<sup>1</sup>, Curtis McCully<sup>1</sup>  
*Institution(s):* <sup>1</sup> Las Cumbres Observatory Global Telescope Network  
Contributing team(s): iPTF, PESSTO
- 140.09 The Los Alamos Supernova Light Curve Project: Current Projects and Future Directions**  
**Author(s):** Brandon Kerry Wiggins<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brigham Young University  
Contributing team(s): Los Alamos Supernovae Research Group
- 140.10 A Census of Galactic and Extragalactic Double Supernovae**  
**Author(s):** Dan Milisavljevic<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian, CfA
- 140.11 Extragalactic Transients Discovered by the All-Sky Automated Survey for SuperNovae**  
**Author(s):** Thomas Warren-Son Holoien<sup>1</sup>  
*Institution(s):* <sup>1</sup> The Ohio State University  
Contributing team(s): ASAS-SN Team
- 140.12 Photometric Classification of Supernovae**  
**Author(s):** Daniel Zimmerman<sup>2</sup>, John Cunningham<sup>2</sup>, Steve Kuhlmann<sup>1</sup>, Ravi Gupta<sup>1</sup>, Eve Kovacs<sup>1</sup>, Harold Spinka<sup>1</sup>  
*Institution(s):* <sup>1</sup> Argonne National Laboratories, <sup>2</sup> Loyola University Chicago
- 140.13 Building a Type Ia Supernova Model with SNfactory Spectrophotometric Time Series**  
**Author(s):** Clare Saunders<sup>1</sup>  
*Institution(s):* <sup>1</sup> Lawrence Berkeley National Laboratory  
Contributing team(s): The Nearby Supernova Factory
- 140.14 Locating Type Ia Supernovae in HST Archival Data via an Artificial Neural Network**  
**Author(s):** Kristin Shahady<sup>1</sup>, Louis-Gregory Strolger<sup>2</sup>  
*Institution(s):* <sup>1</sup> Florida Institute of Technology, <sup>2</sup> Space Telescope Science Institute

- 140.16 The Search for Light Echoes of Historic SNe in the Southern Hemisphere with DECam**  
**Author(s):** Armin Rest<sup>7</sup>, Federica Bianco<sup>4</sup>, Ryan Chornock<sup>5</sup>, Alejandro Clocchiatti<sup>6</sup>, Ryan J. Foley<sup>10</sup>, David James<sup>1</sup>, Thomas Matheson<sup>3</sup>, Gautham Narayan<sup>3</sup>, Knut A. Olsen<sup>3</sup>, Sean Points<sup>1</sup>, Jose Luis Prieto<sup>11</sup>, R. Chris Smith<sup>1</sup>, Nathan Smith<sup>9</sup>, Nicholas B. Suntzeff<sup>8</sup>, Douglas L. Welch<sup>2</sup>, Alfredo Zenteno<sup>1</sup>  
*Institution(s):* <sup>1</sup>. CTIO/NOAO, <sup>2</sup>. McMaster University, <sup>3</sup>. NOAO, <sup>4</sup>. NYU, <sup>5</sup>. Ohio University, <sup>6</sup>. PUC, <sup>7</sup>. Space Telescope Science Institute, <sup>8</sup>. Texas A & M, <sup>9</sup>. U. of Arizona, <sup>10</sup>. UIUC, <sup>11</sup>. Universidad Diego Portales
- 140.17 Expansion of the Optical Remnant from Tycho's Supernova**  
**Author(s):** Joseph Putko<sup>2</sup>, P. Frank Winkler<sup>2</sup>, William P. Blair<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Johns Hopkins University, <sup>2</sup>. Middlebury College
- 140.18 Constraining Cosmic Ray Origins Through Spectral Radio Breaks In Supernova Remnants**  
**Author(s):** Zeeve Rogoszinski<sup>2</sup>, John W. Hewitt<sup>1</sup>  
*Institution(s):* <sup>1</sup>. NASA/GSFC, <sup>2</sup>. University of Maryland
- 140.19 Treasure Hunting for Type Ia Supernova Ex-Companion Stars in the Large Magellanic Cloud**  
**Author(s):** Ashley Pagnotta<sup>1</sup>, Bradley E. Schaefer<sup>2</sup>, Zachary Edwards<sup>2</sup>, Emma S. Walker<sup>3</sup>  
*Institution(s):* <sup>1</sup>. American Museum of Natural History, <sup>2</sup>. Louisiana State University, <sup>3</sup>. Yale University
- 140.20 Second Epoch Hubble Space Telescope Imaging of Kepler's Supernova Remnant**  
**Author(s):** Ravi Sankrit<sup>5</sup>, William P. Blair<sup>2</sup>, Kazimierz J. Borkowski<sup>4</sup>, Knox S. Long<sup>6</sup>, Daniel Patnaude<sup>1</sup>, John C. Raymond<sup>1</sup>, Stephen P. Reynolds<sup>4</sup>, Brian J. Williams<sup>3</sup>  
*Institution(s):* <sup>1</sup>. Harvard-Smithsonian CfA, <sup>2</sup>. Johns Hopkins University, <sup>3</sup>. NASA Goddard, <sup>4</sup>. North Carolina State University, <sup>5</sup>. SOFIA/USRA, <sup>6</sup>. STScI
- 140.21 Old Supernova Dust Factory Revealed at the Galactic Center by SOFIA/FORCAST**  
**Author(s):** Ryan M. Lau<sup>1</sup>, Terry L. Herter<sup>1</sup>, Mark Morris<sup>4</sup>, Zhiyuan Li<sup>2</sup>, Joseph D. Adams<sup>3</sup>  
*Institution(s):* <sup>1</sup>. Cornell University, <sup>2</sup>. Nanjing University, <sup>3</sup>. SOFIA/USRA, <sup>4</sup>. UCLA
- 140.22 NuSTAR Observations of Hard X-ray Continuum from SN 1987A**  
**Author(s):** Stephen P. Reynolds<sup>2</sup>, Andreas Zoglauer<sup>3</sup>, Steven E. Boggs<sup>3</sup>, Fiona Harrison<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Caltech, <sup>2</sup>. North Carolina State Univ., <sup>3</sup>. University of California  
 Contributing team(s): NuSTAR Team
- 140.23 A Suzaku Observation of the Galactic Supernova Remnant 3C 396 (G39.2-0.3)**  
**Author(s):** Thomas Pannuti<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Morehead State University
- 140.24 Near-infrared HST [S III] Imaging of High-Velocity Ejecta in the Cassiopeia A**

## Supernova Remnant

**Author(s):** Robert A. Fesen<sup>1</sup>, Dan Milisavljevic<sup>2</sup>

*Institution(s):* <sup>1</sup> Dartmouth College, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics

## 140.25 Supernova Progenitors and a Light Echo in LEGUS Galaxies

**Author(s):** Schuyler D. Van Dyk<sup>2</sup>, Janice C. Lee<sup>7</sup>, Elena Sabbi<sup>7</sup>, Jay Anderson<sup>7</sup>, Leonardo Ubeda<sup>7</sup>, Stacey N. Bright<sup>7</sup>, Daniela Calzetti<sup>10</sup>, Linda J. Smith<sup>3</sup>, Alexei V. Filippenko<sup>8</sup>, Ryan J. Foley<sup>4</sup>, Adam A. Miller<sup>5</sup>, Nathan Smith<sup>1</sup>, Isaac Shivvers<sup>8</sup>, Kelsey I. Clubb<sup>8</sup>, Marc Rafelski<sup>6</sup>, Marcel Neeleman<sup>9</sup>, Jennifer E. Andrews<sup>1</sup>

*Institution(s):* <sup>1</sup> Arizona, <sup>2</sup> Caltech, <sup>3</sup> ESA/STScI, <sup>4</sup> Illinois, <sup>5</sup> JPL/Caltech, <sup>6</sup> NASA/GSFC, <sup>7</sup> STScI, <sup>8</sup> UC Berkeley, <sup>9</sup> UCSD, <sup>10</sup> UMass

Contributing team(s): LEGUS Team

## 140.26 Improved distance measurements using twin supernovae from SNfactory

**Author(s):** Kyle Boone<sup>10</sup>, Hannah Fakhouri<sup>10</sup>, Greg Scott Aldering<sup>5</sup>, Pierre Antilogus<sup>4</sup>, Cecilia Aragon<sup>5</sup>, Stephen J. Bailey<sup>5</sup>, Charles Baltay<sup>11</sup>, Dan Birchall<sup>5</sup>, Sebastien Bongard<sup>4</sup>, Clement Buton<sup>7</sup>, Flora Cellier-Holzem<sup>4</sup>, Michael Childress<sup>2</sup>, Nicolas Chotard<sup>9</sup>, Yannick Copin<sup>9</sup>, Parker Fagrelus<sup>10</sup>, Ulrich Feindt<sup>8</sup>, Mathilde Fleury<sup>4</sup>, Dominique Fouchez<sup>1</sup>, Emmanuel Gangler<sup>3</sup>, Brian Hayden<sup>5</sup>, Alex G. Kim<sup>5</sup>, Marek Kowalski<sup>8</sup>, Pierre-Francois Leget<sup>3</sup>, Simona Lombardo<sup>8</sup>, Jakob Nordin<sup>5</sup>, Peter E. Nugent<sup>5</sup>, Reynald Pain<sup>4</sup>, Emmanuel Pecontal<sup>9</sup>, Rui Pereira<sup>2</sup>, Saul Perlmutter<sup>5</sup>, David L. Rabinowitz<sup>11</sup>, James Ren<sup>5</sup>, Mickael Rigault<sup>9</sup>, Karl Runge<sup>5</sup>, David Rubin<sup>5</sup>, Clare Saunders<sup>5</sup>, Richard A. Scalzo<sup>2</sup>, Gerard Smadja<sup>9</sup>, Caroline Sofiatti<sup>10</sup>, Mark Strovink<sup>5</sup>, Nao Suzuki<sup>5</sup>, Charling Tao<sup>1</sup>, Rollin Thomas<sup>5</sup>, Benjamin Weaver<sup>6</sup>

*Institution(s):* <sup>1</sup> Aix-Marseille Universite, <sup>2</sup> Australian National University, <sup>3</sup> Clermont Universite, <sup>4</sup> Laboratoire de Physique Nucleaire des Hautes Energies, <sup>5</sup> Lawrence Berkeley National Laboratory, <sup>6</sup> New York University, <sup>7</sup> Synchrotron SOLEIL, <sup>8</sup> Universitat Bonn, <sup>9</sup> Universite de Lyon, <sup>10</sup> University of California, Berkeley, <sup>11</sup> Yale University

## 140.27 Synchrotron X-Ray Rims in Tycho's Supernova Remnant are Energy Dependent

**Author(s):** Aaron Tran<sup>1</sup>, Brian J. Williams<sup>1</sup>, Robert Petre<sup>1</sup>, Sean Ressler<sup>3</sup>, Stephen P. Reynolds<sup>2</sup>

*Institution(s):* <sup>1</sup> NASA Goddard Space Flight Center, <sup>2</sup> North Carolina State University, <sup>3</sup> University of California, Berkeley

## 140.28 An Archival Chandra Study of the Young Core-Collapse Supernova Remnant 1E 0102.2-7219 in the Small Magellanic Cloud

**Author(s):** Neslihan Alan<sup>1</sup>, Andrew Schenck<sup>2</sup>, Sangwook Park<sup>2</sup>, Selcuk Bilir<sup>1</sup>

*Institution(s):* <sup>1</sup> Istanbul University, <sup>2</sup> University of Texas at Arlington

## 140.29 Supernova Emulators: Connecting Massively Parallel SN Ia Radiative Transfer Simulations to Data with Gaussian Processes

**Author(s):** Daniel Goldstein<sup>2</sup>, Rollin Thomas<sup>1</sup>, Daniel Kasen<sup>2</sup>

*Institution(s):* <sup>1</sup> Lawrence Berkeley National Laboratory, <sup>2</sup> University of California, Berkeley



- 140.30 A case study of nucleosynthesis in multi-dimensional supernova simulations**  
**Author(s):** Jack Sexton<sup>1</sup>, Patrick A. Young<sup>1</sup>, Carola I. Ellinger<sup>3</sup>, Chris Fryer<sup>2</sup>, Gabriel Rockefeller<sup>2</sup>  
*Institution(s):* <sup>1</sup> Arizona State University, <sup>2</sup> Los Alamos National Laboratories, <sup>3</sup> University of Texas
- 140.31 Four extended gamma-ray supernova remnants newly identified by Fermi-LAT Pass 8 data**  
**Author(s):** John W. Hewitt<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Maryland, Baltimore County  
 Contributing team(s): the Fermi-LAT collaboration
- 140.32 Constraining the Post-Shock Magnetic Field Strength of SN1006 from the Rotation Measure of Radio Galaxy ESO 328-13**  
**Author(s):** Lilly Flewelling<sup>1</sup>, Sidney Dills<sup>1</sup>, David A. Moffett<sup>1</sup>  
*Institution(s):* <sup>1</sup> Furman University
- 140.33 Revisiting the SNR Content of NGC 6946 with Deep WIYN Images**  
**Author(s):** Marisa Pisano<sup>1</sup>, Daniel J. Pisano<sup>2</sup>, Marcel A. Agueros<sup>1</sup>  
*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> West Virginia University
- 140.34 A Newly Recognized Very Young Supernova Remnant in M83**  
**Author(s):** William P. Blair<sup>4</sup>, P. Frank Winkler<sup>6</sup>, Knox S. Long<sup>7</sup>, Bradley C. Whitmore<sup>7</sup>, Hwihyun Kim<sup>8</sup>, Roberto Soria<sup>3</sup>, K. D. Kuntz<sup>4</sup>, Paul P. Plucinsky<sup>2</sup>, Michael A. Dopita<sup>1</sup>, Christopher Stockdale<sup>5</sup>  
*Institution(s):* <sup>1</sup> Australian National University, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> ICRAR, Curtin University, <sup>4</sup> Johns Hopkins Univ., <sup>5</sup> Marquette University, <sup>6</sup> Middlebury College, <sup>7</sup> Space Telescope Science Institute, <sup>8</sup> Univ. of Texas at Austin
- 140.35 The Extraordinary Supernova Remnant in NGC 4449 Revisited**  
**Author(s):** Knox S. Long<sup>5</sup>, William P. Blair<sup>2</sup>, Robert A. Fesen<sup>1</sup>, Dan Milisavljevic<sup>4</sup>, P. Frank Winkler<sup>3</sup>  
*Institution(s):* <sup>1</sup> Dartmouth College, <sup>2</sup> JHU, <sup>3</sup> Middlebury College, <sup>4</sup> Smithsonian Astrophysical Observatory, <sup>5</sup> STScI
- 140.36 The evolution of hydrocarbons past the asymptotic giant branch: the case of MSX SMC 029**  
**Author(s):** Tyler Pauly<sup>2</sup>, Gregory C. Sloan<sup>2</sup>, Kathleen E. Kraemer<sup>1</sup>, Jeronimo Bernard-Salas<sup>4</sup>, Vianney Lebouteiller<sup>3</sup>, Christopher Goes<sup>2</sup>, Donald Barry<sup>2</sup>  
*Institution(s):* <sup>1</sup> Boston College, <sup>2</sup> Cornell University, <sup>3</sup> Service d'Astrophysique, CEA, <sup>4</sup> The Open University
- 140.38 High-Velocity Features in the Spectra of Type-Ia Supernovae**  
**Author(s):** Jeffrey M. Silverman<sup>3</sup>, Howie Marion<sup>3</sup>, Jozsef Vinko<sup>2</sup>, Brian W. Mulligan<sup>3</sup>, J. Craig Wheeler<sup>3</sup>, Alexei V. Filippenko<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of California - Berkeley, <sup>2</sup> University of Szeged, <sup>3</sup> University of Texas at Austin

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- 140.39 Evidence of Circumstellar Material for Type Ia supernova 2014J in High Resolution Spectra from the Automated Planet Finder Telescope**  
**Author(s):** Melissa Lynn Graham<sup>2</sup>, Stefano Valenti<sup>1</sup>, Benjamin James Fulton<sup>3</sup>, Lauren M. Weiss<sup>2</sup>, Alex Filippenko<sup>2</sup>  
*Institution(s):*<sup>1</sup> Las Cumbres Observatory Global Telescope Network, <sup>2</sup> University of California at Berkeley, <sup>3</sup> University of Hawaii
- 140.40 The Metrology of Type IA Supernova Lightcurves**  
**Author(s):** Bert W. Rust<sup>1</sup>  
*Institution(s):*<sup>1</sup> NIST
- 140.41 Type Ia Supernova Host Galaxies and Luminosity Calibration**  
**Author(s):** Patrick Kelly<sup>1</sup>  
*Institution(s):*<sup>1</sup> California - Berkeley, University of
- 140.42 PTF11iqb: Bridging the gap between Type IIN and normal Type II**  
**Author(s):** Nathan Smith<sup>3</sup>, Jon Mauerhan<sup>5</sup>, Eran Ofek<sup>6</sup>, Stephen B. Cenko<sup>2</sup>, Mansi M. Kasliwal<sup>1</sup>, Jeffrey M. Silverman<sup>4</sup>, Alexei V. Filippenko<sup>5</sup>, Avishay Gal-Yam<sup>6</sup>  
*Institution(s):*<sup>1</sup> Caltech, <sup>2</sup> Goddard, <sup>3</sup> U. of Arizona, <sup>4</sup> U. Texas, <sup>5</sup> UC Berkeley, <sup>6</sup> Weizmann
- 140.43 X-ray measurements of a Ca-rich gap transient**  
**Author(s):** Thomas J. Maccarone<sup>2</sup>, Paul Sell<sup>2</sup>, Rubina Kotak<sup>1</sup>, Christian Knigge<sup>3</sup>, David J. Sand<sup>2</sup>  
*Institution(s):*<sup>1</sup> Queen's University, <sup>2</sup> Texas Tech University, <sup>3</sup> University of Southampton
- 140.44 The Rediscovery of the Antlia Supernova Remnant**  
**Author(s):** Alexander Orchard<sup>5</sup>, Robert A. Benjamin<sup>5</sup>, Martin Gostisha<sup>4</sup>, L. Matthew Haffner<sup>3</sup>, Alex S. Hill<sup>1</sup>, Kathleen Barger<sup>2</sup>  
*Institution(s):*<sup>1</sup> Haverford College, <sup>2</sup> Texas Christian University, <sup>3</sup> University of Wisconsin - Madison, <sup>4</sup> University of Wisconsin - Milwaukee, <sup>5</sup> University of Wisconsin - Whitewater
- 140.45 The Fall and Rise of X-ray Supernova 2005kd**  
**Author(s):** Vikram Dwarkadas<sup>2</sup>, Ratuja Reddy<sup>2</sup>, Franz E. Bauer<sup>1</sup>  
*Institution(s):*<sup>1</sup> Pontificia Universidad Catolica de Chile, <sup>2</sup> Univ. of Chicago
- 140.46 The Possible Progenitor System or Stellar Remnant of a Type Iax Supernova**  
**Author(s):** Ryan Foley<sup>8</sup>, Curtis McCully<sup>4</sup>, Saurabh Jha<sup>6</sup>, Lars Bildsten<sup>3</sup>, Wen-fai Fong<sup>2</sup>, Gautham Narayan<sup>5</sup>, Armin Rest<sup>7</sup>, Maximillian Stritzinger<sup>1</sup>  
*Institution(s):*<sup>1</sup> Aarhus, <sup>2</sup> Arizona, <sup>3</sup> KITP/UCSB, <sup>4</sup> LCOGT, <sup>5</sup> NOAO, <sup>6</sup> Rutgers, <sup>7</sup> STScI, <sup>8</sup> University of Illinois
- 140.47 Central Star Properties and C-N-O Abundances in Eight Galactic Planetary Nebulae from New HST/STIS Observations**  
**Author(s):** Richard B. C. Henry<sup>5</sup>, Bruce Balick<sup>4</sup>, Reginald J. Dufour<sup>3</sup>, Karen B. Kwitter<sup>6</sup>, Richard A. Shaw<sup>2</sup>, Romano Corradi<sup>1</sup>  
*Institution(s):*<sup>1</sup> IAC, <sup>2</sup> NOAO, <sup>3</sup> Rice University, <sup>4</sup> U. Washington, <sup>5</sup> Univ. of Oklahoma, <sup>6</sup> Williams College

- 140.48 Analysis of Co-spatial UV-Optical STIS Spectra of Planetary Nebulae From HST Cycle 19 GO 12600**  
**Author(s):** Timothy R. Miller<sup>4</sup>, Richard B. C. Henry<sup>4</sup>, Reginald J. Dufour<sup>3</sup>, Karen B. Kwitter<sup>6</sup>, Richard A. Shaw<sup>2</sup>, Bruce Balick<sup>5</sup>, Romano Corradi<sup>1</sup>  
*Institution(s):* <sup>1</sup> IAC, <sup>2</sup> NOAO, <sup>3</sup> Rice University, <sup>4</sup> University of Oklahoma-Norman, <sup>5</sup> University of Washington, <sup>6</sup> Williams College
- 140.49 The Detection of Neutron-Capture Elements in Magellanic Cloud Planetary Nebulae**  
**Author(s):** Amanda Mashburn<sup>2</sup>, Nicholas C. Sterling<sup>2</sup>, Ian U. Roederer<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Michigan, <sup>2</sup> University of West Georgia
- 140.50 A New Analysis of s-process Enrichments in Planetary Nebulae**  
**Author(s):** Nicholas C. Sterling<sup>3</sup>, Ryan Porter<sup>1</sup>, Harriet L. Dinerstein<sup>2</sup>  
*Institution(s):* <sup>1</sup> University of Georgia, <sup>2</sup> University of Texas at Austin, <sup>3</sup> University of West Georgia
- 140.51 A Mid-IR Search for Planetary Nebulae**  
**Author(s):** Stefanie Wachter<sup>1</sup>  
*Institution(s):* <sup>1</sup> MPIA
- 140.52 3D Versus 1D Radiative Transfer Modeling of Planetary Nebulae**  
**Author(s):** Blake M. Pantoja<sup>2</sup>, Djazia Ladjal<sup>1</sup>  
*Institution(s):* <sup>1</sup> Gemini Observatory, <sup>2</sup> Universidad de Chile
- 140.53 The Close Binary Central Star of the Planetary Nebula PHR J1602-4127**  
**Author(s):** Hannah Rotter<sup>2</sup>, Todd C. Hillwig<sup>2</sup>, Steven J. Margheim<sup>1</sup>  
*Institution(s):* <sup>1</sup> Gemini South, <sup>2</sup> Valparaiso University
- 140.54 The Current Sample of Known Close Binary Central Stars of Planetary Nebulae**  
**Author(s):** Todd C. Hillwig<sup>1</sup>  
*Institution(s):* <sup>1</sup> Valparaiso University
- 140.55 Electron Temperatures and Densities of Compact Planetary Nebulae**  
**Author(s):** Ben Riley<sup>2</sup>, Ting-Hui Lee<sup>3</sup>, Richard A. Shaw<sup>1</sup>, Letizia Stanghellini<sup>1</sup>  
*Institution(s):* <sup>1</sup> National Optical Astronomy Observatory, <sup>2</sup> The Carol Martin Gatton Academy, <sup>3</sup> Western Kentucky University
- 140.56 Analyzing the largest spectroscopy data set of Stripped SNe to improve SN identification and to constrain their progenitors**  
**Author(s):** Yuqian Liu<sup>1</sup>, Maryam Modjaz<sup>1</sup>, Federica Bianco<sup>1</sup>, Or Graur<sup>1</sup>  
*Institution(s):* <sup>1</sup> New York University

## 141 Molecular Clouds, HII Regions, Interstellar Medium Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 141.01 [CII] emission across M31 seen by Herschel and ISO**  
**Author(s):** Maria Julia Kapala<sup>1</sup>, Brent Groves<sup>1</sup>, Karin Sandstrom<sup>2</sup>  
*Institution(s):* <sup>1</sup> Max Planck Institute for Astronomy, <sup>2</sup> Steward Observatory  
 Contributing team(s): Survey of Lines in M31 (SLIM)

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**141.02 Propagation of cosmic rays in dense molecular clouds**

**Author(s):** Colby Delisle<sup>1</sup>, Paolo Desiati<sup>2</sup>

*Institution(s):* <sup>1</sup> University of Missouri, <sup>2</sup> WIPAC

**141.03 Interstellar Extinction Toward Young Stars**

**Author(s):** Matthew McJunkin<sup>1</sup>, Kevin France<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Colorado at Boulder

**141.04 What Happens to a High Velocity Cloud When it Hits the Milky Way's Disk: Is Dark Matter Necessary for Survival?**

**Author(s):** Robin L. Shelton<sup>1</sup>, Jason Galyardt<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Georgia

**141.05 Mid-Infrared Observations of H<sub>2</sub>O towards AFGL 2591**

**Author(s):** Matthew Richter<sup>8</sup>, Nick Indriolo<sup>9</sup>, David A. Neufeld<sup>1</sup>, Curtis N. DeWitt<sup>8</sup>, Mark McKelvey<sup>3</sup>, Kristin Kulas<sup>4</sup>, Adwin Boogert<sup>5</sup>, Thomas K. Greathouse<sup>6</sup>, Graham M Harper<sup>7</sup>, Nils Ryde<sup>2</sup>, William D. Vacca<sup>5</sup>

*Institution(s):* <sup>1</sup> Johns Hopkins University, <sup>2</sup> Lund Observatory, <sup>3</sup> NASA Ames, <sup>4</sup> Santa Clara University, <sup>5</sup> SOFIA-USRA, <sup>6</sup> Southwest Research Institute, <sup>7</sup> Trinity College, <sup>8</sup> UC Davis, <sup>9</sup> University of Michigan

**141.06 The Translucent Clouds toward HD 204827**

**Author(s):** Theodore P. Snow<sup>9</sup>, Geoffrey A. Blake<sup>1</sup>, Geoffrey C. Clayton<sup>4</sup>, Karl D. Gordon<sup>8</sup>, Adam G. Jensen<sup>6</sup>, Benjamin J. McCall<sup>3</sup>, Karl A. Misselt<sup>7</sup>, Brian L. Rachford<sup>2</sup>, Farid Salama<sup>5</sup>, Erin C. Smith<sup>5</sup>, Daniel K. Welty<sup>10</sup>

*Institution(s):* <sup>1</sup> caltech, <sup>2</sup> Embry-Riddle Aeronautical Univ., <sup>3</sup> Illinois-Urbana, <sup>4</sup> Louisiana State Univ., <sup>5</sup> NASA Ames Research Center, <sup>6</sup> Nebraska-Kearny, <sup>7</sup> Steward Observatory, <sup>8</sup> STScI, <sup>9</sup> Univ. of Colorado, <sup>10</sup> University of Chicago

**141.07 Local Group Galaxy Emission-line Survey**

**Author(s):** Cindy Blaha<sup>1</sup>, Taylor Baildon<sup>1</sup>, Shail Mehta<sup>1</sup>, Edgar Garcia<sup>1</sup>, Philip Massey<sup>2</sup>, Paul W. Hodge<sup>3</sup>

*Institution(s):* <sup>1</sup> Carleton College, <sup>2</sup> Lowell Observatory, <sup>3</sup> University of Washington

**141.08 Red Clump Giants in the Region of Open Cluster M29**

**Author(s):** Algirdas Kazlauskas<sup>1</sup>, Vytautas Straizys<sup>1</sup>, Kristupas Milasius<sup>1</sup>, Kazimieras Cernis<sup>1</sup>, Richard P. Boyle<sup>2</sup>, Justas Zdanavicius<sup>1</sup>

*Institution(s):* <sup>1</sup> Institute of Theoretical Physics and Astronomy, Vilnius University, <sup>2</sup> Vatican Observatory Research Group

**141.09 21-SPONGE Detects Unexpectedly "Warm" Neutral Medium**

**Author(s):** Claire Murray<sup>1</sup>, Robert Lindner<sup>1</sup>, Snezana Stanimirovic<sup>1</sup>, Brian L Babler<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Wisconsin - Madison  
Contributing team(s): 21-SPONGE Team

**141.10 Search for 54-MHz Maser Emission from Interstellar Hydroxyl Using the Long Wavelength Array**

**Author(s):** Ian M. Hoffman<sup>1</sup>

*Institution(s):* <sup>1</sup> Wittenberg University

- 141.11 The Cosmic Ray Anisotropy Mystery: Turbulent Anisotropic Interstellar Medium Magnetic Field Effects**  
**Author(s):** Ryan Farber<sup>2</sup>, Vanessa Lopez-Barquero<sup>1</sup>, Paolo Desiati<sup>3</sup>, Alex Lazarian<sup>1</sup>  
*Institution(s):* <sup>1</sup> UW Madison, <sup>2</sup> Wheaton College, <sup>3</sup> WIPAC
- 141.12 Chemical Complexity in the Shocked Outflow L1157 Revealed by CARMA**  
**Author(s):** Niklaus M. Dollhopf<sup>3</sup>, Brett A. McGuire<sup>2</sup>, P. Brandon Carroll<sup>1</sup>, Anthony J. Remijan<sup>2</sup>  
*Institution(s):* <sup>1</sup> Division of Chemistry and Chemical Engineering, California Institute of Technology, <sup>2</sup> National Radio Astronomy Observatory, <sup>3</sup> University of Virginia
- 141.13 Instability of Magnetized Ionization Fronts Surrounding H II Regions**  
**Author(s):** Jeong-Gyu Kim<sup>1</sup>, Woong-Tae Kim<sup>1</sup>  
*Institution(s):* <sup>1</sup> Seoul National University
- 141.14 A Faraday Rotation Investigation to Probe the Shells of HII Regions with Associated Stellar Bubbles**  
**Author(s):** Allison H. Costa<sup>1</sup>, Steven R. Spangler<sup>1</sup>, Joseph R Sink<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Iowa
- 141.15 The Warm Dust Component in the S106 Region**  
**Author(s):** Joseph D. Adams<sup>6</sup>, Terry Herter<sup>3</sup>, Ryan M. Lau<sup>3</sup>, Joseph L. Hora<sup>2</sup>, Nicola Schneider<sup>1</sup>, Howard Alan Smith<sup>2</sup>, Andres Guzman<sup>2</sup>, Robert Simon<sup>4</sup>, Johannes Staguhn<sup>5</sup>, Matt Hankins<sup>3</sup>  
*Institution(s):* <sup>1</sup> CEA Saclay, <sup>2</sup> CfA, <sup>3</sup> Cornell University, <sup>4</sup> KOSMA, <sup>5</sup> NASA/Goddard, <sup>6</sup> SOFIA-USRA  
 Contributing team(s): Spitzer Cygnus-X Legacy Team, Herschel Cygnus-X Team
- 141.16 Enhanced Turbulence in M82 and M51 from Observations of Interstellar CH+**  
**Author(s):** Adam M. Ritchey<sup>2</sup>, Daniel E. Welty<sup>1</sup>, George Wallerstein<sup>2</sup>  
*Institution(s):* <sup>1</sup> University of Chicago, <sup>2</sup> University of Washington
- 141.17 Warm Molecular Gas in Galaxies Characterized with CO from Archival Herschel Data**  
**Author(s):** Julia R. Kamenetzky<sup>1</sup>, Naseem Rangwala<sup>2</sup>, Jason Glenn<sup>2</sup>, Phil Maloney<sup>2</sup>, Alexander J. Conley<sup>2</sup>  
*Institution(s):* <sup>1</sup> University of Arizona, <sup>2</sup> University of Colorado at Boulder
- 141.18 Filamentary Dense Gas Clump Structures in the Galactic Center**  
**Author(s):** Juergen Ott<sup>1</sup>  
*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory
- 141.19 A simple analytic model for explaining the '[CII] deficit'**  
**Author(s):** Carl Ferkinhoff<sup>1</sup>  
*Institution(s):* <sup>1</sup> Max-Planck-Institut für Astronomie
- 141.20 The Structure of Dark Molecular Gas in the Galaxy - I First Results from a GBT Pilot Survey for 18-cm OH emission towards L<sup>~</sup>105, B<sup>~</sup>1**  
**Author(s):** Ronald J. Allen<sup>3</sup>, David E. Hogg<sup>1</sup>, Philip D. Engelke<sup>2</sup>  
*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory, <sup>2</sup> Physics/Astronomy Dept., Johns Hopkins University, <sup>3</sup> Space Telescope Science Institute

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- 141.21 OH as a Tracer for Molecular Gas in the Galaxy: Line Ratios and Signatures of non-LTE Findings in the ISM**  
**Author(s):** Philip Engelke<sup>1</sup>, Ronald J. Allen<sup>3</sup>, David E. Hogg<sup>2</sup>  
*Institution(s):* <sup>1</sup> Johns Hopkins University, <sup>2</sup> NRAO, <sup>3</sup> Space Telescope Science Institute
- 141.22 Multiple Methanol Transitions Detected in W51-E2 from the Arecibo Galactic Chemistry Survey**  
**Author(s):** Robert F. Minchin<sup>2</sup>, Kevin Harrington<sup>3</sup>, Tapasi Ghosh<sup>2</sup>, Christopher J. Salter<sup>2</sup>, Esteban Araya<sup>5</sup>, Hector G. Arce<sup>6</sup>, Mayra E. Lebron Santos<sup>4</sup>, Christopher H. De Vries<sup>1</sup>  
*Institution(s):* <sup>1</sup> California State University, Stanislaus, <sup>2</sup> NAIC, Arecibo Observatory, <sup>3</sup> University of Massachusetts, <sup>4</sup> University of Puerto Rico, <sup>5</sup> Western Illinois University, <sup>6</sup> Yale University
- 141.23 A Survey of AU-Scale Na I Structure in the Diffuse ISM**  
**Author(s):** David M. Meyer<sup>1</sup>, Cody Dirks<sup>1</sup>, James Thomas Lauroesch<sup>2</sup>  
*Institution(s):* <sup>1</sup> Northwestern Univ., <sup>2</sup> Univ. of Louisville
- 141.24 Multi-Dimensional Hydrodynamic Simulations with Non-Equilibrium Radiative Cooling Calculations**  
**Author(s):** Kyujin Kwak<sup>1</sup>  
*Institution(s):* <sup>1</sup> Ulsan National Institute of Science and Technology
- 141.25 CO Line Ratios in Nearby Galaxies**  
**Author(s):** Erik Rosolowsky<sup>5</sup>, Adam K. Leroy<sup>3</sup>, Antonio Usero<sup>4</sup>, Jason Loeppky<sup>6</sup>, Fabian Walter<sup>1</sup>, Christine Wilson<sup>2</sup>  
*Institution(s):* <sup>1</sup> Max Planck Institute for Astrophysics, <sup>2</sup> McMaster University, <sup>3</sup> National Radio Astronomy Observatory, <sup>4</sup> Observatorio Astronómico Nacional, <sup>5</sup> University of Alberta, <sup>6</sup> University of British Columbia Okanagan  
Contributing team(s): HERACLES Team, NGLS Team
- 141.26 A Three-Dimensional Look at the High Galactic Latitude Interstellar Medium**  
**Author(s):** Peregrine M. McGehee<sup>1</sup>  
*Institution(s):* <sup>1</sup> Caltech
- 141.27 Tracing the Dense Molecular Gas in the Large Magellanic Cloud**  
**Author(s):** Rebecca C. Levy<sup>3</sup>, Juergen Ott<sup>3</sup>, David S. Meier<sup>2</sup>, Annie Hughes<sup>1</sup>  
*Institution(s):* <sup>1</sup> Max-Planck-Institut für Astronomie, <sup>2</sup> New Mexico Institute of Mining and Technology, <sup>3</sup> The National Radio Astronomy Observatory
- 141.28 Simulations of the Dynamics of Precursor Organic and Prebiotic Carbon-rich Molecules**  
**Author(s):** David William Marshall<sup>1</sup>, Hossein Sadeghpour<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics
- 141.29 Exploring the ISM Supershell Structure Toward the Jewel Box**  
**Author(s):** Cody Dirks<sup>1</sup>, David M. Meyer<sup>1</sup>  
*Institution(s):* <sup>1</sup> Northwestern University

- 141.30 Characterizing Interstellar Ammonia Masers in the Galactic Star Forming Region DR21(OH)**  
**Author(s):** Amanda J. Fagan<sup>1</sup>, Ian M. Hoffman<sup>1</sup>  
*Institution(s):* <sup>1</sup> Wittenberg University
- 141.31 From Gas to Stars in Energetic Environments: Chemistry of Clumps in Giant Molecular Clouds Within the Large Magellanic Cloud**  
**Author(s):** Crystal N. Anderson<sup>3</sup>, David S. Meier<sup>3</sup>, Juergen Ott<sup>2</sup>, Annie Hughes<sup>1</sup>, Tony H. Wong<sup>4</sup>  
*Institution(s):* <sup>1</sup> Max-Planck-Institut für Astronomie, <sup>2</sup> National Radio Astronomy Observatory, <sup>3</sup> New Mexico Tech, <sup>4</sup> University of Illinois
- 141.32 Combining MeV-GeV  $\gamma$ -ray and X-ray Observations: A Broadband View of Supernova Remnant Kes 41**  
**Author(s):** Daniel Castro<sup>3</sup>, Timothy Joubert<sup>1</sup>, Patrick O. Slane<sup>2</sup>, Enectali Figueroa-Feliciano<sup>3</sup>  
*Institution(s):* <sup>1</sup> United States Air Force, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> MIT
- 141.33 Radio Recombination Line Observations of Flickering Ultracompact HII Regions**  
**Author(s):** Christopher G. De Pree<sup>1</sup>, Thomas Peters<sup>5</sup>, Mordecai-Mark Mac Low<sup>2</sup>, David J. Wilner<sup>3</sup>, Roberto Galvan-Madrid<sup>4</sup>, Miller Goss<sup>6</sup>, Eric R. Keto<sup>3</sup>, Ralf Klessen<sup>7</sup>, ashley monsrud<sup>1</sup>, Charlee Amason<sup>1</sup>, Katie Butler<sup>1</sup>  
*Institution(s):* <sup>1</sup> Agnes Scott College, <sup>2</sup> American Museum of Natural history, <sup>3</sup> CfA, <sup>4</sup> ESO, <sup>5</sup> Institut für Theoretische Physik, Universität Zurich, <sup>6</sup> NRAO, <sup>7</sup> Universität Heidelberg, Zentrum für Astronomie

## 142 The Milky Way, The Galactic Center Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 142.01 The Discovery of New Ammonia Masers in the Galactic Center**  
**Author(s):** Alex Teachey<sup>1</sup>, Elisabeth A. Mills<sup>2</sup>, David S. Meier<sup>3</sup>, Juergen Ott<sup>2</sup>, Natalie Butterfield<sup>5</sup>, Cornelia C. Lang<sup>5</sup>, Mark Morris<sup>4</sup>  
*Institution(s):* <sup>1</sup> CUNY Hunter College, <sup>2</sup> National Radio Astronomy Observatory, <sup>3</sup> New Mexico Institute of Mining and Technology, <sup>4</sup> University of California, Los Angeles, <sup>5</sup> University of Iowa
- 142.02 Location of Deuterated Ammonia in Sagittarius B2**  
**Author(s):** Aspen Clements<sup>2</sup>, Elisabeth Mills<sup>1</sup>  
*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory, <sup>2</sup> University of Nebraska Kearney
- 142.03 Targeted VLA Observations of 22 GHz Water Masers Towards the Galactic Center**  
**Author(s):** Matthew Rickert<sup>3</sup>, Juergen Ott<sup>1</sup>, Farhad Yusef-Zadeh<sup>3</sup>, David S. Meier<sup>2</sup>  
*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory (NRAO), <sup>2</sup> New Mexico Institute of Mining and Technology (NMT), <sup>3</sup> Northwestern University

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- 142.04 New Temperature Constraints for the Circumnuclear Disk**  
**Author(s):** Elisabeth A.C. Mills<sup>3</sup>, Bingqing Sun<sup>2</sup>, Hanyu Baobab Liu<sup>1</sup>, Mark Morris<sup>4</sup>, Natalie Butterfield<sup>5</sup>, Cornelia C. Lang<sup>5</sup>, Juergen Ott<sup>3</sup>  
*Institution(s):* <sup>1</sup> Academia Sinica Institute of Astronomy and Astrophysics, <sup>2</sup> Nanjing University, <sup>3</sup> National Radio Astronomy Observatory, <sup>4</sup> UCLA, <sup>5</sup> University of Iowa
- 142.05 Densities of Galactic Center Clouds**  
**Author(s):** Jonathan Barnes<sup>1</sup>, Elisabeth A.C. Mills<sup>2</sup>, Mark Morris<sup>3</sup>  
*Institution(s):* <sup>1</sup> Norfolk State University, <sup>2</sup> NRAO, <sup>3</sup> UCLA
- 142.06 New Background Infrared Sources for Studying the Galactic Center's Interstellar Gas**  
**Author(s):** Thomas R. Geballe<sup>1</sup>, Takeshi Oka<sup>3</sup>, Erini Lambrides<sup>1</sup>, Sherry Yeh<sup>2</sup>, Miwa Goto<sup>4</sup>  
*Institution(s):* <sup>1</sup> Gemini Obs., <sup>2</sup> Subaru Telescope, <sup>3</sup> University of Chicago, <sup>4</sup> University of Munich
- 142.07 Star-Disk Collisions in the Galactic Center**  
**Author(s):** Thomas Kieffer<sup>1</sup>, Tamara Bogdanovic<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia Institute of Technology
- 142.08 Star Formation in the Galactic Center: Radial Cloud Orbits via Feedback and Radiative Losses**  
**Author(s):** Chris Frazer<sup>1</sup>, Fabian Heitsch<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of North Carolina
- 142.09 The Stellar Cusp in the Galactic Center: Three-Dimensional Orbits of Stars**  
**Author(s):** Samantha Chappell<sup>1</sup>, Andrea M. Ghez<sup>1</sup>, Anna Boehle<sup>1</sup>, Sylvana Yelda<sup>1</sup>, Breann Sitarski<sup>1</sup>, Gunther Witzel<sup>1</sup>, Tuan Do<sup>3</sup>, Jessica R. Lu<sup>2</sup>, Mark Morris<sup>1</sup>, Eric E. Becklin<sup>1</sup>  
*Institution(s):* <sup>1</sup> UCLA, <sup>2</sup> University of Hawaii, <sup>3</sup> University of Toronto
- 142.10 Understanding the Morphology and Kinematics of the Local Interstellar Medium**  
**Author(s):** Jeffrey Linsky<sup>1</sup>  
*Institution(s):* 1. Univ. of Colorado
- 142.11 The Milky Way Skeleton**  
**Author(s):** Catherine Zucker<sup>2</sup>, Cara Battersby<sup>1</sup>, Alyssa A. Goodman<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> University of VA
- 142.12 The GBT HII Region Discovery Survey: Galactic Structure**  
**Author(s):** Dana S. Balse<sup>2</sup>, Loren D. Anderson<sup>4</sup>, Thomas M. Bania<sup>1</sup>, Trey Wenger<sup>3</sup>  
*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> NRAO, <sup>3</sup> University of Virginia, <sup>4</sup> West Virginia University
- 142.13 Modelling the Accretion History of the Galactic Disk (and the Gravitational Lensing of a High-z Galaxy)**  
**Author(s):** Adrian Meyers<sup>1</sup>  
*Institution(s):* <sup>1</sup> Columbia University



- 142.15 The Relative Ages of the  $\alpha$ -rich and  $\alpha$ -poor Stellar Populations in the Galactic Halo**  
**Author(s):** Keith Hawkins<sup>1</sup>, Paula Jofre<sup>1</sup>, Thomas Masseron<sup>1</sup>, Gerard Gilmore<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Institute of Astronomy*
- 142.16 Dissecting the Milky Way disk with LAMOST**  
**Author(s):** Jeffrey L. Carlin<sup>2</sup>, Heidi Jo Newberg<sup>7</sup>, Chao Liu<sup>5</sup>, Timothy C. Beers<sup>1</sup>, Xuelei Chen<sup>5</sup>, Kathleen Grabowski<sup>7</sup>, Puragra Guhathakurta<sup>8</sup>, Sebastien Lepine<sup>4</sup>, Xiaowei Liu<sup>6</sup>, A-Li Luo<sup>5</sup>, Hai-Jun Tian<sup>5</sup>, Brian Yanny<sup>3</sup>, Haibo Yuan<sup>6</sup>, Haotong Zhang<sup>5</sup>, Gang Zhao<sup>5</sup>, Yongheng Zhao<sup>5</sup>, Zheng Zheng<sup>9</sup>  
*Institution(s):* <sup>1</sup> *Dept. of Physics and JINA-CEE, Univ. of Notre Dame*, <sup>2</sup> *Earlham College*, <sup>3</sup> *Fermi National Accelerator Laboratory*, <sup>4</sup> *Georgia State University*, <sup>5</sup> *National Astronomical Observatories, Chinese Academy of Sciences*, <sup>6</sup> *Peking University and KIAA*, <sup>7</sup> *Rensselaer Polytechnic Institute*, <sup>8</sup> *University of California, Santa Cruz and Lick Observatory*, <sup>9</sup> *University of Utah*
- 142.17 Probing Kinematic Substructures in the Virgo Overdensity using RR Lyrae from Recent Surveys**  
**Author(s):** John Farmer<sup>2</sup>, A. Katherina Vivas<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Cerro Tololo Inter-American Observatory*, <sup>2</sup> *Clemson University*
- 142.18 Testing the Dark Matter Caustic Theory Against Observations in the Milky Way**  
**Author(s):** Julie Dumas<sup>1</sup>, Heidi J. Newberg<sup>1</sup>, Bethany Niedzielski<sup>1</sup>, Adam Susser<sup>1</sup>, Jeffery M. Thompson<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Rensselaer Polytechnic Institute*
- 142.19 Globular Cluster Streams as Galactic High-Precision Scales - The Poster Child Palomar 5**  
**Author(s):** Andreas Hans Wilhelm Kupper<sup>1</sup>, Eduardo Balbinot<sup>5</sup>, Ana Bonaca<sup>6</sup>, Kathryn V. Johnston<sup>1</sup>, David W. Hogg<sup>2</sup>, Pavel Kroupa<sup>4</sup>, Basilio Santiago<sup>3</sup>  
*Institution(s):* <sup>1</sup> *Columbia University*, <sup>2</sup> *New York University*, <sup>3</sup> *Universidade Federal do Rio Grande do Sul*, <sup>4</sup> *Universität Bonn*, <sup>5</sup> *University of Surrey*, <sup>6</sup> *Yale University*
- 142.20 The Three-Dimensional Density Distribution of Candidate AGB Stars in the Milky Way**  
**Author(s):** Nicholas Hunt-Walker<sup>1</sup>, Zeljko Ivezić<sup>1</sup>, Andrew C. Becker<sup>1</sup>  
*Institution(s):* <sup>1</sup> *University of Washington - Seattle*
- 142.21 Defining Spatial Extent of Sagittarius Dwarf Tidal Stream and the Virgo Overdensity with MilkyWay@home**  
**Author(s):** Jake Weiss<sup>1</sup>, Matthew Newby<sup>1</sup>, Matthew Arsenault<sup>1</sup>, Torrin Bechtel<sup>3</sup>, Travis Desell<sup>2</sup>, Heidi Jo Newberg<sup>1</sup>, Jeffery Thompson<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Rensselaer Polytechnic Institute*, <sup>2</sup> *University of North Dakota*, <sup>3</sup> *University of Wisconsin-Madison*

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## 142.22 Probing Galactic Structure with the Spatial Correlation Function of SEGUE G-dwarf Stars

**Author(s):** Qingqing Mao<sup>4</sup>, Andreas A. Berlind<sup>4</sup>, Kelly Holley-Bockelmann<sup>4</sup>, Katharine Schlesinger<sup>1</sup>, Jennifer Johnson<sup>2</sup>, Constance M. Rockosi<sup>3</sup>

*Institution(s):* <sup>1</sup> The Australian National University, <sup>2</sup> The Ohio State University, <sup>3</sup> UCO/Lick Observatory, <sup>4</sup> Vanderbilt University

## 142.23 Halo Substructure in the Hercules-Aquila Cloud

**Author(s):** Charles Martin<sup>3</sup>, Heidi Jo Newberg<sup>3</sup>, Jeffrey L. Carlin<sup>1</sup>, Benjamin A. Willett<sup>3</sup>, Brian Yanny<sup>2</sup>, Stephen M. Kent<sup>2</sup>

*Institution(s):* <sup>1</sup> Earlham College, <sup>2</sup> Fermi Nat'l Accelerator Lab, <sup>3</sup> Rensselaer Polytechnic Institute

## 142.24 A Spectroscopic Study of Hydra I: The Possible Progenitor of the Eastern Banded Structure

**Author(s):** Brian Kimmig<sup>3</sup>, Jonathan R. Hargis<sup>3</sup>, Beth Willman<sup>3</sup>, Nelson Caldwell<sup>2</sup>, Jay Strader<sup>4</sup>, Matthew G Walker<sup>1</sup>

*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Haverford College, <sup>4</sup> Michigan State University

## 142.25 The Milky Way Dwarf Galaxy Population in the DES and LSST Era

**Author(s):** Jonathan R. Hargis<sup>1</sup>, Beth Willman<sup>1</sup>, Annika H. G. Peter<sup>2</sup>

*Institution(s):* <sup>1</sup> Haverford College, <sup>2</sup> Ohio State University

## 143 Evolution of Galaxies Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 143.01 Coupling Semi-Analytic Models and N-Body Simulations: A New Way of Making Galaxies and Stellar Halos

**Author(s):** Krista M. McCord<sup>2</sup>, Jeremy Bailin<sup>2</sup>, Darren Croton<sup>1</sup>, Monica Valluri<sup>3</sup>

*Institution(s):* <sup>1</sup> Swinburne University of Technology, <sup>2</sup> The University of Alabama, <sup>3</sup> University of Michigan

### 143.02 Comparison of Merging Dark Matter Halo Histories

**Author(s):** Katelyn Ciccozzi<sup>1</sup>, Alyson Brooks<sup>2</sup>, Sarah Loebman<sup>3</sup>

*Institution(s):* <sup>1</sup> Kutztown University of Pennsylvania, <sup>2</sup> Rutgers, the State University of New Jersey, <sup>3</sup> University of Washington

### 143.03 Physical Properties and Evolution of Gravitationally Bound Halo Structures in Cosmological Dark Matter Simulations

**Author(s):** David Lin<sup>1</sup>, Miguel E. Rocha<sup>2</sup>, Joel R. Primack<sup>2</sup>

*Institution(s):* <sup>1</sup> The Harker School, <sup>2</sup> University of California, Santa Cruz

### 143.04 Magnetic Field Seeding through Supernova Feedback

**Author(s):** Daegene Koh<sup>1</sup>, John Wise<sup>1</sup>

*Institution(s):* <sup>1</sup> Georgia Institute of Technology

### 143.05 Stirring the Galactic Recipe: Studying the Effects of Galaxy Mergers and Cosmic Flows on Accreting Black Holes in Milky Way-Size Galaxies

**Author(s):** N. Nicole Sanchez<sup>1</sup>, Jillian M. Bellovary<sup>3</sup>, Kelly Holley-Bockelmann<sup>3</sup>,

Alyson Brooks<sup>2</sup>

*Institution(s):* <sup>1</sup> Fisk University, <sup>2</sup> Rutgers University, <sup>3</sup> Vanderbilt University

**143.06 Modeling the Accretion and Feedback Processes of Galaxies Similar to the Milky Way**

**Author(s):** Steven Hyatt<sup>1</sup>, Lara Arielle Phillips<sup>2</sup>

*Institution(s):* <sup>1</sup> Furman University, <sup>2</sup> Notre Dame University

**143.07 Generation of composite galaxies in dynamic equilibrium**

**Author(s):** Robert Fasano<sup>1</sup>, Neil Comins<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Maine

**143.08 The Impact of Galaxy Flybys on Disk Galaxies**

**Author(s):** Meagan Lang<sup>1</sup>, Kelly Holley-Bockelmann<sup>1</sup>, Manodeep Sinha<sup>1</sup>

*Institution(s):* <sup>1</sup> Vanderbilt University

**143.09 Shrinking Galaxy Disks with Fountain-Driven Accretion from the Halo**

**Author(s):** Bruce Elmegreen<sup>1</sup>, Curtis Struck<sup>2</sup>, Deidre Ann Hunter<sup>3</sup>

*Institution(s):* <sup>1</sup> IBM Research Div., <sup>2</sup> Iowa State University, <sup>3</sup> Lowell Observatory

**143.10 Stellar metallicity evolution in a simulated disc galaxy**

**Author(s):** Owain Snaith<sup>1</sup>, Jeremy Bailin<sup>1</sup>, Brad K. Gibson<sup>2</sup>, Eric F. Bell<sup>3</sup>

*Institution(s):* <sup>1</sup> University of Alabama, <sup>2</sup> University of Central Lancashire, <sup>3</sup> University of Michigan

**143.11 Modeling the Chemical Evolution of Elliptical Galaxies**

**Author(s):** Camille N Leibler<sup>2</sup>, Enrico Ramirez-Ruiz<sup>2</sup>, Charlie Conroy<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard University, <sup>2</sup> University of California, Santa Cruz

**143.12 The Effects of Compositeness on Stellar Populations**

**Author(s):** Guy Worthey<sup>1</sup>, Baitian Tang<sup>1</sup>

*Institution(s):* <sup>1</sup> Washington State Univ.

**143.13 Magellanic Clues to Spatially-resolved Extinction Corrections for Distant Galaxies in the HST/JWST Era**

**Author(s):** Rolf A Jansen<sup>1</sup>, Duho Kim<sup>1</sup>, Timothy Shewcraft<sup>1</sup>, Rogier A. Windhorst<sup>1</sup>, Kazuyuki Tamura<sup>2</sup>

*Institution(s):* <sup>1</sup> Arizona State University, <sup>2</sup> Naruto University of Education

**143.14 Analysis of the Intrinsic  $\beta\lambda,0$  Ratio using Spectral Synthesis Models of Composite Stellar Populations**

**Author(s):** Duho Kim<sup>1</sup>, Rolf A Jansen<sup>1</sup>, Rogier A. Windhorst<sup>1</sup>

*Institution(s):* <sup>1</sup> Arizona State University

**143.15 Investigating the Depth and Data of A Wide Field Survey of the Small Magellanic Cloud**

**Author(s):** Margot Paez<sup>2</sup>, Blair Conn<sup>1</sup>

*Institution(s):* <sup>1</sup> Gemini Observatory, <sup>2</sup> University of California, Los Angeles

**143.16 Washington and Stromgren Study of the Isolated Dwarf Galaxy WLM**

**Author(s):** Meagan Albright<sup>2</sup>, Joanne D. Hughes<sup>1</sup>, George Wallerstein<sup>2</sup>

*Institution(s):* <sup>1</sup> Seattle University, <sup>2</sup> University of Washington

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- 143.17 Detection of a Remnant Stellar Halo Around G1/Mayall II**  
**Author(s):** Michael Gregg<sup>3</sup>, Michael West<sup>2</sup>, Brian Lemaux<sup>1</sup>  
*Institution(s):* <sup>1</sup> Laboratoire d'Astrophysique, <sup>2</sup> Maria Mitchell Observatory, <sup>3</sup> UC, Davis
- 143.18 A Herschel and CARMA synergistic study of turbulent gas in Hickson Compact Groups**  
**Author(s):** Philip N. Appleton<sup>2</sup>, Katherine A. Alatalo<sup>2</sup>, Ute Lisenfeld<sup>8</sup>, Thodoris Bitsakis<sup>5</sup>, Pierre Guillard<sup>3</sup>, Vassilis Charmandaris<sup>7</sup>, Michelle Cluver<sup>6</sup>, Michael A. Dopita<sup>1</sup>, Emily Freeland<sup>4</sup>  
*Institution(s):* <sup>1</sup> Australian National University, <sup>2</sup> Caltech, <sup>3</sup> IAP, <sup>4</sup> Stockholm University, <sup>5</sup> UNAM, <sup>6</sup> University of Cape Town, <sup>7</sup> University of Crete, <sup>8</sup> University of Granada  
Contributing team(s): Hickson Compact Group Team
- 143.19 HDI in Action: Comparison Imaging of the Interacting Starburst Galaxy NGC 3310**  
**Author(s):** Elizabeth Wehner<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of St. Thomas
- 143.20 Tidal Debris Around Merger Remnants.**  
**Author(s):** Maria McQuillan<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of St. Thomas
- 143.21 Exploring Stellar Populations in the Tidal Tails of NGC3256**  
**Author(s):** Michael Rodruck<sup>2</sup>, Iraklis Konstantopoulos<sup>1</sup>, Jane C. Charlton<sup>2</sup>  
*Institution(s):* <sup>1</sup> Australian Astronomical Observatory, <sup>2</sup> Penn State University
- 143.22 Behavior of Neutral Hydrogen in the NGC 877/6 Galaxy Group**  
**Author(s):** Porter Manning Hall<sup>1</sup>, Robert F. Minchin<sup>1</sup>, Rhys Taylor<sup>1</sup>  
*Institution(s):* <sup>1</sup> Arecibo Observatory
- 143.23 A General Purpose Stacking Technique to Analyze Low Brightness Signal**  
**Author(s):** Daniel Wavle<sup>1</sup>, Adam K. Leroy<sup>1</sup>, Jennifer Donovan Meyer<sup>1</sup>  
*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory
- 143.24 Zooming in on Extreme Environments: Using JVLA Observations and Kinematic Models of Arp 220 to Study Physical Conditions in ULIRGs**  
**Author(s):** Laura K. Zschaechner<sup>1</sup>, Fabian Walter<sup>1</sup>, Juergen Ott<sup>2</sup>, Emmanuel Momjian<sup>2</sup>, David S. Meier<sup>3</sup>  
*Institution(s):* <sup>1</sup> Max Planck Institute for Astronomy, <sup>2</sup> National Radio Astronomy Observatory, <sup>3</sup> New Mexico Institute of Mining and Technology
- 143.25 Identifying OH Imposters in the ALFALFA HI Survey**  
**Author(s):** Katherine Suess<sup>2</sup>, Jeremiah K. Darling<sup>2</sup>, Martha P. Haynes<sup>1</sup>, Riccardo Giovanelli<sup>1</sup>  
*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> University of Colorado at Boulder
- 143.26 Comparing Stellar Populations Across the Hubble Sequence**  
**Author(s):** Shane Loeffler<sup>3</sup>, Catherine C. Kaleida<sup>1</sup>, Vaishali Parkash<sup>2</sup>  
*Institution(s):* <sup>1</sup> Cerro Tololo Inter-American Observatory, <sup>2</sup> Union College, <sup>3</sup> University of Minnesota Duluth

- 143.27 The Optical and Near-Infrared Low Surface Brightness Properties of Five Nearby Galaxies**  
**Author(s):** Shawn Staudaher<sup>2</sup>, Daniel A. Dale<sup>2</sup>, Liese van Zee<sup>1</sup>, Kate L. Barnes<sup>1</sup>  
*Institution(s):* <sup>1</sup> Indiana University, <sup>2</sup> University of Wyoming  
 Contributing team(s): EDGES
- 143.28 MaNGA: Target selection and Optimization**  
**Author(s):** David Wake<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Wisconsin-Madison
- 143.29 MaNGA: Mapping Nearby Galaxies at Apache Point Observatory**  
**Author(s):** Kevin Bundy<sup>1</sup>  
*Institution(s):* <sup>1</sup> Kavli IPMU / U. of Tokyo
- 143.30 Reassessing the Relation Between Stellar Mass, Metallicity, and Star Formation Rate in the Local Universe**  
**Author(s):** Olivia Grace Telford<sup>3</sup>, Julianne Dalcanton<sup>3</sup>, Evan D. Skillman<sup>2</sup>, Charlie Conroy<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard University, <sup>2</sup> University of Minnesota, <sup>3</sup> University of Washington
- 143.31 The Role of Neighbors on Galaxy Evolution**  
**Author(s):** Jun-Sung Moon<sup>1</sup>, Suk-Jin Yoon<sup>1</sup>  
*Institution(s):* <sup>1</sup> Yonsei University
- 143.32 Colliding Galaxies in the Big Data of the Huge Universe (BIDHU) project**  
**Author(s):** Rocio Rossi<sup>2</sup>, Ana Carolina Nascimento<sup>4</sup>, Walysson Barbosa<sup>2</sup>, Airton Borges<sup>3</sup>, Milton Goya<sup>1</sup>, Sandra Puga<sup>3</sup>, Duilia F. De Mello<sup>2</sup>  
*Institution(s):* <sup>1</sup> BandTech, <sup>2</sup> Catholic University of America, <sup>3</sup> FMU, <sup>4</sup> UFRJ
- 143.33 Searching for Massive Major Mergers in Dense Environments at Late Cosmic Time**  
**Author(s):** Xiachang Her<sup>1</sup>, Daniel H. McIntosh<sup>1</sup>, Tim Haines<sup>2</sup>  
*Institution(s):* <sup>1</sup> University of Missouri-Kansas City, <sup>2</sup> University of Wisconsin-Madison
- 143.34 Galaxy Zoo : Evidence for a Diversity of Routes through the Green Valley**  
**Author(s):** Chris Lintott<sup>1</sup>, Rebecca Smethurst<sup>1</sup>, Brooke Simmons<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Oxford  
 Contributing team(s): Galaxy Zoo
- 143.35 The Undead: Fossil Galaxy Alive Again**  
**Author(s):** Kallan Berglund<sup>1</sup>, Eric M. Wilcots<sup>2</sup>  
*Institution(s):* <sup>1</sup> Brown University, <sup>2</sup> UW Madison
- 143.36 A Comparison of Radio-loud and Radio-quiet E+A Galaxies**  
**Author(s):** Yssavo Camacho<sup>3</sup>, Nicole Wallack<sup>4</sup>, Anna Learis<sup>2</sup>, Charles Liu<sup>1</sup>  
*Institution(s):* <sup>1</sup> CUNY College of Staten Island, <sup>2</sup> Edward R. Murrow HS, <sup>3</sup> Lehigh University, <sup>4</sup> University at Albany, State University of New York
- 143.37 Just-After THE FALL: Post-Starburst Galaxies and the E+B Phase**  
**Author(s):** Adam Smercina<sup>1</sup>, Christina A. Tremonti<sup>2</sup>, John P. Chisholm<sup>2</sup>  
*Institution(s):* <sup>1</sup> University of Toledo, <sup>2</sup> University of Wisconsin-Madison

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- 143.38 Probing the Magnetic Fields in the Environment of Mg II Absorbers**  
**Author(s):** Sinclair Manning<sup>1</sup>, Anna Williams<sup>2</sup>, Eric M. Wilcots<sup>2</sup>, Ellen Gould Zweibel<sup>2</sup>  
*Institution(s):* <sup>1</sup> Howard University, <sup>2</sup> University of Wisconsin
- 143.39 The Detection of Extended Galactic Wind Emission in Distant Galaxies**  
**Author(s):** Aaron Huang<sup>1</sup>, Pranav Sekhar<sup>2</sup>, Hassen Mohammed Yesuf<sup>3</sup>  
*Institution(s):* <sup>1</sup> Lynbrook High School, <sup>2</sup> Saint Francis High School, <sup>3</sup> University of California at Santa Cruz
- 143.40 Spectral Indices of Faint Radio Sources**  
**Author(s):** Hansung B. Gim<sup>2</sup>, Christopher A. Hales<sup>1</sup>, Emmanuel Momjian<sup>1</sup>, Min Su Yun<sup>2</sup>  
*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory, <sup>2</sup> University of Massachusetts Amherst
- 143.41 Pitch Angle Survey of GOODS Spiral Galaxies**  
**Author(s):** Benjamin Boe<sup>2</sup>, Daniel Kennefick<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Arkansas, <sup>2</sup> University of Puget Sound  
Contributing team(s): Arkansas Galaxy Evolution Survey, Arkansas Center for Space and Planetary Sciences
- 143.42 Diverse Galaxies: Clumpy Regions In The UVUDF at  $0.5 \leq z \leq 1.5$**   
**Author(s):** Emmaris Soto<sup>6</sup>, Duilia F. De Mello<sup>6</sup>, Harry I. Teplitz<sup>1</sup>, Jonathan P. Gardner<sup>3</sup>, Nicholas A. Bond<sup>3</sup>, Marc Rafelski<sup>2</sup>, Swara Ravindranath<sup>5</sup>, Claudia Scarlata<sup>7</sup>, Alex Codoreanu<sup>7</sup>, Anton M. Koekemoer<sup>5</sup>, Peter Kurczynski<sup>4</sup>  
*Institution(s):* <sup>1</sup> Infrared Science Archive (IRSA), <sup>2</sup> IPAC / Caltech, <sup>3</sup> NASA Goddard Space Flight Center, <sup>4</sup> Rutgers University, <sup>5</sup> STScI, <sup>6</sup> The Catholic Univ. of America, <sup>7</sup> University of Minnesota  
Contributing team(s): UVUDF Team
- 143.43 Clumpy Galaxies at High Redshifts: Insights from the FIRE Simulations**  
**Author(s):** Antonija Oklopčić<sup>1</sup>, Philip F. Hopkins<sup>1</sup>, Dusan Keres<sup>4</sup>, Claude-Andre Faucher-Giguere<sup>2</sup>, Eliot Quataert<sup>3</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Northwestern, <sup>3</sup> UC Berkeley, <sup>4</sup> UC San Diego
- 143.44 Galaxy Evolution Spectroscopic Explorer (GESE)**  
**Author(s):** Sara R. Heap<sup>1</sup>, Anthony B. Hull<sup>2</sup>, Lloyd R Purves<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA's GSFC, <sup>2</sup> University of New Mexico
- 143.45 Starbursting Dwarf Galaxies at  $z > 1$**   
**Author(s):** Michael Maseda<sup>1</sup>, Arjen van der Wel<sup>1</sup>, Hans-Walter Rix<sup>1</sup>  
*Institution(s):* <sup>1</sup> Max Planck Institute for Astronomy  
Contributing team(s): 3D-HST
- 143.46 Host galaxies of submicro-Jansky radio sources**  
**Author(s):** Kristen Luchsinger<sup>1</sup>  
*Institution(s):* <sup>1</sup> St. John's College  
Contributing team(s): NSF REU Program, NRAO REU Program

- 143.47 The AGN Contribution to Galaxy Merger Infrared Luminosities**  
**Author(s):** Lee Rosenthal<sup>3</sup>, Christopher C. Hayward<sup>1</sup>, Howard Smith<sup>2</sup>, Matthew Ashby<sup>2</sup>, Chao-Ling Hung<sup>2</sup>, Rafael Martinez-Galarza<sup>2</sup>, Aaron Weiner<sup>2</sup>, Andreas Zezas<sup>2</sup>, Lauranne Lanz<sup>4</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Haverford College, <sup>4</sup> IPAC
- 143.48 Characterizing HII regions in High-z ULIRGs with far infrared fine structure lines**  
**Author(s):** Drew Brisbin<sup>4</sup>, Carl Ferkinhoff<sup>3</sup>, Gordon J. Stacey<sup>2</sup>, Stephen Parshley<sup>2</sup>, Steve Hailey-Dunsheath<sup>1</sup>, Cody Lamarche<sup>2</sup>  
*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Cornell University, <sup>3</sup> MPIA, <sup>4</sup> NRAO
- 143.49 HST rest-frame optical characteristics of WISE-selected galaxies at  $z > 1.7$**   
**Author(s):** Sara M. Petty<sup>9</sup>, Andrew Blain<sup>7</sup>, Carrie Bridge<sup>1</sup>, Jennie Paine<sup>9</sup>, Duncan Farrah<sup>9</sup>, Tom Jarrett<sup>6</sup>, Dominic J. Benford<sup>2</sup>, Peter R. Eisenhardt<sup>3</sup>, Sean E. Lake<sup>5</sup>, Mariana Lazarova<sup>8</sup>, Leonidas A. Moustakas<sup>3</sup>, S. Adam Stanford<sup>4</sup>, Chao-Wei Tsai<sup>3</sup>, Edward L. Wright<sup>5</sup>  
*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> NASA/Goddard, <sup>3</sup> NASA/JPL, <sup>4</sup> UC Davis, <sup>5</sup> UCLA, <sup>6</sup> University of Cape Town, <sup>7</sup> University of Leicester, <sup>8</sup> University of Nebraska, <sup>9</sup> Virginia Tech  
 Contributing team(s): WISE
- 143.50 The HETDEX Pilot Survey & 3DHST: What Makes a Lyman-alpha Emitter?**  
**Author(s):** Alex Hagen<sup>1</sup>, Gregory Zeimann<sup>1</sup>, Caryl Gronwall<sup>1</sup>, Robin Ciardullo<sup>1</sup>, Joanna Bridge<sup>1</sup>  
*Institution(s):* <sup>1</sup> Pennsylvania State University  
 Contributing team(s): HETDEX
- 143.51 Classification of Low/High Redshift Galaxies Using Machine Learning**  
**Author(s):** Mario R Martin<sup>1</sup>, Viviana Acquaviva<sup>1</sup>  
*Institution(s):* <sup>1</sup> CUNY New York City College of Technology
- 143.52 The Lyman Continuum Escape Fraction of The Cosmic Horseshoe**  
**Author(s):** Kaveh Vasei<sup>2</sup>, Brian D. Siana<sup>2</sup>, Alice E. Shapley<sup>1</sup>, Anahita Alavi<sup>2</sup>  
*Institution(s):* <sup>1</sup> UCLA, <sup>2</sup> UCR
- 143.53 Massive Spheroidal Galaxies: Nature and Evolution During  $0.6 < z <= 1.7$**   
**Author(s):** Zachary Rizer<sup>9</sup>, Daniel H. McIntosh<sup>9</sup>, Joshua Cook<sup>9</sup>, Jeyhan S. Kartaltepe<sup>3</sup>, Stijn Wuyts<sup>2</sup>, Arjen van der Wel<sup>1</sup>, Guillermo Barro<sup>5</sup>, Anton M. Koekemoer<sup>4</sup>, Christopher Conselice<sup>10</sup>, Eric F. Bell<sup>8</sup>, Dale Kocevski<sup>6</sup>, David C. Koo<sup>5</sup>, Mauro Giavalisco<sup>7</sup>  
*Institution(s):* <sup>1</sup> Max Planck Institute for Astronomy, <sup>2</sup> Max Planck Institute for Extraterrestrial Physics, <sup>3</sup> National Optical Astronomy Observatory, <sup>4</sup> Space Telescope Science Institute, <sup>5</sup> University of California - Santa Cruz, <sup>6</sup> University of Kentucky, <sup>7</sup> University of Massachusetts, <sup>8</sup> University of Michigan, <sup>9</sup> University of Missouri - Kansas City, <sup>10</sup> University of Nottingham

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## 143.54 Morphologically Disturbed Massive Galaxies: Nature and Evolution During $0.6 < z < 2.5$ in the CANDELS UDS and GOODS-S Fields

**Author(s):** Joshua S. Cook<sup>7</sup>, Daniel H. McIntosh<sup>7</sup>, Zachary Rizer<sup>7</sup>, Jeyhan S. Kartaltepe<sup>3</sup>, Anton M. Koekemoer<sup>4</sup>, Jennifer Lotz<sup>4</sup>, Christopher Conselice<sup>8</sup>, Philip F. Hopkins<sup>5</sup>, Stijn Wuyts<sup>2</sup>, Michael Peth<sup>1</sup>, Guillermo Barro<sup>6</sup>  
*Institution(s):* <sup>1</sup> Johns Hopkins University, <sup>2</sup> Max Planck Institute for Extraterrestrial Physics, <sup>3</sup> National Optical Astronomy Observatory, <sup>4</sup> Space Telescope Science Institute, <sup>5</sup> University of California, Berkeley, <sup>6</sup> University of California, Santa Cruz, <sup>7</sup> University of Missouri-Kansas City, <sup>8</sup> University of Nottingham

Contributing team(s): CANDELS Collaboration

## 143.55 What Determines the Strength of Lyman Alpha Emission in Star-Forming Galaxies?

**Author(s):** Hannah Bish<sup>3</sup>, Eric J. Gawiser<sup>2</sup>, Viviana Acquaviva<sup>1</sup>  
*Institution(s):* <sup>1</sup> CUNY NYC College of Technology, <sup>2</sup> Rutgers, The State University of New Jersey, <sup>3</sup> University of Washington

Contributing team(s): CANDELS Team

## 143.56 Spectroscopic Study of Massive and Evolved Systems at $z > 3$

**Author(s):** Hooshang Nayyeri<sup>1</sup>, Bahram Mobasher<sup>2</sup>  
*Institution(s):* <sup>1</sup> UC Irvine, <sup>2</sup> UC Riverside

Contributing team(s): CANDELS

## 143.57 Serendipitous sources in deep ALMA archival pointings

**Author(s):** Mark Lacy<sup>1</sup>  
*Institution(s):* <sup>1</sup> NRAO

## 143.58 First Light: Exploring the Spectra of Galaxies in the Early Universe

**Author(s):** Kirk Stuart Simeon Barrow<sup>1</sup>, John Wise<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia Institute of Technology

## 143.59 Contribution of Low Mass Galaxies to Reionization

**Author(s):** Lauren M. Anderson<sup>3</sup>, Thomas R. Quinn<sup>3</sup>, Fabio Governato<sup>3</sup>, Alyson Brooks<sup>1</sup>, Andrew Pontzen<sup>2</sup>  
*Institution(s):* <sup>1</sup> Rutgers University, <sup>2</sup> University College London, <sup>3</sup> University of Washington

## 143.60 Spectro-polarimetry of a Lyman-alpha Nebula at $z=3.09$

**Author(s):** Melanie Beck<sup>1</sup>, Claudia Scarlata<sup>1</sup>, Matthew Hayes<sup>2</sup>  
*Institution(s):* <sup>1</sup> University of Minnesota, <sup>2</sup> Stockholm Observatory

## 144 AGN, QSO, Blazars Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

## 144.01 Distance Measurements to Host Galaxies of Reverberation-Mapped AGN

**Author(s):** Benjamin Ou-Yang<sup>2</sup>, Misty Bentz<sup>2</sup>, Megan C. Johnson<sup>1</sup>  
*Institution(s):* <sup>1</sup> CSIRO, <sup>2</sup> Georgia State University



- 144.02 The AGN Black Hole Mass Database**  
**Author(s):** Misty C. Bentz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia State University
- 144.03 The Effect of Host Galaxy Morphology on the MBH-Lbulge Relation for Reverberation-Mapped AGN in the Near-IR**  
**Author(s):** Emily Manne-Nicholas<sup>1</sup>, Misty C. Bentz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia State University
- 144.04 The Nature of Variability of the Ultraviolet & Optical Spectral Energy Distribution of Active Galactic Nuclei**  
**Author(s):** Manfred Virgil Tanael Ambat<sup>1</sup>, C. Gaskell<sup>2</sup>  
*Institution(s):* <sup>1</sup> Bellarmine College Preparatory, <sup>2</sup> University of California, Santa Cruz
- 144.05 Measuring the Luminosity and Virial Black Hole Mass Dependence of Quasar-Galaxy clustering at  $z \sim 0.8$**   
**Author(s):** Alexander Krolewski<sup>1</sup>, Daniel Eisenstein<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard University
- 144.06 Reddenings estimated from optical continuum variability for reverberation-mapped active galactic nuclei**  
**Author(s):** Austin Zong Tuan<sup>3</sup>, Christine Suhyun Cho<sup>2</sup>, Manfred Virgil Tanael Ambat<sup>1</sup>  
*Institution(s):* <sup>1</sup> Bellarmine College Preparatory, <sup>2</sup> Castilleja, <sup>3</sup> Phillips Academy
- 144.07 Estimating Reddening for Reverberation-Mapped Active Galactic Nuclei**  
**Author(s):** Christine Suhyun Cho<sup>1</sup>  
*Institution(s):* <sup>1</sup> Castilleja  
 Contributing team(s): Martin Gaskell, Manfred Virgil Ambat, Austin Tuan
- 144.08 Photometric Reverberation Mapping using a Meter-class Telescope**  
**Author(s):** Carla June Carroll<sup>1</sup>, Michael D. Joner<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brigham Young University
- 144.09 The Most Massive Active Black Holes at  $z \approx 1.5$ -3.5 have High Spins and Radiative Efficiencies**  
**Author(s):** Benny Trakhtenbrot<sup>1</sup>  
*Institution(s):* <sup>1</sup> ETH Zurich
- 144.10 Surface Photometry of Reverberation-Mapped Active Galactic Nuclei**  
**Author(s):** Gary A. Bower<sup>1</sup>  
*Institution(s):* <sup>1</sup> STScI/CSC
- 144.11 Photometric Reverberation Mapping with a Small Aperture Telescope**  
**Author(s):** Carol E. Hood<sup>1</sup>, Noah I. Rivera<sup>1</sup>, Beverly Thackeray-Lacko<sup>1</sup>, Randy M. Powers<sup>2</sup>, Harrison Stuckey<sup>1</sup>, Rene Watson<sup>2</sup>, Michael A. Hood<sup>2</sup>  
*Institution(s):* <sup>1</sup> California State University, San Bernadino, <sup>2</sup> Mt. San Antonio College
- 144.12 Deconstructing Dynamics: Improving Stellar Velocity Dispersion Measurements for Reverberation Mapped AGNs**  
**Author(s):** Merida Batiste<sup>1</sup>, Misty C. Bentz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia State University

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- 144.13 Quasar Rain**  
**Author(s):** Martin Elvis<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian CfA
- 144.14 The Search for Active Black Holes in Local Dwarf Galaxies Using Optical and Mid-IR Data**  
**Author(s):** Lia F. Sartori<sup>1</sup>, Kevin Schawinski<sup>1</sup>, Ezequiel Treister<sup>2</sup>, Benny Trakhtenbrot<sup>1</sup>, Michael Koss<sup>1</sup>  
*Institution(s):* <sup>1</sup> ETH Zurich, <sup>2</sup> Universidad de Concepción
- 144.15 Quasar Clustering from SDSS DR7: Dependencies on FIRST Radio Magnitudes**  
**Author(s):** Andria C. Schwartz<sup>2</sup>, Sarah Eftekharzadeh<sup>2</sup>, Adam D. Myers<sup>2</sup>, Yue Shen<sup>1</sup>  
*Institution(s):* <sup>1</sup> Carnegie Observatories, <sup>2</sup> University of Wyoming
- 144.16 Evidence from the Very Long Baseline Array that J1502SE/SW are Double Hotspots, not a Supermassive Binary Black Hole**  
**Author(s):** J. M. Wrobel<sup>1</sup>, Robert Craig Walker<sup>1</sup>, Hai Fu<sup>2</sup>  
*Institution(s):* <sup>1</sup> NRAO, <sup>2</sup> University of Iowa
- 144.17 Searching for the Nearest Extragalactic Binary Black Hole: A Spectroscopic Study of NGC4736**  
**Author(s):** Annika Gustafsson<sup>2</sup>, Teiler J Kwan<sup>2</sup>, Jeremy Bullis<sup>2</sup>, Rachel Mason<sup>1</sup>, Robert Scott Fisher<sup>2</sup>  
*Institution(s):* <sup>1</sup> Gemini Observatory, <sup>2</sup> University of Oregon
- 144.18 The environment of PDS456**  
**Author(s):** Olga Kuhn<sup>1</sup>  
*Institution(s):* <sup>1</sup> Large Binocular Telescope Observatory (LBTO)
- 144.19 Diagnostic Power of Broad Emission Line Profiles in Searches for Binary Supermassive Black Holes.**  
**Author(s):** Khai Nguyen<sup>1</sup>, Tamara Bogdanovic<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia Institute of Technology
- 144.20 Accretion Disk and Dust Emission in Low-Luminosity AGN**  
**Author(s):** Lauren I Biddle<sup>4</sup>, Rachel Mason<sup>4</sup>, Almudena Alonso-Herrero<sup>6</sup>, Luis Colina<sup>7</sup>, Ruben Diaz<sup>5</sup>, Helene Flohic<sup>9</sup>, Omaira Gonzalez-Martin<sup>6</sup>, Luis C. Ho<sup>2</sup>, Paulina Lira<sup>9</sup>, Lucimara Martins<sup>10</sup>, Richard McDermid<sup>4</sup>, Eric S. Perlman<sup>3</sup>, Christina Ramos Almeida<sup>12</sup>, Rogerio Riffel<sup>11</sup>, Alberto Ardila<sup>8</sup>, Daniel Ruschel Dutra<sup>11</sup>, Ricardo Schiavon<sup>4</sup>, Karun Thanjavur<sup>1</sup>, Claudia Winge<sup>5</sup>  
*Institution(s):* <sup>1</sup> Canada France Hawaii Telescope, <sup>2</sup> Carnegie Observatories, <sup>3</sup> Florida Institute of Technology, <sup>4</sup> Gemini Observatory North, <sup>5</sup> Gemini Observatory South, <sup>6</sup> Instituto de Física de Cantabria, <sup>7</sup> Instituto Nacional de Técnica Aeroespacial, <sup>8</sup> Laboratório Nacional de Astrofísica, <sup>9</sup> Universidad de Chile, <sup>10</sup> Universidade Cruzeiro do Sul, <sup>11</sup> Universidade Federal do Rio Grande do Sul, <sup>12</sup> University of Sheffield
- 144.21 A WISE Selection of MIR AGN in Different Environments**  
**Author(s):** Belinda D Cheeseboro<sup>1</sup>, Dara J. Norman<sup>2</sup>  
*Institution(s):* <sup>1</sup> Andrews University, <sup>2</sup> NOAO

- 144.22 Probing the Inner Accretion Disk of AGNs Via Optical Power Spectra**  
**Author(s):** Adam Levine<sup>1</sup>, Robert V. Wagoner<sup>1</sup>  
*Institution(s):* <sup>1</sup> Stanford University
- 144.23 Optical Microlensing and Accretion Disk Structure in the Lensed Quasar SDSS 1520+530**  
**Author(s):** Vigneshwar Manickam<sup>2</sup>, Ian Grinaski<sup>2</sup>, Chelsea MacLeod<sup>2</sup>, Christopher W. Morgan<sup>2</sup>, Hugh C. Harris<sup>3</sup>, James Kennington<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Texas, <sup>2</sup> US Naval Academy, <sup>3</sup> US Naval Observatory
- 144.24 Coronal-Line Forest AGN: the best view of the inner edge of the AGN torus?**  
**Author(s):** Marvin Rose<sup>1</sup>, Martin Elvis<sup>1</sup>, Clive Tadhunter<sup>2</sup>  
*Institution(s):* <sup>1</sup> Center for Astrophysics, <sup>2</sup> University of Sheffield
- 144.25 Galaxy Zoo: AGN may be fueled by stellar bars in the local Universe**  
**Author(s):** Melanie Galloway<sup>1</sup>, Kyle Willett<sup>1</sup>, Lucy Fortson<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Minnesota  
 Contributing team(s): Galaxy Zoo Science Team
- 144.26 Clustering and Photometric Redshifts of Galaxies in Low Redshift Quasar Fields**  
**Author(s):** Jennifer E. Scott<sup>1</sup>, Alireza Rafiee<sup>1</sup>  
*Institution(s):* <sup>1</sup> Towson Univ.
- 144.27 Near Infrared Spectroscopy of Active Galactic Nuclei Using FSpec**  
**Author(s):** Joshua Frechem<sup>2</sup>, Peter Pessev<sup>1</sup>  
*Institution(s):* <sup>1</sup> Gemini Observatory, <sup>2</sup> Old Dominion University
- 144.28 Tidal Disruption Events From Nearby Dwarf Galaxies**  
**Author(s):** W. Peter Maksym<sup>6</sup>, Melville P. Ulmer<sup>4</sup>, Katherine Roth<sup>1</sup>, Jimmy Irwin<sup>6</sup>, Renato A. Dupke<sup>5</sup>, Luis C. Ho<sup>2</sup>, William C. Keel<sup>6</sup>, Christophe Adami<sup>3</sup>, Dacheng Lin<sup>7</sup>  
*Institution(s):* <sup>1</sup> Gemini Observatory North, <sup>2</sup> Kavli Institute for Astronomy and Astrophysics, <sup>3</sup> Laboratoire d'Astrophysique de Marseille, <sup>4</sup> Northwestern University, <sup>5</sup> Observatorio Nacional, <sup>6</sup> University of Alabama, <sup>7</sup> University of New Hampshire
- 144.29 Self-Consistent Synchrotron Spectra from Trans-Relativistic Electron Acceleration**  
**Author(s):** Peter A. Becker<sup>1</sup>  
*Institution(s):* <sup>1</sup> George Mason University
- 144.30 Modeling the optical/UV emission from tidal disruption events**  
**Author(s):** Nathaniel Roth<sup>2</sup>, Daniel Kasen<sup>2</sup>, James Guillochon<sup>1</sup>, Enrico Ramirez-Ruiz<sup>3</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> UC Berkeley, <sup>3</sup> UC Santa Cruz
- 144.31 Community Detection Algorithms as a Diagnostic Tool for SDSS Dataset Networks**  
**Author(s):** John Taylor Burleson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Virginia Polytechnic Institute and State University

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**144.32 The Birth of Quasars**

**Author(s):** Rachel Thorp<sup>1</sup>, Colin J. Lonsdale<sup>2</sup>, Carol J. Lonsdale<sup>3</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Massachusetts Institute of Technology, <sup>3</sup> National Radio Astronomy Observatory

**144.33 Exploring the Variability Characteristics of the Fermi AGN Sample**

**Author(s):** Chris R. Shrader<sup>2</sup>, Daryl J. Macomb<sup>1</sup>  
*Institution(s):* <sup>1</sup> Boise State University, <sup>2</sup> NASA's GSFC

**144.34 Evaluating the Detection of Diskoseismic Modes in AGNs**

**Author(s):** Hugo Solis-Sanchez<sup>1</sup>, Manuel Ortega-Rodriguez<sup>1</sup>, Felipe Montealegre<sup>1</sup>, Ariadna Venegas-Li<sup>1</sup>, Santiago Viquez<sup>1</sup>, Pedro Gomez-Ovares<sup>1</sup>  
*Institution(s):* <sup>1</sup> Universidad de Costa Rica

**144.35 An Investigation of Quasar Variability as a Damped Random Walk in the PanSTARRS-1 Medium Deep Fields**

**Author(s):** Virginia Cunningham<sup>3</sup>, Paul J. Green<sup>2</sup>, Eric Morganson<sup>2</sup>, Yue Shen<sup>1</sup>  
*Institution(s):* <sup>1</sup> Carnegie Observatories, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> West Virginia University

**144.36 Testing Mergers as a Trigger for Active Galaxies**

**Author(s):** Timothy S. Hamilton<sup>1</sup>, Carolin Villforth<sup>2</sup>  
*Institution(s):* <sup>1</sup> Shawnee State Univ., <sup>2</sup> St. Andrews

**144.37 Disentangling Quasar Nomenclature**

**Author(s):** Nicholas Ross<sup>2</sup>, Andrew D. Goulding<sup>1</sup>  
*Institution(s):* <sup>1</sup> Princeton University, <sup>2</sup> University of Edinburgh

**144.38 Quasar Selection in the Optical + MIR**

**Author(s):** Gordon T. Richards<sup>1</sup>, Adam D. Myers<sup>2</sup>, Christina M. Peters<sup>1</sup>  
*Institution(s):* <sup>1</sup> Drexel Univ., <sup>2</sup> University of Wyoming

**144.39 Transverse correlation of quasar pairs**

**Author(s):** Louis Johnson<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of the Pacific  
Contributing team(s): Dr.Isabelle Paris, BOSS/SDSS

**144.40 Variability of Carbon-IV Emission and Multi-Epoch Virial Mass Estimation in High-Redshift Quasars**

**Author(s):** Ramon Sharma<sup>1</sup>, John J. Ruan<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington

**144.41 The Fermi Large Area Telescope Flare Advocate Program: Rapid Sharing of Results with the Community**

**Author(s):** David John Thompson<sup>2</sup>, Stefano Ciprini<sup>1</sup>, Dario Gasparrini<sup>1</sup>  
*Institution(s):* <sup>1</sup> ASI Science Data Center, <sup>2</sup> NASA's GSFC  
Contributing team(s): Fermi Large Area Telescope Collaboration

**144.42 First Results from the NuSTAR Survey of Swift/BAT AGN**

**Author(s):** Mislav Balokovic<sup>1</sup>, Fiona Harrison<sup>1</sup>, Andrea Comastri<sup>2</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Osservatorio Astronomico di Bologna  
Contributing team(s): NuSTAR Extragalactic Surveys Team

- 144.43 Quasar Selection using Optical Photometry and Variability**  
**Author(s):** Christina M. Peters<sup>1</sup>, Gordon T. Richards<sup>1</sup>, Adam D. Myers<sup>2</sup>, Nicholas Ross<sup>1</sup>  
*Institution(s):* <sup>1</sup> Drexel University, <sup>2</sup> University of Wyoming
- 144.44 The Distribution of Optically Variable AGN in Red Sequence Galaxy Clusters**  
**Author(s):** Allison Hughes<sup>2</sup>, Melissa Lynn Graham<sup>2</sup>, David J. Sand<sup>3</sup>, Dennis F. Zaritsky<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Arizona, <sup>2</sup> University of California, Berkeley, <sup>3</sup> University of California, Santa Barbara
- 144.45 A Kepler Galaxy Survey: Establishing the Temporal Baseline for Extragalactic Systems**  
**Author(s):** Michael N. Fanelli<sup>1</sup>, Pamela M. Marcum<sup>1</sup>, Jeffrey E. Van Cleve<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA Ames Research Center
- 144.46 Optical Variability and Classification of High Redshift ( $3.5 < z < 5.5$ ) Quasars on SDSS Stripe 82**  
**Author(s):** Yusra AlSayyad<sup>2</sup>, Ian D. McGreer<sup>1</sup>, Xiaohui Fan<sup>1</sup>, Andrew J. Connolly<sup>2</sup>, Zeljko Ivezic<sup>2</sup>, Andrew C. Becker<sup>2</sup>  
*Institution(s):* <sup>1</sup> University of Arizona, <sup>2</sup> University of Washington
- 144.47 A Survey of Low-Frequency Radio AGN in the MWA Epoch of Reionization Field**  
**Author(s):** Patricia Carroll<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington  
 Contributing team(s): Murchison Widefield Array EoR Collaboration, UW Radio Cosmology Group
- 144.48 Jansky VLA Imaging of Heavily Obscured, Luminous Quasars at Redshifts  $\sim 2$**   
**Author(s):** Carol J. Lonsdale<sup>2</sup>, Palavi Patil<sup>3</sup>, Adam Trapp<sup>3</sup>, Mark Whittle<sup>3</sup>, Mark Lacy<sup>2</sup>, Colin J. Lonsdale<sup>1</sup>  
*Institution(s):* <sup>1</sup> MIT/Haystack, <sup>2</sup> NRAO, <sup>3</sup> University of Virginia
- 144.49 Slow-blue PanSTARRS transients**  
**Author(s):** Chelsea L MacLeod<sup>4</sup>, Alastair Bruce<sup>4</sup>, Andy Lawrence<sup>4</sup>, Martin Ward<sup>3</sup>, James Collinson<sup>3</sup>, Martin Elvis<sup>1</sup>, Suvi Gezari<sup>5</sup>, Steven Smartt<sup>2</sup>, Ken Smith<sup>2</sup>, Darryl Wright<sup>2</sup>, Morgan Fraser<sup>2</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian CfA, <sup>2</sup> Queens University Belfast, <sup>3</sup> University of Durham, <sup>4</sup> University of Edinburgh, <sup>5</sup> University of Maryland
- 144.50 How Complete is Mid-Infrared Selection of Active Galactic Nuclei?**  
**Author(s):** Miona Grae Short<sup>1</sup>, Aleks Diamond-Stanic<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Wisconsin Madison
- 144.51 Using WISE to Find Obscured AGN Activity in SDSS Mergers and Interactions**  
**Author(s):** Madalyn Weston<sup>2</sup>, Daniel H. McIntosh<sup>2</sup>, Xiachang Her<sup>2</sup>, Jane R. Rigby<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA Goddard Space Flight Center, <sup>2</sup> University of Missouri - Kansas City

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- 144.52 The Rate of Occurrence of PV Absorption in a Low Redshift Sample of BALQSOs**  
**Author(s):** Tarryn Kahre<sup>2</sup>, Erin M. Cooper<sup>2</sup>, Karen Leighly<sup>2</sup>, Kenya L. Davis<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of North Carolina, <sup>2</sup> University of Oklahoma
- 144.53 Broadband Observations of the FSRQ PKS 2326–502 during Active and Quiescent Gamma-Ray States**  
**Author(s):** Bryce D. Carpenter<sup>2</sup>, Michael Dutka<sup>2</sup>, Roopesh Ojha<sup>2</sup>, Justin Finke<sup>3</sup>, Phillip Edwards<sup>1</sup>, Matthias Kadler<sup>5</sup>, Jörn Wilms<sup>4</sup>, Felicia Krauss<sup>5</sup>, Cornelia Mueller<sup>5</sup>, Neil Gehrels<sup>2</sup>  
*Institution(s):* <sup>1</sup> CSIRO, <sup>2</sup> NASA/GSFC, <sup>3</sup> Naval Research Laboratory, <sup>4</sup> Remeis Observatory, <sup>5</sup> University of Wuerzburg  
Contributing team(s): Fermi-LAT Collaboration
- 144.54 The variable comparison stars in the field of the TeV blazar 1ES 1959+650**  
**Author(s):** Stacy Hancock<sup>2</sup>, Michael T. Carini<sup>2</sup>, Kirill Antoniuik<sup>1</sup>, S Belan<sup>1</sup>, K Grankin<sup>1</sup>, N Pit<sup>1</sup>, D Shakhovsky<sup>1</sup>  
*Institution(s):* <sup>1</sup> CRAO, <sup>2</sup> Western Kentucky University
- 144.55 The K2 view of blazars**  
**Author(s):** Michael T. Carini<sup>1</sup>, Joshua Williams<sup>2</sup>  
*Institution(s):* <sup>1</sup> Western Kentucky Univ., <sup>2</sup> Western Kentucky University
- 144.56 The Power Spectral Density of ZW 229.015 from Kepler Observations.**  
**Author(s):** Joshua Williams<sup>1</sup>, Michael T. Carini<sup>1</sup>  
*Institution(s):* <sup>1</sup> Western Kentucky University
- 144.57 Defining and Exploring Flare-States in the Fermi LAT Blazar Population**  
**Author(s):** Daryl J. Macomb<sup>1</sup>, Chris R. Shrader<sup>2</sup>  
*Institution(s):* <sup>1</sup> Boise State Univ., <sup>2</sup> NASA/GSFC
- 144.58 The Power Source(s) of Nearby Low-Ionization Nuclear Emission Regions**  
**Author(s):** Mallory Molina<sup>3</sup>, Michael Eracleous<sup>3</sup>, Dan Maoz<sup>4</sup>, Aaron J. Barth<sup>5</sup>, Jonelle Walsh<sup>6</sup>, Luis C. Ho<sup>2</sup>, Joseph C. Shields<sup>1</sup>  
*Institution(s):* <sup>1</sup> Ohio University, <sup>2</sup> Peking University, <sup>3</sup> Pennsylvania State University, <sup>4</sup> Tel Aviv University, <sup>5</sup> University of California, Irvine, <sup>6</sup> University of Texas
- 144.59 Parsec- and Kiloparsec-Scale Radio Jets in Narrow-Line Seyfert 1 Galaxies**  
**Author(s):** Joseph L Richards<sup>5</sup>, Matthew L. Lister<sup>5</sup>, Luigi Foschini<sup>3</sup>, Tuomas Savolainen<sup>4</sup>, Matthias Kadler<sup>7</sup>, Talvikki Hovatta<sup>1</sup>, Anthony C. S. Readhead<sup>2</sup>, Tigran Arshakian<sup>6</sup>  
*Institution(s):* <sup>1</sup> Aalto University, <sup>2</sup> Caltech, <sup>3</sup> INAF, <sup>4</sup> MPIfR, <sup>5</sup> Purdue University, <sup>6</sup> University of Cologne, <sup>7</sup> University of Wuerzburg
- 144.60 Color-Magnitude Relationships Among Quasars and Type I Seyfert Galaxies**  
**Author(s):** Thomas Rutherford<sup>5</sup>, Varoujan Gorjian<sup>2</sup>, Theresa Paulsen<sup>1</sup>, Nicole Granucci<sup>3</sup>, John Blackwell<sup>4</sup>, Kayla Jenkins<sup>5</sup>, Erica McCormick<sup>4</sup>, Brendan Rosseau<sup>4</sup>, Rebecca Shpak<sup>3</sup>, Taryn Wisniewski<sup>3</sup>  
*Institution(s):* <sup>1</sup> Ashland High School, <sup>2</sup> JPL/California Institute of Technology, <sup>3</sup> Oxford High School, <sup>4</sup> Phillips Exeter Academy, <sup>5</sup> Sullivan South High School

- 144.61 X-ray Power Spectral Densities of Mkn 79 and NGC 4593 using Markov Chain Monte Carlo**  
**Author(s):** Kevin Marshall<sup>1</sup>  
*Institution(s):* <sup>1</sup> Widener Univ.
- 144.62 Determining the Narrow-Line Region Geometry of Mrk 3 with Gemini/NIFS**  
**Author(s):** Crystal L. Pope<sup>1</sup>, Travis C. Fischer<sup>1</sup>, D. Michael Crenshaw<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia State University
- 144.63 An Extended Look at the Narrow-Line Region Kinematics of Markarian 573**  
**Author(s):** Camilo Machuca<sup>1</sup>, Travis C. Fischer<sup>1</sup>, D. Michael Crenshaw<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia State University
- 144.64 New Constraints on Quasar Variability based on 8,000 SDSS Stripe 82 Quasars with both SDSS and CRTS Lightcurve Data**  
**Author(s):** Krzysztof Suberlak<sup>3</sup>, Zeljko Ivezić<sup>3</sup>, Branimir Sesar<sup>2</sup>, Chelsea Louise MacLeod<sup>1</sup>  
*Institution(s):* <sup>1</sup> Institute for Astronomy, <sup>2</sup> Max Planck Institute for Astronomy, <sup>3</sup> University of Washington

## 145 HAD III: Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

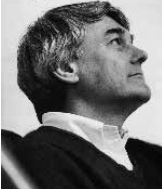
- 145.01 Urania in the Marketplace: Observatories as Holiday Destinations**  
**Author(s):** Kenneth S. Rumstay<sup>1</sup>  
*Institution(s):* <sup>1</sup> Valdosta State Univ.

# TUESDAY, 6 JANUARY 2015

## 200 Plenary Talk: Gaia - ESA's Galactic Census Mission

Tuesday, 8:30 am - 9:20 am; 6E

Chair(s): Todd Henry (*RECONS*)



**200.01 Gaia - ESA's Galactic Census mission.**

**Author(s): Gerard Gilmore<sup>1</sup>**

*Institution(s):<sup>1</sup> Institute of Astronomy*

## 201 AAS Prize Presentations: Weber, Van Biesbroeck, Education

Tuesday, 9:20 am - 9:40 am; 6E

Chair(s): C. Megan Urry (*Yale University*)

Sander Weinreb has been selected for the 2014 Weber Award in recognition of his seminal innovations that have helped define modern-day radio astronomy, including digital auto-correlation spectrometers and cryogenic low-noise amplifiers and mixers. In addition, he has provided outstanding leadership for radio astronomy instrumentation, especially for the electronics system of the Very Large Array. His innovations have been utilized in all radio observatories and have enabled countless astronomical discoveries.

The selection committee recommends that the George van Biesbroeck Prize is awarded to Dr. Michael Hauser. Dr. Hauser has an extraordinary long career in service to the astronomy community. The committee in particular wants to emphasize Dr. Hauser's strategic vision that guided first his early career involvement in the infrared space missions when he established and led the infrared group at Goddard, and later his role as the STScI deputy director playing a key part in turning STScI into a multi-mission institution. In both these roles, Dr. Hauser led and enabled changes that ultimately are to the benefit of the broader astronomical community. The committee also notes Dr. Hauser's wide ranging influence as a mentor and team leader, most visible as the mentor for Nobel Laureate Dr. Mather, but equally important the countless hours he spent mentoring and leading less known team members at Goddard. Finally, Dr. Hauser has served on an unusually large number of committees, which have guided critical aspects of our community's major missions or long-term planning, many of these panels were chaired by Dr. Hauser.

Deidre Hunter is the recipient of the 2014 AAS Education Prize for co-founding and successfully running for the last 17 years a science and astronomy education program for 5th-8th grade Navajo-Hopi students and their teachers (of Arizona and New Mexico), a historically underserved and culturally isolated population; for bringing direct personal connection and acceptance to science for the program participants, and making it relevant in a manner respectful of tribal astronomy knowledge and worldviews; for



tirelessly mentoring numerous undergraduate and graduate students in a non-university environment, inspiring them to get, and stay involved in astronomy education, and connecting professional astronomers to local science educators; and for her public outreach efforts involving Lowell Observatory in the life of the surrounding community.

## 202 Extrasolar Planets: Ground and Space Based Surveys I

Tuesday, 10:00 am - 11:30 am; 6A

Chair(s): Wesley Traub (*Jet Propulsion Laboratory*)

### 202.01 The Transiting Exoplanet Survey Satellite: Mission Status

Author(s): George R. Ricker<sup>1</sup>

Institution(s): <sup>1</sup> MIT

Contributing team(s): TESS Team

### 202.02 Target Selection for the TESS Mission

Author(s): Joshua Pepper<sup>2</sup>, Keivan Stassun<sup>5</sup>, Nathan M. De Lee<sup>4</sup>, Martin Paegert<sup>5</sup>, David W. Latham<sup>1</sup>, Joshua N. Winn<sup>3</sup>

Institution(s): <sup>1</sup> Center for Astrophysics, <sup>2</sup> Lehigh University, <sup>3</sup> MIT, <sup>4</sup> Northern Kentucky University, <sup>5</sup> Vanderbilt University

Contributing team(s): TESS collaboration

### 202.03DKMTNet: A Cold Exoplanet Census Through a Global Microlensing Survey

Author(s): Calen B. Henderson<sup>3</sup>, B. Scott Gaudi<sup>3</sup>, Cheongho Han<sup>2</sup>, David Nataf<sup>1</sup>, Jan Skowron<sup>4</sup>, Matthew Penny<sup>3</sup>, Andrew Gould<sup>3</sup>

Institution(s): <sup>1</sup> Australian National University, <sup>2</sup> Chunbguk National University, <sup>3</sup> The Ohio State University, <sup>4</sup> Warsaw University Observatory

### 202.04 The KELT-North Transit Survey: Hot Planets around Hot, Bright Stars

Author(s): B. Scott Gaudi<sup>3</sup>, Thomas G. Beatty<sup>4</sup>, Jason D Eastman<sup>1</sup>, Michael Lund<sup>5</sup>, Matthew Penny<sup>3</sup>, Joshua Pepper<sup>2</sup>, Joseph E. Rodriguez<sup>5</sup>, Robert Siverd<sup>1</sup>, Keivan Stassun<sup>5</sup>, Daniel J. Stevens<sup>3</sup>

Institution(s): <sup>1</sup> LCOGT, <sup>2</sup> Lehigh University, <sup>3</sup> Ohio State Univ., <sup>4</sup> Penn State University, <sup>5</sup> Vanderbilt University

Contributing team(s): The KELT-North Collaboration

### 202.05 Humans Need Not Apply: Robotization of Kepler Planet Candidate Vetting

Author(s): Jeffrey Coughlin<sup>1</sup>, Fergal Mullally<sup>1</sup>, Susan E. Thompson<sup>1</sup>

Institution(s): <sup>1</sup> SETI Institute

Contributing team(s): The Kepler Team

### 202.06 High-Precision Stellar Photometry with the K2 Mission

Author(s): Lindsey Carboneau<sup>1</sup>, Derek L. Buzasi<sup>1</sup>, Carly Hessler<sup>1</sup>, Andy Lezcano<sup>1</sup>, Heather L. Preston<sup>1</sup>

Institution(s): <sup>1</sup> Florida Gulf Coast University

### 202.07 The Evryscope: the first full-sky gigapixel-scale telescope

Author(s): Nicholas M. Law<sup>1</sup>, Octavi Fors<sup>1</sup>, Jeffrey Ratzloff<sup>1</sup>, Philip J. Wulfsen<sup>1</sup>

Institution(s): <sup>1</sup> University of North Carolina

# TUESDAY, 6 JANUARY 2015

## 202.08 K2 M Dwarf Program: Program Overview and Update

**Author(s):** Ian Crossfield<sup>8</sup>, Joshua E. Schlieder<sup>6</sup>, Erik Petigura<sup>9</sup>, Andrew Howard<sup>3</sup>, Kimberly Mei Aller<sup>3</sup>, Niall Deacon<sup>5</sup>, Thomas Henning<sup>5</sup>, Sebastien Lepine<sup>2</sup>, Thomas P. Greene<sup>6</sup>, Michael C. Liu<sup>3</sup>, Lisa Kaltenegger<sup>1</sup>, David R. Ciardi<sup>4</sup>, Justin R. Crepp<sup>7</sup>, Bradley M. Hansen<sup>10</sup>, Travis Barman<sup>8</sup>, Christian Obermeier<sup>5</sup>  
*Institution(s):* <sup>1.</sup> Cornell U, <sup>2.</sup> Georgia State University, <sup>3.</sup> IfA/Hawaii, <sup>4.</sup> IPAC, <sup>5.</sup> MPIA, <sup>6.</sup> NASA/Ames, <sup>7.</sup> Notre Dame U, <sup>8.</sup> U. Arizona/LPL, <sup>9.</sup> UC Berkeley, <sup>10.</sup> UCLA

## 203 The Milky Way, The Galactic Center III

Tuesday, 10:00 am - 11:30 am; 6B

**Chair(s):** Andreas Küpper (Columbia University)

### 203.01 The Serendipitous Discovery of High-Velocity Shocks in the Galactic Center

**Author(s):** Janet P. Simpson<sup>1</sup>  
*Institution(s):* <sup>1.</sup> SETI Institute

### 203.02 Probing the Milky Way's Nuclear Wind with QSO Absorption Lines

**Author(s):** Andrew Fox<sup>3</sup>, Edward B. Jenkins<sup>2</sup>, Svea Hernandez<sup>3</sup>, Blair D. Savage<sup>5</sup>, Rongmon Bordoloi<sup>3</sup>, Bart P. Wakker<sup>5</sup>, Jonathan Bland-Hawthorn<sup>4</sup>, Felix J. Lockman<sup>1</sup>, Jason Tumlinson<sup>3</sup>, David V. Bowen<sup>2</sup>, Robert A. Benjamin<sup>6</sup>  
*Institution(s):* <sup>1.</sup> NRAO, <sup>2.</sup> Princeton, <sup>3.</sup> STScI, <sup>4.</sup> University of Sydney, <sup>5.</sup> UW-Madison, <sup>6.</sup> UW-Whitewater

### 203.03 Modeling Diffuse X-ray Emission around the Galactic Center from Colliding Stellar Winds

**Author(s):** Christopher Michael Post Russell<sup>1</sup>, Jorge Cuadra<sup>2</sup>, Q. Daniel Wang<sup>4</sup>, Stanley P. Owocki<sup>3</sup>  
*Institution(s):* <sup>1.</sup> NASA/GSFC, <sup>2.</sup> Pontificia Universidad Católica de Chile, <sup>3.</sup> University of Delaware, <sup>4.</sup> University of Massachusetts Amherst

### 203.04 VERITAS Observations of The Galactic Center Ridge

**Author(s):** Andrew Smith<sup>1</sup>  
*Institution(s):* <sup>1.</sup> University of Maryland College Park  
Contributing team(s): VERITAS

### 203.05 NuSTAR Observation of Sgr B2: Reflection of Past Sgr A\* X-ray Outburst, Cosmic Ray Illumination or Both?

**Author(s):** Shuo Zhang<sup>1</sup>  
*Institution(s):* <sup>1.</sup> Columbia University  
Contributing team(s): NuSTAR Galactic Plane Survey Team

### 203.06 Galactic Ridge X-ray Emission study with NuSTAR

**Author(s):** Roman Krivonos<sup>1</sup>  
*Institution(s):* <sup>1.</sup> UC Berkeley  
Contributing team(s): NuSTAR

### 203.07 The X-Ray Variability of Sagittarius A\*

**Author(s):** Joseph Neilsen<sup>3</sup>, Michael Nowak<sup>3</sup>, Charles F. Gammie<sup>7</sup>, Jason Dexter<sup>6</sup>, Sera Markoff<sup>5</sup>, Daryl Haggard<sup>1</sup>, Sergei Nayakshin<sup>8</sup>, Q. Daniel Wang<sup>9</sup>, Nicolas Grosso<sup>4</sup>, Delphine Porquet<sup>4</sup>, John Tomsick<sup>6</sup>, Nathalie Degenaar<sup>10</sup>, P. Christopher

Fragile<sup>2</sup>, Rudy Wijnands<sup>5</sup>, Jon M. Miller<sup>10</sup>, Frederick K. Baganoff<sup>3</sup>  
*Institution(s):* <sup>1.</sup> Amherst College, <sup>2.</sup> College of Charleston, <sup>3.</sup> MIT Kavli Institute,  
<sup>4.</sup> Observatoire Astronomique de Strasbourg, CNRS, <sup>5.</sup> University of Amsterdam, <sup>6.</sup>  
University of California Berkeley, <sup>7.</sup> University of Illinois Urbana-Champaign,  
<sup>8.</sup> University of Leicester, <sup>9.</sup> University of Massachusetts Amherst, <sup>10.</sup> University of  
Michigan

## 203.08 The Galactic magnetic field and some of its unexpected implications

**Author(s):** Glennys R. Farrar<sup>1</sup>

*Institution(s):* <sup>1.</sup> New York University

## 204 AGN, QSO, Blazars III

Tuesday, 10:00 am - 11:30 am; 6C

**Chair(s):** Daryl Haggard (*Amherst College*)

### 204.01 Discovery of the First Changing-Look Quasar

**Author(s):** Stephanie M. LaMassa<sup>7</sup>, Sabrina Cales<sup>7</sup>, Edward C. Moran<sup>6</sup>, Adam D. Myers<sup>5</sup>, Gordon T. Richards<sup>1</sup>, Michael Eracleous<sup>2</sup>, Timothy M. Heckman<sup>4</sup>, Luigi C. Gallo<sup>3</sup>, C. Megan Urry<sup>7</sup>

*Institution(s):* <sup>1.</sup> Drexel University, <sup>2.</sup> Penn State, <sup>3.</sup> St. Mary's University, <sup>4.</sup> The Johns Hopkins University, <sup>5.</sup> University of Wyoming, <sup>6.</sup> Wesleyan University, <sup>7.</sup> Yale University

### 204.02D The NIR to UV Spectral Energy Distributions of Gamma-Ray Bright Blazars

**Author(s):** Michael P. Malmrose<sup>1</sup>, Alan P. Marscher<sup>1</sup>, Svetlana G. Jorstad<sup>1</sup>

*Institution(s):* <sup>1.</sup> Boston Univ.

### 204.03 The Effects of S/N on Measuring CIV Broad Emission Line Widths in Quasars - An Early Science Result from the Sloan Digital Sky Survey Reverberation Mapping Project

**Author(s):** Kelly Denney<sup>1</sup>

*Institution(s):* <sup>1.</sup> The Ohio State University

Contributing team(s): The SDSS-RM Team

### 204.04 Correcting Velocity Dispersion Measurements for Inclination and Implications for the M-Sigma Relation

**Author(s):** Jillian M. Bellovary<sup>4</sup>, Kelly Holley-Bockelmann<sup>4</sup>, Kayhan Gultekin<sup>2</sup>, Charlotte Christensen<sup>1</sup>, Fabio Governato<sup>3</sup>

*Institution(s):* <sup>1.</sup> Grinnell College, <sup>2.</sup> University of Michigan, <sup>3.</sup> University of Washington, <sup>4.</sup> Vanderbilt University

### 204.05 Spectral energy distributions and photometric redshifts for WISE-selected obscured quasars

**Author(s):** Ryan C. Hickox<sup>1</sup>, Christopher M Carroll<sup>1</sup>, Kevin Nicholas Hainline<sup>1</sup>, Chien-Ting J. Chen<sup>1</sup>, Adam D. Myers<sup>2</sup>, Michael A. DiPompeo<sup>2</sup>

*Institution(s):* <sup>1.</sup> Dartmouth College, <sup>2.</sup> University of Wyoming

### 204.06 What can we learn from the Fourier analysis of blazar light curves?

**Author(s):** Justin Finke<sup>1</sup>

*Institution(s):* <sup>1.</sup> US Naval Research Laboratory

# TUESDAY, 6 JANUARY 2015

## 204.07 The Origin of the Extragalactic Gamma-ray Background

**Author(s):** Marco Ajello<sup>2</sup>, Dario Gasparrini<sup>1</sup>

*Institution(s):* <sup>1</sup> ASI Data Center, <sup>2</sup> Clemson

Contributing team(s): on behalf of the Fermi-LAT Collaboration

## 204.08 How are Seyfert Active Galactic Nuclei Fueled?

**Author(s):** Erin K. Hicks<sup>5</sup>, Richard Davies<sup>3</sup>, Witold Maciejewski<sup>1</sup>, Matthew Arnold Malkan<sup>4</sup>, Francisco Mueller Sanchez<sup>2</sup>

*Institution(s):* <sup>1</sup> Astrophysics Research Institute, <sup>2</sup> Center for Astrophysics and

*Space Astronomy*, <sup>3</sup> Max Plank Institute, <sup>4</sup> UCLA, <sup>5</sup> University of Alaska Anchorage

## 205 Supernovae III

Tuesday, 10:00 am - 11:30 am; 6E

**Chair(s):** Louis-Gregory Strolger (Western Kentucky University)

### 205.01 Uncovering the Putative B-Star Binary Companion of the SN 1993J Progenitor

**Author(s):** Ori Dosovitz Fox<sup>2</sup>, Azalee Bostroem<sup>3</sup>, Schuyler D. Van Dyk<sup>1</sup>, Alex Filippenko<sup>2</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> UC, Berkeley, <sup>3</sup> UC, Davis

### 205.02 Explaining the progenitors of peculiar type Ia supernovae

**Author(s):** Upasana Das<sup>1</sup>, Banibrata Mukhopadhyay<sup>1</sup>

*Institution(s):* <sup>1</sup> Indian Institute of Science

### 205.04 Chronicling an Era: 15 Years of SN 1987A with Chandra

**Author(s):** Kari A. Frank<sup>1</sup>, David N. Burrows<sup>1</sup>

*Institution(s):* <sup>1</sup> Pennsylvania State University

### 205.06D An Optical Study of the Two Youngest Balmer-dominated Supernova Remnants in the Large Magellanic Cloud

**Author(s):** Luke Hovey<sup>2</sup>, John Patrick Hughes<sup>2</sup>, Kristoffer Eriksen<sup>1</sup>, Curtis McCully<sup>2</sup>

*Institution(s):* <sup>1</sup> LANL, <sup>2</sup> Rutgers University

### 205.07 Death by Dynamics: Can a planet trigger a Type Ia supernova?

**Author(s):** Rosanne Di Stefano<sup>1</sup>, Robert Fisher<sup>2</sup>, James Guillochon<sup>1</sup>, James Steiner<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian CfA, <sup>2</sup> University of Massachusetts

## 206 Science with the 3D-HST Survey

Tuesday, 10:00 am - 11:30 am; 610

3D-HST is a 248-orbit spectroscopic survey with the Hubble Space Telescope designed to study galaxy evolution at  $z > 1$ . 3D-HST provides redshifts and rest-frame optical emission line diagnostics via slitless optical and near-IR grism spectra for a large unbiased sample of galaxies in the distant Universe. The 3D-HST observations, in combination with the tremendous amount of ancillary space- and ground-based data already available, open new possibilities for science and discovery in the deep extragalactic fields also targeted by the CANDELS survey: AEGIS, COSMOS, GOODS-N, GOODS-S and UKIDSS-UDS. With

HST observations and our photometric data release (Skelton et al., 2014) completed, we are planning our next key data release for late 2014. As a result, a AAS session dedicated to results from the survey will be very timely. 3D-HST has already produced over 30 peer-reviewed publications, not only from the survey team but also from the wider community. With this session we would like to bring together researches trying to address a variety of questions regarding galaxy evolution using this unique data set, to showcase the broad range of topics that 3D-HST opens for explorations and to discuss the relevance of this survey for future missions such as WFIRST and JWST. We aim to have eight oral presentations. Currently confirmed speakers will cover the evolution of the mass function, the properties of massive galaxies at high-redshift, the search for the progenitors of  $z \sim 2$  compact quiescent galaxies, the growth of black holes as a function of redshift, and results on the search for the first galaxies. We hope the remaining slots will be filled with contributed talks from outside the team. Additional results can be presented in the accompanying poster session.

**Chair(s): Ivelina Momcheva (Carnegie Observatories)**

**206.01 3D-HST results and prospects**

**Author(s): Pieter G. Van Dokkum<sup>1</sup>**

*Institution(s): <sup>1</sup> Yale University*

**206.02 HST/WFC3 grism spectroscopy of star forming galaxies at  $z \sim 1$ : the growth of disks**

**Author(s): Erica Nelson<sup>1</sup>**

*Institution(s): <sup>1</sup> Yale University*

**206.03 The Lyman Continuum Escape Fraction of Dwarf, Star-Forming Galaxies at  $z \sim 1$**

**Author(s): Michael J. Rutkowski<sup>4</sup>, Claudia Scarlata<sup>4</sup>, Harry I. Teplitz<sup>1</sup>, Matthew Hayes<sup>3</sup>, Mara Salvato<sup>2</sup>, Melanie Beck<sup>4</sup>, Vihang Mehta<sup>4</sup>, Anthony Pahl<sup>4</sup>**

*Institution(s): <sup>1</sup> IPAC-CalTech, <sup>2</sup> MPE, <sup>3</sup> Stockholm University, <sup>4</sup> University of Minnesota*

**206.04 HST Emission-Line Galaxies at  $z \sim 2$ : The Mystery of Neon**

**Author(s): Gregory Zeimann<sup>1</sup>, Robin Ciardullo<sup>1</sup>, Caryl Gronwall<sup>1</sup>, Henry Gebhardt<sup>1</sup>, Alex Hagen<sup>1</sup>, Joanna Bridge<sup>1</sup>, Jonathan Trump<sup>1</sup>, Donald P. Schneider<sup>1</sup>**

*Institution(s): <sup>1</sup> Penn State University*

**206.05 The Molecular Gas Contents of  $z=1.62$  cluster galaxies and their Last Gasp of Star Formation**

**Author(s): Gregory Rudnick<sup>6</sup>, Fabian Walter<sup>1</sup>, Jacqueline Hodge<sup>2</sup>, Casey J. Papovich<sup>3</sup>, Kim-Vy Tran<sup>3</sup>, Ivelina G. Momcheva<sup>7</sup>, Christopher Willmar<sup>5</sup>, Amelie Saintonge<sup>4</sup>**

*Institution(s): <sup>1</sup> Max-Planck-Institute for Astronomy, <sup>2</sup> NRAO, <sup>3</sup> Texas A and M University, <sup>4</sup> University College London, <sup>5</sup> University of Arizona, <sup>6</sup> University of Kansas, <sup>7</sup> Yale University*

**206.06 Strangers in Our Midst: Massive, Evolved, Highly-obscured Galaxies at  $z > 1$**

**Author(s): Gabriel Brammer<sup>1</sup>**

*Institution(s): <sup>1</sup> STScI*

Contributing team(s): 3D-HST Survey Team

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## 206.07 3D-HST/WFC3 grism spectroscopy of distant quiescent galaxies

**Author(s):** Katherine E. Whitaker<sup>1</sup>

*Institution(s):* <sup>1</sup> NASA/GSFC

Contributing team(s): 3D-HST collaboration

## 207 Extrasolar Planets: Dynamics and Stability of Planetary Systems

Tuesday, 10:00 am - 11:30 am; 616/617

**Chair(s):** David Charbonneau (*Harvard Univ.*)

### 207.01D The orbital dynamics and long-term stability of planetary systems

**Author(s):** Katherine Deck<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech

Contributing team(s): Matthew Holman, Joshua N. Winn, Eric Agol, Joshua Carter, Matthew Payne, David Nesvorny, Roberto Sanchis-Ojeda, Howard Isaacson, Guillermo Torres, Jack J. Lissauer

### 207.02D Orbital Architectures of Dynamically Complex Exoplanet Systems

**Author(s):** Benjamin E. Nelson<sup>1</sup>

*Institution(s):* <sup>1</sup> Pennsylvania State University

### 207.03 Crushed Exoplanet systems: Did it happen here?

**Author(s):** Kathryn Volk<sup>1</sup>, Brett Gladman<sup>1</sup>

*Institution(s):* <sup>1</sup> University of British Columbia

### 207.04 Long-lived Chaotic Orbital Evolution of Exoplanets in Mean Motion Resonances with Mutual Inclinations

**Author(s):** Rory Barnes<sup>3</sup>, Russell Deitrick<sup>3</sup>, Richard Greenberg<sup>2</sup>, Thomas R. Quinn<sup>3</sup>, Sean N. Raymond<sup>1</sup>

*Institution(s):* <sup>1</sup> Laboratoire de Bordeaux, <sup>2</sup> University of Arizona, <sup>3</sup> University of Washington

### 207.05 The Outer Architecture of M Dwarf Planetary Systems

**Author(s):** Brendan P. Bowler<sup>1</sup>, Michael C. Liu<sup>4</sup>, Evgenya Shkolnik<sup>2</sup>, Motohide Tamura<sup>3</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Lowell Observatory, <sup>3</sup> NAOJ, <sup>4</sup> University of Hawaii

### 207.06 New Insights into Exoplanet System Architectures from Obliquity Measurements of Kepler Planet-Host Stars

**Author(s):** Timothy Morton<sup>3</sup>, Joshua N. Winn<sup>2</sup>, Erik Petigura<sup>4</sup>, John Johnson<sup>1</sup>, Geoffrey W. Marcy<sup>4</sup>, Andrew Howard<sup>5</sup>

*Institution(s):* <sup>1</sup> Harvard, <sup>2</sup> MIT, <sup>3</sup> Princeton University, <sup>4</sup> UC, Berkeley, <sup>5</sup> University of Hawaii

## 207.07 The dynamical effects of an outer planet on the evolution and observability of Kepler-11-like systems

**Author(s):** Agueda Paula Granados Contreras<sup>1</sup>, Aaron C. Boley<sup>1</sup>

*Institution(s):* <sup>1</sup> University of British Columbia

## 208 Gamma Ray Bursts

Tuesday, 10:00 am - 11:30 am; 618/619

**Chair(s):** Kyler Kuehn (*Argonne National Laboratory*)

### 208.01D Reverse Shocks in Gamma-Ray Bursts: Clues to the Nature of the Relativistic Ejecta

**Author(s):** Tanmoy Laskar<sup>1</sup>, Edo Berger<sup>1</sup>, Bevin Zauderer<sup>1</sup>, Raffaella Margutti<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard University

### 208.02 The Swift GRB Host Galaxy Legacy Survey

**Author(s):** Daniel A. Perley<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech

### 208.04 Effects of the Metal Aversion of LGRBs

**Author(s):** John Graham<sup>1</sup>

*Institution(s):* <sup>1</sup> Max Planck Institute for extraterrestrial Physics

### 208.05D Searches for Gravitational Waves Associated with Gamma-Ray Bursts

**Author(s):** Daniel Hoak<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Massachusetts, Amherst

Contributing team(s): LIGO Scientific Collaboration, Virgo Collaboration

### 208.06 RMHD simulations of collision-induced magnetic dissipations in Poynting flux dominated jets

**Author(s):** Wei Deng<sup>2</sup>, Hui Li<sup>1</sup>, Bing Zhang<sup>2</sup>, Shengtai Li<sup>1</sup>

*Institution(s):* <sup>1</sup> Los Alamos National Lab, <sup>2</sup> University of Nevada, Las Vegas

### 208.07 The effect of black hole spin on winds from neutron star merger remnant accretion disks

**Author(s):** Rodrigo Fernandez<sup>2</sup>, Daniel Kasen<sup>2</sup>, Brian D Metzger<sup>1</sup>, Eliot Quataert<sup>2</sup>

*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> UC Berkeley

## 209 What Have We Learned from the NSF ADVANCE Program and What's Next?

Tuesday, 10:00 am - 11:30 am; 606

As exemplified by the recent CSWA Demographics Survey, while the number of women obtaining PhDs in STEM has been increasing for decades, their numbers have yet to reach parity in the upper echelons of the most prestigious jobs, and overall they are still underrepresented in almost all academic fields. The NSF ADVANCE program, which began in 2001 and invested over \$135 million in projects, endeavored to increase the representation and advancement of women in academic STEM careers by addressing specific aspects of academic/institutional culture that affected women differently. Such aspects include, but

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are not limited to, stereotype threat, explicit and implicit bias, sexual harassment, lack of family leave support/policies that treat women equally, and lack of women in leadership and decision-making positions. From the NSF ADVANCE summary, "The cumulative effect of such diverse factors has been to create infrastructural barriers that impact the number of women entering, persisting and advancing in STEM careers." The goal of ADVANCE, which ceased awarding grants in 2012, was to "seminal contribute to and inform the general knowledge base on gender equity in the academic STEM disciplines." This Special Session will highlight the most influential (measurable) outcomes of NSF ADVANCE towards meeting its goals, focusing on broadly-applicable best practices and knowledge gained, not (just) specific products/statistics. E.g., if an institution increased participation of undergraduate women in STEM from 20% to 30%, how did they do it, what were the challenges, how do they plan to continue, how is their strategy transferable to other institutions? In this session we will hear from speakers with a diverse background in promoting the equity of women in STEM to learn from their experiences, with the aim of bringing together more universal policies and recommendations to help equalize women (and all minority) participation and advancement in Astronomy. This session will also be open for posters that discuss evidence-based, proactive research and programming related to women and minority equity in Astronomy. NSF ADVANCE was a momentous effort from the national government and many individuals, and with this session we want to pause and assess where we are after ADVANCE, and the best directions to move in the near future.

**Chair(s):** Neil Gehrels (*NASA's GSFC*)

**209.01 Has ADVANCE Affected Senior Compared to Junior Women Scientists Differently?**

**Author(s):** Sue Rosser<sup>1</sup>

*Institution(s):*<sup>1</sup> *San Francisco State University*

**209.02 Successful ADVANCE Initiatives for Junior Women Faculty in STEM**

**Author(s):** Eve Riskin<sup>1</sup>

*Institution(s):*<sup>1</sup> *University of Washington*

**209.03 Individuals and Institutions : How to Advance Women in Science**

**Author(s):** Virginia Valian<sup>1</sup>

*Institution(s):*<sup>1</sup> *Hunter Coll & CUNY Grad Ctr*

**209.04 Advancing Women in STEM at Florida International University**

**Author(s):** Caroline E. Simpson<sup>1</sup>

*Institution(s):*<sup>1</sup> *Florida International Univ.*

## 210 Molecular Clouds, HII Regions, Interstellar Medium III

Tuesday, 10:00 am - 11:30 am; 607

**Chair(s):** Vikram Dwarkadas (*Univ. of Chicago*)

**210.01 The relative orientation between the magnetic field and structures traced by interstellar dust**

**Author(s):** Andrea Bracco<sup>1</sup>

*Institution(s):*<sup>1</sup> *Institut d'Astrophysique Spatiale*

Contributing team(s): On behalf of the Planck Collaboration



## 210.02D Investigating the Life Cycle of Molecular Clouds in the Andromeda Galaxy

**Author(s):** Lori Beerman<sup>4</sup>, Julianne Dalcanton<sup>4</sup>, Andreas Schruha<sup>2</sup>, Adam K. Leroy<sup>3</sup>, Lent C. Johnson<sup>4</sup>, Daniel R. Weisz<sup>4</sup>, Morgan Fouesneau<sup>1</sup>

*Institution(s):* <sup>1</sup> Max Planck Institute for Astronomy, <sup>2</sup> Max Planck Institute for Extraterrestrial Physics, <sup>3</sup> National Radio Astronomy Observatory, <sup>4</sup> University of Washington

Contributing team(s): PHAT Collaboration

## 210.03 What you (think) you see is what you get: A case study concerning interstellar HI structure

**Author(s):** Gerrit L. Verschuur<sup>2</sup>, Mahboubeh Asgari-Targhi<sup>1</sup>

*Institution(s):* <sup>1</sup> Center for Astrophysics, <sup>2</sup> University of Memphis

## 210.04 Dense Molecular Gas in the First Galactic Quadrant: A New Distance Estimation Technique and the Molecular Cloud Clump Mass Function, Physical Properties, and Galactic Distribution from the Bolocam Galactic Plane Survey

**Author(s):** Jason Glenn<sup>1</sup>, Timothy Ellsworth-Bowers<sup>1</sup>

*Institution(s):* <sup>1</sup> Univ. of Colorado

Contributing team(s): Bolocam Galactic Plane Survey

## 210.05 Behavior of C/O vs. O/H through MCMC Chemical Abundance Determination

**Author(s):** Maria Angeles Peña-Guerrero<sup>1</sup>, Claus Leitherer<sup>1</sup>

*Institution(s):* <sup>1</sup> Space Telescope Science Institute

## 210.06D Time-Dependent Diffusive Shock Acceleration in Slow Supernova Remnant Shocks

**Author(s):** Tang Xiaping<sup>1</sup>, Roger Chevalier<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Virginia

## 211 Star Formation III

Tuesday, 10:00 am - 11:30 am; 608

**Chair(s):** Cara Battersby (*Harvard-Smithsonian Center for Astrophysics*)

### 211.01 The Real Protostars and Star Formation Relations in the Solar Neighborhood

**Author(s):** Amanda L. Heiderman<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Virginia

Contributing team(s): Spitzer c2d and Gould Belt survey Teams

### 211.02D New benchmarks on studying the growth of galaxies at $z < 3$ from deep infrared surveys

**Author(s):** Adam R. Tomczak<sup>2</sup>, Kim-Vy Tran<sup>2</sup>, Ryan Quadri<sup>2</sup>, Casey J. Papovich<sup>2</sup>, Ivo Labbe<sup>1</sup>, Caroline Straatman<sup>1</sup>

*Institution(s):* <sup>1</sup> Sterrewacht Leiden, <sup>2</sup> Texas A&M University

Contributing team(s): ZFOURGE

### 211.03 Triggered star-formation in the bright rimmed globule IC1396A

**Author(s):** Nimesh A. Patel<sup>1</sup>, Aurora Sicilia-Aguilar<sup>3</sup>, Paul Goldsmith<sup>2</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Jet Propulsion Laboratory, <sup>3</sup> University of St Andrews

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## 211.04 Spatially Resolved Magnetic Field Structure in the Disk of a T Tauri Star

**Author(s):** Ian Stephens<sup>2</sup>, Leslie Looney<sup>4</sup>, Woojin Kwon<sup>3</sup>, Manuel Fernandez Lopez<sup>4</sup>, A. Meredith Hughes<sup>7</sup>, Lee G. Mundy<sup>5</sup>, Richard Crutcher<sup>4</sup>, Zhi-Yun Li<sup>6</sup>, Ramprasad Rao<sup>1</sup>, Dominique Segura-Cox<sup>4</sup>

*Institution(s):* <sup>1</sup> Academia Sinica, <sup>2</sup> Boston University, <sup>3</sup> SRON Netherlands Institute for Space Research, <sup>4</sup> University of Illinois at Urbana-Champaign, <sup>5</sup> University of Maryland, <sup>6</sup> University of Virginia, <sup>7</sup> Wesleyan University

## 211.05 Dust and Gas Emission from MIR Bubble N56

**Author(s):** Kathryn E. Devine<sup>1</sup>, Christer Watson<sup>2</sup>, Tierra Candelaria<sup>1</sup>, Paula Rodriguez<sup>2</sup>, Cassiemarie Low<sup>1</sup>, Joseph Pickett<sup>1</sup>

*Institution(s):* <sup>1</sup> College of Idaho, <sup>2</sup> Manchester University

## 211.06D The state of the art in smoothed particle magnetohydrodynamics simulations

**Author(s):** Terrence Tricco<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Exeter

## 211.07 Connecting the small scale to the large scale: young massive stars and their environments from the Red MSX Source Survey.

**Author(s):** Charles C. Figura<sup>3</sup>, James S Urquhart<sup>1</sup>, Lawrence Morgan<sup>2</sup>

*Institution(s):* <sup>1</sup> Max Planck Institute for Radio Astronomy, <sup>2</sup> Met Office, <sup>3</sup> Wartburg College

# 212 Dwarf and Irregular Galaxies II

Tuesday, 10:00 am - 11:30 am; 609

**Chair(s):** Heidi Newberg (*Rensselaer Polytechnic Inst.*)

## 212.01 Ultra-Compact Dwarfs Forming in Stellar Streams

**Author(s):** Zachary G Jennings<sup>2</sup>, Jean P. Brodie<sup>2</sup>, Aaron J. Romanowsky<sup>1</sup>

*Institution(s):* <sup>1</sup> San Jose State University, <sup>2</sup> UC Santa Cruz

Contributing team(s): SAGES Collaboration

## 212.02 The Role of Dwarf-Dwarf Interactions in the Evolution of Low Mass Galaxies

**Author(s):** Sabrina Stierwalt<sup>5</sup>, Gurtina Besla<sup>2</sup>, David R. Patton<sup>3</sup>, Kelsey E.

Johnson<sup>5</sup>, Nitya Kallivayalil<sup>5</sup>, Mary E. Putman<sup>1</sup>, George C. Privon<sup>4</sup>, Glen Ross<sup>3</sup>

*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> Steward Observatory, <sup>3</sup> Trent University, <sup>4</sup> Universidad de Concepcion, <sup>5</sup> University of Virginia

## 212.03D Dwarf Galaxies in Voids: Galaxy Luminosity and HI Mass Functions Using SDSS and ALFALFA

**Author(s):** Crystal M Moorman<sup>1</sup>, Michael S Vogeley<sup>1</sup>

*Institution(s):* <sup>1</sup> Drexel University

Contributing team(s): ALFALFA Collaboration

## 212.04 Stellar Kinematics and Structural Properties of Virgo Cluster Dwarf Early-Type Galaxies from the SMAKCED Project

**Author(s):** Elisa Toloba<sup>7</sup>, Puragra Guhathakurta<sup>7</sup>, Reynier Peletier<sup>3</sup>, Alessandro Boselli<sup>4</sup>, Thorsten Lisker<sup>6</sup>, Eric Emsellem<sup>2</sup>, Joshua D. Simon<sup>1</sup>, Glenn van de Ven<sup>5</sup>

*Institution(s):* <sup>1</sup> Carnegie Observatories, <sup>2</sup> ESO, <sup>3</sup> Kapteyn Astronomical Institute, <sup>4</sup> Laboratoire d'Astrophysique de Marseille-LAM, <sup>5</sup> MPIA, <sup>6</sup> University of Heidelberg, <sup>7</sup> University of California Santa Cruz

Contributing team(s): SMAKCED collaboration

- 212.05 Next Generation Virgo Survey Photometry and Keck/DEIMOS Spectroscopy of Globular Cluster Satellites of Dwarf Elliptical Galaxies in the Virgo Cluster**  
**Author(s):** Puragra Guhathakurta<sup>7</sup>, Elisa Toloba<sup>7</sup>, Eric W Peng<sup>4</sup>, Biao Li<sup>5</sup>, Stephen Gwyn<sup>3</sup>, Laura Ferrarese<sup>3</sup>, Patrick Cote<sup>3</sup>, Jason Chu<sup>2</sup>, Lea Sparkman<sup>1</sup>, Stephanie Chen<sup>6</sup>, Samyukta Yagati<sup>2</sup>, Meredith Muller<sup>7</sup>  
*Institution(s):* <sup>1</sup>. Castilleja School, <sup>2</sup>. Harker School, <sup>3</sup>. HIA, <sup>4</sup>. KIAA, <sup>5</sup>. Peking University, <sup>6</sup>. Stanford University, <sup>7</sup>. UC, Santa Cruz  
 Contributing team(s): Next Generation Virgo Survey collaboration
- 212.06 Ultra-deep H-alpha Imaging of Nearby Dwarf Galaxies**  
**Author(s):** Janice C. Lee<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Space Telescope Science Institute
- 212.07 Escape fraction of ionizing photons from a dwarf galaxy NGC 4214**  
**Author(s):** Yumi Choi<sup>5</sup>, Morgan Fouesneau<sup>1</sup>, Karl D. Gordon<sup>3</sup>, Benjamin F. Williams<sup>5</sup>, Julianne Dalcanton<sup>5</sup>, Daniel R. Weisz<sup>5</sup>, Heddy Arab<sup>3</sup>, Karin Sandstrom<sup>4</sup>, Andrew E. Dolphin<sup>2</sup>  
*Institution(s):* <sup>1</sup>. MPIA, <sup>2</sup>. Raytheon Company, <sup>3</sup>. STScI, <sup>4</sup>. University of Arizona, <sup>5</sup>. University of Washington
- 212.08 Herschel's View of LITTLE THINGS Metal-Poor Dwarf Galaxies**  
**Author(s):** Phil Cigan<sup>4</sup>, Lisa Young<sup>4</sup>, Diane Cormier<sup>2</sup>, Vianney Lebouteiller<sup>1</sup>, Deidre Ann Hunter<sup>3</sup>, Suzanne Madden<sup>1</sup>  
*Institution(s):* <sup>1</sup>. CEA Saclay, <sup>2</sup>. Heidelberg University, <sup>3</sup>. Lowell Observatory, <sup>4</sup>. New Mexico Tech  
 Contributing team(s): LITTLE THINGS

## 213 Star Associations, Star Clusters - Galactic & Extra-galactic I

Tuesday, 10:00 am - 11:30 am; 611

**Chair(s):** Russel White (*Georgia State University*)

### 213.01 Old Star Clusters in Spiral Galaxies: M101 as a Case Study

**Author(s):** Lesley Ann Simanton<sup>1</sup>  
*Institution(s):* <sup>1</sup>. University of Toledo

### 213.02 The High Mass Stellar IMF in M31

**Author(s):** Daniel R. Weisz<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Univ. of Washington  
 Contributing team(s): PHAT

### 213.03 PHAT Star Clusters in M31: Insight on Environmental Dependence of Star & Cluster Formation

**Author(s):** Lent C. Johnson<sup>3</sup>, Julianne Dalcanton<sup>3</sup>, Anil Seth<sup>2</sup>, Lori Beerman<sup>3</sup>, Alexia Lewis<sup>3</sup>, Morgan Fouesneau<sup>1</sup>, Daniel R. Weisz<sup>3</sup>  
*Institution(s):* <sup>1</sup>. Max Planck Institute for Astronomy, <sup>2</sup>. University of Utah, <sup>3</sup>. University of Washington  
 Contributing team(s): Andromeda Project Team, PHAT Team

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## 213.04 Lifetimes of isolated hierarchical triple stars

**Author(s):** Mauri J. Valtonen<sup>2</sup>, Aleksandr Mylläri<sup>1</sup>

*Institution(s):* <sup>1</sup> St. George's Univ., <sup>2</sup> Univ. Turku

## 213.05 Galaxy Evolution and the Survival of Globular Clusters

**Author(s):** Juan P. Madrid<sup>2</sup>, Jarrod Hurley<sup>4</sup>, Marie Martig<sup>3</sup>, Nathan Leigh<sup>1</sup>

*Institution(s):* <sup>1</sup> American Museum of Natural History, <sup>2</sup> Gemini Observatory, <sup>3</sup> Max-Planck-Institut für Astronomie, <sup>4</sup> Swinburne Univ.

## 213.06D Spitzer Local Volume Legacy (LVL) Star-Forming Regions: Luminosity Functions

**Author(s):** David O. Cook<sup>2</sup>, Daniel A. Dale<sup>2</sup>, Janice C. Lee<sup>1</sup>

*Institution(s):* <sup>1</sup> Space Telescope Science Institute, <sup>2</sup> University of Wyoming  
Contributing team(s): LVL Team

# 214 Pulsars in the High Energy Regime

Tuesday, 10:00 am - 11:30 am; 612

**Chair(s):** Stefanie Wachter (MPIA)

## 214.01 When a Standard Candle Flickers: Hard X-ray Variations in the Crab Nebula

**Author(s):** Colleen Wilson-Hodge<sup>12</sup>, Michael L. Cherry<sup>9</sup>, Gary L. Case<sup>7</sup>, Wayne H. Baumgartner<sup>2</sup>, Elif Beklen<sup>13</sup>, Narayana P. Bhat<sup>14</sup>, Michael Stephen Briggs<sup>14</sup>, Rolf Buehler<sup>3</sup>, Ascension Camero-Arranz<sup>4</sup>, Valerie Connaughton<sup>14</sup>, Roland Diehl<sup>10</sup>, Mark H. Finger<sup>16</sup>, Neil Gehrels<sup>11</sup>, Jochen Greiner<sup>10</sup>, Fiona Harrison<sup>1</sup>, Elizabeth A. Hays<sup>11</sup>, Keith Jahoda<sup>11</sup>, Peter Jenke<sup>14</sup>, R. Marc Kippen<sup>8</sup>, Chryssa Kouveliotou<sup>12</sup>, Hans A. Krimm<sup>2</sup>, Erik Kuulkers<sup>6</sup>, Kristin Madsen<sup>1</sup>, Craig Markwardt<sup>11</sup>, Charles A. Meegan<sup>14</sup>, Lorenzo Natalucci<sup>15</sup>, William Simon Paciesas<sup>16</sup>, Robert D. Preece<sup>14</sup>, James Rodi<sup>9</sup>, Nikolai Shaposhnikov<sup>2</sup>, Gerald K. Skinner<sup>15</sup>, Douglas A. Swartz<sup>16</sup>, Andreas von Kienlin<sup>10</sup>, Xiao-Ling Zhang<sup>10</sup>

*Institution(s):* <sup>1</sup> CalTech, <sup>2</sup> CRESST & NASA/GSFC, <sup>3</sup> DESY, <sup>4</sup> IEECC-CSIC, <sup>5</sup> INAF-IASF, <sup>6</sup> ISOC/ESA/ESAC, <sup>7</sup> La Sierra Univ., <sup>8</sup> LANL, <sup>9</sup> LSU, <sup>10</sup> MPE, <sup>11</sup> NASA's GSFC, <sup>12</sup> NASA's MSFC, <sup>13</sup> SDU/NRAO, <sup>14</sup> UAH, <sup>15</sup> Univ. of Birmingham, <sup>16</sup> USRA/MSFC

## 214.02 Spectra and Polarization from Comptonized Emission in Magnetar Flares

**Author(s):** Joseph Barchas<sup>1</sup>, Matthew G. Baring<sup>1</sup>

*Institution(s):* <sup>1</sup> Rice University

## 214.03 X-ray jets from B2224+65: A Middle-aged Pulsar's New Trick

**Author(s):** Q. Daniel Wang<sup>1</sup>, Seth Johnson<sup>1</sup>

*Institution(s):* <sup>1</sup> Univ. of Massachusetts

## 214.04 X-ray analysis of the proper motion and PWN for PSR J1741-2054

**Author(s):** Katie Auchettl<sup>2</sup>, Patrick O. Slane<sup>2</sup>, Roger W. Romani<sup>4</sup>, Oleg Kargaltsev<sup>1</sup>, George G. Pavlov<sup>3</sup>

*Institution(s):* <sup>1</sup> George Washington University, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Penn State University, <sup>4</sup> Stanford University

## 214.05 New view of the Vela pulsar from Fermi LAT

**Author(s):** Giovanna Pivato<sup>3</sup>, Philippe Bruel<sup>1</sup>, Alice Kust Harding<sup>2</sup>, Massimiliano Razzano<sup>3</sup>

*Institution(s):* <sup>1</sup> LLR - Ecole Polytechnique, <sup>2</sup> NASA Goddard Space Flight Center, <sup>3</sup> University of Pisa

Contributing team(s): Fermi LAT Collaboration

- 214.06 Two-Photon Pair Creation Opacities in Gamma-Ray Pulsars**  
**Author(s):** Matthew G. Baring<sup>1</sup>, Sarah Story<sup>1</sup>  
*Institution(s):* <sup>1</sup> Rice University
- 214.07 Magnetoluminescence - Rapid Release of Electromagnetic Energy in Relativistic Sources**  
**Author(s):** Roger D. Blandford<sup>1</sup>, Yajie Yuan<sup>1</sup>, Jonathan Zrake<sup>1</sup>  
*Institution(s):* <sup>1</sup> KIPAC, Stanford University
- 214.08 The Neutron Star Interior Composition Explorer (NICER) mission: post-CDR status update**  
**Author(s):** Zaven Arzoumanian<sup>1</sup>, Keith Gendreau<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA/GSFC  
Contributing team(s): NICER Team
- 214.09 Determining neutron star masses and radii via analysis of NICER energy-resolved waveform data**  
**Author(s):** M. Coleman Miller<sup>1</sup>, Frederick K. Lamb<sup>2</sup>  
*Institution(s):* <sup>1</sup> Univ. of Maryland, <sup>2</sup> University of Illinois

## 215 HAD VI: History of Astronomy

Tuesday, 10:00 am - 11:30 am; 615

**Chair(s):** Thomas Hockey (*University of Northern Iowa*)

- 215.01 Hawaii and the Real-Time Evolution of Cultural Astronomy**  
**Author(s):** Stephanie Slater<sup>2</sup>, Ahia Dye<sup>2</sup>, Celeste Ha'o<sup>1</sup>, Timothy F. Slater<sup>2</sup>, Kalepa Chad Baybayan<sup>1</sup>, Rubellite Johnson<sup>2</sup>, John Mahelona<sup>2</sup>, Clive Ruggles<sup>2</sup>  
*Institution(s):* <sup>1</sup> 'Imiloa Astronomy Center, <sup>2</sup> CAPER Ctr Phys and Astro Educ Res
- 215.02 Kilohoku - Ho'okele Wa'a: Hawaiian Navigational Astronomy**  
**Author(s):** Ahia Dye<sup>1</sup>, Celeste Ha'o<sup>1</sup>, Timothy F. Slater<sup>3</sup>, Stephanie Slater<sup>2</sup>  
*Institution(s):* <sup>1</sup> 'Imiloa Astronomy Center of Hawai'i, <sup>2</sup> CAPER: Ctr for Astro & Phys Ed Res, <sup>3</sup> University of Wyoming
- 215.03 Tracking the Origins of an Ancient Star Scene on a Nova Scotian Chancel Ceiling**  
**Author(s):** David G. Turner<sup>1</sup>  
*Institution(s):* <sup>1</sup> Saint Mary's Univ.
- 215.04 Universe boundary in Einstein 1931 same as Lemaître 1927**  
**Author(s):** Ian Steer<sup>1</sup>  
*Institution(s):* <sup>1</sup> NED
- 215.05 400th Anniversary of Marius's Book with the First Image of an Astronomical Telescope and of Orbits of Jovian Moons**  
**Author(s):** Jay M. Pasachoff<sup>2</sup>, Pierre Leich<sup>1</sup>  
*Institution(s):* <sup>1</sup> Nürnberger Astronomische Gesellschaft e.V., <sup>2</sup> Williams College
- 215.06 A Modern Update and Usage of Historical Variable Star Catalogs**  
**Author(s):** Ashley Pagnotta<sup>1</sup>, Or Graur<sup>2</sup>, Zachary Murray<sup>1</sup>, Julia Kruk<sup>1</sup>, Lucien Christie-Dervaux<sup>1</sup>, Dong Yi Chen<sup>1</sup>  
*Institution(s):* <sup>1</sup> American Museum of Natural History, <sup>2</sup> New York University

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## 215.07 What Can a Historian Do with AstroGen?

**Author(s):** Joseph S. Tenn<sup>1</sup>

*Institution(s):* <sup>1</sup> Sonoma State Univ.

## 216 Dust

Tuesday, 10:00 am - 11:30 am; 620

**Chair(s):** Geoffrey Clayton (*Louisiana State Univ.*)

### 216.01 The Origin of Dust in the Magellanic Clouds

**Author(s):** Tea Temim<sup>1</sup>

*Institution(s):* <sup>1</sup> NASA GSFC

### 216.02D A Unified Model of Polarized Extinction and Emission from Interstellar Dust

**Author(s):** Brandon Hensley<sup>1</sup>, Bruce T. Draine<sup>1</sup>

*Institution(s):* <sup>1</sup> Princeton University

### 216.03 Spitzer-IRS Spectroscopic Studies of Oxygen-Rich Asymptotic Giant Branch Star and Red Supergiant Star Dust Properties

**Author(s):** Benjamin A. Sargent<sup>4</sup>, Sundar Srinivasan<sup>1</sup>, Angela Speck<sup>8</sup>, Kevin Volk<sup>6</sup>, Ciska Kemper<sup>1</sup>, William T. Reach<sup>5</sup>, Eric Lagadec<sup>2</sup>, Jean-Philippe Bernard<sup>3</sup>, Iain McDonald<sup>7</sup>, Margaret Meixner<sup>6</sup>

*Institution(s):* <sup>1</sup> Academia Sinica, Institute of Astronomy and Astrophysics, <sup>2</sup> Cornell University, <sup>3</sup> IRAP/CNRS, <sup>4</sup> Rochester Institute of Technology, <sup>5</sup> SOFIA/USRA, <sup>6</sup> Space Telescope Science Institute, <sup>7</sup> The University of Manchester, <sup>8</sup> University of Missouri

### 216.04 Dust and metallicity in carbon stars

**Author(s):** Gregory C. Sloan<sup>2</sup>, Martin Groenewegen<sup>7</sup>, Sundar Srinivasan<sup>1</sup>, Eric Lagadec<sup>6</sup>, Kathleen E. Kraemer<sup>3</sup>, Iain McDonald<sup>4</sup>, Martha L. Boyer<sup>5</sup>, Albert Zijlstra<sup>4</sup>, Ciska Kemper<sup>1</sup>

*Institution(s):* <sup>1</sup> Academia Sinica Institute for Astronomy and Astrophysics, <sup>2</sup> CRSR, Cornell University, <sup>3</sup> Inst. for Scientific Research, Boston College, <sup>4</sup> Jodrell Bank Centre for Astrophysics, <sup>5</sup> NASA Goddard Space Flight Center, <sup>6</sup> Observatoire de la Cote d'Azur, <sup>7</sup> Royal Observatory of Belgium

### 216.05 A Test of Dust Grain Alignment via Far-Infrared Polarization

**Author(s):** John E. Vaillancourt<sup>1</sup>, B-G Andersson<sup>1</sup>

*Institution(s):* <sup>1</sup> SOFIA / USRA

## Education and Public Outreach, Student Welcome: Dr. Aomawa Shields

Tuesday, 11:30 am - 12:00 pm, 4C-3

## 217 Cannon Award: New Frontiers in Stellar Astrophysics: Massive Stars as Cosmological Tools

Tuesday, 11:40 am - 12:30 pm; 6E

Chair(s): C.Megan Urry (*Yale University*)



### Emily Levesque (*University of Boulder, Colorado*) -The Annie Jump Cannon Prize

The Annie Jump Cannon Prize is awarded to Emily Levesque for her innovative work using gamma-ray bursts (GRBs) to explore fundamental questions of stellar astrophysics and cosmology. Her broad expertise has led to impactful work in several different areas including the metallicity characteristics of the interstellar environments of GRB host galaxies, the effects of stellar rotation on the ionization environment and the implications for measuring extragalactic stellar populations, and the fundamental properties of red supergiants. Her work has provided a deeper understanding of stars near and far, and will inspire their use as important cosmological probes.

#### 217.01 New Frontiers in Stellar Astrophysics: Massive Stars as Cosmological Tools

Author(s): Emily M. Levesque<sup>1</sup>

Institution(s): <sup>1</sup> *University Of Colorado Boulder*

## Career Hour 3: Developing Your 30-Second Value Statement (aka Your Elevator Pitch)

Tuesday, 12:30 pm - 1:30 pm; 618/619

I have a brand and you have a brand. A brand is simply a promise of value and every successful professional and company is successful in part because they know how to articulate their brand. The ability to communicate your promise of value is vitally important for not only crafting your own career path, but also for finding out about hidden opportunities and jobs. In this workshop, we learn the fundamentals of branding as it relates to career development and planning strategy. We will work together to develop your own 30-second brand statement which you can use in networking, and informational and job interviews. We will discuss the connection between brand, attitude and reputation, and why every interaction with someone affects how people perceive your brand. You will leave this workshop with the ability to elucidate your own brand to whomever you meet, giving you a critical competitive edge in your career and the job market.

Organizer(s): Alaina Levine (*Quantum Success Solutions*)

# TUESDAY, 6 JANUARY 2015

## 218 Transforming NOAO – A Status Report

Tuesday, 12:45 pm - 1:45 pm; 6A

Key NOAO initiatives developed in concert with NSF, DOE, and the community are starting to deliver major new research tools to the US community-at-large. The ultra-wide-field Dark Energy Camera at the CTIO Blanco 4-m is a major success. New twin, high-throughput, multi-object, optical spectrometers are operational at the Blanco and the KPNO Mayall 4-m. A new, cross-dispersed, near-infrared spectrometer is arriving at the Blanco in early 2015. Prospects have greatly improved for deployment of the Dark Energy Spectroscopic Instrument on the Mayall in 2018. Several new Big Data science initiatives have been launched to support community use of public data products from the Dark Energy Survey, Zwicky Transient Factory, and LSST projects. In parallel, NOAO remains a gateway to the Gemini 8-m telescopes with their steadily improving instrumentation suite and is leading an effort to develop a plans for possible federal involvement in TMT in the 2020s. Join us for a brief status report of these and other NOAO developments, after which the NOAO director will leave ample time to answer questions from the floor. priority for NOAO to deliver capabilities and services to enable a broad range of high-impact research by the US community. Key components of the transformed NOAO program include open access to world-class imagers and spectrometers on 4-m and 8-m class telescopes as well as open access to rich, mega-object datasets. Join us for a brief presentation about the transformed NOAO, after which the NOAO director will leave ample time to answer questions from the floor.

**Chair(s):** David Silva (*National Optical Astronomy Observatory*)

## For Undergrads & Other Inquiring Minds: Dwarf Irregular Galaxies, Deidre A. Hunter (Lowell Observatory)

Tuesday, 1:15 pm – 2:00 pm; 6C

Dwarf irregular galaxies are an enigma. They are more common than spirals in the local universe and yet we do not understand their driving evolutionary forces. I will describe some of what we know about dwarf irregular galaxies and outstanding problems. The issues include how stars form in low gas density environments, how extended stellar disks in which the starlight drops off exponentially from the center of the galaxy are formed and maintained in dwarfs, what happens where the exponential stellar profile abruptly changes slope, and what are the consequences of the different molecular cloud structure at the low abundances found in dwarfs.

## New Capabilities at the National Radio Astronomy Observatory (NRAO)

Tuesday, 1:30 pm - 3:30 pm; 303

Hosted by the National Radio Astronomy Observatory (NRAO) scientific staff, this Splinter Session is designed to assist members of the astronomical community who may be new to radio-wavelength observations. This Session will showcase the cutting-edge



capabilities available at each of the four state-of-the-art NRAO telescopes: the Green Bank Telescope (GBT), the Jansky Very Large Array (VLA), the Very Long Baseline Array (VLBA), and the Atacama Large Millimeter/submillimeter Array (ALMA). Following short talks highlighting exciting science that can be done with each telescope, there will be an opportunity to chat informally with NRAO experts about science, observing proposal ideas, and synergies with other facilities. NRAO staff members will also provide hands-on assistance for persons interested in GBT, VLA/VLBA, and ALMA observing proposals in advance of the 1 February GBT-VLA-VLBA and spring ALMA proposal deadlines. To use the NRAO proposal preparation and observing tools, you will need an NRAO account. If you do not have one yet, please sign up at [my.nrao.edu](http://my.nrao.edu). No previous radio-wavelength experience is necessary to attend and benefit from this Splinter Session, and we strongly encourage new and potential NRAO facility users to attend. For questions or comments, please contact Alison Peck ([apecck AT nrao.edu](mailto:apecck@nrao.edu)).

**Organizer(s): Alison Peck (NRAO/ALMA)**

## 219 Extrasolar Planets: Ground and Space Based Surveys II

Tuesday, 2:00 pm - 3:30 pm; 6A

**Chair(s): Ronald Polidan (Northrop Grumman Aerospace Systems)**

### 219.01DAiming for the next bright super earth — Synergies of Ground and Space based Transiting Planets Survey

**Author(s): Xu Huang<sup>1</sup>, Gaspar Bakos<sup>1</sup>, Joel Hartman<sup>1</sup>**

*Institution(s): <sup>1</sup> Princeton University*

Contributing team(s): HATNet Team

### 219.02D Transits and Occultations of Hot Jupiters

**Author(s): Korey Haynes<sup>1</sup>**

*Institution(s): <sup>1</sup> George Mason University*

### 219.04 ExoEarth Yield Estimates for a Future Large Aperture Direct Imaging Mission

**Author(s): Christopher C. Stark<sup>2</sup>, Aki Roberge<sup>2</sup>, Avi Mandell<sup>2</sup>, Shawn Domagal-Goldman<sup>2</sup>, Karl R. Stapelfeldt<sup>2</sup>, Tyler Robinson<sup>1</sup>**

*Institution(s): <sup>1</sup> NASA Ames Research Center, <sup>2</sup> NASA Goddard Space Flight Center*

### 219.05 Defining A Risk Analysis Strategy for Exo-Earth Yields from a Future Large Aperture UVOIR Space Telescope

**Author(s): Avi Mandell<sup>2</sup>, Christopher C. Stark<sup>2</sup>, Aki Roberge<sup>2</sup>, Shawn Domagal-Goldman<sup>2</sup>, Karl R. Stapelfeldt<sup>2</sup>, Tyler Robinson<sup>1</sup>**

*Institution(s): <sup>1</sup> NASA ARC, <sup>2</sup> NASA GSFC*

### 219.06 Visible Wavelength Exoplanet Phase Curves from Global Albedo Maps

**Author(s): Matthew Webber<sup>1</sup>, Kerri Lynn Cahoy<sup>1</sup>**

*Institution(s): <sup>1</sup> Massachusetts Institute of Technology*

### 219.07 Studying Atmosphere-Dominated Kepler Phase Curves

**Author(s): Avi Shporer<sup>1</sup>, Renyu Hu<sup>1</sup>**

*Institution(s): <sup>1</sup> JPL*

# TUESDAY, 6 JANUARY 2015

## 220 Cosmic Microwave Background

Tuesday, 2:00 pm - 3:30 pm; 6B

Chair(s): Joaquin Vieira (*University of Illinois at Urbana-Champaign*)

### 220.01D Measuring the cosmic microwave background polarization with POLARBEAR

Author(s): Darcy Barron<sup>1</sup>

Institution(s): <sup>1</sup> *University of California, San Diego*

Contributing team(s): The POLARBEAR Collaboration

### 220.02 SPT-3G: The third generation camera and survey for the South Pole Telescope

Author(s): Jason Henning<sup>1</sup>

Institution(s): <sup>1</sup> *University of Chicago*

Contributing team(s): SPT-3G Collaboration

### 220.03D Design, deployment, and early results from ACTPol, a millimeter wavelength, polarization sensitive receiver for the Atacama Cosmology Telescope

Author(s): Benjamin Schmitt<sup>1</sup>

Institution(s): <sup>1</sup> *University of Pennsylvania*

Contributing team(s): for the ACTPol Collaboration

### 220.04D Gravitational lensing of the CMB with SPTpol

Author(s): Kyle Tyler Story<sup>1</sup>

Institution(s): <sup>1</sup> *University of Chicago*

Contributing team(s): SPTpol collaboration

## 221 AGN, QSO, Blazars IV

Tuesday, 2:00 pm - 3:30 pm; 6C

Chair(s): Britt Lundgren (*Yale University*)

### 221.01D AGN accretion, obscuration and star formation in luminous galaxies

Author(s): Chien-Ting J. Chen<sup>1</sup>, Ryan C. Hickox<sup>1</sup>, Stacey Alberts<sup>2</sup>, Alexandra Pope<sup>2</sup>

Institution(s): <sup>1</sup> *Dartmouth College*, <sup>2</sup> *University of Massachusetts*

Contributing team(s): The Boötes Collaboration

### 221.02D Accretion Timescales from Kepler AGN

Author(s): Vishal P. Kasliwal<sup>1</sup>, Michael S. Vogeley<sup>1</sup>, Gordon T. Richards<sup>1</sup>

Institution(s): <sup>1</sup> *Drexel University*

### 221.03 The Emission Line AGN Census: Biases of Line Ratio Selection, and Uniform Black Hole Accretion Regardless of Galaxy Mass

Author(s): Jonathan R. Trump<sup>2</sup>, Gregory Zeimann<sup>2</sup>, Stephanie Juneau<sup>1</sup>, Mouyuan Sun<sup>2</sup>, Cuyler Luck<sup>3</sup>

Institution(s): <sup>1</sup> *CEA-Saclay*, <sup>2</sup> *Penn State*, <sup>3</sup> *State College High School*

### 221.04D Radio-Quiet Quasars in the VIDEO Survey: Evidence for AGN-powered radio emission below 1 mJy

Author(s): Sarah White<sup>2</sup>, Matt Jarvis<sup>2</sup>, Boris Haeussler<sup>2</sup>, Natasha Maddox<sup>1</sup>

Institution(s): <sup>1</sup> *ASTRON*, <sup>2</sup> *University of Oxford*

## 221.05 Stellar Tidal Disruption Event Rates as Probes of the Supermassive Black Hole Mass Function

**Author(s):** Nicholas Stone<sup>1</sup>, Brian D Metzger<sup>1</sup>

*Institution(s):* <sup>1</sup> Columbia University

## 221.06 The Dark Matter Halos of Moderate Luminosity AGN

**Author(s):** Alexie Leauthaud<sup>5</sup>, Andrew Benson<sup>1</sup>, Francesca M. Civano<sup>9</sup>, Alison L. Coil<sup>8</sup>, Kevin Bundy<sup>5</sup>, Richard Massey<sup>2</sup>, Malte Schramm<sup>5</sup>, Andreas Schulze<sup>5</sup>, Peter L. Capak<sup>7</sup>, Martin Elvis<sup>3</sup>, Andrea Küliér<sup>6</sup>, Jason Rhodes<sup>4</sup>

*Institution(s):* <sup>1</sup> Carnegie, <sup>2</sup> Durham University, <sup>3</sup> Harvard Smithsonian Center,

<sup>4</sup> JPL, <sup>5</sup> Kavli Institute for the Physics and Mathematics of the Universe,

<sup>6</sup> Princeton, <sup>7</sup> Spitzer Science Center, <sup>8</sup> University of California at San Diego, <sup>9</sup> Yale

## 222 The NuSTAR Extended Mission

**Tuesday, 2:00 pm - 3:30 pm; 6E**

The Nuclear Spectroscopic Telescope Array (NuSTAR), launched in June 2012, is the first focussing hard X-ray mission in orbit and has opened the high-energy (>10 keV) sky to sensitive study. NuSTAR has been approved for extended mission, starting in late 2014, will be comprised of a mixture of Guest Observer (GO) programs (50%), large legacy Galactic and extragalactic surveys (25%), as well as Target of Opportunity (ToO) and Director's Discretionary (DD) time (25%). The legacy surveys will be planned and executed by the NuSTAR science team based on community input. All survey data will be released publicly after validation.

**Chair(s):** Daniel Stern (*JPL/ Caltech*)

### 222.01 NuSTAR Galactic Center Survey

**Author(s):** Kaya Mori<sup>1</sup>

*Institution(s):* <sup>1</sup> Columbia University

Contributing team(s): NuSTAR

### 222.02 NuSTAR Norma Arm Survey

**Author(s):** Francesca Fornasini<sup>1</sup>

*Institution(s):* <sup>1</sup> University of California-Berkeley

Contributing team(s): NuSTAR

### 222.03 The NuSTAR Galactic Plane Survey: The Legacy Program

**Author(s):** Charles James Hailey<sup>1</sup>

*Institution(s):* <sup>1</sup> Columbia Univ.

Contributing team(s): NuSTAR

### 222.04 The NuSTAR Survey of Swift/BAT Sources

**Author(s):** Mislav Balokovic<sup>1</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology

Contributing team(s): NuSTAR

### 222.05 The NuSTAR Serendipitous Survey

**Author(s):** George B Lansbury<sup>1</sup>

*Institution(s):* <sup>1</sup> Durham University

Contributing team(s): NuSTAR

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## 222.06 The NuSTAR Survey of the COSMOS Field

**Author(s):** Francesca M. Civano<sup>1</sup>

*Institution(s):* <sup>1</sup> Dartmouth College

Contributing team(s): NuSTAR

## 222.07 The NuSTAR Survey of the Extended Chandra Deep Field South (ECDFS)

**Author(s):** James Mullaney<sup>1</sup>

*Institution(s):* <sup>1</sup> Durham University

Contributing team(s): NuSTAR

## 222.08 The NuSTAR Extragalactic Surveys: Number Counts and Directly Resolved Fraction of the Cosmic X-ray Background

**Author(s):** James Aird<sup>1</sup>

*Institution(s):* <sup>1</sup> Durham University

Contributing team(s): NuSTAR

## 222.09 Extended Mission NuSTAR Extragalactic Survey Plans

**Author(s):** Daniel Stern<sup>1</sup>

*Institution(s):* <sup>1</sup> JPL/ Caltech

Contributing team(s): NuSTAR

## 223 Luminous Stars in Nearby Galaxies and the Local Group

Tuesday, 2:00 pm - 3:30 pm; 610

**Chair(s):** Mike Reed (*Missouri State Univ.*)

### 223.01 Caught in the Act: Imaging the Disk and Outflows in V Hya, a carbon-rich AGB star in transition to a Bipolar Pre-Planetary Nebula

**Author(s):** Raghvendra Sahai<sup>1</sup>, Jayadev Rajagopal<sup>2</sup>, Mark Morris<sup>3</sup>, Kenneth H. Hinkle<sup>2</sup>, Richard R. Joyce<sup>2</sup>

*Institution(s):* <sup>1</sup> JPL, <sup>2</sup> NOAO, <sup>3</sup> UCLA

### 223.02 A Direct Measurement of Lifetimes and Stellar Luminosities on the AGB

**Author(s):** Jason S. Kalirai<sup>1</sup>, Paola Marigo<sup>2</sup>, Pier-Emmanuel Tremblay<sup>1</sup>

*Institution(s):* <sup>1</sup> Space Telescope Science Institute, <sup>2</sup> Università di Padova

### 223.03D Observational Constraints on Models of Rapidly Evolving Luminous Stars

**Author(s):** Philip Rosenfield<sup>3</sup>, Julianne Dalcanton<sup>3</sup>, Alessandro Bressan<sup>2</sup>, Leo Girardi<sup>1</sup>, Paola Marigo<sup>4</sup>

*Institution(s):* <sup>1</sup> INAF, <sup>2</sup> SISSA, <sup>3</sup> University of Washington, <sup>4</sup> Univesità Degli Studi Di Padua

Contributing team(s): ANGST Team

### 223.04 Eta Carinae's first full orbit in the Fermi era

**Author(s):** Olaf Reimer<sup>2</sup>, Klaus Reitberger<sup>2</sup>, Anita Reimer<sup>2</sup>, Hiromitsu Takahashi<sup>1</sup>

*Institution(s):* <sup>1</sup> Hiroshima University, <sup>2</sup> Innsbruck University

Contributing team(s): Fermi-LAT collaboration

### 223.05 An Emerging Class of Extragalactic Self-Obscured Stars

**Author(s):** Rubab M. Khan<sup>1</sup>

*Institution(s):* <sup>1</sup> NASA GSFC

## 223.06D Observed rotational properties of the O-type stars in 30 Doradus: single stars and binaries

**Author(s):** Oscar Hernan Ramirez Agudelo<sup>1</sup>, Hugues Sana<sup>2</sup>, Alex de Koter<sup>1</sup>, Frank Tramper<sup>1</sup>, Selma de Mink<sup>1</sup>

*Institution(s):* <sup>1</sup> Anton Pannekoek Institute, University of Amsterdam, <sup>2</sup> ESA/Space Telescope Science Institute 3700 San Martin Drive

Contributing team(s): VLT-FLAMES Tarantula Survey

## 223.07 First OB-stars in the iron-poor Local Group galaxy sextans A

**Author(s):** Ines Camacho<sup>1</sup>

*Institution(s):* <sup>1</sup> Instituto de Astrofísica de Canarias

## 224 Extrasolar Planets: Formation and Evolution

Tuesday, 2:00 pm - 3:30 pm; 616/617

**Chair(s):** Shawn Domagal-Goldman (NASA Goddard Space Flight Center)

### 224.01D Debris from giant impacts - signatures of forming and dynamic planetary systems

**Author(s):** Alan Patrick Jackson<sup>1</sup>

*Institution(s):* <sup>1</sup> Arizona State University

### 224.02 Hazy Archean Earth as an Analog for Hazy Earthlike Exoplanets

**Author(s):** Giada Arney<sup>3</sup>, Victoria Meadows<sup>3</sup>, Shawn Domagal-Goldman<sup>1</sup>, Mark Claire<sup>2</sup>, Edward Schwieterman<sup>3</sup>

*Institution(s):* <sup>1</sup> Goddard Space Flight Center, <sup>2</sup> University of St. Andrews, <sup>3</sup> University of Washington

### 224.03 Atmospheric Escape from Super-Earths and Mini-Neptunes: Determining the Limits of Hydrogen Atmospheres

**Author(s):** Ruth Murray-Clay<sup>1</sup>

*Institution(s):* <sup>1</sup> University of California, Santa Barbara

### 224.04 Structures, Cooling, and Mass Loss for Super-Earths and Sub-Neptunes

**Author(s):** Alex Howe<sup>1</sup>, Adam Seth Burrows<sup>1</sup>

*Institution(s):* 1. Princeton University

### 224.06 Planets migrating into stars: Rates and Signature

**Author(s):** Stuart F. Taylor<sup>1</sup>

*Institution(s):* <sup>1</sup> Participation Worldscape

### 224.07 Chemical Constraints on Hot Jupiter Migration

**Author(s):** Nikku Madhusudhan<sup>1</sup>, Mustafa A. Amin<sup>1</sup>, Grant M. Kennedy<sup>1</sup>

*Institution(s):* <sup>1</sup> Institute of Astronomy, University of Cambridge

## 225 Stellar and Intermediate-Mass Black Holes

Tuesday, 2:00 pm - 3:30 pm; 618/619

**Chair(s):** Kent Wood (NRL)

### 225.01 A Bayesian Model for the Detection of X-ray Binary Black Holes

**Author(s):** Giri Gopalan<sup>2</sup>, Luke Bornn<sup>2</sup>, Saku Vrtilek<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard CFA, <sup>2</sup> Harvard University

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## 225.02D Inner Accretion Disk Regions of Black Hole X-ray Binaries

**Author(s):** Greg Salvesen<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Colorado at Boulder

## 225.03D Listening to the beat of a 400 solar-mass, middle-weight black hole

**Author(s):** Dheeraj R Pasham<sup>2</sup>, Tod E. Strohmayer<sup>1</sup>, Richard Mushotzky<sup>2</sup>

*Institution(s):* <sup>1</sup> NASA/GSFC, <sup>2</sup> University of Maryland College Park

## 225.04 Do Magnetic Fields Destroy Black Hole g-Modes?

**Author(s):** Manuel Ortega-Rodriguez<sup>2</sup>, Hugo Solis-Sanchez<sup>2</sup>, Agustin Arguedas-Leiva<sup>2</sup>, Robert V. Wagoner<sup>1</sup>, Adam Levine<sup>1</sup>

*Institution(s):* <sup>1</sup> Stanford University, <sup>2</sup> Universidad de Costa Rica

## 225.05 The effect of spectral state transitions in accretion onto black holes regulated by radiative feedback

**Author(s):** KwangHo Park<sup>2</sup>, Massimo Ricotti<sup>3</sup>, Tiziana DiMatteo<sup>1</sup>, Christopher S. Reynolds<sup>3</sup>, Tamara Bogdanovic<sup>2</sup>

*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> Georgia Institute of Technology, <sup>3</sup> University of Maryland at College Park

## 225.06 Thin Disks Gone MAD: Magnetically Arrested Accretion in the Thin Regime

**Author(s):** Mark J. Avara<sup>1</sup>, Jonathan C. McKinney<sup>1</sup>, Christopher S. Reynolds<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Maryland

## 226 Tech Industry Careers: AAS Employment Committee Panel Discussion

Tuesday, 2:00 pm - 3:30 pm; 606

In today's employment environment, astronomers are facing unprecedented challenges in their quest to find, maintain, and take full advantage of meaningful careers. For those seeking traditional academic jobs, the prospects are few and competition is extreme. For those interested in pursuing opportunities in other fields, such as private industry, government, finance or media, the transition may be mysterious or even bewildering. Once we've embarked upon our chosen path, the road to success comes with continued difficulties as we struggle to balance a broad host of crucially important non-scientific duties. We propose to address these challenges and more in our panel discussion on Tech Industry Careers, part of the Employment Committee's series of professional development workshops and seminars at the annual winter meetings of the American Astronomical Society (AAS). We'll explore methods and solutions to facing a diverse set of workforce skills, including: mentoring, motivating, and leading. We'll hear from speakers who have successfully transferred their astronomy training to a diverse set of successful careers in the tech industry to share their experiences and lessons learned, while encouraging lively dialogue with workshop participants. We plan to create an opportunity to broadly engage the AAS membership in recognition of and discussion of the wide range of career paths possible for those trained in astronomy and astrophysics, while also exploring real-world tools for succeeding in professions of all types.

**Chair(s):** Blake Bullock (*Northrop Grumman Space Tech.*)

## 227 Spiral Galaxies

Tuesday, 2:00 pm - 3:30 pm; 607

Chair(s): Marja Seidel (*Instituto de Astrofísica de Canarias*)

### 227.01 Effect of Galactic Flyby Encounters on Disk Galaxy Evolution: Stellar and Gaseous Warp Formation

Author(s): Jeonghwan Henry Kim<sup>2</sup>, Sebastien Peirani<sup>1</sup>, Suk-Jin Yoon<sup>2</sup>  
 Institution(s): <sup>1</sup> *Institute d'Astrophysique de Paris*, <sup>2</sup> *Yonsei University*

### 227.02 Tidal Stream Models From Simple to Complex

Author(s): Mark A. Fardal<sup>1</sup>  
 Institution(s): <sup>1</sup> *University of Massachusetts*

### 227.03 Simulated Disk Galaxies over Cosmic Time

Author(s): Jonathan C. Bird<sup>1</sup>  
 Institution(s): <sup>1</sup> *Vanderbilt University*

### 227.04 Galaxy Zoo: spiral galaxy morphologies and their relation to the star-forming main sequence

Author(s): Kyle Willett<sup>7</sup>, Kevin Schawinski<sup>1</sup>, Karen Masters<sup>2</sup>, Tom Melvin<sup>2</sup>, Ramin A. Skibba<sup>4</sup>, Robert Nichol<sup>2</sup>, Edmond Cheung<sup>5</sup>, Chris Lintott<sup>8</sup>, Brooke D Simmons<sup>8</sup>, Sugata Kaviraj<sup>6</sup>, William C. Keel<sup>3</sup>, Lucy Fortson<sup>7</sup>  
 Institution(s): <sup>1</sup> *ETH Zurich*, <sup>2</sup> *ICG, University of Portsmouth*, <sup>3</sup> *University of Alabama*, <sup>4</sup> *University of California San Diego*, <sup>5</sup> *University of California Santa Cruz*, <sup>6</sup> *University of Hertfordshire*, <sup>7</sup> *University of Minnesota*, <sup>8</sup> *University of Oxford*

Contributing team(s): Galaxy Zoo volunteers

### 227.05 ALMA and HST Observations of the Molecular Environment, Star formation Activity and Cluster Dissolution In NGC 1097

Author(s): Kartik Sheth<sup>3</sup>, Michael W. Regan<sup>4</sup>, Buntu Ngcebetsa<sup>5</sup>, Kotaro Kohno<sup>2</sup>, Peter J. Teuben<sup>6</sup>, Stuart N. Vogel<sup>6</sup>, Eric Villard<sup>1</sup>, Tommy Wiklind<sup>1</sup>, Andreas Lundgren<sup>1</sup>  
 Institution(s): <sup>1</sup> *ALMA / JAO*, <sup>2</sup> *NAOJ*, <sup>3</sup> *NRAO*, <sup>4</sup> *STScI*, <sup>5</sup> *University of Capetown*, <sup>6</sup> *University of Maryland*

### 227.06 Counter-Rotating and Lagging Extra-planar HI in NGC 4559

Author(s): Carlos J. Vargas<sup>2</sup>, George Heald<sup>1</sup>, Rene A.M. Walterbos<sup>2</sup>, Filippo Fraternali<sup>3</sup>, Maria T. Patterson<sup>4</sup>  
 Institution(s): <sup>1</sup> *ASTRON*, <sup>2</sup> *New Mexico State University*, <sup>3</sup> *University of Bologna*, <sup>4</sup> *University of Chicago*  
 Contributing team(s): HALOGAS

### 227.07 Nuclear Rings in Barred Galaxies

Author(s): Juntai Shen<sup>1</sup>  
 Institution(s): <sup>1</sup> *Shanghai Astronomical Observatory*

### 227.08 M51 and the Effect of the Arm Resonance and Interaction on Diffuse X-ray Emission

Author(s): Laura D. Vega<sup>1</sup>, Eric M. Schlegel<sup>2</sup>, Marilyn Moore<sup>2</sup>  
 Institution(s): <sup>1</sup> *Fisk University*, <sup>2</sup> *Univ of Texas at San Antonio*

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## 227.09 Extragalactic Ultraviolet Reflection Nebulae

**Author(s):** Edmund J. Hodges-Kluck<sup>1</sup>, Joel N. Bregman<sup>1</sup>

*Institution(s):*<sup>1</sup> *University of Michigan*

## 228 The International Year of Light 2015 (IYL2015): Education and Outreach Opportunities

Tuesday, 2:00 pm - 3:30 pm; 608

**Chair(s):** Gregory Schultz (*Astronomical Society of the Pacific*)

### 228.01 Galileoscope: From IYA 2009 to IYL 2015

**Author(s):** Douglas N. Arion<sup>1</sup>, Richard Tresch Fienberg<sup>1</sup>

*Institution(s):*<sup>1</sup> *Galileoscope LLC*

### 228.02 Dark Skies Preservation through Responsible Lighting: the IYL2015 Quality Lighting Kit

**Author(s):** Constance E. Walker<sup>1</sup>

*Institution(s):*<sup>1</sup> *NOAO*

### 228.03 "Light: Beyond the Bulb": A Project for the International Year of Light 2015

**Author(s):** Watzke Megan<sup>1</sup>, Kimberly K. Arcand<sup>1</sup>

*Institution(s):*<sup>1</sup> *Chandra X-ray Center*

### 228.04 Losing the Dark: Public Outreach about Light Pollution and Its Mitigation

**Author(s):** Carolyn Collins Petersen<sup>2</sup>, Mark C. Petersen<sup>2</sup>, Constance E. Walker<sup>3</sup>, W. Scott Kardel<sup>1</sup>

*Institution(s):*<sup>1</sup> *International Dark Sky Association*, <sup>2</sup> *Loch Ness Productions*, <sup>3</sup> *National Optical Astronomy Observatory*

Contributing team(s): International Dark Sky Association Education Committee

### 228.05 NASA SOFIA International Year of Light (IYL) Event: Infrared Light: Hanging out in the Stratosphere

**Author(s):** Coral Clark<sup>3</sup>, Dana E. Backman<sup>1</sup>, Pamela Harman<sup>2</sup>, Nicholas Veronico<sup>1</sup>

*Institution(s):*<sup>1</sup> *NASA SOFIA*, <sup>2</sup> *SETI Institute*, <sup>3</sup> *USRA*

### 228.06 Joliet Junior College and the 2015 International Year of Light's Cosmic Light Theme

**Author(s):** Noella L. D'Cruz<sup>1</sup>

*Institution(s):*<sup>1</sup> *Joliet Junior College*

## 229 Activity and Variability in Low-Mass Stars

Tuesday, 2:00 pm - 3:30 pm; 609

**Chair(s):** Leslie Hebb (*Hobart and William Smith Colleges*)

### 229.01 Predicting Lyman-alpha and Mg II Fluxes from Low-Mass Stars

**Author(s):** Evgenya Shkolnik<sup>2</sup>, Kristina Rolph<sup>1</sup>, Sarah Peacock<sup>3</sup>, Travis Barman<sup>3</sup>

*Institution(s):*<sup>1</sup> *Franklin and Marshall College*, <sup>2</sup> *Lowell Observatory*, <sup>3</sup> *University of Arizona*



- 229.02 Examining Flare Rates in Close M dwarf + White Dwarf binary pairs**  
**Author(s):** Dylan P. Morgan<sup>1</sup>, Andrew A. West<sup>1</sup>, Andrew C. Becker<sup>2</sup>  
*Institution(s):* <sup>1</sup> Boston Univ., <sup>2</sup> University of Washington
- 229.03 Living with an Old Red Dwarf: X-ray-UV Emissions of Kapteyn's Star - Effects of X-UV radiation on Habitable Zone Planets hosted by old Red Dwarf Stars**  
**Author(s):** Edward F. Guinan<sup>1</sup>, Allyn J. Durbin<sup>1</sup>, Scott G. Engle<sup>1</sup>  
*Institution(s):* <sup>1</sup> Villanova Univ.
- 229.04 Rotation, Activity, and Planets in a Large Uniform Sample of Solar Analogs**  
**Author(s):** Derek L. Buzasi<sup>1</sup>, Andy Lezcano<sup>1</sup>, Lindsey Carboneau<sup>1</sup>, Carly Hessler<sup>1</sup>, Heather L. Preston<sup>1</sup>  
*Institution(s):* <sup>1</sup> Florida Gulf Coast University
- 229.05 Predicting the Detectability of Granulation Flicker in the K2 Era**  
**Author(s):** Fabienne A. Bastien<sup>3</sup>, Andrew Vanderburg<sup>1</sup>, John A. Johnson<sup>1</sup>, Joshua Pepper<sup>2</sup>  
*Institution(s):* <sup>1</sup> Harvard University, <sup>2</sup> Lehigh University, <sup>3</sup> Pennsylvania State University
- 229.06 The Stellar Activity of an M Dwarf Binary from Deconvolved Kepler Light Curves**  
**Author(s):** John C. Lurie<sup>1</sup>, James R. A. Davenport<sup>1</sup>, Suzanne L. Hawley<sup>1</sup>, Tessa D. Wilkinson<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington
- 229.07D Using Transiting Planets to Model Starspot Evolution with Kepler**  
**Author(s):** James R. A. Davenport<sup>2</sup>, Leslie Hebb<sup>1</sup>, Suzanne L. Hawley<sup>2</sup>  
*Institution(s):* <sup>1</sup> Hobart and William Smith Colleges, <sup>2</sup> University of Washington
- 229.08 Large Scale Dynamos in Stars**  
**Author(s):** Ethan T. Vishniac<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Saskatchewan

## 230 Star Associations, Star Clusters - Galactic & Extra-galactic II

Tuesday, 2:00 pm - 3:30 pm; 611

**Chair(s):** Jeffrey Carlin (*Rensselaer Polytechnic Institute*)

- 230.01D Photometric and Kinematic Studies of Extragalactic Globular Cluster Systems**  
**Author(s):** Jessica L. Windschitl-Dowell<sup>1</sup>  
*Institution(s):* <sup>1</sup> Indiana University
- 230.02 Uncovering Multiple Populations in Globular Clusters with Washington Photometry**  
**Author(s):** Douglas Geisler<sup>3</sup>, Jeff Cummings<sup>2</sup>, Sandro Villanova<sup>3</sup>, Giovanni Carraro<sup>1</sup>  
*Institution(s):* <sup>1</sup> European Southern Observatory, <sup>2</sup> Johns Hopkins University, <sup>3</sup> Universidad de Concepcion

# TUESDAY, 6 JANUARY 2015

## 230.03 Optical and Near-Infrared Photometry of Globular Clusters in the Coma cD NGC 4874

**Author(s):** Hyejeon Cho<sup>4</sup>, John P. Blakeslee<sup>1</sup>, Young-Wook Lee<sup>4</sup>, Eric W. Peng<sup>2</sup>, Joseph B. Jensen<sup>3</sup>

*Institution(s):* <sup>1</sup> NRC-HIA, <sup>2</sup> Peking University, <sup>3</sup> Utah Valley University, <sup>4</sup> Yonsei University

## 230.04D Ruprecht 147: The oldest nearby benchmark star cluster

**Author(s):** Jason L. Curtis<sup>1</sup>, Jason Wright<sup>1</sup>

*Institution(s):* <sup>1</sup> Penn State University

## 230.05 Identifying new massive stars in Carina

**Author(s):** Michael J Alexander<sup>2</sup>, M. Virginia McSwain<sup>2</sup>, Matthew S. Povich<sup>1</sup>, Richard J Hanes<sup>2</sup>

*Institution(s):* <sup>1</sup> California State University, <sup>2</sup> Lehigh University

## 230.06 A VLBI Resolution of the Pleiades Distance Controversy

**Author(s):** Carl Melis<sup>5</sup>, Mark J. Reid<sup>2</sup>, Amy J. Mioduszewski<sup>4</sup>, John R. Stauffer<sup>3</sup>, Geoffrey C. Bower<sup>1</sup>

*Institution(s):* <sup>1</sup> ASIAA, <sup>2</sup> Harvard/CfA, <sup>3</sup> IPAC/Caltech, <sup>4</sup> NRAO, <sup>5</sup> UC San Diego

## 230.07 Integrated Light Chemical Abundance Analyses of 7 M31 Outer Halo Globular Clusters from the Pan-Andromeda Archaeological Survey

**Author(s):** Charli Sakari<sup>4</sup>, Kim Venn<sup>3</sup>, Dougal Mackey<sup>1</sup>, Matthew D. Shetrone<sup>2</sup>, Aaron L. Dotter<sup>1</sup>, George Wallerstein<sup>4</sup>

*Institution(s):* <sup>1</sup> Australian National University, <sup>2</sup> McDonald Observatory, University of Texas at Austin, <sup>3</sup> University of Victoria, <sup>4</sup> University of Washington

## 231 Galaxy Simulations and Techniques

Tuesday, 2:00 pm - 3:30 pm; 612

**Chair(s):** Andrew Fox (*Space Telescope Science Institute*)

### 231.01 Dynamical Scaling Relations and the Angular Momentum Problem in the FIRE Simulations

**Author(s):** Denise Schmitz<sup>1</sup>, Philip F. Hopkins<sup>1</sup>, Eliot Quataert<sup>3</sup>, Dusan Keres<sup>4</sup>, Claude-Andre Faucher-Giguere<sup>2</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Northwestern University, <sup>3</sup> University of California, Berkeley, <sup>4</sup> University of California, San Diego

### 231.02 Supernova Feedback and Multiphase Interstellar Medium

**Author(s):** Miao Li<sup>1</sup>, Jeremiah P. Ostriker<sup>3</sup>, Renyue Cen<sup>3</sup>, Greg Bryan<sup>1</sup>, Thorsten Naab<sup>2</sup>

*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> Max Planck Institute for Astrophysics, <sup>3</sup> Princeton University

### 231.03 Modeling the Dynamics of Interacting Galaxy Pairs - Testing Identikit Using GADGET SPH Simulations

**Author(s):** S Alireza Mortazavi<sup>2</sup>, Jennifer Lotz<sup>3</sup>, Joshua E. Barnes<sup>1</sup>

*Institution(s):* <sup>1</sup> Institute for Astronomy, University of Hawaii, <sup>2</sup> Johns Hopkins University, <sup>3</sup> Space Telescope Science Institute

## 231.04D The Faint Extragalactic Radio Sky at Small and Large Angular Scales

**Author(s):** Tessa Vernstrom<sup>3</sup>, Jasper Wall<sup>3</sup>, Douglas Scott<sup>3</sup>, James J. Condon<sup>2</sup>, Kenneth I. Kellermann<sup>2</sup>, William D. Cotton<sup>2</sup>, Richard A. Perley<sup>2</sup>, Edward B. Fomalont<sup>2</sup>, Ray Norris<sup>1</sup>, Neal A. Miller<sup>4</sup>

*Institution(s):* <sup>1</sup> CSIRO, <sup>2</sup> NRAO, <sup>3</sup> University of British Columbia, <sup>4</sup> University of Maryland

## 231.05 Improving Photometric Redshift Accuracy and Computational Efficiency

**Author(s):** Josh S Speagle<sup>2</sup>, Peter L. Capak<sup>1</sup>, Daniel Masters<sup>1</sup>, Charles L. Steinhardt<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Harvard University

## 231.06 Simultaneous Estimation of Photometric Redshifts and SED Parameters: Improved Techniques and a Realistic Error Budget

**Author(s):** Viviana Acquaviva<sup>2</sup>, Anand Raichoor<sup>1</sup>, Eric J. Gawiser<sup>3</sup>

*Institution(s):* <sup>1</sup> CEA, <sup>2</sup> CUNY NYC College of Technology, <sup>3</sup> Rutgers, the State University of New Jersey

## 231.07 Redefined Galaxy Stellar Masses with Multi-Band Imaging

**Author(s):** Joel C. Roediger<sup>1</sup>, Stephane Courteau<sup>2</sup>

*Institution(s):* <sup>1</sup> NRC Herzberg Astronomy & Astrophysics, <sup>2</sup> Queen's University

## 232 Licensing Astrophysics Codes: What You Need to Know

Tuesday, 2:00 pm - 3:30 pm; 615

Research in astronomy is increasingly dependent on software methods and astronomers are increasingly required to share their codes; those who write software need to choose a license that delineates whether, when and how others may use and extend this software. Building on comments and questions about licensing in the January 2014 AAS special session "Astrophysics Code Sharing II: The Sequel", this session, organized by the Astrophysics Source Code Library (ASCL) and AAS's Working Group on Astronomical Software (WGAS), and the Moore-Sloan Data Science Environment, explores why providing an explicit license for software is important, explains different common licenses, examines intellectual property concerns common to universities, and provides information on restrictions that arise from ITAR. A panel of speakers will discuss code licensing, share considerations that arise when choosing a license, and benefits of the licenses they chose. Institutional and governmental concerns about intellectual property, its licensing, use, and release, will also be covered. The floor will then be open for discussion and questions.

**Chair(s):** Frossie Economou (LSST) & David Hogg (New York Univ.)

### 232.01 Copy-left and Copy-right

**Author(s):** Jacob VanderPlas<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

### 232.02 University tech transfer perspective on software licensing

**Author(s):** Laura Dorsey<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

# TUESDAY, 6 JANUARY 2015

## 232.03 Relicensing the Montage Image Mosaic Engine.

**Author(s):** G. Bruce Berriman<sup>1</sup>

*Institution(s):*<sup>1</sup> Caltech

## 232.04 Export Controls on Astrophysical Simulation Codes

**Author(s):** Daniel Whalen<sup>1</sup>

*Institution(s):*<sup>1</sup> Heidelberg ITA

## 232.05 Why licensing is just the first step

**Author(s):** Arfon M Smith<sup>1</sup>

*Institution(s):*<sup>1</sup> GitHub Inc.

## 232.06 Licenses in the wild

**Author(s):** Daniel Foreman-Mackey<sup>1</sup>

*Institution(s):*<sup>1</sup> NYU

## 233 Celebrating 10 Years of Diversity in Astronomy With Pre-MAP

Tuesday, 2:00 pm - 3:30 pm; 620

The 225th AAS meeting in Seattle coincides with the 10th year of the Pre-Major in Astronomy Program (Pre-MAP) at the University of Washington. Pre-MAP focuses on increasing the representation of women and minorities in astronomy and STEM fields through engaging college freshman and transfer students in research, mentoring, and community building as soon as they begin at UW. In this session and its associated poster session we have three goals: 1) to share the techniques that have sustained Pre-MAP and strategies that have proved successful for mentoring under-represented students; 2) to celebrate the numerous programs at different institutions that promote diversity in physics and astronomy; and 3) to highlight the hard work done by undergraduate students that have gone through -- or are currently enrolled -- in Pre-MAP and similar programs.

**Chair(s):** Sarah Schmidt (*Ohio State University*)

### 233.01 Overview of the University of Washington's Pre-Major in Astronomy Program

**Author(s):** Daryl Haggard<sup>1</sup>

*Institution(s):*<sup>1</sup> Amherst College

Contributing team(s): Pre-Major in Astronomy Program

### 233.02 Recruiting Diverse Students and Enabling Them to Succeed in STEM

**Author(s):** Michael J. Tremmel<sup>1</sup>

*Institution(s):*<sup>1</sup> University of Washington

Contributing team(s): Pre-Major in Astronomy Program

### 233.03 Evaluation of UW's Pre-MAP Program

**Author(s):** John P. Wisniewski<sup>2</sup>, Sarah M Garner<sup>3</sup>, Michael J. Tremmel<sup>3</sup>, Sarah J. Schmidt<sup>1</sup>, Eric Agol<sup>3</sup>

*Institution(s):*<sup>1</sup> Ohio State University, <sup>2</sup> University of Oklahoma, <sup>3</sup> University of Washington

- 233.04 Boston University Pre-Majors Program (BU Pre-Map): Promoting Diversity through First-Year Undergraduate Research**  
**Author(s):** Andrew A. West<sup>1</sup>  
*Institution(s):* <sup>1</sup> Boston Univ.
- 233.05 AstroCom NYC: A Partnership to Support Underrepresented Minorities in Astronomy and Astrophysics Research and Education**  
**Author(s):** K.E. Saavik Ford<sup>2</sup>, Timothy Paglione<sup>5</sup>, Dennis Robbins<sup>4</sup>, Mordecai-Mark Mac Low<sup>1</sup>, Marcel A. Agüeros<sup>3</sup>  
*Institution(s):* <sup>1</sup> American Museum Natural History, <sup>2</sup> Borough of Manhattan Community College - CUNY, <sup>3</sup> Columbia University, <sup>4</sup> Hunter College, <sup>5</sup> York College
- 233.06 The First Year of GRAD-MAP**  
**Author(s):** Katherine Jameson<sup>1</sup>, Ashlee N. Wilkins<sup>1</sup>, Sylvia Zhu<sup>1</sup>, Alexander McCormick<sup>1</sup>, David Green<sup>1</sup>, Myra Stone<sup>1</sup>, Corbin James Taylor<sup>1</sup>, Sonali J. Shukla<sup>1</sup>, Stuart N. Vogel<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Maryland
- 233.07 Columbia's Bridge to the Ph.D. Program: A research-focused initiative facilitating the transition to graduate school**  
**Author(s):** Marcel A. Agüeros<sup>1</sup>  
*Institution(s):* <sup>1</sup> Columbia Univ.
- 233.08 The Fisk-Vanderbilt Masters-to-PhD Bridge Program**  
**Author(s):** Jillian M. Bellovary<sup>2</sup>, Keivan Stassun<sup>2</sup>, Kelly Holley-Bockelmann<sup>2</sup>, Rodolfo Montez<sup>2</sup>, Dina Myers Stroud<sup>2</sup>, Arnold Burger<sup>1</sup>  
*Institution(s):* <sup>1</sup> Fisk University, <sup>2</sup> Vanderbilt University
- 233.09 CAMPARE and Cal-Bridge: Two Institutional Networks Increasing Diversity in Astronomy**  
**Author(s):** Alexander L. Rudolph<sup>1</sup>, Chris David Impey<sup>5</sup>, Cynthia B. Phillips<sup>3</sup>, Matthew S. Povich<sup>1</sup>, Edward E. Prather<sup>2</sup>, Tammy A. Smecker-Hane<sup>4</sup>  
*Institution(s):* <sup>1</sup> Cal Poly Pomona, <sup>2</sup> Center for Astronomy Education (CAE) Univ. of Arizona, <sup>3</sup> SETI Institute, <sup>4</sup> UC Irvine, <sup>5</sup> University of Arizona Steward Observatory
- 233.10 On the Importance of Proudness Projects During Transitions: Design Principles and Examples**  
**Author(s):** Angie Little<sup>1</sup>  
*Institution(s):* <sup>1</sup> Graduate School of Education, UC Berkeley

# TUESDAY, 6 JANUARY 2015

## 234 Heineman Prize: The Dark and Light Side of Galaxy Formation

Tuesday, 3:40 pm - 4:30 pm; 6E

Chair(s): Fred Dylla (*AIP*)



**Piero Madau** (*University of California, Santa Cruz*)

The AAS Heineman Prize Committee recommends Piero Madau with the following citation: "For fundamental contributions to our understanding of the era of first light in the universe, the ionization and heating of the intergalactic medium, and the formation and evolution of galaxies."

### 234.01 The Dark and Light Side of Galaxy Formation

Author(s): Piero Madau<sup>1</sup>

Institution(s): <sup>1</sup> *University of California, Santa Cruz*

## 235 HEAD Rossi Prize Talk: The Fermi Bubbles; Douglas Finkbeiner, Tracy Slatyer, Meng Su

Tuesday, 4:30 pm - 5:20 pm; 6E



**Douglas Finkbeiner** (*Harvard-Smithsonian Center for Astrophysics (CfA)*), **Tracy Slatyer** (*Massachusetts Institute of Technology (MIT)*), **Meng Su** (*MIT*) (*Not Pictured*)

The scientists awarded the 2014 Rossi Prize were Professor Douglas Finkbeiner of the Harvard-Smithsonian Center for Astrophysics (CfA), Professor Tracy Slatyer of the Massachusetts Institute of Technology (MIT) and Meng Su, a joint Einstein/Pappalardo fellow of physics at MIT and the Kavli Institute for Astrophysics and Space Research for their discovery, in gamma rays, of the large unanticipated Galactic structure now called the "Fermi Bubbles." From end to end, Fermi bubbles extend 50,000 light years, or roughly half of the Milky Way's diameter. These structures may be the remnant of an eruption from a supersized black hole at the center of our Galaxy.

Chair(s): Nicholas White (*USRA*)



## Career Hour 4: Transitioning Your Career Beyond Academia

**Tuesday, 5:30 pm - 6:30 pm; 618/619**

Making the transition from a career in academia to one in another sector is not as elusive or challenging as one may think. Science and engineering professionals who have spent time in academia have an amazing amount of transferable skills to myriad industries, and decision-makers and hiring-managers know this. The key is being able to articulate your true value in a way that decision-makers can understand (using their language). We will examine how to craft a successful strategy to research, prepare and ultimately transition to a career outside academia, and we will explore how to determine the right careers for your needs, desires and ambitions. And finally, we will keep in mind that even though we may leave academia now, we still can stay connected and collaborative with colleagues in higher education, as we may want to come back in the future. We will discuss tactics to ensuring the door is always open for your return.

**Organizer(s): Alaina Levine** (*Quantum Success Solutions*)

## 236 JWST Town Hall

**Tuesday, 6:30 pm - 8:00 pm; 6E**

The James Webb Space Telescope will be the most powerful telescope that astronomers have ever constructed, and is essential for answering the top science questions outlined in the NAC Astrophysics 2000 and 2010 Decadal Surveys. The Jan 2015 AAS meeting will take place less than three years before JWST's Cycle 1 Call for Proposals. To begin preparing the community to capitalize on early science observations, STScI will present the science timeline for JWST as it relates to proposal planning and future availability of software tools. STScI will also discuss science policies for the GO community. The Town Hall will also feature short presentations on JWST status, engineering, and science. Dr. Eric Smith (JWST Acting Program Director, NASA HQ) will first describe the progress of JWST in 2014. This will include an update on the program budget, schedule, and the results of major Integration and Testing programs from the year such as the second Cryo Vacuum Test of the instrument module. An additional presentation will be given by Dr. Mark Clampin (JWST Observatory Project Scientist, NASA GSFC), showing the separation of JWST from its launch vehicle and the subsequent deployment of the telescope on its way to L2.

**Chair(s): Jason Kalirai** (*Space Telescope Science Institute*)

# TUESDAY, 6 JANUARY 2015

## 237 NRAO Town Hall

Tuesday, 6:30 pm - 8:30 pm; 4C-3/4

This Town Hall will inform the AAS membership about the status of National Radio Astronomy Observatory (NRAO) science and science operations, development programs, and construction projects. This Town Hall will open with a reception that will be followed by a presentation by NRAO Director Tony Beasley that will update the membership regarding: (a) construction at the Atacama Large Millimeter/submillimeter Array (ALMA); (b) science opportunities and development programs at ALMA, the Very Large Array (VLA), the Green Bank Telescope (GBT), and the Very Long Baseline Array (VLBA); (c) recent science results from across NRAO; and (d) technical development for the next generation of radio astronomy research facilities. The NRAO Town Hall will include at least 30 minutes for discussion and answering audience questions.

**Chair(s): Anthony Beasley** (*National Radio Astronomy Observatory*)

## 238 HEAD Business Meeting

Tuesday, 6:30 pm - 7:30 pm; 6B

**Chair(s): Nicholas White** (*USRA*)

## Gemini Open House

Tuesday, 6:30 pm - 8:30 pm; 6A

Join the Gemini Director and other staff to learn about recent developments at Gemini Observatory, including new capabilities and observing modes, such as Fast Turnaround programs and Long and Large Programs. Gemini is introducing more flexible methods to procure instrumentation, which encourage collaboration. Planning for the future and identifying users' needs are key topics of discussion. Members of advisory bodies including the Science and Technology Advisory Committee will also participate.

**Organizer(s): Nancy Levenson** (*Gemini Observatory*)

## Open Mic Night

Tuesday, 8:00 pm - 9:00 pm; 616/617

The AAS will be holding the second annual open-mic night for our talented members to share their musical and other talents with their friends and colleagues. Held Tuesday evening, we invite all musicians, singers, story tellers, comedians, poets, spoken word enthusiasts or other performers (e.g. jugglers) to participate. We welcome all styles and genres of music from bluegrass to speed metal...seriously! Come have some fun and strut your stuff. Cocktails, wine and beer will be available for purchase.



POSTERS

**239 Celebrating 10 Years of Diversity in Astronomy with Pre-MAP Posters**

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

**239.01 Dust Attenuation at High Redshift**

**Author(s):** Danielle Skinner<sup>1</sup>, Lauren M. Anderson<sup>1</sup>, Thomas R. Quinn<sup>1</sup>, Fabio Governato<sup>1</sup>, Michael J. Tremmel<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

**239.02 Flare Rate and Statistics for the M Dwarf GJ 1243 With Kepler**

**Author(s):** Emily Johnson<sup>1</sup>, James R. A. Davenport<sup>1</sup>, Suzanne L. Hawley<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

**239.03 The Effects of Clouds and Hazes on the Spectra of Terrestrial and Sub-Neptune Planets**

**Author(s):** Guadalupe Tovar<sup>1</sup>, Giada Arney<sup>1</sup>, Victoria Meadows<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

**239.04 Measuring Direction and Miximiation of a Pulsed Plasma Thruster**

**Author(s):** Brittney Dodson<sup>1</sup>, Robert Winglee<sup>1</sup>, Ian Johnson<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

**239.05 The Grinnell Science Project: Results of Over Two Decades of Reform Aimed at Inclusion in Science and Mathematics**

**Author(s):** Minna Mahlab<sup>1</sup>

*Institution(s):* <sup>1</sup> Grinnell College

Contributing team(s): Grinnell Science Project Team -- Grinnell College

**239.06 CAMPARE and Cal-Bridge: Two Institutional Networks Increasing Diversity in Astronomy**

**Author(s):** Alexander L. Rudolph<sup>1</sup>, Chris David Impey<sup>5</sup>, Cynthia B. Phillips<sup>3</sup>, Matthew S. Povich<sup>1</sup>, Edward E. Prather<sup>2</sup>, Tammy A. Smecker-Hane<sup>4</sup>

*Institution(s):* <sup>1</sup> Cal Poly Pomona, <sup>2</sup> Center for Astronomy Education (CAE)

*Univ. of Arizona, <sup>3</sup> SETI Institute, <sup>4</sup> UC Irvine, <sup>5</sup> University of Arizona Steward Observatory*

**239.07 CU-STARS: Promoting STEM Diversity by Addressing First-year Attrition of Underrepresented Minorities**

**Author(s):** Cara Battersby<sup>1</sup>, Devin W. Silvia<sup>2</sup>, Erica Ellingson<sup>3</sup>, Andrew P. Sturner<sup>3</sup>, Courtney Peck<sup>3</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Michigan State University, <sup>3</sup> University of Colorado at Boulder

**239.08 A community of scientists: cultivating scientific identity among undergraduates within the Berkeley Compass Project**

**Author(s):** Ana V. Aceves<sup>1</sup>

*Institution(s):* <sup>1</sup> University of California, Berkeley

Contributing team(s): The Berkeley Compass Project

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## 239.09 A community of educators: professional development for graduate students within the Berkeley Compass Project

**Author(s):** Josiah Schwab<sup>1</sup>, Nathaniel Roth<sup>1</sup>

*Institution(s):* <sup>1</sup> University of California, Berkeley

Contributing team(s): The Berkeley Compass Project

## 240 Undergraduate Majors and Graduate Students: Diversity, Retention, Mentorship, and Research Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 240.01 Past and Future: NSF PAARE at SC State

**Author(s):** Donald K. Walter<sup>5</sup>, Sean D. Brittain<sup>2</sup>, Jennifer Cash<sup>5</sup>, Dieter Hartmann<sup>2</sup>, Kenneth H. Hinkle<sup>4</sup>, Shirley Ho<sup>1</sup>, Steve B. Howell<sup>3</sup>, Jeremy R. King<sup>2</sup>, Mark D. Leising<sup>2</sup>, Kenneth J. Mighell<sup>4</sup>, Daniel M. Smith<sup>5</sup>

*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> Clemson University, <sup>3</sup> NASA Ames Research Center, <sup>4</sup> National Optical Astronomy Observatory, <sup>5</sup> South Carolina State Univ.

### 240.02 The Council On Undergraduate Research Division of Physics and Astronomy Distributed REU Program: Outcomes from the First Year of the Pilot Program

**Author(s):** John C. Armstrong<sup>3</sup>, Michael Jackson<sup>1</sup>, John Mateja<sup>2</sup>

*Institution(s):* <sup>1</sup> Central Washington University, <sup>2</sup> Murray State, <sup>3</sup> Weber State Univ.

### 240.03 The National Astronomy Consortium (NAC) - the University of Wisconsin-Madison Cohort

**Author(s):** Eric Hooper<sup>2</sup>, Kartik Sheth<sup>1</sup>, Elisabeth A.C. Mills<sup>1</sup>

*Institution(s):* <sup>1</sup> NRAO, <sup>2</sup> Univ. of Wisconsin-Madison

Contributing team(s): National Astronomy Consortium

### 240.04 Preparing new Earth Science teachers via a collaborative program between Research Scientists and Educators

**Author(s):** Jana Grcevich<sup>1</sup>, Ashley Pagnotta<sup>1</sup>, Mordecai-Mark Mac Low<sup>1</sup>, Michael Shara<sup>1</sup>, Kennet Flores<sup>1</sup>, Patricia A Nadeau<sup>1</sup>, Jocelyn Sessa<sup>1</sup>, Gokce Ustunisk<sup>1</sup>, Nasser Zirakparvar<sup>1</sup>, Denton Ebel<sup>1</sup>, George Harlow<sup>1</sup>, James D Webster<sup>1</sup>, Rosamond Kinzler<sup>1</sup>, Maritza B MacDonald<sup>1</sup>, Julie Contino<sup>1</sup>, Natasha Cooke-Nieves<sup>1</sup>, Elaine Howes<sup>1</sup>, Marion Zachowski<sup>1</sup>

*Institution(s):* <sup>1</sup> American Museum of Natural History

### 240.05 Using Data-Collection Sensors to Improve Reasoning About Experiment Design and Hypothesis Testing: An Undergraduate Course for Underrepresented Minorities Pursuing Careers Astrophysics Research

**Author(s):** Dennis M. Robbins<sup>2</sup>, K.E. Saavik Ford<sup>1</sup>

*Institution(s):* <sup>1</sup> Borough of Manhattan Community College, <sup>2</sup> Hunter College

### 240.06 AstroCom NYC: Expanding the Partnership

**Author(s):** Timothy Paglione<sup>5</sup>, Saavik Ford<sup>2</sup>, Marcel A. Agueros<sup>3</sup>, Mordecai-Mark Mac Low<sup>1</sup>, Dennis Robbins<sup>4</sup>

*Institution(s):* <sup>1</sup> AMNH, <sup>2</sup> BMCC, CUNY/AMNH, <sup>3</sup> Columbia U., <sup>4</sup> Hunter Coll., CUNY, <sup>5</sup> York College, CUNY/AMNH

- 240.07 The Undergraduate ALFALFA Team: A Model for Involving Undergraduates in Major Legacy Astronomy Research**  
**Author(s):** Parker Troischt<sup>6</sup>, Rebecca A. Koopmann<sup>14</sup>, Martha P. Haynes<sup>3</sup>, Sarah Higdon<sup>5</sup>, Thomas J. Balonek<sup>2</sup>, John M. Cannon<sup>9</sup>, Kimberly A. Coble<sup>1</sup>, David Craig<sup>19</sup>, Adriana Durbala<sup>18</sup>, Rose Finn<sup>12</sup>, G. Lyle Hoffman<sup>8</sup>, David A. Kornreich<sup>7</sup>, Mayra E. Lebron<sup>15</sup>, Mary Crone-Odekon<sup>13</sup>, Aileen A. O'Donoghue<sup>10</sup>, Ronald Paul Olowin<sup>11</sup>, Carmen Pantoja<sup>15</sup>, Jessica L. Rosenberg<sup>4</sup>, Aparna Venkatesan<sup>16</sup>, Eric M. Wilcots<sup>17</sup>  
*Institution(s):* <sup>1</sup> Chicago State University, <sup>2</sup> Colgate University, <sup>3</sup> Cornell University, <sup>4</sup> George Mason University, <sup>5</sup> Georgia Southern University, <sup>6</sup> Hartwick College, <sup>7</sup> Ithaca College, <sup>8</sup> Lafayette College, <sup>9</sup> Macalester College, <sup>10</sup> Saint Lawrence University, <sup>11</sup> Saint Mary's College of California, <sup>12</sup> Siena College, <sup>13</sup> Skidmore College, <sup>14</sup> Union College, <sup>15</sup> University of Puerto Rico, <sup>16</sup> University of San Francisco, <sup>17</sup> University of Wisconsin, <sup>18</sup> University of Wisconsin-Stevens Point, <sup>19</sup> West Texas A&M University  
 Contributing team(s): ALFALFA Team
- 240.08 Professional Development Through The University of Arizona Astronomy Club**  
**Author(s):** Allison M. McGraw<sup>1</sup>, Megan N Nieberding<sup>1</sup>, Carmen Austin<sup>1</sup>, Kevin Hardegree-Ullman<sup>2</sup>  
*Institution(s):* <sup>1</sup> The University of Arizona Steward Observatory, <sup>2</sup> The University of Toledo
- 240.09 Learning the Constellations: From Junior High to Undergraduate Descriptive Astronomy Class**  
**Author(s):** Denise C. Stephens<sup>1</sup>, Eric G. Hintz<sup>1</sup>, Maureen Hintz<sup>1</sup>, Jeannette Lawler<sup>1</sup>, Michael Jones<sup>1</sup>, Nathan Bench<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brigham Young Univ.
- 240.10 The Lowell Observatory Predoctoral Scholar Program**  
**Author(s):** Lisa A. Prato<sup>1</sup>  
*Institution(s):* <sup>1</sup> Lowell Observatory
- 240.11 Astrobites: Four Years of Astro-blogging**  
**Author(s):** Christopher Faesi<sup>2</sup>, Elisabeth R. Newton<sup>2</sup>, Maria Drout<sup>2</sup>, Meredith L. Rawls<sup>3</sup>, Benjamin Montet<sup>1</sup>, Nathan Sanders<sup>2</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Harvard Univ., <sup>3</sup> New Mexico State University  
 Contributing team(s): Astrobites collaboration

## 241 Education Practice: Undergraduate Non-Science Majors Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 241.01 Shedding Light on Astronomy Textbooks for Astro 101**  
**Author(s):** Andrea Urban<sup>1</sup>, Julia D. Silge<sup>1</sup>  
*Institution(s):* <sup>1</sup> Sapling Learning

## TUESDAY, 6 JANUARY 2015

- 241.02 From Picas to Pixels: An Astro 101 e-book**  
**Author(s):** Stephen J. Shawl<sup>4</sup>, Gene G. Byrd<sup>3</sup>, Susana E. Deustua<sup>2</sup>, Michael C. LoPresto<sup>1</sup>  
*Institution(s):* <sup>1</sup> Henry Ford College, <sup>2</sup> Space Telescope Science Institute, <sup>3</sup> University of Alabama, <sup>4</sup> University of Kansas
- 241.03 Automated Estimation of the Orbital Parameters of Jupiter's Moons**  
**Author(s):** Emma Western<sup>1</sup>, Gerald T. Ruch<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of St. Thomas
- 241.04 Integrating Robotic Observatories into Astronomy Labs**  
**Author(s):** Gerald T. Ruch<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of St. Thomas
- 241.05 Community College Non-Science Undergraduates Observe Exoplanet Transits with 8-inch Observatory in Glendale, Arizona**  
**Author(s):** Brian Gleim<sup>1</sup>, Henry Esteban<sup>1</sup>, Connor Lincoln<sup>1</sup>, Jason Price<sup>1</sup>, Elizabeth Giroux<sup>1</sup>, Noreen Lentowski<sup>1</sup>, Leslie Valencia<sup>1</sup>, Bryce Morris<sup>1</sup>, Blake Smith<sup>1</sup>, Chris Leffler<sup>1</sup>, Matt Bonilla<sup>1</sup>, Sara D. Watt<sup>1</sup>  
*Institution(s):* <sup>1</sup> Glendale Community College
- 241.06 Authentic Learning and Alien Worlds**  
**Author(s):** Sara D. Watt<sup>1</sup>, Keith Watt<sup>1</sup>, Brian Gleim<sup>1</sup>  
*Institution(s):* <sup>1</sup> Glendale Community College
- 241.07 At what distance can the human eye detect a candle flame?**  
**Author(s):** Kevin Krisciunas<sup>1</sup>, Don W. Carona<sup>1</sup>  
*Institution(s):* <sup>1</sup> Texas AandM University
- 241.08 Writing an Electronic Astronomy Book with Interactive Curricular Material**  
**Author(s):** Kristen L. Thompson<sup>1</sup>, Mario Belloni<sup>1</sup>, Wolfgang Christian<sup>1</sup>  
*Institution(s):* <sup>1</sup> Davidson College
- 241.09 A Planetary System Exploration Project for Introductory Astronomy and Astrobiology Courses**  
**Author(s):** Richard F. Rees<sup>1</sup>  
*Institution(s):* <sup>1</sup> Westfield State University
- 241.10 Activities Joining Learning Objectives to Assessments in Introductory Astronomy**  
**Author(s):** Stacy E. Palen<sup>2</sup>, Ana M. Larson<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington, <sup>2</sup> Weber State Univ.
- 241.11 "ASTRO 101" Course Materials 2.0: Next Generation Lecture Tutorials and Beyond**  
**Author(s):** Stephanie Slater<sup>1</sup>, Kevin Grazier<sup>1</sup>  
*Institution(s):* <sup>1</sup> CAPER Ctr Phys and Astro Educ Res
- 241.12 Strange Horizons: Teaching Usual and Unusual Atmospheric Effects using APOD**  
**Author(s):** Teresa Wilson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Michigan Technological University

## 242 Extending the Reach of Astronomical Professionals Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 242.01 Modern Publishing Approach of Journal of Astronomy & Earth Sciences Education

**Author(s):** Timothy F. Slater<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Wyoming

### 242.02 Google Hangouts: Leveraging Social Media to Reach the Education Community

**Author(s):** Bonnie Eisenhamer<sup>1</sup>, Frank Summers<sup>1</sup>, Dan McCallister<sup>1</sup>, Holly Ryer<sup>1</sup>

*Institution(s):* <sup>1</sup> STScI

### 242.03 Introducing Astronomy Allies: We are here to help!

**Author(s):** Heather Flewelling<sup>2</sup>, Katherine A. Alatalo<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech/IPAC, <sup>2</sup> University of Hawaii

### 242.04 An Update on the NASA Planetary Science Division Research and Analysis Program

**Author(s):** Christina Richey<sup>1</sup>, Max Bernstein<sup>1</sup>, Jonathan Rall<sup>1</sup>

*Institution(s):* <sup>1</sup> NASA HQ

## 243 Education and Public Outreach Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 243.01 Light Pollution Awareness through Globe at Night & IYL2015

**Author(s):** Constance E. Walker<sup>1</sup>

*Institution(s):* <sup>1</sup> NOAO

### 243.02 STARtorialist: Astronomy Outreach via Fashion, Sci-Fi, & Pop Culture

**Author(s):** Emily L. Rice<sup>1</sup>, Summer Ash<sup>2</sup>

*Institution(s):* <sup>1</sup> College of Staten Island, <sup>2</sup> Columbia University

### 243.03 Columbia University Public Outreach: Looking Beyond the Bright Lights in the Big City

**Author(s):** Summer Ash<sup>1</sup>, Marcel A. Agueros<sup>1</sup>

*Institution(s):* <sup>1</sup> Columbia University

### 243.04 Reaching for the Stars in your Golden Years: The Importance of Outreach for Senior Citizens

**Author(s):** Valerie Rapson<sup>1</sup>

*Institution(s):* <sup>1</sup> Rochester Institute of Technology

### 243.05 Scientific Discovery through Citizen Science via Popular Amateur Astrophotography

**Author(s):** Robert J. Nemiroff<sup>2</sup>, Jerry T. Bonnell<sup>3</sup>, Alice Allen<sup>1</sup>

*Institution(s):* <sup>1</sup> Astrophysics Source Code Library, <sup>2</sup> Michigan Technological Univ., <sup>3</sup> University of Maryland

# TUESDAY, 6 JANUARY 2015

## 243.06 The Arizona Galileoscope Project: A 5th Grade Rural Education Program

**Author(s):** Robert T. Sparks<sup>1</sup>, Stephen M. Pompea<sup>1</sup>, Constance E. Walker<sup>1</sup>  
*Institution(s):*<sup>1</sup> NOAO

## 243.07 Dark Skies, Bright Kids Year 6

**Author(s):** Sandra Liss<sup>1</sup>, Nicholas William Troup<sup>1</sup>, Kelsey E. Johnson<sup>1</sup>, Loreto D Barcos-Munoz<sup>1</sup>, Rachael Beaton<sup>1</sup>, Lauren Bittle<sup>1</sup>, Henry J Borish<sup>1</sup>, Andrew Burkhardt<sup>1</sup>, Joanna Corby<sup>1</sup>, Janice Dean<sup>1</sup>, Danielle Hancock<sup>1</sup>, Jennie King<sup>1</sup>, Brian Prager<sup>1</sup>, Charles Romero<sup>1</sup>, Kimberly R. Sokal<sup>1</sup>, Sabrina Stierwalt<sup>1</sup>, Trey Wenger<sup>1</sup>, Catherine Zucker<sup>1</sup>  
*Institution(s):*<sup>1</sup> University of Virginia

## 243.08 RU SciTech: Weaving Astronomy and Physics into a University-sponsored Summer Camp for Middle School Students

**Author(s):** Quyen N. Hart<sup>1</sup>  
*Institution(s):*<sup>1</sup> Regis University, Regis College

## 243.09 Using USNO's API to Obtain Data

**Author(s):** Michael V. Lesniak<sup>2</sup>, Daniel Pozniak<sup>2</sup>, Tarun Punnoose<sup>1</sup>  
*Institution(s):*<sup>1</sup> Science & Engineering Apprenticeship Program (SEAP), <sup>2</sup> U.S. Naval Observatory

## 243.10 The Aloha Telescope for K-12 STEM Education

**Author(s):** James R. Sowell<sup>1</sup>  
*Institution(s):*<sup>1</sup> Georgia Inst. of Tech.

## 243.11 Developing the OORCC: A Multifaceted Astronomical Research and Outreach Facility at the University of Oregon

**Author(s):** Teiler J Kwan<sup>1</sup>, Jeremy Bullis<sup>1</sup>, Annika Gustafsson<sup>1</sup>, Robert Scott Fisher<sup>1</sup>  
*Institution(s):*<sup>1</sup> University of Oregon

## 243.12 Physically Based Rendering in the Nightshade NG Visualization Platform

**Author(s):** Karrie Berglund<sup>1</sup>, Trystan Larey-Williams<sup>1</sup>, Rob Spearman<sup>1</sup>, Arthur Bogard<sup>1</sup>  
*Institution(s):*<sup>1</sup> Digitalis Education Solutions, Inc

## 244 NASA/IPAC Teacher Archive Research Program (NITARP) Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 244.01 NITARP Summative Evaluation Report: 2013 Class

**Author(s):** Luisa M. Rebull<sup>1</sup>, Kim Burtnyk<sup>3</sup>, Varoujan Gorjian<sup>2</sup>, Gordon K. Squires<sup>1</sup>  
*Institution(s):*<sup>1</sup> Caltech, <sup>2</sup> JPL, <sup>3</sup> Science for Society: Science Communication Consulting and Evaluation  
Contributing team(s): NITARP team

## 244.02 Crowd Sourcing as a Means of Collecting Astronomical Data

**Author(s):** Linda Childs<sup>3</sup>, Todd Burke<sup>2</sup>, Varoujan Gorjian<sup>4</sup>, Caroline Odden<sup>6</sup>, Sarp Orgul<sup>6</sup>, David Strasburger<sup>5</sup>, Kevin Tambara<sup>1</sup>

*Institution(s):* <sup>1</sup> Bert Lynn Middle School, <sup>2</sup> Estes Park High School, <sup>3</sup> Florida Virtual School, <sup>4</sup> JPL, <sup>5</sup> Noble & Greenough School, <sup>6</sup> Phillips Academy

## 244.03 Next Generation Scientists - Creating opportunities for high school students through astronomical research

**Author(s):** Madeline Kelly<sup>2</sup>, Hannah Cebulla<sup>1</sup>, Lynn Powers<sup>2</sup>

*Institution(s):* <sup>1</sup> Bozeman High School, <sup>2</sup> NITARP

## 244.04 NITARP: Measuring The Effectiveness of an Authentic Research Experience in Secondary Astronomy Education Through Concept Mapping

**Author(s):** Elin Deeb<sup>1</sup>, Luisa M. Rebull<sup>2</sup>, David V Black<sup>5</sup>, John Gibbs<sup>3</sup>, Estefania Larsen<sup>4</sup>

*Institution(s):* <sup>1</sup> Bear Creek High School, <sup>2</sup> Caltech, <sup>3</sup> Glencoe High School, <sup>4</sup> Millard South High School, <sup>5</sup> Walden School of Liberal Arts

## 245 Astronomy Education Research Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 245.01 Fostering a positive attitude towards science through college courses

**Author(s):** Helene Flohic<sup>1</sup>

*Institution(s):* <sup>1</sup> University of the Pacific

### 245.02 Astronomy for Astronomical Numbers: a Worldwide Massive Open Online Class

**Author(s):** Carmen Austin<sup>1</sup>, Chris David Impey<sup>1</sup>, Matthew Wenger<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Arizona

### 245.03 Applying Neurological Learning Research to an Intro Astronomy Online Lab Course

**Author(s):** Gene G. Byrd<sup>2</sup>, Dana Byrd<sup>1</sup>

*Institution(s):* <sup>1</sup> Texas A & M University-Kingsville, <sup>2</sup> University of Alabama - Tuscaloosa

### 245.04 Preliminary Evaluation of a New Cosmology Curriculum

**Author(s):** Kimberly A. Coble<sup>1</sup>, Dominique Martin<sup>1</sup>, Patricia Hayes<sup>1</sup>, Tom Targett<sup>2</sup>, Janelle M. Bailey<sup>3</sup>, Lynn R. Cominsky<sup>2</sup>

*Institution(s):* <sup>1</sup> Chicago State Univ., <sup>2</sup> Sonoma State Univ., <sup>3</sup> Temple Univ.

### 245.05 Learning to Work with Databases in Astronomy: Quantitative Analysis of Science Educators' and Students' Pre-/Post-Tests

**Author(s):** Andria C. Schwartz<sup>1</sup>, Andrea C Burrows<sup>1</sup>, Adam D. Myers<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Wyoming

### 245.06 Enhancing Undergraduate Education through Mentored Research and Practical Writing Experiences

**Author(s):** Denise C. Stephens<sup>1</sup>, Eric G. Hintz<sup>1</sup>, Michael D. Joner<sup>1</sup>, J. Ward Moody<sup>1</sup>

*Institution(s):* <sup>1</sup> Brigham Young Univ.

# TUESDAY, 6 JANUARY 2015

- 245.07 Using Multiple Methods to teach ASTR 101 students the Path of the Sun and Shadows**  
**Author(s):** Noella L. D’Cruz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Joliet Junior College
- 245.09 Do Gains in Secondary Teachers’ Content Knowledge Provide an ASSET to Student Learning?**  
**Author(s):** Travis Hites<sup>1</sup>  
*Institution(s):* <sup>1</sup> Sam Houston State University
- 245.10 Perspectives on Science Teacher Professional Development: A study of the ASSET Experience**  
**Author(s):** Katrina Reeves<sup>1</sup>, Scott Miller<sup>1</sup>, Andrea Foster<sup>1</sup>  
*Institution(s):* <sup>1</sup> Sam Houston State University
- 245.11 The Siren Song of the Absurd Answer**  
**Author(s):** Jeremy Bailin<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Alabama
- 245.12 Have Astronomers Been to Neptune? Results of a Study of High School Students’ Ideas about How Astronomers Study the Solar System**  
**Author(s):** Christopher Palma<sup>1</sup>, Julia Plummer<sup>1</sup>, Chrysta Ghent<sup>1</sup>, Timothy Gleason<sup>1</sup>, Yann Shiou Ong<sup>1</sup>, Scott McDonald<sup>1</sup>  
*Institution(s):* <sup>1</sup> Penn State Univ.  
Contributing team(s): The Earth and Space Science Partnership
- 245.13 Recognition of American Sign Language (ASL) Classifiers in a Planetarium Using a Head-Mounted Display**  
**Author(s):** Eric G. Hintz<sup>1</sup>, Michael Jones<sup>1</sup>, Jeannette Lawler<sup>1</sup>, Nathan Bench<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brigham Young Univ.
- 245.14 Design of the iSTAR International Study on Astronomy Reasoning**  
**Author(s):** Coty B. Tatge<sup>2</sup>, Stephanie J. Slater<sup>1</sup>  
*Institution(s):* <sup>1</sup> CAPER Center for Astronomy & Physics Education Research, <sup>2</sup> University of Wyoming
- 245.15 What types of astronomy images are most popular?**  
**Author(s):** Alice Allen<sup>1</sup>, Jerry T. Bonnell<sup>4</sup>, Paul Connelly<sup>3</sup>, Ralf Haring<sup>2</sup>, Stuart R. Lowe<sup>5</sup>, Robert J. Nemiroff<sup>6</sup>  
*Institution(s):* <sup>1, 2, 3, 4</sup> CRESST / Goddard Space Flight Center, <sup>5</sup> Jami Institution Test, <sup>6</sup> Michigan Technological University

## 246 Astronomy Research for K-12 Students and Teachers Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 246.01 Astronomy across State Lines: A Collaborative Model for Astronomical Research**



**Author(s):** Chelen H. Johnson<sup>1</sup>, Jacqueline Barge<sup>4</sup>, Marcella Linahan<sup>2</sup>, Donald G. York<sup>3</sup>, David Cante<sup>4</sup>, Mary Cook<sup>4</sup>, Maeve Daw<sup>2</sup>, Katherine E Donahoe<sup>2</sup>, Sydney Ford<sup>4</sup>, Lille W Haecker<sup>1</sup>, Cecily A Hibbs<sup>1</sup>, Eleanor B Hogan<sup>1</sup>, Demetra N Karos<sup>1</sup>, Kendall G Kozikowski<sup>1</sup>, Taylor A Martin<sup>1</sup>, Fernando Miranda<sup>4</sup>, Emily Ng<sup>4</sup>, Imany Noel<sup>4</sup>, Sophie E O'Bryan<sup>1</sup>, Vikrant Sharma<sup>4</sup>, David Zegeye<sup>4</sup>  
*Institution(s):*<sup>1</sup>. Breck School, <sup>2</sup> Carmel Catholic High School, <sup>3</sup> University of Chicago, <sup>4</sup> Walter Payton College Prep High School

**246.02 Teaching Advanced Data Analysis Tools to High School Astronomy Students**

**Author(s):** David V Black<sup>2</sup>, Julie Herring<sup>2</sup>, Eric G. Hintz<sup>1</sup>

*Institution(s):*<sup>1</sup> Brigham Young Univ., <sup>2</sup> Walden School of Liberal Arts

**246.03 A Survey of Light Pollution in the Rogue Valley, Southwest Oregon, By St. Mary's School, Medford, Oregon**

**Author(s):** Holly Bensel<sup>1</sup>

*Institution(s):*<sup>1</sup> St. Mary's School

Contributing team(s): Arianna Ashby, Colin Cai, Thomas Cox, Genna Dorrell, Gabe FitzPatrick, Meaghan FitzPatrick, Jason Mars Liu, Mitchell Moczygemba, Kieran Rooney, Emry Timmons, and Ray You, students, (St. Mary's School)

**246.04 Exoplanet Research at a Southwestern Urban High School: Lessons Learned from the Tucson High Astronomy Club Research Program**

**Author(s):** Zachary T. Watson<sup>1</sup>, Stephen M. Pompea<sup>1</sup>

*Institution(s):*<sup>1</sup> National Optical Astronomy Observatory

Contributing team(s): Tucson High Astronomy Research Club

**246.05 Collaboration Between Astronomers at UT Austin and K-12 Teachers: Connecting the Experience of Observing and Research with the Classroom**

**Author(s):** Keely D. Finkelstein<sup>1</sup>, Christopher Sneden<sup>1</sup>, Mary Kay Hemenway<sup>1</sup>, Sandra Preston<sup>1</sup>

*Institution(s):*<sup>1</sup> University of Texas at Austin

Contributing team(s): EXES Teachers Associate Program

## 247 Star Associations, Star Clusters - Galactic & Extra-galactic Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

**247.01 The Globular Cluster System of the Elliptical Galaxy NGC 2937 as a Marker of its Evolutionary History**

**Author(s):** Emily Longley<sup>1</sup>

*Institution(s):*<sup>1</sup> Carleton College

Contributing team(s): Dr. Michael West Maria Mitchell Observatory, Dr. William Harris McMaster University

**247.02 Analysis of the changing brightness of stars in nearby young stellar clusters**

**Author(s):** Emily Rolan<sup>1</sup>, Joseph E. Rodriguez<sup>1</sup>, David A. Weintraub<sup>1</sup>, Joshua Pepper<sup>1</sup>, Keivan Stassun<sup>1</sup>

*Institution(s):*<sup>1</sup> Vanderbilt University

Contributing team(s): KELT-South Science Team

# TUESDAY, 6 JANUARY 2015

- 247.03 A Wide-Field Photometric Survey of Globular Clusters in the Merger Remnant M85**  
**Author(s):** Youkyung Ko<sup>3</sup>, Myung Gyoon Lee<sup>3</sup>, Jubee Sohn<sup>3</sup>, Sungsoon Lim<sup>2</sup>, Hong Soo Park<sup>1</sup>, Narae Hwang<sup>1</sup>, Byeong-Gon Park<sup>1</sup>  
*Institution(s):* <sup>1</sup> Korea Astronomy and Space Science Institute, <sup>2</sup> Peking University, <sup>3</sup> Seoul National University
- 247.04 Tidal streams in triaxial systems**  
**Author(s):** Adrian M. Price-Whelan<sup>1</sup>, Kathryn V. Johnston<sup>1</sup>, Sarah Pearson<sup>1</sup>, Andreas Hans Wilhelm Kupper<sup>1</sup>  
*Institution(s):* <sup>1</sup> Columbia University
- 247.06 Radial Stellar Population Gradients in the Galactic Globular Cluster 47 Tucanae**  
**Author(s):** Richard de Grijs<sup>1</sup>, Chengyuan Li<sup>1</sup>  
*Institution(s):* <sup>1</sup> Kavli Institute for Astronomy and Astrophysics, Peking University
- 247.07 Sizes and Shapes of Young, Massive Star Clusters in M83**  
**Author(s):** Jenna E. Ryon<sup>4</sup>, Nate Bastian<sup>1</sup>, Angela Adamo<sup>2</sup>, Esteban Silva-Villa<sup>3</sup>, John S. Gallagher<sup>4</sup>  
*Institution(s):* <sup>1</sup> Liverpool John Moores University, <sup>2</sup> Stockholm University, <sup>3</sup> Universite Laval, <sup>4</sup> University of Wisconsin - Madison
- 247.08 The extinction law inside the 30 Doradus nebula**  
**Author(s):** Guido De Marchi<sup>1</sup>, Nino Panagia<sup>2</sup>  
*Institution(s):* <sup>1</sup> European Space Agency, <sup>2</sup> STScI
- 247.09 Kinematics of Intracluster Globular Clusters in the Core of the Virgo Cluster**  
**Author(s):** Myung Gyoon Lee<sup>4</sup>, Youkyung Ko<sup>4</sup>, Ho Seong Hwang<sup>2</sup>, Jubee Sohn<sup>4</sup>, Sungsoon Lim<sup>3</sup>, Hong Soo Park<sup>1</sup>, Narae Hwang<sup>1</sup>, Byeong-Gon Park<sup>1</sup>, In Sung Jang<sup>4</sup>  
*Institution(s):* <sup>1</sup> Korea Astronomy and Space Science Institute, <sup>2</sup> Korea Institute for Advanced Study, <sup>3</sup> Peking University, <sup>4</sup> Seoul National University
- 247.10 The Search for Mass Correlations between Globular Cluster Systems and their Host Galaxies**  
**Author(s):** Jonathan Jackson<sup>1</sup>, Gretchen L. H. Harris<sup>1</sup>, Michael West<sup>1</sup>  
*Institution(s):* <sup>1</sup> Maria Mitchell Observatory
- 247.11 Does the linear conversion between calcium infrared triplet and metallicity of globular clusters in early-type galaxies hold in the whole range of metallicity?**  
**Author(s):** Chul Chung<sup>1</sup>, Suk-Jin Yoon<sup>2</sup>, Young-Wook Lee<sup>2</sup>, Sang-Yoon Lee<sup>2</sup>  
*Institution(s):* <sup>1</sup> Center for Galaxy Evolution Research, <sup>2</sup> Yonsei University
- 247.12 Is Latham 1 a True Cluster?: A High-Resolution Chemical and Dynamical Analysis.**  
**Author(s):** Kylee Marie Martens<sup>3</sup>, Julia O'Connell<sup>1</sup>, Peter M. Frinchaboy<sup>1</sup>, Matthew D. Shetrone<sup>2</sup>  
*Institution(s):* <sup>1</sup> Texas Christian University, <sup>2</sup> University of Texas- Austin, <sup>3</sup> University of Wisconsin-Madison
- 247.13 Color-magnitude Diagrams for the Stellar Open Cluster M 67 in the Vilnius Photometric System**  
**Author(s):** Richard P. Boyle<sup>1</sup>, Robert Janusz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Vatican Observatory

- 247.14 UBV Photometry of the young open cluster Berkely 87**  
**Author(s):** Abolaji Akinyemi<sup>1</sup>, Paul B. Eskridge<sup>1</sup>  
*Institution(s):*<sup>1</sup> *Minnesota State University*
- 247.15 A WIYN Study of the Globular Cluster Population of the Virgo Elliptical Galaxy NGC 4473**  
**Author(s):** Margaret Panetta<sup>1</sup>, Katherine L. Rhode<sup>2</sup>, Dr. Michael West<sup>3</sup>  
*Institution(s):*<sup>1</sup> *Harvard University*, <sup>2</sup> *Indiana University*, <sup>3</sup> *Maria Mitchell Observatory*
- 247.16 Globular Cluster Populations of 11 Giant Elliptical Galaxies in Clusters Associated with the Shapley Supercluster**  
**Author(s):** Regina Barber DeGraaff<sup>2</sup>, John Blakeslee<sup>1</sup>  
*Institution(s):*<sup>1</sup> *Herzberg Astrophysics*, <sup>2</sup> *Western Washington University*
- 247.17 Neutron Capture Elements in the Open Cluster Chemical Abundance & Mapping (OCCAM) Survey**  
**Author(s):** Julia O'Connell<sup>3</sup>, Peter M. Frinchaboy<sup>3</sup>, Matthew D. Shetrone<sup>4</sup>, Fred R. Hearty<sup>2</sup>, Steven R. Majewski<sup>5</sup>, Gail Zasowski<sup>1</sup>  
*Institution(s):*<sup>1</sup> *Johns Hopkins University*, <sup>2</sup> *Pennsylvania State University*, <sup>3</sup> *Texas Christian University*, <sup>4</sup> *University of Texas*, <sup>5</sup> *University of Virginia*  
 Contributing team(s): SDSS III/APOGEE-1
- 247.18 Optical and Infrared Stellar abundances in the globular clusters NGC 5466 and NGC 5024**  
**Author(s):** Masen Lamb<sup>1</sup>  
*Institution(s):*<sup>1</sup> *University of Victoria*
- 247.19 Mass Functions for the Three Main Sequences in NGC 2808**  
**Author(s):** Nathaniel Paust<sup>3</sup>, Henny J. G. L. M. Lamers<sup>1</sup>, Nate Bastian<sup>2</sup>  
*Institution(s):*<sup>1</sup> *Astronomical Institute Anton Pannekoek, University of Amsterdam*, <sup>2</sup> *Astrophysics Research Institute, Liverpool John Moores University*, <sup>3</sup> *Whitman College*
- 247.20 Chemical Abundances in NGC 5053: A Very Metal Poor and Dynamically Complex Globular Cluster**  
**Author(s):** Owen Boberg<sup>1</sup>, Eileen D. Friel<sup>1</sup>, Enrico Vesperini<sup>1</sup>  
*Institution(s):*<sup>1</sup> *Indiana University*
- 247.21 Sample Selection and [Fe/H]-variations in NGC 3201**  
**Author(s):** Joanne D. Hughes<sup>1</sup>, George Wallerstein<sup>3</sup>, Myra Stone<sup>2</sup>, Meagan Albright<sup>3</sup>  
*Institution(s):*<sup>1</sup> *Seattle Univ.*, <sup>2</sup> *University of Maryland*, <sup>3</sup> *University of Washington*
- 247.22 The Structure of the Nearest Nuclear Star Clusters**  
**Author(s):** Christopher DiLullo<sup>1</sup>  
*Institution(s):*<sup>1</sup> *Connecticut College*
- 247.23 A Science Portal and Archive for Extragalactic Globular Cluster Systems Data**  
**Author(s):** Michael Young<sup>1</sup>, Katherine L. Rhode<sup>1</sup>, Arvind Gopu<sup>1</sup>  
*Institution(s):*<sup>1</sup> *Indiana University*

# TUESDAY, 6 JANUARY 2015

- 247.24 Exploring Evidence for Cosmic Ray Acceleration in Westerlund 1**  
**Author(s):** Nora Shipp<sup>1</sup>, T. J. Brandt<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Goddard Space Flight Center*  
Contributing team(s): The Fermi LAT Collaboration
- 247.25 Comparing AGB and RGB Sodium Abundances in the Globular Cluster 47 Tucanae (NGC 104)**  
**Author(s):** Christian I. Johnson<sup>1</sup>, Iain McDonald<sup>3</sup>, Catherine A. Pilachowski<sup>2</sup>, Mario L. Mateo<sup>4</sup>, John Ira Bailey<sup>4</sup>, Maria Jose Cordero<sup>5</sup>, Albert Zijlstra<sup>3</sup>  
*Institution(s):* <sup>1</sup> *Harvard-Smithsonian Center for Astrophysics*, <sup>2</sup> *Indiana University*, <sup>3</sup> *Jodrell Bank Centre for Astrophysics*, <sup>4</sup> *University of Michigan*, <sup>5</sup> *Zentrum fur Astronomie der Universitat Heidelberg*
- 247.26 Characterizing the Stellar Content of the Young Open Cluster Blanco 1**  
**Author(s):** Piera Andrea Soto King<sup>2</sup>, David James<sup>1</sup>  
*Institution(s):* <sup>1</sup> *CTIO*, <sup>2</sup> *Universidad de La Serena*
- 247.27 WIYN Open Cluster Study: Lithium in the Open Cluster NGC 6811**  
**Author(s):** Aaron J. Steinhauer<sup>2</sup>, Daniel M Krolikowski<sup>2</sup>, Luke Thomas Taverne<sup>2</sup>, Constantine P. Deliyannis<sup>1</sup>, Barbara J. Anthony-Twarog<sup>3</sup>, Bruce A. Twarog<sup>3</sup>  
*Institution(s):* <sup>1</sup> *Indiana University*, <sup>2</sup> *SUNY Geneseo*, <sup>3</sup> *University of Kansas*
- 247.28 WIYN Open Cluster Study: UBVR Photometry of NGC 2158**  
**Author(s):** Luke T Taverne<sup>2</sup>, Aaron J. Steinhauer<sup>2</sup>, Constantine P. Deliyannis<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Indiana University*, <sup>2</sup> *SUNY Geneseo*
- 247.29 Photometrically Derived Metallicities of Open Clusters Czernik 17 and Kronberger 60**  
**Author(s):** Juan David Trujillo<sup>1</sup>, Ramon Sharma<sup>1</sup>, Tiffany C Jansen<sup>1</sup>, Ana M. Larson<sup>1</sup>, Meagan Albright<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Universty of washington*

## 248 Dwarf and Irregular Galaxies Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 248.01 The Initial Mass Function and Star Formation Law in The Outer Disk of NGC2915**  
**Author(s):** Gerhardt Meurer<sup>6</sup>, Sarah Bruzzone<sup>6</sup>, Claudia Lagos<sup>1</sup>, Edward C Elson<sup>5</sup>, Jessica Werk<sup>4</sup>, John Blakeslee<sup>2</sup>, Holland Ford<sup>3</sup>  
*Institution(s):* <sup>1</sup> *European Southern Observatory*, <sup>2</sup> *National Research Council*, <sup>3</sup> *The Johns Hopkins University*, <sup>4</sup> *University of California Santa Cruz*, <sup>5</sup> *University of Cape Town*, <sup>6</sup> *University of Western Australia*
- 248.02 Investigating the Diffuse Ionized Gas throughout the Magellanic Cloud System with WHAM**  
**Author(s):** Brianna Smart<sup>4</sup>, L. Matthew Haffner<sup>4</sup>, Kathleen Barger<sup>3</sup>, Gregory J Madsen<sup>2</sup>, Alex S. Hill<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Haverford College*, <sup>2</sup> *Institute of Astronomy*, <sup>3</sup> *Texas Christian University*, <sup>4</sup> *University of Wisconsin*

- 248.03 Kinematic Anomalies in Dwarf Elliptical Galaxies: New Constraints on Current Evolutionary Models**  
**Author(s):** Ajinkya Nene<sup>2</sup>, Alice Wu<sup>1</sup>, Elisa Toloba<sup>3</sup>, Puragra Guhathakurta<sup>3</sup>  
*Institution(s):* <sup>1</sup> Harker School, <sup>2</sup> Lynbrook High School, <sup>3</sup> UC Santa Cruz
- 248.04 Two-Component Models of Dwarf Galaxy Tidal Disruption**  
**Author(s):** Jacob Bauer<sup>2</sup>, Heidi Jo Newberg<sup>2</sup>, Roland Judd<sup>2</sup>, Larry Widrow<sup>1</sup>, Siddhartha Shelton<sup>2</sup>, Jeffery Thompson<sup>2</sup>, Jake Weiss<sup>2</sup>  
*Institution(s):* <sup>1</sup> Queens University, <sup>2</sup> Rensselaer Polytechnic Institute
- 248.05 Centaurus A halo through the eye of the PISCEs: a plethora of new satellites and streams**  
**Author(s):** Denija Crnojevic<sup>4</sup>, David J. Sand<sup>4</sup>, Nelson Caldwell<sup>2</sup>, Puragra Guhathakurta<sup>5</sup>, Brian A. McLeod<sup>2</sup>, Anil Seth<sup>6</sup>, Joshua D. Simon<sup>1</sup>, Jay Strader<sup>3</sup>, Elisa Toloba<sup>5</sup>  
*Institution(s):* <sup>1</sup> Carnegie Observatories, <sup>2</sup> Harvard-Smithsonian, CfA, <sup>3</sup> Michigan State University, <sup>4</sup> Texas Tech University, <sup>5</sup> UC Santa Cruz, <sup>6</sup> University of Utah
- 248.06 New, Faint Satellite Galaxies of NGC253**  
**Author(s):** David J. Sand<sup>4</sup>, Denija Crnojevic<sup>4</sup>, Nelson Caldwell<sup>3</sup>, Puragra Guhathakurta<sup>5</sup>, Brian A. McLeod<sup>3</sup>, Anil Seth<sup>6</sup>, Joshua D. Simon<sup>1</sup>, Jay Strader<sup>2</sup>  
*Institution(s):* <sup>1</sup> Carnegie Observatories, <sup>2</sup> Michigan State University, <sup>3</sup> Smithsonian Center for Astrophysics, <sup>4</sup> Texas Tech University, <sup>5</sup> UC Santa Cruz, <sup>6</sup> University of Utah
- 248.07 Exploring the Faint End of the Luminosity-Metallicity Relation with H $\alpha$  Dots**  
**Author(s):** Alec S. Hirschauer<sup>1</sup>  
*Institution(s):* <sup>1</sup> Indiana University
- 248.08 Deep Optical Imaging of TiNy Titans Dwarf Galaxy Interactions**  
**Author(s):** Sandra Liss<sup>3</sup>, Catherine Zucker<sup>3</sup>, Kelsey E. Johnson<sup>3</sup>, Sabrina Stierwalt<sup>3</sup>, Gurtina Besla<sup>2</sup>, Nitya Kallivayalil<sup>3</sup>, David R. Patton<sup>1</sup>  
*Institution(s):* <sup>1</sup> Trent University, <sup>2</sup> University of Arizona, <sup>3</sup> University of Virginia
- 248.09 Confirming Tiny Dwarf Galaxy Candidates on the Edge of the Local Group**  
**Author(s):** Jennifer Donovan Meyer<sup>4</sup>, Erik Jon Tollerud<sup>6</sup>, Joshua E Peek<sup>5</sup>, Mary E. Putman<sup>2</sup>, Jana Grcevich<sup>1</sup>, Daniel Wavle<sup>3</sup>  
*Institution(s):* <sup>1</sup> American Museum of Natural History, <sup>2</sup> Columbia, <sup>3</sup> Indiana University, <sup>4</sup> NRAO, <sup>5</sup> Space Telescope Institute, <sup>6</sup> Yale
- 248.10 Galactic Needle in a Haystack: The Search for Ultra Compact Dwarf Galaxies**  
**Author(s):** Katie Butler<sup>1</sup>, Michael West<sup>2</sup>, Michael Gregg<sup>3</sup>  
*Institution(s):* <sup>1</sup> Agnes Scott College, <sup>2</sup> Maria Mitchell Observatory, <sup>3</sup> UC Davis
- 248.11 The unique structural parameters of the underlying host galaxies in Blue Compact Dwarfs**  
**Author(s):** Steven Janowiecki<sup>1</sup>, John Joseph Salzer<sup>1</sup>  
*Institution(s):* <sup>1</sup> Indiana University

# TUESDAY, 6 JANUARY 2015

- 248.12 A systematic search for dwarf counterparts to ultra compact high velocity clouds**  
**Author(s):** Paul Bennet<sup>2</sup>, David J. Sand<sup>2</sup>, Denija Crnojevic<sup>2</sup>, Jay Strader<sup>1</sup>  
*Institution(s):* <sup>1</sup> Michigan State University, <sup>2</sup> Texas Tech University
- 248.13 Searching for Stellar Counterparts to ALFALFA Ultra-Compact High Velocity Clouds with WIYN / pODI**  
**Author(s):** William Janesh<sup>3</sup>, Katherine L. Rhode<sup>3</sup>, John Joseph Salzer<sup>3</sup>, Steven Janowiecki<sup>3</sup>, Elizabeth A. Adams<sup>1</sup>, Martha P. Haynes<sup>2</sup>, Riccardo Giovanelli<sup>2</sup>, John M. Cannon<sup>4</sup>, Ricardo Munoz<sup>5</sup>  
*Institution(s):* <sup>1</sup> ASTRON, <sup>2</sup> Cornell University, <sup>3</sup> Indiana University, <sup>4</sup> Macalester College, <sup>5</sup> Universidad de Chile
- 248.14 WSRT HI imaging of ultra-compact high velocity clouds: gas-bearing dark matter minihalos?**  
**Author(s):** Elizabeth A. Adams<sup>1</sup>, Tom Oosterloo<sup>1</sup>, Riccardo Giovanelli<sup>2</sup>, Martha P. Haynes<sup>2</sup>, John M. Cannon<sup>4</sup>, Yakov Faerman<sup>5</sup>, William Janesh<sup>3</sup>, Steven Janowiecki<sup>3</sup>, Ricardo Munoz<sup>6</sup>, Katherine L. Rhode<sup>3</sup>, John Joseph Salzer<sup>3</sup>, Amiel Sternberg<sup>5</sup>  
*Institution(s):* <sup>1</sup> ASTRON, <sup>2</sup> Cornell University, <sup>3</sup> Indiana University, <sup>4</sup> Macalester College, <sup>5</sup> Tel Aviv University, <sup>6</sup> Universidad de Chile
- 248.15 Metallicities of Low Mass Inefficient Star Forming Dwarfs in S4G: Testing the Closed Box Paradigm**  
**Author(s):** Myles McKay<sup>2</sup>, Sabrina Stierwalt<sup>4</sup>, Kartik Sheth<sup>1</sup>, Dr. Bonita de Swardt<sup>3</sup>, Donald K. Walter<sup>2</sup>  
*Institution(s):* <sup>1</sup> NRAO, <sup>2</sup> South Carolina State University, <sup>3</sup> Square Kilometre Array South Africa, <sup>4</sup> University of Virginia
- 248.16 A Radio Continuum Study of Dwarf Galaxies: 6 cm imaging of LITTLE THINGS**  
**Author(s):** Ben Kitchener<sup>3</sup>, Elias Brinks<sup>3</sup>, Volker Heesen<sup>4</sup>, Deidre Ann Hunter<sup>1</sup>, Hongxin Zhang<sup>1</sup>, Urvashi Rau<sup>2</sup>, Michael P. Rupen<sup>2</sup>  
*Institution(s):* <sup>1</sup> Lowell Observatory, <sup>2</sup> NRAO, <sup>3</sup> University of Hertfordshire, <sup>4</sup> University of Southampton  
Contributing team(s): LITTLE THINGS collaboration
- 248.17 CO at Low-metallicity: Molecular Clouds in the dwarf galaxy WLM**  
**Author(s):** Deidre Ann Hunter<sup>4</sup>, Monica Rubio<sup>6</sup>, Phil Cigan<sup>5</sup>, Juan R. Cortes<sup>1</sup>, Bruce Elmegreen<sup>3</sup>, Elias Brinks<sup>7</sup>, Caroline E. Simpson<sup>2</sup>, Lisa Young<sup>5</sup>  
*Institution(s):* <sup>1</sup> ALMA, <sup>2</sup> Florida International University, <sup>3</sup> IBM T. J. Watson Research Center, <sup>4</sup> Lowell Obs., <sup>5</sup> New Mexico Institute of Mining and Technology, <sup>6</sup> University of Chile, <sup>7</sup> University of Hertfordshire
- 248.18 CO Observations of DDO 68: An Extreme Outlier on the Mass-Metallicity Relation**  
**Author(s):** Edward Molter<sup>1</sup>, John M. Cannon<sup>1</sup>, Alberto D. Bolatto<sup>4</sup>, Andreas Schrubba<sup>3</sup>, Fabian Walter<sup>2</sup>, Steven R. Warren<sup>4</sup>  
*Institution(s):* <sup>1</sup> Macalester College, <sup>2</sup> Max Planck Institute for Astronomy, <sup>3</sup> Max Planck Institute for Extraterrestrial Physics, <sup>4</sup> University of Maryland

**248.19 Discovery Of A Gas-Rich Companion To The Exteremely Metal-Poor Galaxy DDO 68**

**Author(s):** John M. Cannon<sup>5</sup>, Megan C. Johnson<sup>1</sup>, Kristen B. McQuinn<sup>12</sup>, Erik Alfvén<sup>5</sup>, Jeremy Bailin<sup>9</sup>, Alyson Ford<sup>6</sup>, Leo Girardi<sup>3</sup>, Alec S. Hirschauer<sup>4</sup>, Steven Janowiecki<sup>4</sup>, John Joseph Salzer<sup>4</sup>, Angela Van Sistine<sup>4</sup>, Andrew E. Dolphin<sup>7</sup>, Edward C Elson<sup>10</sup>, Baerbel Koribalski<sup>1</sup>, Paola Marigo<sup>8</sup>, Jessica L. Rosenberg<sup>2</sup>, Philip Rosenfield<sup>8</sup>, Evan D. Skillman<sup>12</sup>, Aparna Venkatesan<sup>13</sup>, Steven R. Warren<sup>11</sup>  
*Institution(s):* <sup>1.</sup> ATNF, <sup>2.</sup> George Mason University, <sup>3.</sup> INAF Padova, <sup>4.</sup> Indiana University, <sup>5.</sup> Macalester College, <sup>6.</sup> NRAO, <sup>7.</sup> Raytheon Company, <sup>8.</sup> Università Degli Studi Padova, <sup>9.</sup> University of Alabama, <sup>10.</sup> University of Cape Town, <sup>11.</sup> University of Maryland, <sup>12.</sup> University of Minnesota, <sup>13.</sup> University of San Francisco

**248.20 The SHIELD Multi-Wavelength Archive**

**Author(s):** Andrew McNichols<sup>4</sup>, Yaron Teich<sup>4</sup>, John M. Cannon<sup>4</sup>, Elizabeth A. Adams<sup>1</sup>, Andrew E. Dolphin<sup>6</sup>, Edward C Elson<sup>8</sup>, Riccardo Giovanelli<sup>2</sup>, Martha P. Haynes<sup>2</sup>, Kristen B. McQuinn<sup>9</sup>, Juergen Ott<sup>5</sup>, Amelie Saintonge<sup>7</sup>, John Joseph Salzer<sup>3</sup>, Evan D. Skillman<sup>9</sup>  
*Institution(s):* <sup>1.</sup> ASTRON, <sup>2.</sup> Cornell University, <sup>3.</sup> Indiana University, <sup>4.</sup> Macalester College, <sup>5.</sup> National Radio Astronomy Observatory, <sup>6.</sup> Raytheon Company, <sup>7.</sup> University College - London, <sup>8.</sup> University of Cape Town, <sup>9.</sup> University of Minnesota

**248.21 Do Tidal Interactions Trigger Starbursts in Dwarf Galaxies?**

**Author(s):** Charlotte Martinkus<sup>2</sup>, John M. Cannon<sup>2</sup>, Kristen B. McQuinn<sup>5</sup>, Megan C. Johnson<sup>1</sup>, Evan D. Skillman<sup>5</sup>, Jeremy Bailin<sup>4</sup>, Alyson Ford<sup>3</sup>, Baerbel Koribalski<sup>1</sup>  
*Institution(s):* <sup>1.</sup> ATNF, <sup>2.</sup> Macalester College, <sup>3.</sup> NRAO, <sup>4.</sup> University of Alabama, <sup>5.</sup> University of Minnesota

**248.22 Comparing Chemical Compositions of Dwarf Elliptical Galaxies and Globular Clusters**

**Author(s):** Jason Chu<sup>2</sup>, Lea Sparkman<sup>1</sup>, Elisa Toloba<sup>3</sup>, Puragra Guhathakurta<sup>3</sup>  
*Institution(s):* <sup>1.</sup> Castilleja School, <sup>2.</sup> Harker School, <sup>3.</sup> University of Santa Cruz, California

**249 Elliptical Galaxies Posters**

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

**249.01 Discovery of Compact Quiescent Galaxies at Intermediate Redshifts in DEEP2**

**Author(s):** Kirsten Blancato<sup>4</sup>, Igor Chilingarian<sup>2</sup>, Ivana Damjanov<sup>1</sup>, Sean Moran<sup>2</sup>, Ivan Katkov<sup>3</sup>  
*Institution(s):* <sup>1.</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2.</sup> Smithsonian Astrophysical Observatory, <sup>3.</sup> Sternberg Astronomical Institute, <sup>4.</sup> Wellesley College

**249.02 Star formation and nuclear activity in the blue early-type galaxy NGC 5373**

**Author(s):** Tayeb Zaidi<sup>2</sup>, Brendan P. Miller<sup>1</sup>, Elena Gallo<sup>3</sup>, Erik Alfvén<sup>2</sup>, Charlotte Martinkus<sup>2</sup>, Edward Molter<sup>2</sup>  
*Institution(s):* <sup>1.</sup> College of St. Scholastica, <sup>2.</sup> Macalester College, <sup>3.</sup> University of Michigan

# TUESDAY, 6 JANUARY 2015

## 249.03 Recovering the Dynamical Structure and Formation History of Early-Type Galaxies

**Author(s):** Athanasia Tsatsi<sup>1</sup>, Glenn van de Ven<sup>1</sup>, Andrea V Macciò<sup>1</sup>

*Institution(s):* <sup>1</sup> Max-Planck-Institut für Astronomie

## 249.04 Morphology, star formation, and nuclear activity in void galaxies

**Author(s):** Sophia Wiedmann<sup>2</sup>, Brendan Miller<sup>1</sup>, Elena Gallo<sup>3</sup>, Beni Pazar<sup>2</sup>, Erik Alfvin<sup>2</sup>

*Institution(s):* <sup>1</sup> College of St. Scholastica, <sup>2</sup> Macalester College, <sup>3</sup> University of Michigan

## 250 Spiral Galaxies Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 250.01 EDGES: Deep Multi-Wavelength Photometry and Radial SED Analysis for NGC4707 and NGC5229

**Author(s):** Laura Herzog<sup>2</sup>, Daniel A. Dale<sup>7</sup>, Kate L. Barnes<sup>1</sup>, Gillian Beltz-Mohrmann<sup>8</sup>, Arika Egan<sup>4</sup>, Alan Hatlestad<sup>7</sup>, Henry A. Kobulnicky<sup>7</sup>, Andrew S. Leung<sup>5</sup>, Jacob McLane<sup>3</sup>, Christopher Phenicie<sup>6</sup>, Jareth Roberts<sup>7</sup>, Shawn Staudaher<sup>7</sup>, Liese van Zee<sup>1</sup>

*Institution(s):* <sup>1</sup> Indiana University, <sup>2</sup> Minnesota State University, <sup>3</sup> Northern Arizona University, <sup>4</sup> Northern Michigan University, <sup>5</sup> Rutgers University, <sup>6</sup> University of Minnesota, <sup>7</sup> University of Wyoming, <sup>8</sup> Wellesley College

### 250.02 EDGES: Deep Multi-Wavelength Photometry and Radial SED Analysis for Six Nearby Galaxies

**Author(s):** Jacob Noel Mclane<sup>3</sup>, Andrew S. Leung<sup>5</sup>, Daniel A. Dale<sup>7</sup>, Kate L. Barnes<sup>1</sup>, Gillian Beltz-Mohrmann<sup>8</sup>, Arika Egan<sup>4</sup>, Alan Hatlestad<sup>7</sup>, Laura Herzog<sup>2</sup>, Henry A. Kobulnicky<sup>7</sup>, Christopher Phenicie<sup>6</sup>, Jareth Roberts<sup>7</sup>, Shawn Staudaher<sup>7</sup>, Liese van Zee<sup>1</sup>

*Institution(s):* <sup>1</sup> Indiana University, <sup>2</sup> Minnesota State University, <sup>3</sup> Northern Arizona University, <sup>4</sup> Northern Michigan University, <sup>5</sup> Rutgers University, <sup>6</sup> University of Minnesota, <sup>7</sup> University of Wyoming, <sup>8</sup> Wellesley College

### 250.03 EDGES: Deep Multi-Wavelength Photometry and Radial SED Analysis for NGC4242 and UGC7301

**Author(s):** Arika Egan<sup>4</sup>, Daniel A. Dale<sup>7</sup>, Kate L. Barnes<sup>1</sup>, Gillian Beltz-Mohrmann<sup>8</sup>, Alan Hatlestad<sup>7</sup>, Laura Herzog<sup>2</sup>, Henry A. Kobulnicky<sup>7</sup>, Andrew S. Leung<sup>5</sup>, Jacob McLane<sup>3</sup>, Christopher Phenicie<sup>6</sup>, Jareth Roberts<sup>7</sup>, Shawn Staudaher<sup>7</sup>, Liese van Zee<sup>1</sup>

*Institution(s):* <sup>1</sup> Indiana University, <sup>2</sup> Minnesota State University, <sup>3</sup> Northern Arizona University, <sup>4</sup> Northern Michigan University, <sup>5</sup> Rutgers University, <sup>6</sup> University of Minnesota, <sup>7</sup> University of Wyoming, <sup>8</sup> Wellesley College



- 250.04 EDGES: Deep Multi-Wavelength Photometry and Radial SED Analysis for NGC4485, NGC4490 and NGC5273**  
**Author(s): Beltz-Mohrmann Gillian<sup>8</sup>**, Daniel A. Dale<sup>7</sup>, Kate L. Barnes<sup>1</sup>, Arika Egan<sup>4</sup>, Alan Hatlestad<sup>7</sup>, Laura Herzog<sup>2</sup>, Henry A. Kobulnicky<sup>7</sup>, Andrew S. Leung<sup>5</sup>, Jacob McLane<sup>3</sup>, Christopher Phenicie<sup>6</sup>, Jareth Roberts<sup>7</sup>, Shawn Staudaher<sup>7</sup>, Liese van Zee<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Indiana University, <sup>2</sup>. Minnesota State University, <sup>3</sup>. Northern Arizona University, <sup>4</sup>. Northern Michigan University, <sup>5</sup>. Rutgers University, <sup>6</sup>. University of Minnesota, <sup>7</sup>. University of Wyoming, <sup>8</sup>. Wellesley College
- 250.05 EDGES: Deep Multi-Wavelength Photometry and Radial SED Analysis for UGC8303 and UGC8320**  
**Author(s): Christopher Phenicie<sup>6</sup>**, Daniel A. Dale<sup>7</sup>, Kate L. Barnes<sup>1</sup>, Gillian Beltz-Mohrmann<sup>8</sup>, Arika Egan<sup>4</sup>, Alan Hatlestad<sup>7</sup>, Laura Herzog<sup>2</sup>, Henry A. Kobulnicky<sup>7</sup>, Andrew S. Leung<sup>5</sup>, Jacob McLane<sup>3</sup>, Jareth Roberts<sup>7</sup>, Shawn Staudaher<sup>7</sup>, Liese van Zee<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Indiana University, <sup>2</sup>. Minnesota State University, <sup>3</sup>. Northern Arizona University, <sup>4</sup>. Northern Michigan University, <sup>5</sup>. Rutgers University, <sup>6</sup>. University of Minnesota, <sup>7</sup>. University of Wyoming, <sup>8</sup>. Wellesley College
- 250.08 Exploration of a SMBH Mass-Pitch Angle Relation at Intermediate Redshifts**  
**Author(s): Logan H Jones<sup>3</sup>**, Amanda Schilling<sup>3</sup>, Benjamin L. Davis<sup>1</sup>, Robert S. Barrows<sup>2</sup>, Julia D. Kennefick<sup>3</sup>  
*Institution(s):* <sup>1</sup>. Arkansas Center for Space & Planetary Sciences, <sup>2</sup>. Center for Astrophysics and Space Astronomy - Univeristy of Colorado, <sup>3</sup>. Dept. of Physics - University of Arkansas
- 250.09 Spirality: A Noval Way to Measure Spiral Arm Pitch Angle**  
**Author(s): Douglas W. Shields<sup>1</sup>**, Benjamin Boe<sup>1</sup>, Casey L. Henderson<sup>1</sup>, Matthew Hartley<sup>1</sup>, Benjamin L. Davis<sup>1</sup>, Hamed Pour Imani<sup>1</sup>, Daniel Kennefick<sup>1</sup>, Julia D. Kennefick<sup>1</sup>  
*Institution(s):* <sup>1</sup>. University of Arkansas
- 250.10 SAMI Galaxy Survey: Disk and Bar Kinematics, Mass Decompositions with Dark Matter**  
**Author(s): Gerald N. Cecil<sup>2</sup>**, Jonathan Bland-Hawthorn<sup>1</sup>, Lisa Fogarty<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Sydney University Institute for Astrophysics, <sup>2</sup>. Univ. of North Carolina  
 Contributing team(s): SAMI Galaxy Survey Team, GAMA Survey Team
- 250.11 Halo Mass Concentration and the Morphology of Simulated Spiral Galaxies**  
**Author(s): Jazmin Berlanga Medina<sup>2</sup>**, Joel C. Berrier<sup>1</sup>, Daniel Kennefick<sup>2</sup>  
*Institution(s):* <sup>1</sup>. Rutgers University, <sup>2</sup>. University of Arkansas  
 Contributing team(s): Arkansas Galaxy Evolution Survey
- 250.12 The Effect of Large-Scale Structure on the Formation of Disk Galaxies : Specific Angular Momentum Point of View**  
**Author(s): Ji Hoon Kim<sup>1</sup>**  
*Institution(s):* <sup>1</sup>. National Astronomical Observatory of Japan

# TUESDAY, 6 JANUARY 2015

- 250.13 A Census of Galactic Disk Warps with an Automated Process**  
**Author(s):** Woongbae Galaxy Jee<sup>1</sup>, Jeonghwan Henry Kim<sup>1</sup>, Jun-Sung Moon<sup>1</sup>, Suk-Jin Yoon<sup>1</sup>  
*Institution(s):* <sup>1</sup> Yonsei University
- 250.15 The Role of Cold Gas in Low-level Supermassive Black Hole Activity**  
**Author(s):** Erik Alfvin<sup>2</sup>, Brendan Miller<sup>1</sup>, Elena Gallo<sup>3</sup>  
*Institution(s):* <sup>1</sup> College of St. Scholastica, <sup>2</sup> Macalester College, <sup>3</sup> University of Michigan
- 250.16 A Method for Measuring the Transverse Velocity Vector and the Geometric Distance of the Andromeda Galaxy Using Water Masers**  
**Author(s):** Nikta Amiri<sup>1</sup>, Jeremiah K. Darling<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Colorado Boulder
- 250.17 Resolving Andromeda's Structure with PHAT**  
**Author(s):** Anil Seth<sup>3</sup>, Dylan Gregersen<sup>3</sup>, Julianne Dalcanton<sup>4</sup>, Benjamin F. Williams<sup>4</sup>, Dustin Lang<sup>1</sup>, Lent C. Johnson<sup>4</sup>, Tod R. Lauer<sup>2</sup>  
*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> NOAO, <sup>3</sup> University of Utah, <sup>4</sup> University of Washington  
Contributing team(s): PHAT Team
- 250.18 Color Index Imaging of the Stellar Stream Around NGC 5907**  
**Author(s):** Seppo Laine<sup>3</sup>, Carl J. Grillmair<sup>3</sup>, David Martinez-Delgado<sup>1</sup>, Aaron J. Romanowsky<sup>6</sup>, Peter Capak<sup>3</sup>, Richard G. Arendt<sup>5</sup>, Matthew Ashby<sup>4</sup>, James E. Davies<sup>4</sup>, Steven R. Majewski<sup>7</sup>, R. Jay GaBany<sup>2</sup>  
*Institution(s):* <sup>1</sup> ARI/U.Heidelberg, <sup>2</sup> Black Bird Obs., <sup>3</sup> Caltech, <sup>4</sup> CfA/Harvard, <sup>5</sup> NASA/GSFC, <sup>6</sup> San Jose State U., <sup>7</sup> U.Virginia
- 250.19 Population Gradients in Stellar Halos from GHOSTS**  
**Author(s):** Jeremy Bailin<sup>3</sup>, Antonela Monachesi<sup>2</sup>, Eric F. Bell<sup>4</sup>, Roelof S de Jong<sup>1</sup>  
*Institution(s):* <sup>1</sup> AIP, <sup>2</sup> MPA, <sup>3</sup> University of Alabama, <sup>4</sup> University of Michigan  
Contributing team(s): GHOSTS Survey
- 250.20 Flux Calibration and Spectral Typing of the SPLASH Sample**  
**Author(s):** Caroline Chang<sup>2</sup>, Nikita Vemuri<sup>1</sup>, Katherine Hamren<sup>3</sup>, Puragra Guhathakurta<sup>3</sup>  
*Institution(s):* <sup>1</sup> Archbishop Mitty, <sup>2</sup> Ardenwood, <sup>3</sup> University California Santa Cruz
- 250.21 The nuclear near-infrared spectral properties of nearby galaxies**  
**Author(s):** Rachel Mason<sup>2</sup>, Alberto Ardila<sup>6</sup>, Lucimara Martins<sup>9</sup>, Rogerio Riffel<sup>11</sup>, Omaira Gonzalez-Martin<sup>3</sup>, Christina Ramos Almeida<sup>3</sup>, Daniel Ruschel Dutra<sup>11</sup>, Luis C. Ho<sup>5</sup>, Karun Thanjavur<sup>13</sup>, Helene Flohic<sup>12</sup>, Almudena Alonso-Herrero<sup>4</sup>, Paulina Lira<sup>8</sup>, Richard McDermid<sup>2</sup>, Rogemar A Riffel<sup>10</sup>, Ricardo P. Schiavon<sup>7</sup>, Claudia Winge<sup>2</sup>, Eric S. Perlman<sup>1</sup>, Michael D. Hoenig<sup>2</sup>  
*Institution(s):* <sup>1</sup> Florida Institute of Technology, <sup>2</sup> Gemini Observatory, <sup>3</sup> Instituto Astrofisica de Canarias, <sup>4</sup> Instituto de Fisica de Cantabria, <sup>5</sup> Kavli Institute for Astronomy and Astrophysics, <sup>6</sup> Laboratorio Nacional de Astrofisica, <sup>7</sup> Liverpool John Moores University, <sup>8</sup> Universidad de Chile, <sup>9</sup> Universidade Cruzeiro do Sul, <sup>10</sup> Universidade Federale de Santa Maria, <sup>11</sup> Universidade Federale do Rio Grande do Sul, <sup>12</sup> University of the Pacific, <sup>13</sup> University of Victoria

- 250.22 Mapping the Star Formation in NGC 1097 Using the JVLA**  
**Author(s):** Aara'L Yarber<sup>1</sup>, Kartik Sheth<sup>2</sup>, Dana S. Balser<sup>2</sup>, Sarah J. Wood<sup>2</sup>  
*Institution(s):* <sup>1</sup> Howard University, <sup>2</sup> NRAO
- 250.23 Magnetic Fields In NGC 6946 Using Wide-Band Radio Polarimetry**  
**Author(s):** Anna Williams<sup>2</sup>, George Heald<sup>1</sup>, Eric M. Wilcots<sup>2</sup>, Ellen Gould Zweibel<sup>2</sup>  
*Institution(s):* <sup>1</sup> ASTRON, <sup>2</sup> University of Wisconsin-Madison
- 250.24 Taking the Radio Blinders Off of M83: A Wide Spectrum Analysis of the Historical Point Source Population**  
**Author(s):** Christopher Stockdale<sup>5</sup>, Michael Nichols<sup>5</sup>, Colton Rujevcan<sup>5</sup>, William P. Blair<sup>4</sup>, John J. Cowan<sup>10</sup>, Leith Godfrey<sup>1</sup>, James Miller-Jones<sup>2</sup>, K. D. Kuntz<sup>4</sup>, Knox S. Long<sup>8</sup>, Larry A. Maddox<sup>7</sup>, Paul P. Plucinsky<sup>3</sup>, Tyler A. Pritchard<sup>9</sup>, Roberto Soria<sup>2</sup>, Bradley C. Whitmore<sup>8</sup>, P. Frank Winkler<sup>6</sup>  
*Institution(s):* <sup>1</sup> ASTRON, <sup>2</sup> Curtin University, <sup>3</sup> Harvard Smithsonian CfA, <sup>4</sup> Johns Hopkins University, <sup>5</sup> Marquette University, <sup>6</sup> Middlebury College, <sup>7</sup> Northrop Grumman Corp, <sup>8</sup> STScI, <sup>9</sup> Swinburne University, <sup>10</sup> University of Oklahoma
- 250.25 An Unusual DRAGN: The Spiral Galaxy, 0313-192**  
**Author(s):** Gia Johnson<sup>1</sup>, Minnie Mao<sup>2</sup>, Emmanuel Momjian<sup>2</sup>  
*Institution(s):* <sup>1</sup> Adams State University, <sup>2</sup> NRAO
- 250.26 A Shock in M51 Between NGC 5194 and NGC 5195?**  
**Author(s):** Eric M. Schlegel<sup>3</sup>, Laura D. Vega<sup>1</sup>, Christine Jones<sup>2</sup>  
*Institution(s):* <sup>1</sup> Fisk University/Vanderbilt University, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Univ. of Texas, San Antonio
- 250.27 Detection of an Extended Outflow in NGC 4102**  
**Author(s):** Timothy Trent Braun<sup>1</sup>, Liese van Zee<sup>1</sup>, Emily E. Richards<sup>1</sup>, Kristen B. McQuinn<sup>2</sup>, Evan D. Skillman<sup>2</sup>  
*Institution(s):* <sup>1</sup> Indiana University, <sup>2</sup> University of Minnesota  
 Contributing team(s): EDGES

## 251 Starburst Galaxies Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 251.01 A new view on the radiocontinuum emission in NGC 3079 from CHANG-ES**  
**Author(s):** Ralf-Juergen Dettmar<sup>2</sup>, Carlos Sotomayor-Beltran<sup>2</sup>, Judith Irwin<sup>1</sup>, Theresa van Vliet Wiegert<sup>1</sup>  
*Institution(s):* <sup>1</sup> Queens University, <sup>2</sup> Ruhr-University Bochum  
 Contributing team(s): CHANG-ES
- 251.02 Survey of Water and Ammonia in Nearby galaxies (SWAN): Physical Conditions in NGC 253**  
**Author(s):** Mark Gorski<sup>4</sup>, Jüergen Ott<sup>2</sup>, Richard J. Rand<sup>4</sup>, David S. Meier<sup>3</sup>, Emmanuel Momjian<sup>2</sup>, Fabian Walter<sup>1</sup>  
*Institution(s):* <sup>1</sup> Max Planck Institut für Astronomie, <sup>2</sup> National Radio Astronomy Observatory, <sup>3</sup> New Mexico Institute of Mining and Technology, <sup>4</sup> University of New Mexico

# TUESDAY, 6 JANUARY 2015

- 251.03 Resolved Molecular Gas Properties in Local Luminous Infrared Galaxies**  
**Author(s):** Kazimierz Sliwa<sup>1</sup>, Christine Wilson<sup>1</sup>  
*Institution(s):* <sup>1</sup> *McMaster University*
- 251.04 The Uses of Fine Structure Lines in Constraining the Physical Properties of a Starburst**  
**Author(s):** Moiya McTier<sup>1</sup>, Drew Brisbin<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Harvard University*, <sup>2</sup> *NRAO*
- 251.05 Accurate Galactic Wind Simulations Require Gas Cooling to 10 K**  
**Author(s):** Ryan Tanner<sup>1</sup>, Fabian Heitsch<sup>1</sup>, Gerald N. Cecil<sup>1</sup>  
*Institution(s):* <sup>1</sup> *University of North Carolina*
- 251.06 An Atlas of Starburst Galaxy Emission Lines**  
**Author(s):** Helen Meskhidze<sup>1</sup>, Chris T. Richardson<sup>1</sup>, Gary J. Ferland<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Elon University*, <sup>2</sup> *University of Kentucky*
- 251.07 Analyzing Hydrogen Recombination Lines in the Infrared and Optical to Determine Extinction and SFRs of Local LIRGs**  
**Author(s):** Anna Payne<sup>2</sup>, Hanae Inami<sup>1</sup>  
*Institution(s):* <sup>1</sup> *National Optical Astronomy Observatory*, <sup>2</sup> *Wellesley College*
- 251.08 The CO-H<sub>2</sub> conversion factor and the CO excitation ladder**  
**Author(s):** Joel Robert Christian<sup>1</sup>, Desika Narayanan<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Haverford College*
- 251.09 Indirect Evidence for Escaping Lyman Continuum Photons in Local Lyman Break Galaxy Analogs**  
**Author(s):** Rachael Alexandroff<sup>1</sup>, Timothy M. Heckman<sup>1</sup>, Sanchayeeta Borthakur<sup>1</sup>, Roderik Overzier<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Johns Hopkins University*, <sup>2</sup> *National Observatory of Brazil*
- 251.10 Massive Compact Galaxies with High-velocity Outflows: Morphological Analysis and Constraints on AGN Activity**  
**Author(s):** Paul Sell<sup>7</sup>, Christina A. Tremonti<sup>7</sup>, Ryan C. Hickox<sup>1</sup>, Aleksandar M. Diamond-Stanic<sup>7</sup>, John Moustakas<sup>3</sup>, Alison L. Coil<sup>4</sup>, Anna Williams<sup>7</sup>, Gregory Rudnick<sup>5</sup>, Aday Robaina<sup>6</sup>, James Geach<sup>2</sup>, Sebastian Heinz<sup>7</sup>, Eric M. Wilcots<sup>7</sup>  
*Institution(s):* <sup>1</sup> *Dartmouth College*, <sup>2</sup> *McGill University*, <sup>3</sup> *Siena College*, <sup>4</sup> *University of California San Diego*, <sup>5</sup> *University of Kansas*, <sup>6</sup> *University of Michigan*, <sup>7</sup> *University of Wisconsin-Madison*
- 251.11 High-resolution dust emission and the resolved star formation law in the z~4 submillimeter galaxy GN20**  
**Author(s):** Jacqueline Hodge<sup>4</sup>, Dominik A. Riechers<sup>2</sup>, Roberto Decarli<sup>3</sup>, Fabian Walter<sup>3</sup>, Chris Luke Carilli<sup>5</sup>, Emanuele Daddi<sup>1</sup>, Helmut Dannerbauer<sup>6</sup>  
*Institution(s):* <sup>1</sup> *CEA*, <sup>2</sup> *Cornell*, <sup>3</sup> *MPIA*, <sup>4</sup> *NRAO*, <sup>5</sup> *NRAO*, <sup>6</sup> *University of Vienna*
- 251.12 Large Millimeter Telescope Observations of Extremely Luminous High Redshift Infrared Galaxies Detected by the Planck Survey**  
**Author(s):** Kevin Corneilus Harrington<sup>1</sup>, Min Su Yun<sup>1</sup>, John R Cybulski<sup>1</sup>, Grant Wilson<sup>1</sup>  
*Institution(s):* <sup>1</sup> *University of Massachusetts-Amherst*  
Contributing team(s): Large Millimeter Telescope (LMT) Team

**251.13 Analyzing Star Formation Properties in Dusty Early Universe Galaxies Using Gravitational Lensing**

**Author(s):** Jaclyn C Bradli<sup>1</sup>, R. Shane Bussmann<sup>1</sup>, Dominik A. Riechers<sup>1</sup>, David Clements<sup>2</sup>, Ismael Perez-Fournon<sup>3</sup>

*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> Imperial College London, <sup>3</sup> Instituto de Astrofísica de Canarias

**251.14 Multiplicity of High-z Submillimeter Galaxies from Cosmological Simulations**

**Author(s):** David Ball<sup>4</sup>, Desika Narayanan<sup>2</sup>, Philip F. Hopkins<sup>1</sup>, Matthew Turk<sup>3</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Haverford College, <sup>3</sup> NCSA, <sup>4</sup> Whitman College

**251.15 The Formation of High-Redshift Submillimeter Galaxies**

**Author(s):** Desika Narayanan<sup>1</sup>

*Institution(s):* <sup>1</sup> Haverford College

## 252 Galaxy Cluster Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

**252.01 Can Thermal Instability Explain the Cold Gas in Galaxy Cluster Centers?**

**Author(s):** Christopher Cappiello<sup>1</sup>, Paul Nulsen<sup>2</sup>

*Institution(s):* <sup>1</sup> Department of Physics, Yale University, <sup>2</sup> Smithsonian Astrophysical Observatory

**252.02 A search for counterparts to unconfirmed Planck cluster candidates in ROSAT, Chandra, XMM-Newton, and Swift archival data**

**Author(s):** August Jon Miller<sup>1</sup>, John Patrick Hughes<sup>4</sup>, Felipe Menanteau<sup>2</sup>, Felipe Barrientos<sup>3</sup>, Leopoldo Infante<sup>3</sup>

*Institution(s):* <sup>1</sup> Bowdoin College, <sup>2</sup> NCSA, <sup>3</sup> Pontifica Univ Catolica de Chile, <sup>4</sup> Rutgers University

**252.03 The Chandra Observation of the Planck SZ Selected Cluster RXC J0528.9-3927**

**Author(s):** Zhoujian Zhang<sup>3</sup>, Christine Jones<sup>2</sup>, Marie E. Machacek<sup>2</sup>, Ralph P. Kraft<sup>2</sup>, Scott W. Randall<sup>2</sup>, Felipe Andrade-Santos<sup>2</sup>, Elke Roediger<sup>1</sup>

*Institution(s):* <sup>1</sup> Hamburg University Observatory, <sup>2</sup> Harvard-Smithsonian, CfA, <sup>3</sup> Nanjing University

**252.04 Jet-driven redistribution of metal in galaxy clusters**

**Author(s):** Brian J. Morsony<sup>3</sup>, Sebastian Heinz<sup>1</sup>, Christopher S. Reynolds<sup>3</sup>, Mateusz Ruszkowski<sup>4</sup>, Marcus Brüggen<sup>2</sup>

*Institution(s):* <sup>1</sup> Univ. Of Wisconsin Madison, <sup>2</sup> University of Hamburg, <sup>3</sup> University of Maryland, <sup>4</sup> University of Michigan

**252.05 Time Evolution of Clustering Statistics During Simulated Galaxy Cluster Mergers**

**Author(s):** Ryan Johnson<sup>1</sup>, Tessa J Thorsen<sup>1</sup>, Andre J Hinds<sup>1</sup>, John A. ZuHone<sup>2</sup>

*Institution(s):* <sup>1</sup> Gettysburg College, <sup>2</sup> NASA GSFC

# TUESDAY, 6 JANUARY 2015

- 252.06 High precision measurements of galaxy cluster escape velocities through phase-space stacking.**  
**Author(s):** Christopher J. Miller<sup>1</sup>, Daniel Gifford<sup>1</sup>, Nicholas S. Kern<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Michigan
- 252.07 The Gemini Frontier Field: Multi-conjugate Adaptive Optics Ks-band imaging of selected HST Frontier Field galaxy clusters**  
**Author(s):** Gaetano Sivo<sup>1</sup>  
*Institution(s):* <sup>1</sup> Gemini South Observatory  
Contributing team(s): Rodrigo Carrasco, Mischa Schirmer, Peter Pessev, Claudia Winge, Vincent Garrel, Benoit Neichel, Fabrice Vidal
- 252.08 Determining the Dynamical Mass of Subclusters within HST Frontier Fields Cluster MACSJ0171.5+3745**  
**Author(s):** Aquiel Warner<sup>3</sup>, Christine Jones<sup>1</sup>, Michael West<sup>2</sup>, Reinout J. Van Weeren<sup>1</sup>, Felipe A Santos<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Maria Mitchell Organization, <sup>3</sup> Yale University
- 252.09 Digging Deep in Pandora's Cluster**  
**Author(s):** John P. Blakeslee<sup>2</sup>, Karla Alamo-Martinez<sup>3</sup>, Elisa Toloba<sup>1</sup>, Guillermo Barro<sup>1</sup>, Eric W Peng<sup>3</sup>  
*Institution(s):* <sup>1</sup> Lick Observatory, <sup>2</sup> NRC Herzberg Institute of Astrophysics, <sup>3</sup> Peking University
- 252.10 Analysis of Spectral Lines from SparsePak Observations of Brightest Cluster Galaxies Abell 1668, Abell 2199, MKW3s, and Zw8338**  
**Author(s):** Saisneha Koppaka<sup>1</sup>, Louise O. V. Edwards<sup>1</sup>, Hannah Alpert<sup>1</sup>, Tara Abraham<sup>1</sup>  
*Institution(s):* <sup>1</sup> Yale University
- 252.11 Spectral Line Maps of a Sample of Local Brightest Cluster Galaxies**  
**Author(s):** Hannah Alpert<sup>1</sup>, Louise O. V. Edwards<sup>1</sup>, Tara Abraham<sup>1</sup>, Vasilije Dobrosavljevic<sup>1</sup>  
*Institution(s):* <sup>1</sup> Yale University
- 252.12 The Alignment of Red-Sequence Dwarf Galaxies**  
**Author(s):** Haylee Archer<sup>2</sup>, Wayne Barkhouse<sup>2</sup>, Jaford Burgad<sup>2</sup>, Gregory Foote<sup>2</sup>, Cody Rude<sup>2</sup>, Omar Lopez-Cruz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Instituto Nacional de Astrofisica, <sup>2</sup> University of North Dakota
- 252.13 Star Formation in Dwarf Galaxies as a Function of Cluster-Centric Radii**  
**Author(s):** Cody Rude<sup>1</sup>, Wayne Barkhouse<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of North Dakota
- 252.14 Evolution of Star Formation Rates in Clusters Using Spitzer MIPS Imaging**  
**Author(s):** Ethan Batson<sup>3</sup>, Kenneth J. Rines<sup>3</sup>, Rose Finn<sup>1</sup>, Alexey Vikhlinin<sup>2</sup>  
*Institution(s):* <sup>1</sup> Siena College, <sup>2</sup> Smithsonian Astrophysical Observatory, <sup>3</sup> Western Washington University

- 252.15 Dynamical Properties of Luminous Galaxies in 132 Clusters**  
**Author(s):** Zachary Schutte<sup>4</sup>, Kenneth J. Rines<sup>4</sup>, Margaret J. Geller<sup>2</sup>, Antonaldo Diaferio<sup>3</sup>, Ho Seong Hwang<sup>1</sup>  
*Institution(s):* <sup>1</sup> Korean Institute for Advanced Studies, <sup>2</sup> Smithsonian Astrophysical Observatory, <sup>3</sup> Università degli Studi di Torino, <sup>4</sup> Western Washington University
- 252.16 Dynamical Properties of Clusters Identified in Large Surveys Using the HectoMap Redshift Survey**  
**Author(s):** David Mark Reiman<sup>4</sup>, Kenneth J. Rines<sup>4</sup>, Margaret J. Geller<sup>2</sup>, Antonaldo Diaferio<sup>3</sup>, Ho Seong Hwang<sup>1</sup>  
*Institution(s):* <sup>1</sup> Korean Institute for Advanced Studies, <sup>2</sup> Smithsonian Astrophysical Observatory, <sup>3</sup> Università degli Studi di Torino, <sup>4</sup> Western Washington University
- 252.17 HeCS-SZ: The Hectospec Cluster Survey of SZ-Selected Clusters**  
**Author(s):** Kenneth J. Rines<sup>4</sup>, Margaret J. Geller<sup>2</sup>, Antonaldo Diaferio<sup>3</sup>, Ho Seong Hwang<sup>1</sup>  
*Institution(s):* <sup>1</sup> Korean Institute for Advanced Studies, <sup>2</sup> Smithsonian Astrophysical Observatory, <sup>3</sup> Università degli Studi di Torino, <sup>4</sup> Western Washington University
- 252.18 The C4 Cluster Abundance Function Using Caustic Mass Estimates**  
**Author(s):** Daniel Gifford<sup>2</sup>, Christopher J. Miller<sup>2</sup>, Nicholas S. Kern<sup>2</sup>, Alyssa Keimach<sup>2</sup>, Ryan C. Hickox<sup>1</sup>, Kevin Nicholas Hainline<sup>1</sup>  
*Institution(s):* <sup>1</sup> Dartmouth College, <sup>2</sup> University of Michigan
- 252.19 Merger Activity and Radio Emission Within A2061**  
**Author(s):** Avery Bailey<sup>8</sup>, Craig L. Sarazin<sup>8</sup>, Tracy E. Clarke<sup>4</sup>, Marios Chatzikos<sup>6</sup>, Taylor Hogge<sup>1</sup>, Daniel R. Wik<sup>3</sup>, Lawrence Rudnick<sup>7</sup>, Damon Farnsworth<sup>7</sup>, Reinout J. Van Weeren<sup>2</sup>, Shea Brown<sup>5</sup>  
*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> NASA Goddard Space Flight Center, <sup>4</sup> Naval Research Lab, <sup>5</sup> University of Iowa, <sup>6</sup> University of Kentucky, <sup>7</sup> University of Minnesota, <sup>8</sup> University of Virginia
- 252.20 Probing the intragroup medium with bent-double lobed radio sources**  
**Author(s):** Danielle M. Nielsen<sup>1</sup>, Eric M. Wilcots<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Wisconsin - Madison
- 252.21 Optical Follow-Up Observations for the High-z COBRA (Clusters Occupied by Bent Radio AGN) Survey**  
**Author(s):** Emmet Golden-Marx<sup>1</sup>, Elizabeth L. Blanton<sup>1</sup>, Rachel Paterno-Mahler<sup>1</sup>, Joshua Wing<sup>2</sup>, Matthew Ashby<sup>3</sup>, Mark Brodwin<sup>4</sup>  
*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> CfA, <sup>3</sup> SAO, <sup>4</sup> University of Missouri-Kansas City

# TUESDAY, 6 JANUARY 2015

## 253 Large Scale Structure, Cosmic Distance Scale and Intergalactic Medium, QSO Absorption Line Systems Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 253.01 An Evolving Neighborhood: Tracking the Local Environment and its Influence on the Evolution of Galaxies**  
**Author(s):** L. A. Phillips<sup>1</sup>, Ali Snedden<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Notre Dame
- 253.02 A Computational Analysis of the Expanding Photosphere Method and the Distances to Type II-P Supernovae**  
**Author(s):** Robert C. Mitchell<sup>1</sup>, Brian Didier<sup>1</sup>  
*Institution(s):* <sup>1</sup> St. Ambrose University
- 253.03 Assembly Bias of Dark Matter Halos in LasDamas**  
**Author(s):** Andres Nicolas Salcedo<sup>1</sup>, Andreas A. Berlind<sup>3</sup>, Ariyeh Maller<sup>2</sup>, Manodeep Sinha<sup>3</sup>  
*Institution(s):* <sup>1</sup> Lehigh University, <sup>2</sup> New York City College of Technology, <sup>3</sup> Vanderbilt University
- 253.04 The Theoretical Basis of Surface Brightness Fluctuations for Precision Cosmology and Stellar Population Studies**  
**Author(s):** Edward A. Ajhar<sup>2</sup>, John Blakeslee<sup>1</sup>, Joseph B. Jensen<sup>3</sup>  
*Institution(s):* <sup>1</sup> NRC Herzberg Institute of Astrophysics, <sup>2</sup> St. Thomas University, <sup>3</sup> Utah Valley University
- 253.05 The Surface Brightness Fluctuation Distance to the Coma Cluster**  
**Author(s):** Joseph B. Jensen<sup>3</sup>, John Blakeslee<sup>1</sup>, Hyejeon Cho<sup>4</sup>, Hyun-chul Lee<sup>2</sup>, Crystal-Lynn Bartier<sup>3</sup>, Zachary Gibson<sup>3</sup>  
*Institution(s):* <sup>1</sup> NRC - Herzberg, <sup>2</sup> University of Texas Pan-American, <sup>3</sup> Utah Valley University, <sup>4</sup> Yonsei University
- 253.06 Interstellar Silicate Dust Grain Properties in Distant Galaxies Probed by Quasar Absorption Systems**  
**Author(s):** Monique C. Aller<sup>1</sup>, Varsha P. Kulkarni<sup>4</sup>, Donald G. York<sup>3</sup>, Daniel E. Welty<sup>3</sup>, Giovanni Vladilo<sup>2</sup>, Debopam Som<sup>4</sup>  
*Institution(s):* <sup>1</sup> Georgia Southern University, <sup>2</sup> Osservatorio Astronomico di Trieste, <sup>3</sup> University of Chicago, <sup>4</sup> University of South Carolina
- 253.07 Characterizing the non-equilibrium ionization state of the intergalactic medium**  
**Author(s):** Devin W. Silvia<sup>1</sup>, Brian W. O'Shea<sup>1</sup>, Britton D. Smith<sup>5</sup>, J. Michael Shull<sup>4</sup>, Matthew Turk<sup>2</sup>, Daniel Reynolds<sup>3</sup>  
*Institution(s):* <sup>1</sup> Michigan State University, <sup>2</sup> National Center for Supercomputing Applications, <sup>3</sup> Southern Methodist University, <sup>4</sup> University of Colorado - Boulder, <sup>5</sup> University of Edinburgh



- 253.08 Realistic Multi-ion Absorption Spectra from Simulations of the Intergalactic Medium**  
**Author(s):** Jacob Kneibel<sup>1</sup>, Devin Silvia<sup>1</sup>, Brian W. O'Shea<sup>1</sup>  
*Institution(s):* <sup>1</sup> Michigan State University
- 253.09 The Effect of Galaxy Environment on Ly $\alpha$  Absorption**  
**Author(s):** David M French<sup>1</sup>, Bart P. Wakker<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Wisconsin - Madison
- 253.10 More Constraints on the Physical Conditions of the Kinematically Complex, Multiphase Absorption Line System at z=0.93 toward PG1206+459**  
**Author(s):** Ben Rosenwasser<sup>1</sup>, Sowgat Muzahid<sup>1</sup>, Jackson Norris<sup>1</sup>, Jane C. Charlton<sup>1</sup>  
*Institution(s):* <sup>1</sup> Pennsylvania State University
- 253.11 Resolving the Distribution of IGM Metals with Quasar Pair Spectroscopy**  
**Author(s):** Jason X. Prochaska<sup>1</sup>, Camille N Leibler<sup>1</sup>  
*Institution(s):* <sup>1</sup> UC, Santa Cruz
- 253.12 Detection of Extended Wind Emission out to 10 kpc from starforming galaxies at z~1**  
**Author(s):** Hassen Yesuf<sup>1</sup>, Sandra M. Faber<sup>1</sup>, David C. Koo<sup>1</sup>, Aaron Huang<sup>1</sup>, Pranav Sekhar<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of California Santa Cruz  
Contributing team(s): DEEP3 Redshift Survey
- 253.13 The Ionization Source and Distance to the Magellanic Stream**  
**Author(s):** Kathleen Barger<sup>3</sup>, Gregory J. Madsen<sup>4</sup>, Andrew Fox<sup>2</sup>, Bart P. Wakker<sup>8</sup>, Jonathan Bland-Hawthorn<sup>7</sup>, David L. Nidever<sup>5</sup>, L. Matthew Haffner<sup>8</sup>, Nicolas Lehner<sup>6</sup>, Alex S. Hill<sup>1</sup>  
*Institution(s):* <sup>1</sup> Haverford College, <sup>2</sup> Space Telescope Science Institute, <sup>3</sup> Texas Christian University, <sup>4</sup> University of Cambridge, <sup>5</sup> University of Michigan, <sup>6</sup> University of Notre Dame, <sup>7</sup> University of Sydney, <sup>8</sup> University of Wisconsin-Madison

## 254 Gamma Ray Burst Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 254.00 The GRB All-sky Spectrometer Experiment II: Data Collection and Analysis**  
**Author(s):** Elana Voigt<sup>1</sup>, Zachary Martinot<sup>1</sup>, Zachary Banks<sup>1</sup>, Jonathan Pober<sup>1</sup>, Miguel F. Morales<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington
- 254.01 The GRB All-sky Spectrometer Experiment I: Instrument Overview and Science Drivers**  
**Author(s):** Zachary Martinot<sup>1</sup>, Elana Voigt<sup>1</sup>, Zachary Banks<sup>1</sup>, Jonathan Pober<sup>1</sup>, Miguel F. Morales<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington

# TUESDAY, 6 JANUARY 2015

- 254.02 The GRB All-sky Spectrometer Experiment III: Upgrades and Commissioning**  
**Author(s):** Zachary Banks<sup>1</sup>, Zachary Martinot<sup>1</sup>, Elana Voigt<sup>1</sup>, Jonathan Pober<sup>1</sup>, Miguel F. Morales<sup>1</sup>  
*Institution(s):* <sup>1</sup> *University of Washington*
- 254.03 A New Astrometric Technique Applied to the Likely Tidal Disruption Event, Swift J166+57**  
**Author(s):** Rebekah Alianora Hounsell<sup>1</sup>, Andrew S. Fruchter<sup>1</sup>, Andrew J Levan<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Space Telescope Science Institute*, <sup>2</sup> *The University of Warwick*
- 254.04 Searching for Progenitor Clues in the Local Environments of Long GRB Hosts**  
**Author(s):** Peter Blanchard<sup>1</sup>, Edo Berger<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Harvard University*
- 254.05 A Comprehensive Analysis of GRB Afterglows with Deep Chandra Follow-up: Implications for Off-Axis Jets**  
**Author(s):** David N. Burrows<sup>1</sup>, Binbin Zhang<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Penn State Univ.*, <sup>2</sup> *UAH*  
Contributing team(s): et al.

## 255 Cosmology, CMB, and Dark Matter Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 255.01 The Effects of Massive Neutrino Self-Interactions on the Cosmic Microwave Background and Large Scale Structure**  
**Author(s):** Christina Kreisch<sup>3</sup>, Olivier Doré<sup>1</sup>, Francis-Yan Cyr-Racine<sup>1</sup>, Kris R. Sigurdson<sup>2</sup>  
*Institution(s):* <sup>1</sup> *NASA Jet Propulsion Laboratory*, <sup>2</sup> *University of British Columbia*, <sup>3</sup> *Washington University in St. Louis*
- 255.02 Extinction and the rate of superstring microlensing detection for WFIRST survey of the Bulge**  
**Author(s):** Taylor Andrew Morris<sup>2</sup>, David F. Chernoff<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Cornell University*, <sup>2</sup> *Sewanee: The University of the South*
- 255.03 Instrumental Simulations of the 21cm Epoch of Reionization Signal**  
**Author(s):** Carina Cheng<sup>2</sup>, Aaron Parsons<sup>2</sup>, Adrian Liu<sup>2</sup>, Haoxuan Zheng<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Massachusetts Institute of Technology*, <sup>2</sup> *University of California, Berkeley*  
Contributing team(s): HERA Collaboration
- 255.04 Simulations of Galaxy-Galaxy Lensing by SDSS Galaxies**  
**Author(s):** Brandon Harrison<sup>1</sup>, Tereasa G. Brainerd<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Boston University*
- 255.05 Creating an Analysis Pipeline to Discover the Epoch of Reionization**  
**Author(s):** Nichole Barry<sup>1</sup>, Ian S. Sullivan<sup>1</sup>, Bryna Hazelton<sup>1</sup>, Miguel F. Morales<sup>1</sup>, Adam Beardsley<sup>1</sup>, Patricia Carroll<sup>1</sup>  
*Institution(s):* <sup>1</sup> *University of Washington*

- 255.06 Comparison of Intrinsic Alignment of Galaxies in Massive Black-II Hydrodynamic and N-body Simulations**  
**Author(s):** Ananth Tenneti<sup>2</sup>, Rachel Mandelbaum<sup>2</sup>, Tiziana DiMatteo<sup>2</sup>, Nishikanta Khandai<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brookhaven National Laboratory, <sup>2</sup> Carnegie Mellon University
- 255.07 Testing MONDian Dark Matter with Galactic Rotation Curves**  
**Author(s):** Duncan Farrah<sup>4</sup>, Doug Edmonds<sup>1</sup>, Chiu Man Ho<sup>2</sup>, Djordje Minic<sup>4</sup>, Jack Ng<sup>3</sup>, Tatsu Takeuchi<sup>4</sup>  
*Institution(s):* <sup>1</sup> Emory & Henry College, <sup>2</sup> Michigan State University, <sup>3</sup> University of North Carolina, <sup>4</sup> Virginia Tech
- 255.08 Prospects for Detecting a Cosmic Bulk Flow**  
**Author(s):** Benjamin Rose<sup>1</sup>, Peter M. Garnavich<sup>1</sup>, Grant James Mathews<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Notre Dame
- 255.09 Propelling Reionization with the Faintest Galaxies**  
**Author(s):** John H. Wise<sup>1</sup>, Vasilii G. Demchenko<sup>1</sup>, Martin T. Halicek<sup>1</sup>, Michael L. Norman<sup>4</sup>, Matthew J. Turk<sup>2</sup>, Tom Abel<sup>3</sup>, Britton D. Smith<sup>5</sup>  
*Institution(s):* <sup>1</sup> Georgia Institute of Technology, <sup>2</sup> NCSA, <sup>3</sup> Stanford University, <sup>4</sup> UCSD, <sup>5</sup> University of Edinburgh
- 255.10 The Hubble Expansion is Isotropic in the Epoch of Dark Energy**  
**Author(s):** Jeremy Darling<sup>1</sup>  
*Institution(s):* <sup>1</sup> Univ. of Colorado, Boulder
- 255.11 Cosmology with the Nearby Supernova Factory**  
**Author(s):** Greg Aldering<sup>9</sup>, Mickael Rigault<sup>6</sup>, David Rubin<sup>5</sup>, Cecilia Aragon<sup>12</sup>, Stephen Bailey<sup>9</sup>, Charles Baltay<sup>13</sup>, Dan Birchall<sup>9</sup>, Sebastien Bongard<sup>10</sup>, Kyle Boone<sup>9</sup>, Clement Buton<sup>8</sup>, Michael Childress<sup>1</sup>, Nicolas Chotard<sup>8</sup>, Yannick Copin<sup>8</sup>, Parker Fagrelus<sup>9</sup>, Hannah Fakhouri<sup>9</sup>, Ulrich Feindt<sup>6</sup>, Mathilde Fleury<sup>10</sup>, Dominique Fouchez<sup>3</sup>, Emmanuel Gangler<sup>2</sup>, Brian Hayden<sup>9</sup>, Alex G. Kim<sup>9</sup>, Marek Kowalski<sup>6</sup>, Pierre-Francois Leget<sup>2</sup>, Simona Lombardo<sup>6</sup>, Jakob Nordin<sup>6</sup>, Reynald Pain<sup>10</sup>, Emmanuel Pecontal<sup>4</sup>, Rui Pereira<sup>8</sup>, Saul Perlmutter<sup>9</sup>, David L. Rabinowitz<sup>13</sup>, Karl Runge<sup>9</sup>, Clare Saunders<sup>9</sup>, Richard A. Scalzo<sup>1</sup>, Gerard Smadja<sup>8</sup>, Caroline Sofiatti<sup>9</sup>, Nao Suzuki<sup>7</sup>, Charling Tao<sup>3</sup>, Rollin Thomas<sup>9</sup>, Benjamin Weaver<sup>11</sup>  
*Institution(s):* <sup>1</sup> Australian National University, <sup>2</sup> Clermont University, <sup>3</sup> CPPM, <sup>4</sup> CRAL, <sup>5</sup> Florida State University, <sup>6</sup> Humbolt University, <sup>7</sup> IPMU, <sup>8</sup> IPNL, <sup>9</sup> Lawrence Berkeley Lab, <sup>10</sup> LPNHE, <sup>11</sup> New York University, <sup>12</sup> University of Washington, <sup>13</sup> Yale University  
 Contributing team(s): Nearby Supernova Factory
- 255.12 The Union3 Supernova Ia Compilation**  
**Author(s):** David Rubin<sup>1</sup>, Greg Scott Aldering<sup>1</sup>, Rahman Amanullah<sup>1</sup>, Kyle H. Barbary<sup>1</sup>, Adam Bruce<sup>1</sup>, Greta Chappell<sup>1</sup>, Miles Currie<sup>1</sup>, Kyle S. Dawson<sup>1</sup>, Susana E. Deustua<sup>1</sup>, Mamoru Doi<sup>1</sup>, Hannah Fakhouri<sup>1</sup>, Andrew S. Fruchter<sup>1</sup>, Rachel A. Gibbons<sup>1</sup>, Ariel Goobar<sup>1</sup>, Eric Hsiao<sup>1</sup>, Xiaosheng Huang<sup>1</sup>, Yutaka Ihara<sup>1</sup>, Alex G. Kim<sup>1</sup>, Robert A. Knop<sup>1</sup>, Marek Kowalski<sup>1</sup>, Evan Krechmer<sup>1</sup>, Chris Lidman<sup>1</sup>, Eric Linder<sup>1</sup>, Joshua Meyers<sup>1</sup>, Tomoki Morokuma<sup>1</sup>, Jakob Nordin<sup>1</sup>, Saul Perlmutter<sup>1</sup>, Pascal Ripoche<sup>1</sup>, Eli S. Rykoff<sup>1</sup>, Clare Saunders<sup>1</sup>, Anthony L. Spadafora<sup>1</sup>, Nao Suzuki<sup>1</sup>, Naohiro Takanashi<sup>1</sup>, Naoki Yasuda<sup>1</sup>  
*Institution(s):* <sup>1</sup> Florida State University  
 Contributing team(s): Supernova Cosmology Project

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- 255.13 Testing Quantum Mechanics and Bell's Inequality with Astronomical Observations**  
**Author(s):** Andrew S. Friedman<sup>1</sup>, Jason Gallicchio<sup>2</sup>, David I Kaiser<sup>1</sup>, Alan H. Guth<sup>1</sup>  
*Institution(s):* <sup>1</sup> Massachusetts Institute of Technology, <sup>2</sup> University of Chicago, Kavli Institute for Cosmological Physics
- 255.14 Variability Search in GALFACTS**  
**Author(s):** Joseph Kania<sup>1</sup>, Trey Wenger<sup>2</sup>, Tapasi Ghosh<sup>3</sup>, Christopher J. Salter<sup>3</sup>  
*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> University of Virginia, <sup>3</sup> NAIC/ Arecibo Observatory
- 255.15 The HST Frontier Fields: Current Status and Complete Science Data Products Release for the First Two Clusters**  
**Author(s):** Anton M. Koekemoer<sup>1</sup>, Jennifer Mack<sup>1</sup>, Jay Anderson<sup>1</sup>, Roberto J. Avila<sup>1</sup>, Elizabeth A. Barker<sup>1</sup>, Norman A. Grogin<sup>1</sup>, Bryan Hilbert<sup>1</sup>, Harish G. Khandrika<sup>1</sup>, Jennifer Lotz<sup>1</sup>, Ray A. Lucas<sup>1</sup>, Sara Ogaz<sup>1</sup>, Massimo Robberto<sup>1</sup>, Matt Mountain<sup>1</sup>  
*Institution(s):* <sup>1</sup> STScI
- 255.16 Hubble Space Telescope Wide Field Camera 3 Observations of Escaping Lyman Continuum Radiation from Galaxies and AGN at Redshifts  $z \approx 2.3-6$ .**  
**Author(s):** Brent Mathew Smith<sup>1</sup>, Rogier A. Windhorst<sup>1</sup>, Seth H. Cohen<sup>1</sup>, Rolf A Jansen<sup>1</sup>, Linhua Jiang<sup>1</sup>, Mark Dijkstra<sup>3</sup>, Anton M. Koekemoer<sup>4</sup>, Richard Bielby<sup>2</sup>, John W. MacKenty<sup>4</sup>, Robert W. O'Connell<sup>6</sup>, Joseph I Silk<sup>5</sup>  
*Institution(s):* <sup>1</sup> Arizona State University, <sup>2</sup> Durham University, <sup>3</sup> Institute of Theoretical Astrophysics, University of Oslo, <sup>4</sup> Space Telescope Science Institute, <sup>5</sup> The Johns Hopkins University, <sup>6</sup> University of Virginia
- 255.17 See-Change: an HST program to probe Dark Energy time variation**  
**Author(s):** Brian Hayden<sup>7</sup>, Saul Perlmutter<sup>7</sup>, Jakob Nordin<sup>7</sup>, David Rubin<sup>3</sup>, Chris Lidman<sup>1</sup>, Susana E. Deustua<sup>11</sup>, Andrew S. Fruchter<sup>11</sup>, Greg Scott Aldering<sup>7</sup>, Mark Brodwin<sup>24</sup>, Carlos E. Cunha<sup>12</sup>, Peter R. Eisenhardt<sup>5</sup>, Anthony H. Gonzalez<sup>21</sup>, Myungkook J. Jee<sup>15</sup>, Hendrik Hildebrandt<sup>17</sup>, Henk Hoekstra<sup>18</sup>, Joana Santos<sup>9</sup>, S. Adam Stanford<sup>15</sup>, Daniel Stern<sup>5</sup>, Rene Fassbender<sup>10</sup>, Johan Richard<sup>2</sup>, Piero Rosati<sup>27</sup>, Risa H. Wechsler<sup>12</sup>, Adam Muzzin<sup>13</sup>, Jon Willis<sup>26</sup>, Hans Boehringer<sup>8</sup>, Michael Gladders<sup>20</sup>, Ariel Goobar<sup>14</sup>, Rahman Amanullah<sup>14</sup>, Isobel Hook<sup>25</sup>, Dragan Huterer<sup>23</sup>, Xiaosheng Huang<sup>7</sup>, Alex G. Kim<sup>7</sup>, Marek Kowalski<sup>19</sup>, Eric Linder<sup>7</sup>, Reynald Pain<sup>6</sup>, Clare Saunders<sup>7</sup>, Nao Suzuki<sup>4</sup>, Kyle H. Barbary<sup>7</sup>, Eli S. Rykoff<sup>12</sup>, Joshua Meyers<sup>12</sup>, Caroline Sofiatti<sup>7</sup>, Gillian Wilson<sup>16</sup>, Eduardo Rozo<sup>12</sup>, Matt Hilton<sup>22</sup>, Anthony L. Spadafora<sup>7</sup>  
*Institution(s):* <sup>1</sup> Australian National Observatory, <sup>2</sup> Centre de Recherche Astronomique de Lyon, <sup>3</sup> Florida State University, <sup>4</sup> IPMU, <sup>5</sup> Jet Propulsion Laboratory, <sup>6</sup> Laboratoire de Physique Nucleaire des Hautes Energies, <sup>7</sup> Lawrence Berkeley National Lab, <sup>8</sup> Max Planck Institute fur extraterrestrische physics, <sup>9</sup> Osservatorio Astrofisico di Arcetri, <sup>10</sup> Osservatorio Astronomico di Roma, <sup>11</sup> Space Telescope Science Institute, <sup>12</sup> Stanford University, <sup>13</sup> Sterrewacht Leiden, <sup>14</sup> Stockholm University, <sup>15</sup> UC Davis, <sup>16</sup> UC Riverside, <sup>17</sup> Universitat Bonn, <sup>18</sup> Universiteit Leiden, <sup>19</sup> University of Bonn, <sup>20</sup> University of Chicago, <sup>21</sup> University of Florida, <sup>22</sup> University of KwaZulu-Natal, <sup>23</sup> University of Michigan, <sup>24</sup> University of Missouri - Kansas City, <sup>25</sup> University of Oxford, <sup>26</sup> University of Victoria, <sup>27</sup> Universitij of Ferrara

- 255.18 Optimizing the LSST Dither Pattern for Survey Uniformity**  
**Author(s):** Humna Awan<sup>1</sup>, Eric J. Gawiser<sup>3</sup>, Peter Kurczynski<sup>3</sup>, Christopher M Carroll<sup>2</sup>  
*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> Dartmouth College, <sup>3</sup> Rutgers University  
 Contributing team(s): LSST Dark Energy Science Collaboration
- 255.19 GeV excess electrons upscattering the CMB: a possible resolution to the “Photon Underproduction Crisis”**  
**Author(s):** Tansu Daylan<sup>1</sup>, Stephen K. N. Portillo<sup>1</sup>, Douglas P. Finkbeiner<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard University
- 255.20 The Spatial Distribution of Spectroscopically Selected Satellite Galaxies**  
**Author(s):** Tereasa G. Brainerd<sup>1</sup>, Ingolfur Agustsson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Boston University
- 255.21 Warped Universe: Analysis of Strong Lens Candidates from Early Dark Energy Survey Data**  
**Author(s):** Brian Nord<sup>1</sup>, Elizabeth J. Buckley-Geer<sup>1</sup>, Huan Lin<sup>1</sup>, H. Thomas Diehl<sup>1</sup>, Hallie Gaitsch<sup>1</sup>  
*Institution(s):* <sup>1</sup> Fermi National Accelerator Laboratory

## 256 Dust Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 256.01 Star Formation and HI Content of Galaxies Within Groups**  
**Author(s):** Sarah Katherine Martens<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Wisconsin Madison  
 Contributing team(s): Undergraduate Aerocibo Legacy Fast ALFA Team
- 256.02 Kinematics of Filaments in Perseus and Serpens: Testing Filament Formation**  
**Author(s):** Lee G. Mundy<sup>3</sup>, Shaye Storm<sup>3</sup>, Maxime Rizzo<sup>3</sup>, Leslie Looney<sup>4</sup>, Che-Yu Chen<sup>3</sup>, Eve C. Ostriker<sup>2</sup>, Katherine I Lee<sup>1</sup>  
*Institution(s):* <sup>1</sup> Center for Astrophysics, <sup>2</sup> Princeton University, <sup>3</sup> Univ. of Maryland, <sup>4</sup> University of Illinois  
 Contributing team(s): the CLASSy Team
- 256.03 Extreme Star Formation in the Center of Our Galaxy**  
**Author(s):** Mark Graham<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian CfA
- 256.04 An Investigation of Three Methods for Determining Young Star Spectral Types**  
**Author(s):** Sara Bruhns<sup>2</sup>, Lisa A. Prato<sup>1</sup>  
*Institution(s):* <sup>1</sup> Lowell Observatory, <sup>2</sup> University of Virginia
- 256.05 Mass Assembly of Stellar Systems and their Evolution with the SMA (MASSES)**  
**Author(s):** Katherine I Lee<sup>1</sup>, Michael Dunham<sup>1</sup>, Philip C. Myers<sup>1</sup>, Lars Kristensen<sup>1</sup>, Alyssa A. Goodman<sup>1</sup>, Tyler L. Bourke<sup>4</sup>, John J. Tobin<sup>3</sup>, Jaime E. Pineda<sup>2</sup>, Jes Jorgensen<sup>5</sup>, Hector G. Arce<sup>8</sup>, Stella Offner<sup>6</sup>, Eduard Vorobyov<sup>7</sup>  
*Institution(s):* <sup>1</sup> CfA, <sup>2</sup> ETH, <sup>3</sup> Leiden University, <sup>4</sup> SKA, <sup>5</sup> University of Copenhagen, <sup>6</sup> University of Massachusetts, <sup>7</sup> University of Vienna, <sup>8</sup> Yale University

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- 256.06 6.7 GHz Methanol Masers Associated with Jets in Very Early High Mass Protostars**  
**Author(s):** Viviana Rosero<sup>3</sup>, Peter Hofner<sup>3</sup>, Mark J. Claussen<sup>2</sup>, Stan Kurtz<sup>1</sup>, Riccardo Cesaroni<sup>4</sup>, Luca Moscadelli<sup>5</sup>  
*Institution(s):* <sup>1</sup> Centro de Radioastronomía y Astrofísica, <sup>2</sup> National Radio Astronomy Observatory, <sup>3</sup> New Mexico Tech, <sup>4</sup> Osservatorio Astrofisico di Arcetri, <sup>5</sup> Osservatorio Astronomico di Cagliari
- 256.07 Ammonia and HC7N Emission in Starless Dense Cores**  
**Author(s):** Tierra M. Candelaria<sup>1</sup>  
*Institution(s):* <sup>1</sup> The College of Idaho  
Contributing team(s): Scott Schnee, Kathryn Devine, John Carpenter, Paola Caselli, Mario Tafalla, Youngmin Seo, Yancy Shirley, James Di Francesco, John Tobin, Shadi Chitsazzadeh, Sarah Sadavoy, Alyssa Goodman, Luca Ricci, and Shigehisa Takakuwa
- 256.08 The Star Formation in Radio Survey: Mapping Star Formation in Nearby Galaxies with 33GHz Emission**  
**Author(s):** Dillon Dong<sup>7</sup>, Eric J. Murphy<sup>3</sup>, Emmanuel Momjian<sup>6</sup>, Kristina Nyland<sup>1</sup>, James J. Condon<sup>5</sup>, George Helou<sup>2</sup>, David S. Meier<sup>6</sup>, Juergen Ott<sup>6</sup>, Eva Schinnerer<sup>4</sup>, Jean Turner<sup>8</sup>  
*Institution(s):* <sup>1</sup> ASTRON, <sup>2</sup> Caltech, <sup>3</sup> IPAC/Caltech, <sup>4</sup> MPIA, <sup>5</sup> NRAO, Charlottesville, <sup>6</sup> NRAO, Socorro, <sup>7</sup> Pomona College, <sup>8</sup> UCLA
- 256.09 NGC 1097: Constraining mechanisms for star formation with the VLA**  
**Author(s):** Sarah Wood<sup>2</sup>, Kartik Sheth<sup>2</sup>, Dana S. Balsler<sup>2</sup>, Aara'L Yarber<sup>1</sup>  
*Institution(s):* <sup>1</sup> Howard University, <sup>2</sup> NRAO
- 256.10 Velocity Gradients in Star-forming Dense Cores**  
**Author(s):** Luhong (Larry) Li<sup>1</sup>  
*Institution(s):* <sup>1</sup> Columbia University
- 256.11 Low-Mass Visual Companions to Young Spectroscopic Binaries**  
**Author(s):** Lisa A. Prato<sup>2</sup>, Gail Schaefer<sup>1</sup>  
*Institution(s):* <sup>1</sup> CHARA/GSU, <sup>2</sup> Lowell Observatory
- 256.12 SOFIA multi-wavelength observations of nearby star-forming clusters**  
**Author(s):** Maxime Rizzo<sup>4</sup>, Lee G. Mundy<sup>4</sup>, Stephen Rinehart<sup>3</sup>, Dominic J. Benford<sup>3</sup>, Xavier Koenig<sup>5</sup>, David Leisawitz<sup>3</sup>, Joseph D. Adams<sup>1</sup>, Luke D. Keller<sup>2</sup>  
*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> Ithaca College, <sup>3</sup> NASA Goddard Space Flight Center, <sup>4</sup> University of Maryland, College Park, <sup>5</sup> Yale University
- 256.13 An Investigation into PAH Destruction in Nearby Supernova Remnants, North Polar Spur and Cygnus Loop**  
**Author(s):** Sarah M. Burkhardt<sup>1</sup>, Adolf N. Witt<sup>2</sup>  
*Institution(s):* <sup>1</sup> Arizona State University, <sup>2</sup> University of Toledo
- 256.14 A 100-3000 GHz model of thermal dust emission observed by Planck, DIRBE and IRAS**  
**Author(s):** Aaron M. Meisner<sup>1</sup>, Douglas P. Finkbeiner<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard University

**256.15 Modeling the Carbon Dust Around Evolved Carbon Stars**

**Author(s):** John Derby<sup>1</sup>, Jean E. Chiar<sup>5</sup>, Matthew S. Povich<sup>1</sup>, Michael P. Egan<sup>4</sup>, Anthony P. Jones<sup>2</sup>, Xander Tielens<sup>3</sup>

*Institution(s):* <sup>1</sup> Cal Poly Pomona, <sup>2</sup> Institut d'Astrophysique, <sup>3</sup> Leiden University, <sup>4</sup> National Geospatial-Intelligence Agency, <sup>5</sup> SETI Institute

**256.16 A Generalized Method for Measuring RV in the Milky Way**

**Author(s):** Albert Lee<sup>1</sup>, Gregory Green<sup>1</sup>, Edward Ford Schlafly<sup>2</sup>, Aaron M. Meisner<sup>1</sup>, Douglas P. Finkbeiner<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard University, <sup>2</sup> Max Planck Institute for Astronomy

**256.17 Uncertainty in the Extinction-to-Reddening Ratio in the Near Infrared Due to Uncertainty in the Assumed Spectral Type of Main-Sequence Background Stars**

**Author(s):** Holly Christenson<sup>1</sup>, Kristen A. Larson<sup>1</sup>

*Institution(s):* <sup>1</sup> Western Washington University

**256.18 3D Dust Mapping Reveals that Orion Forms Part of a Large Ring of Dust**

**Author(s):** Edward Ford Schlafly<sup>2</sup>, Gregory Green<sup>1</sup>, Douglas P. Finkbeiner<sup>1</sup>, Hans-Walter Rix<sup>2</sup>

*Institution(s):* <sup>1</sup> Harvard, <sup>2</sup> MPIA

**256.19 Milky Way Dust and Stars in 3D**

**Author(s):** Gregory Green<sup>1</sup>, Eddie Ford Schlafly<sup>2</sup>, Douglas P. Finkbeiner<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard Univ., <sup>2</sup> Max-Planck-Institut für Astrophysik

**257 Extrasolar Planets: Characterization Posters**

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

**257.01 Constraining the Atmospheric Composition of WASP-18b**

**Author(s):** Robert Wells<sup>2</sup>, Mercedes Lopez-Morales<sup>2</sup>, Nikole Lewis<sup>3</sup>, Daniel Apai<sup>6</sup>, Andres Jordan<sup>5</sup>, Nestor Espinoza<sup>5</sup>, Benjamin Rackham<sup>6</sup>, David J. Osip<sup>1</sup>, Jonathan D. Fraine<sup>8</sup>, Jonathan J. Fortney<sup>7</sup>, Florian Rodler<sup>4</sup>

*Institution(s):* <sup>1</sup> Carnegie Institution for Science, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Massachusetts Institute of Technology, <sup>4</sup> Max Planck Institute for Astronomy, <sup>5</sup> Pontificia Universidad Catolica, <sup>6</sup> University of Arizona, <sup>7</sup> University of California, <sup>8</sup> University of Maryland

**257.02 Fundamental Parameters of the Two Hall-of-Famers HD 189733 and HD 209458**

**Author(s):** Kaspar von Braun<sup>9</sup>, Tabettha S. Boyajian<sup>16</sup>, Gregory A. Feiden<sup>15</sup>, Daniel Huber<sup>10</sup>, Sarbani Basu<sup>16</sup>, Pierre Demarque<sup>16</sup>, Debra Fischer<sup>16</sup>, Gail Schaefer<sup>4</sup>, Timothy White<sup>6</sup>, Vicente Maestro<sup>14</sup>, John Michael Brewer<sup>16</sup>, Brooke Lamell<sup>16</sup>, Federico Spada<sup>7</sup>, Andrew Mann<sup>13</sup>, Mercedes Lopez-Morales<sup>3</sup>, Michael Ireland<sup>1</sup>, Christopher D. Farrington<sup>4</sup>, Gerard van Belle<sup>8</sup>, Stephen R. Kane<sup>12</sup>, Jeremy Jones<sup>5</sup>, Theo Ten Brummelaar<sup>4</sup>, David R. Ciardi<sup>2</sup>, Harold A. McAlister<sup>5</sup>, Stephen T. Ridgway<sup>11</sup>, PJ Goldfinger<sup>4</sup>

*Institution(s):* <sup>1</sup> ANU, <sup>2</sup> Caltech, <sup>3</sup> CfA, <sup>4</sup> CHARA, <sup>5</sup> Georgia State, <sup>6</sup> Göttingen, <sup>7</sup> Leibniz Institut, <sup>8</sup> Lowell Observatory, <sup>9</sup> MPIA, <sup>10</sup> NASA Ames, <sup>11</sup> NOAO, <sup>12</sup> SFSU, <sup>13</sup> Texas, <sup>14</sup> U. of Sydney, <sup>15</sup> Uppsala University, <sup>16</sup> Yale

- 257.03 Empirically determined properties of the K-dwarf HD 189733 and implications for evolutionary models of low-mass stars**  
**Author(s):** Tabetha S. Boyajian<sup>11</sup>, Kaspar von Braun<sup>5</sup>, Gregory A. Feiden<sup>9</sup>, Daniel Huber<sup>11</sup>, Sarbani Basu<sup>11</sup>, Pierre Demarque<sup>11</sup>, Debra Fischer<sup>11</sup>, Gail Schaefer<sup>4</sup>, Timothy White<sup>3</sup>, Vicente Maestro<sup>8</sup>, John Michael Brewer<sup>11</sup>, Brooke Lamell<sup>11</sup>, Federico Spada<sup>11</sup>, Andrew Mann<sup>10</sup>, Mercedes Lopez-Morales<sup>2</sup>, Michael Ireland<sup>8</sup>, Christopher D. Farrington<sup>4</sup>, Gerard van Belle<sup>5</sup>, Stephen R. Kane<sup>7</sup>, Jeremy Jones<sup>4</sup>, Theo Ten Brummelaar<sup>4</sup>, David R. Ciardi<sup>1</sup>, Harold A. McAlister<sup>4</sup>, Stephen T. Ridgway<sup>6</sup>, PJ goldfinger<sup>4</sup>  
*Institution(s):*<sup>1. Caltech, 2. CfA, 3. Goettingen, 4. GSU / CHARA, 5. Lowell, 6. NOAO, 7. SFSU, 8. University of Sydney, 9. Uppsala, 10. UT Austin, 11. Yale</sup>
- 257.04 A Pair of Massive Planets Orbiting an Oscillating Kepler Red Giant in a Binary System**  
**Author(s):** Samuel Noah Quinn<sup>1</sup>, Daniel Huber<sup>5</sup>, David W. Latham<sup>2</sup>, Matthew J. Payne<sup>2</sup>, David M. Kipping<sup>2</sup>, David Sliski<sup>2</sup>, David R. Ciardi<sup>4</sup>, William J Chaplin<sup>6</sup>, Rasmus Handberg<sup>6</sup>, Dennis Stello<sup>5</sup>, Timothy R White<sup>3</sup>, Lars A Buchhave<sup>2</sup>  
*Institution(s):*<sup>1. Georgia State University, 2. Harvard-Smithsonian Center for Astrophysics, 3. Institut für Astrophysik, Georg-August-Universität Göttingen, 4. NASA Exoplanet Science Institute, California Institute of Technology, 5. Sydney Institute for Astronomy, University of Sydney, 6. University of Birmingham</sup>  
Contributing team(s): Kepler Science Team, Kepler Asteroseismic Science Consortium
- 257.05 The Properties of Exomoons Around the Habitable Zone Planet, Kepler 22b**  
**Author(s):** Christopher R. Fuse<sup>1</sup>, Jake Bokorney<sup>1</sup>  
*Institution(s):*<sup>1. Rollins College</sup>
- 257.06 Analysis of Secondary Eclipse Observations of Exoplanet WASP-34b**  
**Author(s):** Ryan Challener<sup>2</sup>, Joseph Harrington<sup>2</sup>, Justin Garland<sup>2</sup>, Patricio Cubillos<sup>2</sup>, Jasmina Blečić<sup>2</sup>, Barry Smalley<sup>1</sup>  
*Institution(s):*<sup>1. Keele University, 2. University of Central Florida</sup>
- 257.07 A Gemini Planet Imager investigation of the atmosphere of the HD 95086b planet**  
**Author(s):** Robert J De Rosa<sup>3</sup>, Laurent Pueyo<sup>2</sup>, Jenny Patience<sup>1</sup>, James R. Graham<sup>3</sup>  
*Institution(s):*<sup>1. Arizona State University, 2. Space Telescope Science Institute, 3. University of California</sup>  
Contributing team(s): Gemini Planet Imager team
- 257.08 Metallicity Analysis of Kepler-65, Kepler-93, Kepler-99, Kepler-102, Kepler-406, and Kepler-409**  
**Author(s):** Zachary A Vaz<sup>3</sup>, Simon C. Schuler<sup>3</sup>, Orlando J. Katime Santrich<sup>2</sup>, Katia M. L. Cunha<sup>2</sup>, Verne V. Smith<sup>1</sup>  
*Institution(s):*<sup>1. NOAO, 2. Observatório Nacional, 3. University of Tampa</sup>



- 257.09 High-Resolution Abundance Analysis of Stars with Small Planets Discovered by Kepler**  
**Author(s):** Drake Williams<sup>3</sup>, Simon C. Schuler<sup>3</sup>, Zachary A Vaz<sup>3</sup>, Katia M. L. Cunha<sup>2</sup>, Verne V. Smith<sup>1</sup>  
*Institution(s):* <sup>1</sup> NOAO, <sup>2</sup> Observatório Nacional, <sup>3</sup> University of Tampa
- 257.10 Exoplanet Transmission Spectroscopy in the Near Infrared with Keck/MOSFIRE**  
**Author(s):** Brett Morris<sup>3</sup>, Avi Mandell<sup>1</sup>, Daniel Angerhausen<sup>1</sup>, Marc Kassis<sup>4</sup>, Nikku Madhusudhan<sup>2</sup>, Michael W. McElwain<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA GSFC, <sup>2</sup> University of Cambridge, <sup>3</sup> University of Washington, <sup>4</sup> W. M. Keck Observatory
- 257.11 Dayside emission spectrum of Kepler-13Ab from HST and ground-based observations**  
**Author(s):** Ming Zhao<sup>3</sup>, Heather Knutson<sup>1</sup>, Jason Wright<sup>3</sup>, Ronald L. Gilliland<sup>3</sup>, Nikku Madhusudhan<sup>5</sup>, Travis Barman<sup>4</sup>, Avi Shporer<sup>2</sup>, Joseph O'Rourke<sup>1</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Jet Propulsion Lab, <sup>3</sup> Penn State University, <sup>4</sup> University of Arizona, <sup>5</sup> University of Cambridge
- 257.12 KELT-7b: A Hot Jupiter Transiting a Bright V=8.57 F-Star**  
**Author(s):** Allyson Bieryla<sup>2</sup>, Karen A Collins<sup>9</sup>, Thomas G. Beatty<sup>7</sup>, Jason D Eastman<sup>3</sup>, Robert Siverd<sup>10</sup>, Joshua Pepper<sup>4</sup>, B. Scott Gaudi<sup>6</sup>, Keivan Stassun<sup>10</sup>, Caleb Canas<sup>2</sup>, David W. Latham<sup>2</sup>, Lars A Buchhave<sup>2</sup>, Roberto Sanchis Ojeda<sup>5</sup>, Joshua N. Winn<sup>5</sup>, Eric L. N. Jensen<sup>8</sup>, John F. Kielkopf<sup>9</sup>, Kim K. McLeod<sup>11</sup>, Joao Gregorio<sup>1</sup>, Knicole D. Colon<sup>4</sup>, Rachel Street<sup>3</sup>, Rachel J. Ross<sup>3</sup>, Matthew Penny<sup>6</sup>, Thomas E. Oberst<sup>12</sup>, BJ Fulton<sup>3</sup>, Perry L. Berlind<sup>2</sup>, Michael L Calkins<sup>2</sup>, Gilbert Esquerdo<sup>2</sup>  
*Institution(s):* <sup>1</sup> Atalaya Group and CROW Observatory, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> LCOGT, <sup>4</sup> Lehigh University, <sup>5</sup> MIT, <sup>6</sup> Ohio State University, <sup>7</sup> Pennsylvania State University, <sup>8</sup> Swarthmore College, <sup>9</sup> University of Louisville, <sup>10</sup> Vanderbilt University, <sup>11</sup> Wellesley College, <sup>12</sup> Westminster College
- 257.13 Secondary Eclipse Observations of the Hot-Jupiter WASP-26b**  
**Author(s):** Em DeLarme<sup>1</sup>, Joseph Harrington<sup>1</sup>, Patricio Cubillos<sup>1</sup>, Andrew S. D. Foster<sup>1</sup>, Justin Garland<sup>1</sup>, Madison Stemm<sup>1</sup>, Jasmina Blečić<sup>1</sup>, Andrew Cameron<sup>2</sup>, Thomas J. Loredó<sup>1</sup>  
*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> University of St Andrews
- 257.14 Constructing Mass-radius Relationships of Low Mass Gaseous Exoplanets with MESA**  
**Author(s):** Howard Chen<sup>1</sup>, Leslie Rogers<sup>2</sup>  
*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> Cahill Center for Astronomy and Astrophysics, California Institute of Technology
- 257.15 Clouds in Super-Earth Atmospheres: Chemical Equilibrium Calculations**  
**Author(s):** Rostom Mbarek<sup>1</sup>, Eliza Kempton<sup>1</sup>  
*Institution(s):* <sup>1</sup> Grinnell College

# TUESDAY, 6 JANUARY 2015

- 257.16 The Effects of Modeling Clouds and Hazes in Transit Transmission Spectra of Extra Solar Planets**  
**Author(s):** Kyle Luther<sup>1</sup>, Michael R. Line<sup>2</sup>, Jonathan J. Fortney<sup>2</sup>  
*Institution(s):* <sup>1</sup> UC Berkeley, <sup>2</sup> UC Santa Cruz
- 257.17 Exo-Transmit: A Publicly Available Exoplanet Transmission Spectrum Code and Accompanying Spectral Library**  
**Author(s):** Eliza Kempton<sup>1</sup>, Roxana E. Lupu<sup>2</sup>, Patrick Slough<sup>1</sup>, Albert Owusu-Asare<sup>1</sup>, Bryson Cale<sup>1</sup>  
*Institution(s):* <sup>1</sup> Grinnell College, <sup>2</sup> NASA Ames Research Center
- 257.18 Examining the Relative Compositions of Giant Planets and their Parent Stars**  
**Author(s):** Daniel Thorngren<sup>1</sup>, Jonathan J. Fortney<sup>1</sup>  
*Institution(s):* <sup>1</sup> UCSC
- 257.19 Effects of Photoevaporation on Planet Migration**  
**Author(s):** Alexander Wise<sup>1</sup>, Sarah E. Dodson-Robinson<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Delaware
- 257.20 Formation of Giant Planets by Gravitational Instability in Layered Accretion Disk: A Study on Dust Settling**  
**Author(s):** Debanjan Sengupta<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Delaware
- 257.21 The Impact of Stellar Multiplicity on Planet Occurrence**  
**Author(s):** Adam L. Kraus<sup>3</sup>, Michael Ireland<sup>1</sup>, Trent J. Dupuy<sup>3</sup>, Andrew Mann<sup>3</sup>, Daniel Huber<sup>2</sup>  
*Institution(s):* <sup>1</sup> Australian National University, <sup>2</sup> NASA Ames, <sup>3</sup> University of Texas - Austin
- 257.22 The In Situ Formation of Systems with Tightly-packed Inner Planets**  
**Author(s):** Aaron C. Boley<sup>3</sup>, Melissa A. Morris<sup>1</sup>, Eric B Ford<sup>2</sup>  
*Institution(s):* <sup>1</sup> Center for Meteorite Studies, Arizona State University, <sup>2</sup> Pennsylvania State University, <sup>3</sup> The University of British Columbia
- 257.23 The Orbital Architectures of Planet-Hosting Binary Systems**  
**Author(s):** Trent J. Dupuy<sup>3</sup>, Adam L. Kraus<sup>3</sup>, Michael Ireland<sup>1</sup>, Andrew Mann<sup>3</sup>, Daniel Huber<sup>2</sup>  
*Institution(s):* <sup>1</sup> Australian National University, <sup>2</sup> NASA Ames Research Center, <sup>3</sup> University of Texas at Austin
- 257.24 A secular model for efficient exploration of mutually-inclined planetary systems**  
**Author(s):** Russell Deitrick<sup>1</sup>, Rory Barnes<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington
- 257.25 Direct imaging of exoplanets around multiple star systems**  
**Author(s):** Sandrine Thomas<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA/UARC

- 257.26 High-precision ground-based observations of transiting exoplanets to detect their magnetic fields and undiscovered companions**  
**Author(s):** Morgan Ryleigh Fitzpatrick<sup>2</sup>, Zachary Watson<sup>2</sup>, Robert Zellem<sup>2</sup>, Kyle Pearson<sup>1</sup>, Caitlin Ann Griffith<sup>2</sup>  
*Institution(s):* <sup>1</sup> Northern Arizona University, <sup>2</sup> University of Arizona  
 Contributing team(s): AzGOE
- 257.27 Connecting historical disk interactions with current planetary system architectures**  
**Author(s):** Emily Ellinger<sup>1</sup>, Jason H. Steffen<sup>1</sup>  
*Institution(s):* <sup>1</sup> Northwestern University
- 257.28 Inclination Excitation in Extrasolar Planetary Systems**  
**Author(s):** Juliette Becker<sup>1</sup>, Fred C. Adams<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Michigan
- 257.29 Shedding Light on the Eccentricity Valley: Gap Heating and Eccentricity Excitation of Giant Planets in Protoplanetary Disks**  
**Author(s):** David Tsang<sup>1</sup>, Neal J. Turner<sup>2</sup>, Andrew Cumming<sup>1</sup>  
*Institution(s):* <sup>1</sup> McGill University, <sup>2</sup> NASA JPL
- 257.30 Analyzing Mass Loss and Tidal Circularization as a Source for Sustained Eccentric Orbits in Hot Jupiters**  
**Author(s):** Rachel L. Salmon<sup>1</sup>, Jeremy F. Sepinsky<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Scranton
- 257.31 Characterizing the Hot Kepler Objects of Interest**  
**Author(s):** Ellen Price<sup>2</sup>, Leslie Rogers<sup>2</sup>, John Johnson<sup>3</sup>, Avi Shporer<sup>4</sup>, Tim Morton<sup>6</sup>, Justin R. Crepp<sup>5</sup>, Jonathan Swift<sup>2</sup>, Philip Steven Muirhead<sup>1</sup>  
*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> California Institute of Technology, <sup>3</sup> Harvard-Smithsonian Center for Astrophysics, <sup>4</sup> Jet Propulsion Laboratory, <sup>5</sup> Notre Dame University, <sup>6</sup> Princeton University
- 257.32 MINERVA-Red: A Census of Planets Orbiting the Nearest Low-mass Stars to the Sun**  
**Author(s):** Cullen Blake<sup>5</sup>, John Johnson<sup>1</sup>, Peter Plavchan<sup>2</sup>, David Sliski<sup>5</sup>, Robert A. Wittenmyer<sup>4</sup>, Jason D Eastman<sup>1</sup>, Stuart Barnes<sup>3</sup>  
*Institution(s):* <sup>1</sup> Harvard University, <sup>2</sup> Missouri State University, <sup>3</sup> Stuart Barnes Optical Design, <sup>4</sup> University of New South Wales, <sup>5</sup> University of Pennsylvania
- 257.33 Inferring Planet Occurrence Rates With a Q1-Q16 Kepler Planet Candidate Catalog Produced by a Machine Learning Classifier**  
**Author(s):** Joseph Catanzarite<sup>2</sup>, Jon Michael Jenkins<sup>1</sup>, Christopher J. Burke<sup>2</sup>, Sean D McCauliff<sup>3</sup>  
*Institution(s):* <sup>1</sup> NASA AMES Research Center, <sup>2</sup> SETI Institute, <sup>3</sup> Wyle  
 Contributing team(s): Kepler Science Operations Center
- 257.34 Estimates of Planetary System Properties using TTV data and Least-Excited Orbital Configurations**  
**Author(s):** Daeyoung Lee<sup>1</sup>, Jason H. Steffen<sup>1</sup>  
*Institution(s):* <sup>1</sup> Northwestern University

# TUESDAY, 6 JANUARY 2015

- 257.35 Identifying transiting planets candidates in Kepler data using PyKE**  
**Author(s):** Clement Gaillard<sup>1</sup>, Denise C. Stephens<sup>1</sup>, Thomas E. Stephens<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brigham Young University
- 257.36 The Kepler False Positive Table**  
**Author(s):** Steve Bryson<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA Ames Research Center  
Contributing team(s): The Kepler False Positive Working Group
- 257.37 Orbital Phase Curves of Kepler Exoplanetary Systems**  
**Author(s):** Dilovan Serindag<sup>1</sup>, Seth Redfield<sup>1</sup>  
*Institution(s):* <sup>1</sup> Wesleyan University
- 257.38 Modelling Phase Curves and Occultations in KOI Light Curve**  
**Author(s):** Laura C Mayorga<sup>1</sup>, Jason Jackiewicz<sup>1</sup>  
*Institution(s):* <sup>1</sup> New Mexico State University
- 257.39 Characterizing Retired A Stars**  
**Author(s):** Luan Ghezzi<sup>1</sup>, John Johnson<sup>1</sup>, José Dias do Nascimento<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics
- 257.40 Young Nearby Suns and Stellar Jitter Dependence on Age**  
**Author(s):** Nicole Cabrera<sup>1</sup>, Russel White<sup>1</sup>, Xavier Delfosse<sup>3</sup>, Samuel Noah Quinn<sup>1</sup>, David W. Latham<sup>2</sup>  
*Institution(s):* <sup>1</sup> Georgia State University, <sup>2</sup> Harvard-Smithsonian, CfA, <sup>3</sup> Université Joseph Fourier
- 257.41 KIC 12557548 and Similar Stars as SETI Targets**  
**Author(s):** Kimberly Michelle Star Cartier<sup>1</sup>  
*Institution(s):* <sup>1</sup> Pennsylvania State University

## 258 Extrasolar Planets: Detection Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 258.01 The MEarth project: an all-sky survey for transiting Earth-like exoplanets orbiting nearby M-dwarfs**  
**Author(s):** Jonathan Irwin<sup>1</sup>, Zachory K. Berta-Thompson<sup>2</sup>, David Charbonneau<sup>1</sup>, Jason Dittmann<sup>1</sup>, Elisabeth R. Newton<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> MIT
- 258.02 Exoplanets with LSST: Period Recoverability of Transiting Hot Jupiters**  
**Author(s):** Savannah Jacklin<sup>3</sup>, Michael Lund<sup>2</sup>, Joshua Pepper<sup>1</sup>, Keivan Stassun<sup>2</sup>  
*Institution(s):* <sup>1</sup> Lehigh University, <sup>2</sup> Vanderbilt University, <sup>3</sup> Villanova University
- 258.03 A Novel Technique for Narrow-Band Tunable Filter Photometry to Enable Ground-Based Detection of Earth-Sized Exoplanets**  
**Author(s):** Benjamin Kimock<sup>1</sup>, Knicole Colón<sup>2</sup>, Joshua Pepper<sup>2</sup>  
*Institution(s):* <sup>1</sup> Dickinson College, <sup>2</sup> Lehigh University
- 258.04 Testing the refurbished 30-inch Leuschner telescope and its exoplanet detection capabilities**  
**Author(s):** Eileen Gonzales<sup>1</sup>, Adam Fries<sup>1</sup>, Adrienne Cool<sup>1</sup>  
*Institution(s):* <sup>1</sup> San Francisco State University

- 258.05 Determining the Photometric Precision of the 0.9-m CTIO SMARTS Telescope**  
**Author(s):** Cameron Clarke<sup>2</sup>, Angelle M. Tanner<sup>2</sup>, Todd J. Henry<sup>1</sup>, Jarrod Marsh<sup>2</sup>  
*Institution(s):* <sup>1</sup> Georgia State University, <sup>2</sup> Mississippi State University  
 Contributing team(s): RECONS, SMARTS
- 258.06 Mechanical design for the Evryscope: a minute cadence, 10,000-square-degree FoV, gigapixel-scale telescope**  
**Author(s):** Jeff Ratzloff<sup>1</sup>, Nicholas M. Law<sup>1</sup>, Octavi Fors Aldrich<sup>1</sup>, Philip J. Wulfken<sup>1</sup>  
*Institution(s):* <sup>1</sup> UNC Chapel Hill
- 258.07 Image Quality of the Evryscope: Method for On-Site Optical Alignment**  
**Author(s):** Philip J. Wulfken<sup>1</sup>, Nicholas M. Law<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of North Carolina
- 258.08 Calibrating the pixel-level Kepler imaging data with a causal data-driven model**  
**Author(s):** Dun Wang<sup>2</sup>, Daniel Foreman-Mackey<sup>2</sup>, David W. Hogg<sup>2</sup>, Bernhard Schölkopf<sup>1</sup>  
*Institution(s):* <sup>1</sup> Max Planck Institute for Intelligent Systems, <sup>2</sup> New York University
- 258.09 High-contrast imager for Complex Aperture Telescopes (HiCAT): APLC/shaped-pupil hybrid coronagraph designs**  
**Author(s):** Mamadou N'Diaye<sup>5</sup>, Elodie Choquet<sup>5</sup>, Alexis Carlotti<sup>2</sup>, Laurent Pueyo<sup>5</sup>, Sylvain Egrou<sup>5</sup>, Lucie Leboulleux<sup>5</sup>, Olivier Levecq<sup>5</sup>, Marshall D. Perrin<sup>5</sup>, J. Kent Wallace<sup>3</sup>, Chris Long<sup>5</sup>, Rachel Lajoie<sup>5</sup>, Charles-Philippe Lajoie<sup>5</sup>, A J Eldorado Riggs<sup>4</sup>, Neil T Zimmerman<sup>4</sup>, Tyler Dean Groff<sup>4</sup>, N. Jeremy Kasdin<sup>4</sup>, Robert J. Vanderbei<sup>4</sup>, Dimitri Mawet<sup>1</sup>, Bruce Macintosh<sup>6</sup>, Stuart Shaklan<sup>3</sup>, Remi Soummer<sup>5</sup>  
*Institution(s):* <sup>1</sup> ESO, <sup>2</sup> Institute of Planetology and Astrophysics of Grenoble, <sup>3</sup> Jet Propulsion Laboratory, <sup>4</sup> Princeton University, <sup>5</sup> Space Telescope Science Institute, <sup>6</sup> Stanford University
- 258.10 Design of an occulter testbed at flight Fresnel numbers**  
**Author(s):** Dan Sirbu<sup>1</sup>, N. Jeremy Kasdin<sup>1</sup>, Yunjong Kim<sup>1</sup>, Robert J. Vanderbei<sup>1</sup>  
*Institution(s):* <sup>1</sup> Princeton University
- 258.11 Performance characterization of a PIAA complex focal plane mask**  
**Author(s):** Kevin Newman<sup>3</sup>, Ruslan Belikov<sup>1</sup>, Olivier Guyon<sup>2</sup>, Eugene Pluzhnik<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA Ames Research Center, <sup>2</sup> Subaru Telescope, <sup>3</sup> University of Arizona
- 258.12 Advances in Focal Plane Wavefront Estimation for Directly Imaging Exoplanets**  
**Author(s):** A J Eldorado Riggs<sup>1</sup>, N. Jeremy Kasdin<sup>1</sup>, Tyler Dean Groff<sup>1</sup>  
*Institution(s):* <sup>1</sup> Princeton University
- 258.13 KLIP-ing for Analogs - Detection Statistics for HR8799-like systems**  
**Author(s):** Jake R Hanson<sup>1</sup>, Daniel Apai<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Arizona

# TUESDAY, 6 JANUARY 2015

POSTERS

TUESDAY

- 258.14 Direct Imaging of Radial Velocity Exoplanets with the WFIRST-AFTA Coronagraph**  
**Author(s):** Aastha Acharya<sup>1</sup>, Dmitry Savransky<sup>1</sup>  
*Institution(s):* <sup>1</sup> Cornell University
- 258.15 Development of Integral Field Spectroscopy for the AFTA Coronagraph using an Electron Multiplication CCD**  
**Author(s):** Richard Demers<sup>1</sup>  
*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory  
Contributing team(s): Jet Propulsion Laboratory, Caltech; Goddard Space Flight Center
- 258.16 Finding the Needle in the Haystack: High-Fidelity Models of Planetary Systems for Simulating Exoplanet Observations**  
**Author(s):** Andrew Lincowski<sup>2</sup>, Aki Roberge<sup>1</sup>, Christopher C. Stark<sup>1</sup>, Ashlee N. Wilkins<sup>4</sup>, Erika Nesvold<sup>3</sup>  
*Institution(s):* <sup>1</sup> NASA/Goddard Space Flight Center, <sup>2</sup> University of Arizona, <sup>3</sup> University of Maryland - Baltimore County, <sup>4</sup> University of Maryland - College Park  
Contributing team(s): the Haystacks Team
- 258.17 A re-analysis of planet candidates common to the HARPS and Anglo-Australian Planet Search**  
**Author(s):** Robert A. Wittenmyer<sup>1</sup>, Duncan Wright<sup>1</sup>  
*Institution(s):* <sup>1</sup> UNSW Australia
- 258.18 RV Search for Young Hot Jupiters in the Infrared**  
**Author(s):** Justin R. Cantrell<sup>1</sup>, Russel J. White<sup>1</sup>, John Ira Bailey<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia State University
- 258.19 Giant Planet Candidates, Brown Dwarfs, and Binaries from the SDSS-III MARVELS Planet Survey.**  
**Author(s):** Neil Thomas<sup>2</sup>, Jian Ge<sup>2</sup>, Rui Li<sup>2</sup>, Nathan M. De Lee<sup>1</sup>, Michael Heslar<sup>2</sup>, Bo Ma<sup>2</sup>  
*Institution(s):* <sup>1</sup> Northern Kentucky University, <sup>2</sup> University of Florida  
Contributing team(s): SDSS-III MARVELS Team
- 258.20 Illumination Profile & Dispersion Variation Effects on Radial Velocity Measurements**  
**Author(s):** Nolan Grieves<sup>1</sup>, Jian Ge<sup>1</sup>, Neil B Thomas<sup>1</sup>, Bo Ma<sup>1</sup>, Rui Li<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Florida  
Contributing team(s): SDSS-III
- 258.21 Precise Near-Infrared Radial Velocities**  
**Author(s):** Peter Plavchan<sup>2</sup>, Peter Gao<sup>1</sup>, Jonathan Gagne<sup>12</sup>, Elise Furlan<sup>7</sup>, Michael Bottom<sup>1</sup>, Cassy Davison<sup>2</sup>, Sean Mills<sup>10</sup>, David R. Ciardi<sup>7</sup>, Angelle M. Tanner<sup>5</sup>, Charles A. Beichman<sup>7</sup>, Joseph Catanzarite<sup>9</sup>, John Johnson<sup>3</sup>, Russel J. White<sup>2</sup>, Guillem Anglada-Escudé<sup>11</sup>, Todd J Henry<sup>2</sup>, Kaspar von Braun<sup>6</sup>, Bernie Walp<sup>8</sup>, Lisa A. Prato<sup>4</sup>  
*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Georgia State University, <sup>3</sup> Harvard, <sup>4</sup> Lowell Observatory, <sup>5</sup> Mississippi State University, <sup>6</sup> MPIA, <sup>7</sup> NASA Exoplanet Science Institute, <sup>8</sup> Self, <sup>9</sup> SETI Institute, <sup>10</sup> University of Chicago, <sup>11</sup> University of London, <sup>12</sup> University of Montreal

**258.22 Retrieval of Precise Radial Velocities from High Resolution Near-Infrared Spectra of M Dwarfs**

**Author(s):** Peter Gao<sup>1</sup>, Peter Plavchan<sup>8</sup>, Jonathan Gagne<sup>11</sup>, Elise Furlan<sup>1</sup>, Michael Bottom<sup>1</sup>, Guillem Anglada-Escudé<sup>2</sup>, Russel J. White<sup>3</sup>, Cassy Davison<sup>3</sup>, Sean Mills<sup>12</sup>, Charles A. Beichman<sup>5</sup>, Carolyn Brinkworth<sup>10</sup>, John Johnson<sup>4</sup>, David R. Ciardi<sup>1</sup>, J. Kent Wallace<sup>5</sup>, Bertrand Mennesson<sup>5</sup>, Kaspar von Braun<sup>1</sup>, Gautam Vasisht<sup>5</sup>, Lisa A. Prato<sup>6</sup>, Stephen R. Kane<sup>1</sup>, Angelle M. Tanner<sup>7</sup>, Bernie Walp<sup>9</sup>, Sam Crawford<sup>5</sup>, Sean Lin<sup>5</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Carnegie Institution of Washington, <sup>3</sup> Georgia State University, <sup>4</sup> Harvard University, <sup>5</sup> Jet Propulsion Laboratory, California Institute of Technology, <sup>6</sup> Lowell Observatory, <sup>7</sup> Mississippi State University, <sup>8</sup> Missouri State University, <sup>9</sup> NASA Armstrong Flight Research Center (SOFIA), <sup>10</sup> National Center for Atmospheric Research, <sup>11</sup> Université de Montréal, <sup>12</sup> University of Chicago

**258.23 The Habitable-zone Planet Finder (HPF): Achieving high precision radial velocities and mitigating stellar activity noise**

**Author(s):** Suvrath Mahadevan<sup>1</sup>, Lawrence W. Ramsey<sup>1</sup>, Ryan Terrien<sup>1</sup>, Paul Robertson<sup>1</sup>, Robert C. Marchwinski<sup>1</sup>, Fred Hearty<sup>1</sup>, Eric Levi<sup>1</sup>, Gudmundur Kári Stefánsson<sup>1</sup>, Chad F. Bender<sup>1</sup>, Samuel Halverson<sup>1</sup>, Arpita Roy<sup>1</sup>, Matt Nelson<sup>2</sup>, Christian Schwab<sup>1</sup>

*Institution(s):* <sup>1</sup> Penn State, <sup>2</sup> University of Virginia

**258.24 Spotting Spots: Simulating Stellar Noise for Spot Detection**

**Author(s):** Aida Behmard<sup>1</sup>, Cyril Zhang<sup>1</sup>, Matthew J. Giguere<sup>1</sup>, Debra Fischer<sup>1</sup>

*Institution(s):* <sup>1</sup> Yale University

**258.25 MINERVA: A Dedicated Observatory for Detection of Nearby Low-Mass Exoplanets**

**Author(s):** Nate McCrady<sup>7</sup>, John Johnson<sup>3</sup>, Jason Wright<sup>6</sup>, Robert A. Wittenmyer<sup>8</sup>, Cullen Blake<sup>9</sup>, Jonathan Swift<sup>2</sup>, Jason D Eastman<sup>3</sup>, Peter Plavchan<sup>4</sup>, Reed L. Riddle<sup>2</sup>, Philip Steven Muirhead<sup>1</sup>, Michael Bottom<sup>2</sup>, Ming Zhao<sup>6</sup>, Thomas G. Beatty<sup>5</sup>

*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> California Institute of Technology, <sup>3</sup> Harvard University, <sup>4</sup> Missouri State University, <sup>5</sup> Ohio State University, <sup>6</sup> Penn State University, <sup>7</sup> University of Montana, <sup>8</sup> University of New South Wales, <sup>9</sup> University of Pennsylvania

**258.26 Optimization of the MINERVA Exoplanet Search Strategy via Simulations**

**Author(s):** Chantell Nava<sup>1</sup>, Samson Johnson<sup>1</sup>, Nate McCrady<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Montana

Contributing team(s): MINERVA

**258.27 Autonomous Observing and Planet Discovery with the Automated Planet Finder (APF)**

**Author(s):** Jennifer Burt<sup>2</sup>, Russell Hanson<sup>2</sup>, Bradford Holden<sup>2</sup>, R. Paul Butler<sup>1</sup>, Steven S. Vogt<sup>2</sup>, Greg Laughlin<sup>2</sup>

*Institution(s):* <sup>1</sup> Carnegie Institute of Washington, <sup>2</sup> University of California - Santa Cruz

# TUESDAY, 6 JANUARY 2015

POSTERS

TUESDAY

- 258.28 Stellar Radial Velocities with Subaru/IRCS and an Ammonia Absorption Cell**  
**Author(s):** Steven Gilhool<sup>2</sup>, Motohide Tamura<sup>1</sup>, Tomonori Usuda<sup>1</sup>, Cullen Blake<sup>2</sup>  
*Institution(s):* <sup>1</sup> National Astronomical Observatory of Japan, <sup>2</sup> University of Pennsylvania
- 258.29 The Spectroastrometric Detection of Exomoons**  
**Author(s):** Tiffany C. Jansen<sup>1</sup>, Brianna Lacy<sup>1</sup>, Tyler D. Robinson<sup>1</sup>, Eric Agol<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington  
Contributing team(s): The Virtual Planetary Laboratory
- 258.30 Differential Astrometry to detect giant planets around A-stars**  
**Author(s):** John D. Monnier<sup>4</sup>, Keith Johnson<sup>4</sup>, Samuel Swihart<sup>4</sup>, Michael Ireland<sup>1</sup>, Ming Zhao<sup>3</sup>, Theo Ten Brummelaar<sup>2</sup>  
*Institution(s):* <sup>1</sup> Australian National University, <sup>2</sup> Georgia State University, <sup>3</sup> Pennsylvania State University, <sup>4</sup> Univ. of Michigan
- 258.31 Short duration microlensing events: Searching for rogue planets**  
**Author(s):** Kathryn E. St. Laurent<sup>2</sup>, Rosanne Di Stefano<sup>1</sup>, Francis A. Primini<sup>1</sup>, Wei Peng Lew<sup>1</sup>, Lai Su Gau<sup>1</sup>, Sophie Benson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian CfA, <sup>2</sup> UMass Dartmouth  
Contributing team(s): The Optical Gravitational Lensing Experiment, Microlensing Observations in Astrophysics
- 258.32 The Subaru SEEDS Direct Imaging Survey for Planets of Early-Type Stars**  
**Author(s):** Kellen D Lawson<sup>1</sup>, Joseph Carson<sup>1</sup>, Christian Thalmann<sup>2</sup>  
*Institution(s):* <sup>1</sup> College of Charleston, <sup>2</sup> Institute for Astronomy  
Contributing team(s): SEEDS Survey Team

## 259 Probe-Scale Exoplanet Mission Concepts Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 259.01 Probe-Scale Mission Concepts for Direct Imaging and Spectroscopy of Nearby Exoplanet Systems**  
**Author(s):** Stephen C. Unwin<sup>2</sup>, Sara Seager<sup>3</sup>, Karl R. Stapelfeldt<sup>1</sup>, Keith Warfield<sup>2</sup>, Frank G Dekens<sup>2</sup>, Gary Blackwood<sup>2</sup>  
*Institution(s):* <sup>1</sup> GSFC, <sup>2</sup> JPL, <sup>3</sup> MIT  
Contributing team(s): Exo-S Science and Technology Definition Team, Exo-C Science and Technology Definition Team, JPL Probe Study Design Teams
- 259.02 Exoplanet Science with a Starshade: Exo-S Study Results**  
**Author(s):** Margaret C. Turnbull<sup>1</sup>, Sara Seager<sup>3</sup>, Aki Roberge<sup>4</sup>, Shawn Domagal-Goldman<sup>4</sup>, Stuart Shaklan<sup>2</sup>  
*Institution(s):* <sup>1</sup> Global Science Institute, <sup>2</sup> JPL, <sup>3</sup> MIT, <sup>4</sup> NASA GSFC  
Contributing team(s): Exo-S Science and Technology Definition Team



- 259.03 Imaging Exoplanets with the Exo-S Starshade Mission: Key Enabling Technologies**  
**Author(s):** N. Jeremy Kasdin<sup>2</sup>, Doug Lisman<sup>1</sup>, Stuart Shaklan<sup>1</sup>, Mark Thomson<sup>1</sup>, David Webb<sup>1</sup>, Eric Cady<sup>1</sup>  
*Institution(s):* <sup>1</sup>Jet Propulsion Laboratory, <sup>2</sup>Princeton University  
 Contributing team(s): Exo-S Science and Technology Definition Team, Exoplanet Program Probe Study Design Team
- 259.04 Imaging Exoplanets with the Exo-S Starshade Mission: Baseline Design**  
**Author(s):** Eric Cady<sup>1</sup>, Doug Lisman<sup>1</sup>, Stefan Martin<sup>1</sup>, Daniel Scharf<sup>1</sup>, Stuart Shaklan<sup>1</sup>, Rachel Trabert<sup>1</sup>, David Webb<sup>1</sup>  
*Institution(s):* <sup>1</sup>Jet Propulsion Laboratory  
 Contributing team(s): Exo-S Science and Technology Definition Team, Exoplanet Program Probe Study Design Team
- 259.05 High Contrast Science Program for the Exo-C Space Telescope Mission**  
**Author(s):** Karl R. Stapelfeldt<sup>3</sup>, Mark S. Marley<sup>2</sup>, Geoffrey Bryden<sup>1</sup>, Victoria Meadows<sup>4</sup>, Ruslan Belikov<sup>2</sup>, Michael W. McElwain<sup>3</sup>  
*Institution(s):* <sup>1</sup>Jet Propulsion Laboratory / Caltech, <sup>2</sup>NASA Ames Research Center, <sup>3</sup>NASA Goddard Space Flight Center, <sup>4</sup>University of Washington  
 Contributing team(s): Exo-C Science and Technology Definition Team
- 259.06 Exo-C: Mission and Science Payload Design**  
**Author(s):** Frank G Dekens<sup>2</sup>, Karl R. Stapelfeldt<sup>1</sup>, Keith Warfield<sup>2</sup>, Stephen C. Unwin<sup>2</sup>  
*Institution(s):* <sup>1</sup>GSFC, <sup>2</sup>JPL  
 Contributing team(s): Exo-C Science and Technology Definition Team, Exo-C JPL Study Design Team
- 259.07 Enabling Technologies for Characterizing Exoplanet Systems with Exo-C**  
**Author(s):** Kerri Lynn Cahoy<sup>1</sup>, Ruslan Belikov<sup>2</sup>, Karl R. Stapelfeldt<sup>3</sup>, Supriya Chakrabarti<sup>5</sup>, John T. Trauger<sup>4</sup>, Eugene Serabyn<sup>4</sup>, Michael W. McElwain<sup>3</sup>, Christopher M. Pong<sup>4</sup>, Paul Brugarolas<sup>4</sup>  
*Institution(s):* <sup>1</sup>MIT, <sup>2</sup>NASA Ames Research Center, <sup>3</sup>NASA Goddard Space Flight Center, <sup>4</sup>NASA Jet Propulsion Laboratory, <sup>5</sup>University of Massachusetts Lowell

## 260 Astrobiology Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 260.01 On the thermal, magnetic, and orbital evolution of tidally heated Earth-mass exoplanets**  
**Author(s):** Peter E. Driscoll<sup>1</sup>, Rory Barnes<sup>1</sup>  
*Institution(s):* <sup>1</sup>University of Washington

# TUESDAY, 6 JANUARY 2015

## 260.02 Enumerating the Progress of SETI Observations

**Author(s):** Lindsay Lesh<sup>1</sup>, Jill C. Tarter<sup>2</sup>

*Institution(s):* <sup>1</sup> Bowling Green State University, <sup>2</sup> The SETI Institute

## 260.03 Detecting Traces of Life in the Plume of Enceladus

**Author(s):** Daniel M. Krolkowski<sup>2</sup>, Jonathan I. Lunine<sup>1</sup>

*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> State University of New York, College at Geneseo

## 260.04 Habitability of Planets Orbiting Binaries Consisting of Solar Mass Twins

**Author(s):** Paul A. Mason<sup>3</sup>, Jorge I Zuluaga<sup>1</sup>, Andrey G Zhilkin<sup>2</sup>, Dmitry V Bisikalo<sup>2</sup>

*Institution(s):* <sup>1</sup> Harvard, Visiting Fulbright Scholar, <sup>2</sup> Russian Academy of Sciences, Institute for Astronomy, <sup>3</sup> Univ. Of Texas at El Paso

POSTERS

TUESDAY

## 300 Plenary Talk: The Interactions of Exoplanets with their Parent Stars

Wednesday, 8:30 am - 9:20 am; 6E

Chair(s): Nancy Brickhouse (*Harvard-Smithsonian, CfA*)



**300.01 The Interactions of Exoplanets with their Parent Stars**

**Author(s): Katja Poppenhaeger<sup>1</sup>**

*Institution(s): <sup>1</sup>Harvard-Smithsonian Center for Astrophysics*

## 301 Cosmology I

Wednesday, 10:00 am - 11:30 am; 6A

Chair(s): John Wise (*Georgia Institute of Technology*)

**301.01 Gravitational wave signature in B-modes and the power in  $\Lambda$ CDM models on large and small scales**

**Author(s): Quinn Eliot Minor<sup>1</sup>, Manoj Kaplinghat<sup>2</sup>**

*Institution(s): <sup>1</sup>Borough of Manhattan Community College, <sup>2</sup>University of California, Irvine*

**301.02 New 21 cm Power Spectrum Upper Limits From PAPER I : Results from PAPER 64**

**Author(s): Zaki Shiraz Ali<sup>1</sup>, Aaron Parsons<sup>1</sup>, Jonathan Pober<sup>2</sup>**

*Institution(s): <sup>1</sup>University of California Berkeley, <sup>2</sup>University of Washington*  
Contributing team(s): Team PAPER

**301.03 New 21 cm Power Spectrum Upper Limits From PAPER II: Constraints on IGM Properties at  $z = 7.7$**

**Author(s): Jonathan Pober<sup>2</sup>, Zaki Ali<sup>1</sup>, Aaron Parsons<sup>1</sup>**

*Institution(s): <sup>1</sup>UC Berkeley, <sup>2</sup>University of Washington*  
Contributing team(s): PAPER Team

**301.04 Epoch of Reionization observations from the first semester of data from the Murchison Widefield Array**

**Author(s): Adam Beardsley<sup>1</sup>**

*Institution(s): <sup>1</sup>University of Washington*  
Contributing team(s): MWA Collaboration

**301.05 Reference MWA EoR Power Spectrum analysis**

**Author(s): Bryna Hazelton<sup>1</sup>, Jonathan Pober<sup>1</sup>, Adam Beardsley<sup>1</sup>, Miguel F. Morales<sup>1</sup>, Ian S. Sullivan<sup>1</sup>**

*Institution(s): <sup>1</sup>University of Washington*  
Contributing team(s): MWA Collaboration

# WEDNESDAY, 7 JANUARY 2015

## 301.06 The same with less: The cosmic web of warm versus cold dark matter dwarf galaxies

**Author(s):** Darren Reed<sup>1</sup>, Aurel Schneider<sup>3</sup>, Robert E Smith<sup>2</sup>, Joachim Stadel<sup>3</sup>, Ben Moore<sup>3</sup>

*Institution(s):* <sup>1</sup> Barcelona (ICE - CSIC, IEEC), <sup>2</sup> Sussex, <sup>3</sup> University of Zurich

## 301.07 Comparison of Observed and Simulated Reionization Foregrounds from the Murchison Widefield Array

**Author(s):** Nithyanandan Thyagarajan<sup>1</sup>, Danny Jacobs<sup>1</sup>, Judd D. Bowman<sup>1</sup>

*Institution(s):* <sup>1</sup> Arizona State University

Contributing team(s): MWA EoR Collaboration

## 301.08 Calibration and Imaging for next generation 21cm EoR arrays

**Author(s):** Ian S. Sullivan<sup>1</sup>, Miguel F. Morales<sup>1</sup>, Bryna Hazelton<sup>1</sup>, Adam Beardsley<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

Contributing team(s): MWA Collaboration

## 302 Results from the SDSS-III/APOGEE Survey I

Wednesday, 10:00 am - 11:30 am; 6B

Our understanding of the structure, formation, and evolution of the Milky Way Galaxy is being revolutionized by a new generation of spectroscopic surveys and the recently launched astrometric Gaia satellite. At the forefront of these efforts is the SDSS-III Apache Point Observatory Galactic Evolution Experiment (APOGEE). APOGEE is a recently completed high-resolution, near-infrared (NIR) spectroscopic survey of more than 100,000 stars in the Milky Way disk, bulge, and halo. The bulk of these stars are luminous red giants that in the NIR can be traced out to distances of 10 kpc and beyond, providing us for the first time with a comprehensive view of the Galactic disk and bulge populations. The high-resolution spectra allow precise radial velocities and elemental abundances of 15 elements to be measured. This special session will present the exciting and varied scientific explorations allowed by the high-quality APOGEE data, including the chemodynamical structure of the Milky Way disk, the structure of the bulge, new methods to trace the interstellar medium with diffuse interstellar bands, constraints on stellar physics and Galactic structure from the combination of the APOGEE data with asteroseismology from Kepler and CoRoT, the structure of young nebulous clusters, and others. A presentation of the second stage of APOGEE in SDSS-IV (2014-2020), which will expand the sky coverage to the Southern hemisphere, will also be given. This Special Session will include a survey overview and a combination of invited and contributed talks and posters, highlighting important APOGEE science results from the full three-year survey.

**Chair(s):** Steven Majewski (*Univ. of Virginia*)

## 302.01 Apache Point Observatory Galactic Evolution Experiment (APOGEE): Status and Overview of Results

**Author(s):** Jo Bovy<sup>1</sup>, Steven R. Majewski<sup>2</sup>

*Institution(s):* <sup>1</sup> Institute for Advanced Study, <sup>2</sup> University of Virginia

Contributing team(s): SDSS-III/APOGEE Collaboration

## 302.02 Stellar Populations with APOGEE and Kepler

**Author(s):** Jennifer Johnson<sup>13</sup>, Marc H. Pinsonneault<sup>13</sup>, Yvonne P Elsworth<sup>15</sup>, Courtney R. Epstein<sup>13</sup>, Saskia Hekker<sup>10</sup>, Szabolcs Meszaros<sup>6</sup>, William J Chaplin<sup>15</sup>, Rafael Garcia<sup>3</sup>, Jon A. Holtzman<sup>11</sup>, Savita Mathur<sup>14</sup>, Ana García Pérez<sup>18</sup>, Sarbani Basu<sup>19</sup>, Leo Girardi<sup>5</sup>, Víctor Silva Aguirre<sup>1</sup>, Matthew D. Shetrone<sup>17</sup>, Dennis Stello<sup>16</sup>, Thaise Rodrigues<sup>5</sup>, Carlos Allende-Prieto<sup>8</sup>, Deokkeun An<sup>4</sup>, Paul Beck<sup>3</sup>, Dmitry Bizyaev<sup>2</sup>, Jo Bovy<sup>7</sup>, Katia M. L. Cunha<sup>12</sup>, Joris De Ridder<sup>9</sup>, D Garcia-Hernandez<sup>8</sup>

*Institution(s):* <sup>1.</sup> Aarhus University, <sup>2.</sup> Apache Point Observatory, <sup>3.</sup> CEA/DSM-CNRS, <sup>4.</sup> Ewha Women's University, <sup>5.</sup> INAF, Osservatorio Astronomico di Padova, <sup>6.</sup> Indiana University, <sup>7.</sup> Institute for Advanced Study, <sup>8.</sup> Instituto de Astrofísica de Canarias, <sup>9.</sup> KU Leuven, <sup>10.</sup> Max-Planck-Institut für Sonnensystemforschung, <sup>11.</sup> New Mexico State University, <sup>12.</sup> Observatorio Nacional, <sup>13.</sup> Ohio State Univ., <sup>14.</sup> Space Science Institute, <sup>15.</sup> University of Birmingham, <sup>16.</sup> University of Sydney, <sup>17.</sup> University of Texas at Austin, <sup>18.</sup> University of Virginia, <sup>19.</sup> Yale University

## 302.03 The INfrared Survey of Young Nebulous Clusters (IN-SYNC): Surveying the Dynamics and Star Formation Histories of Young Clusters with APOGEE

**Author(s):** Kevin R. Covey<sup>12</sup>, Michiel Cottaar<sup>1</sup>, Jonathan B. Foster<sup>13</sup>, Nicola Da Rio<sup>7</sup>, Jonathan Tan<sup>7</sup>, Michael Meyer<sup>1</sup>, David L. Nidever<sup>8</sup>, Kevin M. Flaherty<sup>11</sup>, Hector G. Arce<sup>13</sup>, Luisa M. Rebull<sup>5</sup>, S. Drew Chojnowski<sup>3</sup>, Peter M. Frinchaboy<sup>6</sup>, Fred R. Hearty<sup>4</sup>, Steven R. Majewski<sup>9</sup>, Michael F. Skrutskie<sup>9</sup>, Keivan Stassun<sup>10</sup>, John C. Wilson<sup>9</sup>, Gail Zasowski<sup>2</sup>

*Institution(s):* <sup>1.</sup> ETH - Zurich, <sup>2.</sup> Johns Hopkins Univ., <sup>3.</sup> New Mexico State University, <sup>4.</sup> Penn State Univ., <sup>5.</sup> Spitzer Science Center, <sup>6.</sup> Texas Christian Univ., <sup>7.</sup> Univ. of Florida, <sup>8.</sup> Univ. of Michigan, <sup>9.</sup> Univ. of Virginia, <sup>10.</sup> Vanderbilt Univ., <sup>11.</sup> Wesleyan Univ., <sup>12.</sup> Western Washington University, <sup>13.</sup> Yale University

## 302.04 Results from the APOGEE IN-SYNC Orion: parameters and radial velocities for thousands of young stars in the Orion Complex.

**Author(s):** Nicola Da Rio<sup>1</sup>

*Institution(s):* 1. University of Florida

Contributing team(s): SDSS Apogee IN-SYNC ancillary program team

## 302.05 The APOGEE Low-Mass Star Ancillary Project

**Author(s):** Cullen Blake<sup>6</sup>, Suvrath Mahadevan<sup>3</sup>, Rohit Deshpande<sup>3</sup>, Chad F. Bender<sup>3</sup>, Ryan Terrien<sup>3</sup>, Justin R. Crepp<sup>5</sup>, Joleen K. Carlberg<sup>2</sup>, David L. Nidever<sup>4</sup>, Keivan Stassun<sup>8</sup>, Suzanne L. Hawley<sup>7</sup>, Fred Hearty<sup>3</sup>, Carlos Allende-Prieto<sup>1</sup>

*Institution(s):* <sup>1.</sup> Instituto de Astrofísica de Canarias, <sup>2.</sup> NASA/Goddard Space Flight Center, <sup>3.</sup> Pennsylvania State University, <sup>4.</sup> University of Michigan, <sup>5.</sup> University of Notre Dame, <sup>6.</sup> University of Pennsylvania, <sup>7.</sup> University of Washington, <sup>8.</sup> Vanderbilt University

# WEDNESDAY, 7 JANUARY 2015

## 302.06 Chemical Abundance Comparisons Between ASPCAP and Manual Analyses in Open Cluster Red Giants

**Author(s):** Verne V. Smith<sup>7</sup>, Katia M. L. Cunha<sup>8</sup>, Diogo Souto<sup>8</sup>, Matthew D. Shetrone<sup>10</sup>, Szabolcs Meszaros<sup>1</sup>, Carlos Allende-Prieto<sup>2</sup>, Dmitry Bizyaev<sup>6</sup>, Joleen K. Carlberg<sup>4</sup>, Ana García Pérez<sup>2</sup>, Sten Hasselquist<sup>5</sup>, Jon A. Holtzman<sup>5</sup>, Jennifer Johnson<sup>9</sup>, Steven R. Majewski<sup>11</sup>, Ricardo P. Schiavon<sup>3</sup>, Jennifer Sobek<sup>11</sup>, Nicholas William Troup<sup>11</sup>

*Institution(s):* <sup>1.</sup> ELTE Gothard Astrophysical Observatory, <sup>2.</sup> Instituto de Astrofísica de Canarias, <sup>3.</sup> Liverpool John Moores University, <sup>4.</sup> NASA Goddard Spaceflight Center, <sup>5.</sup> New Mexico State University, <sup>6.</sup> NMSU/APO, <sup>7.</sup> NOAO, <sup>8.</sup> Observatorio Nacional, <sup>9.</sup> Ohio State University, <sup>10.</sup> University of Texas at Austin, <sup>11.</sup> University of Virginia

## 302.07 The Cannon

**Author(s):** Melissa Ness<sup>2</sup>, David W. Hogg<sup>3</sup>, Hans-Walter Rix<sup>2</sup>, Gail Zasowski<sup>1</sup>  
*Institution(s):* <sup>1.</sup> John Hopkins University, <sup>2.</sup> MPA, <sup>3.</sup> New York University

## 303 AGN, QSO, Blazars V

Wednesday, 10:00 am - 11:30 am; 6C

**Chair(s):** Timothy Hamilton (*Shawnee State Univ.*)

### 303.01 New Insights on Weak Emission Line Quasars from X-shooter Spectroscopy

**Author(s):** Richard Plotkin<sup>7</sup>, Ohad Shemmer<sup>8</sup>, Benny Trakhtenbrot<sup>3</sup>, Scott F. Anderson<sup>9</sup>, W. Niel Brandt<sup>4</sup>, Xiaohui Fan<sup>6</sup>, Elena Gallo<sup>7</sup>, Paulina Lira<sup>5</sup>, Bin Luo<sup>4</sup>, Gordon T. Richards<sup>1</sup>, Jianfeng Wu<sup>2</sup>

*Institution(s):* <sup>1.</sup> Drexel University, <sup>2.</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3.</sup> Institute for Astronomy, ETH, <sup>4.</sup> Pennsylvania State University, <sup>5.</sup> Universidad de Chile, <sup>6.</sup> University of Arizona, <sup>7.</sup> University of Michigan, <sup>8.</sup> University of North Texas, <sup>9.</sup> University of Washington

### 303.02 High Energy Emission from Quasar Jets: HST polarimetry, X-ray and Gamma-ray Emission and the IC/CMB hypothesis

**Author(s):** Eric S. Perlman<sup>1</sup>, Markos Georganopoulos<sup>3</sup>, Eileen T. Meyer<sup>2</sup>, Mihai Cara<sup>2</sup>

*Institution(s):* <sup>1.</sup> Florida Institute of Technology, <sup>2.</sup> Space Telescope Science Institute, <sup>3.</sup> University of Maryland, Baltimore County

### 303.03 The Ultraviolet Spectra of Active Galaxies With Double-Peaked Balmer Emission Lines

**Author(s):** Michael Eracleous<sup>3</sup>, Karen T. Lewis<sup>5</sup>, Jules P. Halpern<sup>1</sup>, Alexei V. Filippenko<sup>6</sup>, Thaisa Storchi-Bergmann<sup>2</sup>, Mario Livio<sup>4</sup>, Andrew S. Wilson<sup>7</sup>

*Institution(s):* <sup>1.</sup> Columbia University, <sup>2.</sup> IF-UFRGS, <sup>3.</sup> Pennsylvania State Univ., <sup>4.</sup> STScI, <sup>5.</sup> The College of Wooster, <sup>6.</sup> University of California, <sup>7.</sup> University of Maryland

### 303.04 Quasar Line Emission at the Bluest Extreme UV Wavelengths

**Author(s):** David Syphers<sup>1</sup>, Joshua Moloney<sup>2</sup>

*Institution(s):* <sup>1.</sup> Eastern Washington University, <sup>2.</sup> University of Colorado

## 303.05 Far-Infrared Properties of Boss Quasars

**Author(s):** Kathryn Amy Harris<sup>4</sup>, Duncan Farrah<sup>4</sup>, Bernhard Schulz<sup>1</sup>, Marco Viero<sup>1</sup>, Nicholas Ross<sup>2</sup>, Rachel E. Elliott<sup>4</sup>, Sara M. Petty<sup>4</sup>, Mariana S. Lazarova<sup>3</sup>  
*Institution(s):* <sup>1</sup> CalTech, <sup>2</sup> Lawrence Berkeley National Laboratory, <sup>3</sup> University of Nebraska, <sup>4</sup> Virginia Tech

## 303.06D Searching for Dual AGNs in Galaxy Mergers: Understanding Double-Peaked [O III] and Ultra Hard X-rays as Selection Method

**Author(s):** Rosalie C. McGurk<sup>2</sup>, Claire E. Max<sup>2</sup>, Anne Medling<sup>1</sup>, Gregory A. Shields<sup>3</sup>  
*Institution(s):* <sup>1</sup> Australia National University, <sup>2</sup> University of California Santa Cruz, <sup>3</sup> University of Texas

## 303.07 A Comparison of [OIII] and Mid-Infrared Luminosity Indicators In Optically-Selected Type I and Type II Quasars

**Author(s):** Kevin N. Hainline<sup>1</sup>, Ryan C. Hickox<sup>1</sup>, Christopher M. Carroll<sup>1</sup>  
*Institution(s):* <sup>1</sup> Dartmouth College

## 303.08 Rapid CIV BAL Variability in an SDSS-RM Quasar

**Author(s):** Catherine Grier<sup>2</sup>, Patrick B. Hall<sup>4</sup>, W. Niel Brandt<sup>2</sup>, Jonathan Trump<sup>2</sup>, Yue Shen<sup>1</sup>, M. Vivek<sup>3</sup>  
*Institution(s):* <sup>1</sup> Carnegie Observatories, <sup>2</sup> Pennsylvania State University, <sup>3</sup> University of Utah, <sup>4</sup> York University

## 303.09 Detection of Quasar Feedback from the Thermal Sunyaev-Zel'dovich Effect in Planck

**Author(s):** John J. Ruan<sup>1</sup>, Matthew McQuinn<sup>1</sup>, Scott F Anderson<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington

## 304 Galaxy Clusters I

Wednesday, 10:00 am - 11:30 am; 6E

**Chair(s):** Kenneth Rines (*Western Washington University*)

### 304.01 The Merging Cluster Collaboration (MC2) Analysis of Merging Galaxy Cluster CIZA J2242+5301

**Author(s):** William Dawson<sup>4</sup>, Myungkook J. Jee<sup>6</sup>, Andra Stroe<sup>5</sup>, David Sobral<sup>3</sup>, David M. Wittman<sup>6</sup>, Marcus Brüggen<sup>2</sup>, Henk Hoekstra<sup>5</sup>, Huub Röttgering<sup>5</sup>, Reinout J. Van Weeren<sup>1</sup>  
*Institution(s):* <sup>1</sup> CfA, <sup>2</sup> Hamburger Sternwarte, <sup>3</sup> Instituto de Astrofísica e Ciências do Espaço, <sup>4</sup> Lawrence Livermore Nat. Lab, <sup>5</sup> Leiden Observatory, <sup>6</sup> UC Davis  
Contributing team(s): Merging Cluster Collaboration

### 304.02D Cooking a 'Sausage': the impact of merger shocks in cluster gas and galaxy evolution

**Author(s):** Andra Stroe<sup>4</sup>, David Sobral<sup>4</sup>, Jeremy Harwood<sup>2</sup>, Reinout J. Van Weeren<sup>6</sup>, Clare Rumsey<sup>1</sup>, Huib Intema<sup>5</sup>, Huub Röttgering<sup>4</sup>, Marcus Brüggen<sup>3</sup>, Richard Saunders<sup>1</sup>, Martin Hardcastle<sup>2</sup>, Matthias Hoeft<sup>7</sup>  
*Institution(s):* <sup>1</sup> Astrophysics Group, Cavendish Laboratory, <sup>2</sup> CAR Hertfordshire, <sup>3</sup> Hamburg Observatory, <sup>4</sup> Leiden Observatory, <sup>5</sup> National Radio Astronomy Observatory, <sup>6</sup> Smithsonian Astrophysical Observatory, <sup>7</sup> Thüringer Landessternwarte

# WEDNESDAY, 7 JANUARY 2015

## 304.03D Effects of Mergers and Dynamical State on Galaxy Clusters in Cosmological Simulations

**Author(s):** Katherine L. Nelson<sup>1</sup>, Daisuke Nagai<sup>1</sup>

*Institution(s):* <sup>1</sup> Yale University

## 304.04 The spectacular merger event in A3411: Shock fronts and radio relics

**Author(s):** Felipe Andrade-Santos<sup>1</sup>, Christine Jones<sup>1</sup>, William R. Forman<sup>1</sup>, Reinout J. Van Weeren<sup>1</sup>, Georgiana A O'Greehan<sup>1</sup>, Stephen S. Murray<sup>2</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Johns Hopkins  
Contributing team(s): Chandra-Planck Collaboration

## 304.05D A Multi-component Radio Halo in the Merging Galaxy Cluster A2319: Implications for Cluster Dynamics and Cosmic Rays

**Author(s):** Emma Storm<sup>1</sup>, Tesla E. Jeltema<sup>1</sup>, Lawrence Rudnick<sup>2</sup>, Stefano Profumo<sup>1</sup>

*Institution(s):* <sup>1</sup> University of California, Santa Cruz, <sup>2</sup> University of Minnesota

## 304.06 NuSTAR Observations of Galaxy Clusters

**Author(s):** Daniel R. Wik<sup>1</sup>

*Institution(s):* <sup>1</sup> NASA Goddard Space Flight Center

Contributing team(s): NuSTAR team

# 305 Supermassive Black Holes

Wednesday, 10:00 am - 11:30 am; 610

**Chair(s):** Justin Finke (*US Naval Research Laboratory*)

## 305.01 The evolving corona and evidence for jet launching from the supermassive black hole in Markarian 335

**Author(s):** Daniel Wilkins<sup>1</sup>, Luigi C. Gallo<sup>1</sup>

*Institution(s):* <sup>1</sup> Saint Mary's University

## 305.02 Tidal Disruption Events Exhibit a Continuum of H- to He-Rich Spectra and Prefer E+A Galaxies

**Author(s):** Iair Arcavi<sup>1</sup>

*Institution(s):* <sup>1</sup> Las Cumbres Observatory Global Telescope

## 305.03 The ongoing hunt for supermassive black hole binaries

**Author(s):** Jessie C. Runnoe<sup>5</sup>, Gavin Mathes<sup>4</sup>, Michael Eracleous<sup>5</sup>, Todd A. Boroson<sup>3</sup>, Jules P. Halpern<sup>1</sup>, Steinn Sigurdsson<sup>5</sup>, Tamara Bogdanovic<sup>2</sup>

*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> Georgia Institute of Technology, <sup>3</sup> Las Cumbres Observatory Global Telescope Network, <sup>4</sup> New Mexico State University, <sup>5</sup> The Pennsylvania State University

## 305.04 One Step Beyond: What Can Be Learned From a Sample of Supermassive Black Hole Binaries?

**Author(s):** Tamara Bogdanovic<sup>1</sup>, Khai Nguyen<sup>1</sup>, Michael Eracleous<sup>2</sup>, Jessie C. Runnoe<sup>2</sup>, Steinn Sigurdsson<sup>2</sup>

*Institution(s):* <sup>1</sup> Georgia Institute of Technology, <sup>2</sup> Pennsylvania State University



- 305.05 Modeling the Observability of Recoiling Black Holes as Offset Quasars**  
**Author(s):** Laura Blecha<sup>7</sup>, Paul Adam Torrey<sup>5</sup>, Mark Vogelsberger<sup>5</sup>, Shy Genel<sup>2</sup>, Volker Springel<sup>3</sup>, Debora Sijacki<sup>1</sup>, Greg Snyder<sup>6</sup>, Simeon Bird<sup>4</sup>, Dylan R. Nelson<sup>2</sup>, Dandan Xu<sup>3</sup>, Lars E. Hernquist<sup>2</sup>  
*Institution(s):* <sup>1</sup> Cambridge University, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> HITS, <sup>4</sup> IAS, <sup>5</sup> Massachusetts Institute of Technology, <sup>6</sup> STScI, <sup>7</sup> Univ. of Maryland - College Park
- 305.06 Songlines from Direct Collapse Seed Black Holes**  
**Author(s):** Aycin Aykutaalp<sup>1</sup>, John Wise<sup>1</sup>, Marco Spaans<sup>2</sup>, Rowin Meijerink<sup>3</sup>  
*Institution(s):* <sup>1</sup> Georgia Institute of Technology, <sup>2</sup> Kapteyn Astronomical Institute, <sup>3</sup> Leiden Observatory, Leiden University
- 305.07 Off The Beaten Path: Modeling the Dynamics of Supermassive Black Holes in Cosmological Simulations**  
**Author(s):** Michael J. Tremmel<sup>2</sup>, Fabio Governato<sup>2</sup>, Marta Volonteri<sup>1</sup>, Thomas R. Quinn<sup>2</sup>  
*Institution(s):* <sup>1</sup> University of Michigan, <sup>2</sup> University of Washington
- 305.08 General Relativistic Ray Tracing for X-ray Reverberation and Polarimetry Studies of Black Holes**  
**Author(s):** Janie Hoormann<sup>1</sup>, Henric Krawczynski<sup>1</sup>  
*Institution(s):* <sup>1</sup> Washington University in St. Louis

## 306 Extrasolar Planets: Host Stars and Interactions

Wednesday, 10:00 am - 11:30 am; 616/617

**Chair(s):** Sarah Ballard (*University of Washington*)

- 306.01D Detecting Exoplanetary Magnetic Fields**  
**Author(s):** Joe Llama<sup>1</sup>  
*Institution(s):* <sup>1</sup> Lowell Observatory
- 306.02D The Effect of Star-Planet Interactions on Planetary Climate**  
**Author(s):** Aomawa Shields<sup>2</sup>, Victoria Meadows<sup>5</sup>, Cecilia Bitz<sup>5</sup>, Raymond Pierrehumbert<sup>3</sup>, Manoj Joshi<sup>4</sup>, Tyler Robinson<sup>1</sup>, Eric Agol<sup>5</sup>, Rory Barnes<sup>5</sup>, Benjamin Charnay<sup>5</sup>  
*Institution(s):* <sup>1</sup> NASA Ames Research Center, <sup>2</sup> UCLA/Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> University of Chicago, <sup>4</sup> University of East Anglia, <sup>5</sup> University of Washington  
Contributing team(s): Virtual Planetary Laboratory
- 306.04 Validation of a Warm Jupiter Transiting a Rapidly Rotating Star**  
**Author(s):** Marshall C. Johnson<sup>1</sup>, William D. Cochran<sup>1</sup>, Michael Endl<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Texas at Austin
- 306.05 Deriving stellar inclination of slow rotators using stellar activity signal**  
**Author(s):** Xavier Dumusque<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics

# WEDNESDAY, 7 JANUARY 2015

## 306.06 Deciphering thermal phase curves of tidally locked terrestrial planets

**Author(s):** Daniel D.B. Koll<sup>1</sup>, Dorian S Abbot<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Chicago

## 306.07 Accurate Stellar Parameters for Exoplanet Host Stars

**Author(s):** John Michael Brewer<sup>2</sup>, Debra Fischer<sup>2</sup>, Sarbani Basu<sup>2</sup>, Jeff A. Valenti<sup>1</sup>

*Institution(s):* <sup>1</sup> Space Telescope Science Institute, <sup>2</sup> Yale University

## 307 Neutron Stars in Binary Systems and Millisecond Pulsars

Wednesday, 10:00 am - 11:30 am; 618/619

**Chair(s):** Rodrigo Fernandez (*Institute for Advanced Study*)

### 307.01 Radio Timing and Analysis of Black Widow Pulsar J2256-1024

**Author(s):** Kathryn Crowter<sup>5</sup>, Ingrid H. Stairs<sup>5</sup>, Christie A. McPhee<sup>5</sup>, Anne M. Archibald<sup>1</sup>, Jason Boyles<sup>9</sup>, Jason Hessels<sup>1</sup>, Victoria M. Kaspi<sup>3</sup>, Vlad I. Kondratiev<sup>1</sup>, Duncan Lorimer<sup>8</sup>, Ryan S. Lynch<sup>3</sup>, Maura McLaughlin<sup>8</sup>, Timothy Pennucci<sup>7</sup>, Scott M. Ransom<sup>4</sup>, Mallory Roberts<sup>2</sup>, Kevin Stovall<sup>6</sup>, Joeri van Leeuwen<sup>1</sup>

*Institution(s):* <sup>1</sup> ASTRON, <sup>2</sup> Eureka Scientific, <sup>3</sup> McGill University, <sup>4</sup> National Radio Astronomy Observatory, <sup>5</sup> University of British Columbia, <sup>6</sup> University of New Mexico, <sup>7</sup> University of Virginia, <sup>8</sup> West Virginia University, <sup>9</sup> Western Kentucky University

### 307.02D Wideband Timing of Millisecond Pulsars

**Author(s):** Timothy Pennucci<sup>2</sup>, Paul Demorest<sup>1</sup>, Scott M. Ransom<sup>1</sup>

*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory, <sup>2</sup> University of Virginia  
Contributing team(s): The North American Nanohertz Observatory for Gravitational Waves (NANOGrav)

### 307.03 Heating Before Eating: X-Ray Observations of Redback Millisecond Pulsar Systems in the Ablation State

**Author(s):** Mallory Roberts<sup>2</sup>, Maura McLaughlin<sup>5</sup>, Paul S. Ray<sup>3</sup>, Scott M. Ransom<sup>4</sup>, Jason Hessels<sup>1</sup>

*Institution(s):* <sup>1</sup> ASTRON, <sup>2</sup> Eureka Scientific, <sup>3</sup> Naval Research Lab, <sup>4</sup> NRAO, <sup>5</sup> West Virginia University

### 307.04 Spectral Modeling of the Comptonized Continua of Accreting X-Ray Pulsars

**Author(s):** Michael Thomas Wolff<sup>2</sup>, Katja Pottschmidt<sup>4</sup>, Peter A. Becker<sup>1</sup>, Diana Marcu<sup>4</sup>, Jörn Wilms<sup>3</sup>, Kent S. Wood<sup>2</sup>

*Institution(s):* <sup>1</sup> George Mason University, <sup>2</sup> NRL, <sup>3</sup> Universitaet Erlangen-Nuernberg, <sup>4</sup> University of Maryland - Baltimore County

### 307.05 On Gravitational Wave Limit Determination in the 10 micro-Hertz to 20 milli-Hertz Band Using Millisecond Pulsar Timing

**Author(s):** Timothy Dolch<sup>1</sup>, Shami Chatterjee<sup>1</sup>, James M. Cordes<sup>1</sup>, Michael T. Lam<sup>1</sup>, Dustin Ray Madison<sup>1</sup>

*Institution(s):* <sup>1</sup> Cornell University  
Contributing team(s): NANOGrav Collaboration

## 307.06 PSR J1930-1852: a Pulsar in the Widest Known Orbit Around Another Neutron Star

**Author(s):** Joe K Swiggum<sup>4</sup>, Rachel Rosen<sup>3</sup>, Maura McLaughlin<sup>4</sup>, Duncan Lorimer<sup>4</sup>, Sue Ann Heatherly<sup>3</sup>, Ryan S. Lynch<sup>2</sup>, Sarah A. Scoles<sup>3</sup>, Brad Barlow<sup>1</sup>  
*Institution(s):* <sup>1</sup> High Point University, <sup>2</sup> McGill University, <sup>3</sup> NRAO, <sup>4</sup> West Virginia University

Contributing team(s): Pulsar Search Collaboratory

## 307.07 Coalescence of Magnetized Binary Neutron Star Systems

**Author(s):** Patrick M. Motl<sup>4</sup>, Matthew Anderson<sup>3</sup>, Luis Lehner<sup>6</sup>, Steven L Liebling<sup>5</sup>, David Neilsen<sup>1</sup>, Carlos Palenzuela<sup>2</sup>, Marcelo Ponce<sup>7</sup>  
*Institution(s):* <sup>1</sup> Brigham Young University, <sup>2</sup> Canadian Institute for Theoretical Astrophysics, <sup>3</sup> Indiana University, <sup>4</sup> Indiana University Kokomo, <sup>5</sup> Long Island University, <sup>6</sup> Perimeter Institute for Theoretical Physics, <sup>7</sup> University of Guelph

## 308 Reports from NASA's Program Analysis Groups (CoPAG, PhysPAG and ExoPAG)

Wednesday, 10:00 am - 11:30 am; 606

This special session will report on the current activities of NASA's Program Analysis Groups (PAGs.) These groups serve as forums for soliciting and coordinating input and analysis from the scientific community in support of the Astrophysics Division's program objectives. This session will begin with an introduction to the PAGs by representatives from NASA Headquarters and then include reports on current activities from the Chairs of the Exoplanet Exploration PAG (ExoPAG), the Cosmic Origins PAG (COPAG), and Physics of the Cosmos PAG (PhysPAG). Topics to be discussed include synergy between HST and WFIRST as well as future possibilities for space-based studies of both exoplanets and the imprint of primordial gravitational waves on the Cosmic Microwave Background.

**Chair(s):** Ann Hornschemeier (NASA GSFC)

### 308.01 Overview of NASA Astrophysics Program Analysis Groups

**Author(s):** Wilton T. Sanders<sup>1</sup>, Rita M. Sambruna<sup>1</sup>, Mario R. Perez<sup>1</sup>, Douglas M. Hudgins<sup>1</sup>

*Institution(s):* <sup>1</sup> NASA Headquarters

### 308.02 Report from the COsmic Origins Program Analysis Group (COPAG)

**Author(s):** Kenneth Sembach<sup>1</sup>

*Institution(s):* <sup>1</sup> STScI

### 308.03 Report from the Exoplanet Exploration Program Analysis Group (ExoPAG)

**Author(s):** B. Scott Gaudi<sup>1</sup>

*Institution(s):* <sup>1</sup> Ohio State Univ.

Contributing team(s): The Exoplanet Exploration Program Analysis Group

### 308.04 Physics of the Cosmos Program Analysis Group (PhysPAG) Report

**Author(s):** John A. Nousek<sup>1</sup>

*Institution(s):* <sup>1</sup> Penn State Univ.

# WEDNESDAY, 7 JANUARY 2015

## 309 Elliptical Galaxies

Wednesday, 10:00 am - 11:30 am; 607

Chair(s): John Blakeslee (*Washington State Univ.*)

### 309.01D Not Dead Yet: Low-Level Star Formation and Active Nuclei in the Continued Evolution of Nearby Early-Type Galaxies

Author(s): Kristina Nyland<sup>2</sup>, Lisa Young<sup>2</sup>, Joan Wrobel<sup>3</sup>, Raffaella Morganti<sup>1</sup>

Institution(s): <sup>1</sup> *ASTRON*, <sup>2</sup> *New Mexico Tech*, <sup>3</sup> *NRAO*

Contributing team(s): ATLAS-3D

### 309.02D The evolution of early-type galaxies: a strong lensing perspective

Author(s): Alessandro Sonnenfeld<sup>6</sup>, Tommaso Treu<sup>5</sup>, Philip J Marshall<sup>4</sup>, Raphael Gavazzi<sup>2</sup>, Sherry Suyu<sup>1</sup>, Carlo Nipoti<sup>7</sup>, Matthew Auger<sup>3</sup>

Institution(s): <sup>1</sup> *Academia Sinica Institute of Astronomy and Astrophysics*, <sup>2</sup> *Institut d'Astrophysique de Paris*, <sup>3</sup> *Institute of Astronomy, University of Cambridge*, <sup>4</sup> *Kavli Institute for Particle Astrophysics and Cosmology*, <sup>5</sup> *UC Los Angeles*, <sup>6</sup> *UC Santa Barbara*, <sup>7</sup> *University of Bologna*

Contributing team(s): Team 1

### 309.03 The Black Hole Safari: Big Game Hunting in 30+ Massive Galaxies

Author(s): Nicholas J. McConnell<sup>3</sup>, Chung-Pei Ma<sup>2</sup>, Ryan Janish<sup>2</sup>, Karl Gebhardt<sup>4</sup>, Tod R. Lauer<sup>1</sup>, James R Graham<sup>2</sup>

Institution(s): <sup>1</sup> *NOAO*, <sup>2</sup> *UC Berkeley*, <sup>3</sup> *University of Hawaii*, <sup>4</sup> *UT Austin*

### 309.04D The story of Brightest Cluster Galaxies told through merger signatures in their stellar populations

Author(s): Paola Oliva-Altamirano<sup>2</sup>, Sarah Brough<sup>1</sup>, Kim-Vy Tran<sup>3</sup>, Warrick Couch<sup>1</sup>

Institution(s): <sup>1</sup> *Australian Astronomical Observatory*, <sup>2</sup> *Swinburne University of Technology*, <sup>3</sup> *Texas A&M*

### 309.05D Investigating [X/Fe], IMF, and compositeness in integrated-light models

Author(s): Baitian Tang<sup>1</sup>, Guy Worthey<sup>1</sup>

Institution(s): <sup>1</sup> *Washington State University*

## 310 White Dwarfs and Variable Stars

Wednesday, 10:00 am - 11:30 am; 608

Chair(s): Kevin Krisciunas (*Texas AandM University*)

### 310.01 Numerical Simulations of Giant Eruptions from Massive Stars and their Recoveries

Author(s): Amit Kashi<sup>1</sup>, Kris Davidson<sup>1</sup>, Roberta M. Humphreys<sup>1</sup>

Institution(s): <sup>1</sup> *University of Minnesota*

### 310.02 Optimal Model Discovery of Periodic Variable Stars

Author(s): Earl Patrick Bellinger<sup>1</sup>, Shashi Kanbur<sup>2</sup>, Daniel Wysocki<sup>2</sup>

Institution(s): <sup>1</sup> *Indiana University*, <sup>2</sup> *SUNY Oswego*

- 310.03D Classical Cepheids: High-precision Velocimetry, Cluster Membership, and the Effect of Rotation**  
**Author(s):** Richard Irving Anderson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Geneva Observatory, University of Geneva
- 310.04 Observations of Interesting Cataclysmic Variables**  
**Author(s):** Zhibin Dai<sup>3</sup>, Paula Szkody<sup>2</sup>, Peter M. Garnavich<sup>1</sup>, Mark Kennedy<sup>1</sup>  
*Institution(s):* <sup>1</sup> Univ. of Notre Dame, <sup>2</sup> University of Washington, <sup>3</sup> Yunnan Observatories
- 310.05 HST spectrophotometry of accreting white dwarf pulsators**  
**Author(s):** Anjum S. Mukadam<sup>1</sup>, Paula Szkody<sup>1</sup>, Boris T Gaensicke<sup>2</sup>  
*Institution(s):* <sup>1</sup> Univ. of Washington, <sup>2</sup> University of Warwick
- 310.06 Asteroseismology of Stars in NGC 6791 Using Kepler ``Superstamps``**  
**Author(s):** Charles A. Kuehn<sup>2</sup>, Jason Drury<sup>2</sup>, Beau Bellamy<sup>2</sup>, Dennis Stello<sup>2</sup>, Timothy R Bedding<sup>2</sup>, Mike Reed<sup>1</sup>, Breanna Quick<sup>1</sup>  
*Institution(s):* <sup>1</sup> Missouri State University, <sup>2</sup> University of Sydney
- 310.07 Recent seismic discoveries for pulsating subdwarf B stars using Kepler data**  
**Author(s):** Mike Reed<sup>2</sup>, Heather Foster<sup>2</sup>, John H Telting<sup>3</sup>, Andrzej S Baran<sup>4</sup>, Roy H Ostensen<sup>1</sup>  
*Institution(s):* <sup>1</sup> KU Leuven, <sup>2</sup> Missouri State Univ., <sup>3</sup> Nordic Optical Telescope, <sup>4</sup> Pedagogical University
- 310.08 Recent developments on SU UMa stars - theory vs. observation**  
**Author(s):** John K. Cannizzo<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA/GSFC/CRESST/UMBC

## 311 Instrumentation: Space Missions - Ground Based or Airborne I

Wednesday, 10:00 am - 11:30 am; 609

**Chair(s):** George Sonneborn (NASA's GSFC)

- 311.01 How to Directly Image a Habitable Planet Around Alpha Centauri with a ~30cm Space Telescope**  
**Author(s):** Ruslan Belikov<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA Ames Research Center  
Contributing team(s): ACEND team, ACESat team
- 311.02 Space mission and instrument design to image the Habitable Zone of Alpha Centauri**  
**Author(s):** Eduardo Bendek<sup>1</sup>, Ruslan Belikov<sup>1</sup>, Sandrine Thomas<sup>1</sup>, Julien Lozi<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA Ames
- 311.03 Absolute Calibration of the Radio Astronomy Flux Density Scale from 22 to 43 GHz using Planck**  
**Author(s):** Bryan J. Butler<sup>5</sup>, R. Bruce Partridge<sup>3</sup>, Richard A. Perley<sup>5</sup>, Jamie B. Stevens<sup>2</sup>, Marcos Lopez-Caniego<sup>6</sup>, Graca Rocha<sup>4</sup>, Ben Z. Walter<sup>3</sup>, Andrea Zacchei<sup>1</sup>  
*Institution(s):* <sup>1</sup> Astronomical Observatory, <sup>2</sup> CSIRO, <sup>3</sup> Haverford College, <sup>4</sup> JPL, <sup>5</sup> NRAO, <sup>6</sup> University of Cantabria

# WEDNESDAY, 7 JANUARY 2015

- 311.04 Low Frequencies on the NRAO VLA and the new VLA Ionospheric and Transient Experiment (VLITE)**  
**Author(s):** Tracy E. Clarke<sup>1</sup>, Namir E. Kassim<sup>1</sup>, Joseph F. Helmboldt<sup>1</sup>, Paul S. Ray<sup>1</sup>, Wendy M. Peters<sup>1</sup>, Brian Hicks<sup>1</sup>, Walter Brisken<sup>2</sup>, Richard A. Perley<sup>2</sup>, Frazer N. Owen<sup>2</sup>, Huib Intema<sup>2</sup>  
*Institution(s):* <sup>1</sup> Naval Research Lab., <sup>2</sup> NRAO
- 311.05 The Low Band Observatory (LOBO): Expanding the VLA Low Frequency Commensal System for Continuous, Broad-band, sub-GHz Observations**  
**Author(s):** Namir E. Kassim<sup>2</sup>, Tracy E. Clarke<sup>2</sup>, Joseph F. Helmboldt<sup>2</sup>, Wendy M. Peters<sup>2</sup>, Walter Brisken<sup>1</sup>, Scott D. Hyman<sup>3</sup>, Emil Polisensky<sup>2</sup>, Brian Hicks<sup>2</sup>  
*Institution(s):* <sup>1</sup> NRAO, <sup>2</sup> NRL, <sup>3</sup> Sweetbriar College
- 311.06 An Accurate Flux Density Scale from 50 MHz to 50 GHz**  
**Author(s):** Richard A. Perley<sup>1</sup>, Bryan J. Butler<sup>1</sup>  
*Institution(s):* <sup>1</sup> NRAO
- 311.07 An Evolvable Space Telescope for NASA's Next UVOIR Flagship Mission**  
**Author(s):** Charles F. Lillie<sup>2</sup>, James B. Breckinridge<sup>1</sup>, Howard A. MacEwen<sup>4</sup>, Ronald S. Polidan<sup>3</sup>, Martin Flannery<sup>3</sup>, Dean Dailey<sup>3</sup>  
*Institution(s):* <sup>1</sup> Breckinridge Associates, LLC, <sup>2</sup> Lillie Consulting, LLC, <sup>3</sup> Northrop Grumman Aerospace Systems, <sup>4</sup> Reviresco LLC
- 311.08 The Advanced Energetic Pair Telescope (AdEPT), a Medium-Energy Gamma-Ray Polarimeter**  
**Author(s):** Stanley D. Hunter<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA's GSFC
- 311.09 Optimizing the Choice of Filter Sets for Space Based Imaging Instruments**  
**Author(s):** Rachel E. Elliott<sup>1</sup>, Duncan Farrah<sup>1</sup>, Sara M. Petty<sup>1</sup>, Kathryn Amy Harris<sup>1</sup>  
*Institution(s):* <sup>1</sup> Virginia Polytech Institute

## 312 Relativistic Astrophysics, Gravitational Lenses & Waves

Wednesday, 10:00 am - 11:30 am; 611

**Chair(s):** Roger Blandford (*Stanford University*)

### 312.01D A novel approach toward gravitational wave analyses with pulsar timing arrays

**Author(s):** Chiara M. F. Mingarelli<sup>1</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology

Contributing team(s): University of Birmingham Gravitational Wave Group (A. Vecchio, K. Grover, R. Smith, T. Sidery, I. Mandel)

### 312.02D Exploring the cosmos with gravitational-waves

**Author(s):** Stephen R Taylor<sup>3</sup>, Jonathan R Gair<sup>2</sup>, Ilya Mandel<sup>4</sup>, Lindley Lentati<sup>1</sup>, Justin Ellis<sup>3</sup>

*Institution(s):* <sup>1</sup> Battcock Centre for Experimental Astrophysics, University of Cambridge, <sup>2</sup> Institute of Astronomy, University of Cambridge, <sup>3</sup> Jet Propulsion Laboratory, <sup>4</sup> University of Birmingham

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## 312.03D Searching for Gravitational Waves using Pulsar Timing Arrays

**Author(s):** Justin Ellis<sup>1</sup>

*Institution(s):* <sup>1</sup> JPL/Caltech

Contributing team(s): NANOGrav

## 312.04 The Effect of Large-Scale Structure on the Magnification of High-Redshift Sources by Cluster-Lenses

**Author(s):** Anson D'Aloisio<sup>1</sup>, Priyamvada Natarajan<sup>2</sup>, Paul R. Shapiro<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Texas at Austin, <sup>2</sup> Yale University

## 312.05 Stars as resonant absorbers of gravitational waves

**Author(s):** Barry McKernan<sup>1</sup>, Saavik Ford<sup>1</sup>, Bence Kocsis<sup>3</sup>, Zoltan Haiman<sup>2</sup>

*Institution(s):* <sup>1</sup> BMCC-CUNY, <sup>2</sup> Columbia University, <sup>3</sup> IAS

## 312.06 Fermi-LAT stares and double gamma-ray flares in the gravitationally lensed blazar B0218+357

**Author(s):** Chi C. Cheung<sup>3</sup>, Sara Buson<sup>1</sup>, Stefan Larsson<sup>4</sup>, Jeffrey Scargle<sup>2</sup>

*Institution(s):* <sup>1</sup> INFN & University of Padova, <sup>2</sup> NASA Ames Research Center, <sup>3</sup> NRL, <sup>4</sup> Stockholm University

Contributing team(s): on behalf of the Fermi-LAT collaboration

## 313 Protoplanetary Disks and Stellar Accretion

Wednesday, 10:00 am - 11:30 am; 612

**Chair(s):** Marc Kuchner (NASA's GSFC)

### 313.01 The end of an era: A search for flickering accretion in T Tauri stars

**Author(s):** Gaspard Duchene<sup>1</sup>

*Institution(s):* <sup>1</sup> University of California Berkeley

### 313.02 The Surprising Outburst Behavior of Z Canis Majoris, and Resolving the Alpha Oph Companion Near the Diffraction limit

**Author(s):** Sasha Hinkley<sup>6</sup>, Benjamin Pope<sup>8</sup>, Frantz Martinache<sup>7</sup>, Lynne Hillenbrand<sup>3</sup>, Adam L. Kraus<sup>4</sup>, Michael Ireland<sup>2</sup>, Ben R. Oppenheimer<sup>1</sup>, Emily L. Rice<sup>5</sup>, John D. Monnier<sup>9</sup>, Peter Tuthill<sup>10</sup>, Alexey Latyshev<sup>10</sup>

*Institution(s):* <sup>1</sup> American Museum of Natural History, <sup>2</sup> ANU, <sup>3</sup> California Institute of Technology, <sup>4</sup> CfA, <sup>5</sup> College of Staten Island, <sup>6</sup> Exeter University, <sup>7</sup> Observatoire de la Cote d'Azur, <sup>8</sup> Oxford University, <sup>9</sup> University of Michigan, <sup>10</sup> University of Sydney

### 313.03 Extreme Carbon Overabundance in the 49 Ceti Circumstellar Gas

**Author(s):** Aki Roberge<sup>4</sup>, Barry Welsh<sup>2</sup>, Inga Kamp<sup>3</sup>, Alycia J. Weinberger<sup>1</sup>, Carol A Grady<sup>2</sup>

*Institution(s):* <sup>1</sup> Carnegie Institution for Science, <sup>2</sup> Eureka Scientific, <sup>3</sup> Kapteyn Institute, <sup>4</sup> NASA GSFC

### 313.04 Ground and space-based observations of water vapor in protoplanetary disks

**Author(s):** Colette Salyk<sup>4</sup>, Joan R. Najita<sup>4</sup>, Simon Bruderer<sup>2</sup>, John S Carr<sup>3</sup>, Klaus Pontoppidan<sup>5</sup>, Geoffrey A. Blake<sup>1</sup>, Matthew Richter<sup>6</sup>, Neal J. Evans<sup>7</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Max Planck Institute for Extraterrestrial Physics, <sup>3</sup> Naval Research Laboratory, <sup>4</sup> NOAO, <sup>5</sup> Space Telescope Science Institute, <sup>6</sup> University of California, Davis, <sup>7</sup> University of Texas at Austin

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## 313.05 Radio Monitoring of Protoplanetary Discs

**Author(s):** Catarina Ubach<sup>4</sup>, Sarah Tahli Maddison<sup>4</sup>, Chris M. Wright<sup>5</sup>, David J. Wilner<sup>2</sup>, Dave J.P. Lommen<sup>3</sup>, Baerbel Koribalski<sup>1</sup>

*Institution(s):* <sup>1</sup> CSIRO Astronomy and Space Sciences, <sup>2</sup> Harvard Smithsonian, <sup>3</sup> Raffles Institute, <sup>4</sup> Swinburne University, <sup>5</sup> UNSW@ADFA

## 313.06 A Ring of C<sub>2</sub>H in the Protoplanetary Disk Orbiting TW Hya

**Author(s):** Joel H. Kastner<sup>3</sup>, Chunhua Qi<sup>1</sup>, Uma Gorti<sup>4</sup>, Pierre Hily-Blant<sup>2</sup>, Thierry Forveille<sup>2</sup>, Karin I. Oberg<sup>1</sup>

*Institution(s):* <sup>1</sup> Center for Astrophysics, <sup>2</sup> IPAG, <sup>3</sup> RIT Center for Imaging Science, <sup>4</sup> SETI Institute

## 313.07D Ionization Driven Chemistry in Protoplanetary Disks and Observational Signatures of Ionization Suppression

**Author(s):** Lauren Ilseadore Cleeves<sup>1</sup>, Edwin A. Bergin<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Michigan

## 313.08 Observational Signatures of MRI-driven Turbulence in Protoplanetary Disks: Connecting Numerical Simulations with ALMA

**Author(s):** Jacob B. Simon<sup>3</sup>, A. Meredith Hughes<sup>4</sup>, Kevin M. Flaherty<sup>4</sup>, Xue-Ning Bai<sup>1</sup>, Philip J. Armitage<sup>2</sup>

*Institution(s):* <sup>1</sup> Harvard University, <sup>2</sup> JILA/University of Colorado, <sup>3</sup> Southwest Research Institute, <sup>4</sup> Wesleyan University

# 314 Intergalactic Medium, QSO Absorption Line Systems I

Wednesday, 10:00 am - 11:30 am; 615

**Chair(s):** Gerard Kriss (*STScI*)

## 314.01 TeV blazar heating in an inhomogeneous universe

**Author(s):** Astrid Lamberts<sup>1</sup>, Philip Chang<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Wisconsin-Milwaukee

## 314.02D The Simulated Ly $\alpha$ Forest: Converged Statistics and Reconstructed Maps

**Author(s):** Casey W. Stark<sup>1</sup>

*Institution(s):* <sup>1</sup> UC Berkeley

## 314.03 Halo Mass Dependence of HI Absorption: Evidence for Differential Kinematics

**Author(s):** Nigel Mathes<sup>1</sup>, Christopher W. Churchill<sup>1</sup>, Glenn Kacprzak<sup>2</sup>, Nikole M. Nielsen<sup>1</sup>, Sebastian Trujillo-Gomez<sup>1</sup>, Jane C. Charlton<sup>3</sup>, Sowgat Muzahid<sup>3</sup>

*Institution(s):* <sup>1</sup> New Mexico State University, <sup>2</sup> Swinburne University of Technology, <sup>3</sup> The Pennsylvania State University

## 314.04 Discovery of a Massive Halo Around the Andromeda Galaxy

**Author(s):** Nicolas Lehner<sup>1</sup>, J. Christopher Howk<sup>1</sup>, Bart P. Wakker<sup>2</sup>

*Institution(s):* <sup>1</sup> Univ. Of Notre Dame, <sup>2</sup> University of Wisconsin-Madison



## 314.05D Mapping the Most Massive Overdensity Through Hydrogen (MAMMOTH)

**Author(s):** Zheng Cai<sup>5</sup>, Xiaohui Fan<sup>5</sup>, Fuyan Bian<sup>5</sup>, Brenda L. Frye<sup>5</sup>, Ian D. McGreer<sup>5</sup>, Sebastien Peirani<sup>3</sup>, Martin White<sup>4</sup>, Shirley Ho<sup>2</sup>, Yujin Yang<sup>1</sup>, Ann I. Zabludoff<sup>5</sup>  
*Institution(s):* <sup>1</sup> Argelander-Institut für Astronomie, <sup>2</sup> Carnegie Mellon University, <sup>3</sup> Institut D'Astrophysique De Paris, <sup>4</sup> Lawrence Berkeley National Laboratory, <sup>5</sup> Steward Observatory, University of Arizona

## 314.06 Generating Synthetic Spectra for Observing the Simulated CGM and IGM

**Author(s):** Cameron B. Hummels<sup>1</sup>, Hillary Egan<sup>2</sup>, Devin W. Silvia<sup>3</sup>, Britton D. Smith<sup>4</sup>, Matthew Turk<sup>5</sup>  
*Institution(s):* <sup>1</sup> University of Arizona, <sup>2</sup> University of Colorado, Boulder, <sup>3</sup> Michigan State University, <sup>4</sup> University of Edinburgh, <sup>5</sup> University of Illinois, Urbana-Champaign  
Contributing team(s): yt Developer Team

## 314.07 Revealing the Properties of Mg II Absorbing Galaxies at $z > 1$ with HST WFC3/IR

**Author(s):** Britt Lundgren<sup>5</sup>, Dr. Gabriel Brammer<sup>2</sup>, Donald G. York<sup>3</sup>, John P. Chisholm<sup>5</sup>, Dawn Erb<sup>6</sup>, Varsha P. Kulkarni<sup>4</sup>, Lorrie Straka<sup>1</sup>, Christina A. Tremonti<sup>5</sup>, Pieter G. Van Dokkum<sup>7</sup>, David Wake<sup>5</sup>  
*Institution(s):* <sup>1</sup> Leiden Observatory, <sup>2</sup> Space Telescope Science Institute, <sup>3</sup> University of Chicago, <sup>4</sup> University of South Carolina, <sup>5</sup> University of Wisconsin - Madison, <sup>6</sup> University of Wisconsin - Milwaukee, <sup>7</sup> Yale University

## 315 Astroinformatics and Astrostatistics in Astronomical Research: Steps Towards Better Curricula

Wednesday, 10:00 am - 11:30 am; 620

The AAS Working Group on Astroinformatics and Astrostatistics hereby proposes a Special Session for the 225th AAS meeting in Seattle which will highlight the importance of data analytics training in astronomy, both for the sake of astronomical research and in order to make astronomy graduates more employable. Although astronomy and astrophysics are witnessing dramatic increases in data volume as detectors, telescopes, and computers become ever more powerful, the traditional training of astronomy and physics students is not providing skills to handle such voluminous and complex data sets. Equally worrisome, research funds and hiring options in astronomy are diminishing; in particular, a number of candidates for permanent (or steady) jobs significantly exceeds the job availability. As a result many of astronomy graduates have transitioned out of astronomy to work in areas where their analytic skills become highly valuable. Invited talks by a recent astronomy Ph.D. graduate who transitioned to industry, and an industry representative, will critically compare academic and industrial environments. The main goals of the proposed session are to discuss ways to improve Big Data training and research in astronomy, as well as to explore the connections between data science in astronomy and in the other research or technology areas where astronomy postdocs or recent graduates could excel and compete. We will use moderated panel method to facilitate discussion of graduate curriculum at Astronomy Departments, and invited talks to highlight connections to industry.

**Chair(s):** Zeljko Ivezic (*Univ. of Washington*)

Aneta Siemiginowska (*Harvard-Smithsonian, CfA*)

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## 315.01 Working on interesting problems

**Author(s):** Arfon M Smith<sup>1</sup>

*Institution(s):*<sup>1</sup> *GitHub Inc.*

## 315.02 Astronomer to Data Scientist

**Author(s):** Jessica Kirkpatrick<sup>1</sup>

*Institution(s):*<sup>1</sup> *InstaEDU*

## 316 Plenary Talk: Inflation and Parallel Universes: Science or Fiction?

Wednesday, 11:40 am - 12:30 pm; 6E

**Chair(s):** Jack Burns (*Univ. of Colorado at Boulder*)



### 316.01 Inflation and Parallel Universes: Science or Fiction?

**Author(s):** Max Tegmark<sup>1</sup>

*Institution(s):*<sup>1</sup> *MIT*

## Career Hour 5: Interviewing: What You Need to Do Before, During, and After to Get the Job

Wednesday, 12:30 pm - 1:30 pm; 618/619

What you need to know and do to get the job from the first moment of contact to the moment you leave the interview.

**Organizer(s):** Alaina Levine (*Quantum Success Solutions*)

## The SKA Telescope: Global Project, Revolutionary Science, Extreme Computing Challenges

Wednesday, 12:30 pm - 3:30 pm; 4C-4

The Square Kilometre Array (SKA) is one of the most awe-inspiring and audacious science and engineering projects of the 21st Century. With its hundreds of thousands of antennas spread across Africa and Australia, the SKA will have unrivalled scope in observations and is designed to address fundamental questions about the earliest stages of the Universe, such as star formation, dark energy, gravity and life itself. When fully operational in the early 2020s, the SKA will produce 10 times the data of the current global internet. Processing this vast quantity of data will require very high performance central supercomputers capable of in excess of 100 petaflops of raw processing power: about three times more powerful than the most powerful supercomputer in 2013. In addition to developing this high performance computing hardware and software capability, the project must also address the incredibly complex tasks of signal processing, data transfer, storage and curation, and data manipulation. To develop these

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revolutionary technologies and drive tomorrow's groundbreaking science, effective global partnerships between governments, academia, and industry are becoming essential. With their long-standing tradition of radio astronomy, the US can bring much expertise to such global partnerships, while at the same time gaining strategic access to world-class instruments.

This session will be divided in 2 parts: - Science: Through the case study of the SKA precursor telescopes MWA, ASKAP and MeerKAT, and of the first-class observatories LOFAR and JVLA, we will see how major science questions are already being touched upon, paving the way for the revolutionary capabilities of the SKA. We will finally examine how a project the scale of the SKA will push the frontiers of scientific knowledge. - Computing: The sheer amount of data collected by the SKA will drive fundamental shifts in science-driven technology with daily-life applications in the areas of data transport, data storage, high-performance computing, and algorithm design. We will first present the SKA global computing and technological challenges, and then give the floor to experts from High Performance Computing industry who will provide their views on how they aim to tackle these challenges and how the SKA is driving technology development in a number of domains.

**Organizer(s): Tyler Bourke** (*Harvard-Smithsonian, CfA*)

## **Astronomers: Teach Climate Change!**

**Wednesday, 12:30 pm - 2:00 pm, 4C-3**

This splinter session is hosted by the AAS Sustainability Committee. We'll pursue three topics: (1) teaching climate change in Astro 100; (2) how astronomers can engage in public debate on climate change issues; and (3) addressing sustainability through control of light pollution. All astronomers are welcome!

**Organizer(s): James Lowenthal** (*Smith College*)

## **317 NASA Town Hall**

**Wednesday, 12:45 pm - 1:45 pm; 6E**

Senior representatives from NASA's Science Mission Directorate and Astrophysics Division will discuss NASA's science program and outlook. Topics will include the status of the research program, highlights of operating missions, NASA's response to the Astro2010 decadal survey, progress of missions in development, and anticipated opportunities for both non-flight basic research awards (grants) and flight mission investigations.

**Chair(s): Paul Hertz** (*NASA Headquarters*)

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## For Undergrads & Other Inquiring Minds: Dust in Space, Geoffrey C. Clayton (Louisiana State University)

Wednesday, 1:15 pm – 2:00 pm; 6C

It has been said that we are all “Star Stuff,” referring to the amazing fact that all of the atoms that make up the Earth and everything on it, were once inside of a star. The elements like carbon, oxygen, and iron, that we are made of, were created in the centers of stars and in supernova explosions. These atoms float around in space as part of huge clouds of gas and dust, which eventually collapse to form new stars, and new solar systems. While in these clouds, most atoms other than hydrogen and helium are locked up in solid dust grains. This isn’t the kind of dust that you find under your bed. It is more like grains of sand from the beach or smoke from a fire. I will discuss the important role of dust in the formation of stars, radiation transport in galaxies, and astrochemistry.

## 318 Cosmology II

Wednesday, 2:00 pm - 3:30 pm; 6A

Chair(s): Ethan Vishniac (*University of Saskatchewan*)

- 318.01 Improving Cosmic Microwave Background Constraints with 21cm Cosmology**  
**Author(s):** Adrian Liu<sup>2</sup>, Jonathan R. Pritchard<sup>1</sup>, Michael Mortonson<sup>2</sup>, Aaron Parsons<sup>2</sup>  
*Institution(s):* <sup>1</sup> Imperial College London, <sup>2</sup> University of California Berkeley  
Contributing team(s): HERA collaboration
- 318.02D Hydrogen and the First Stars: First Results from the SCI-HI 21-cm all-sky spectrum experiment**  
**Author(s):** Tabitha Voytek<sup>1</sup>, Jeffrey Peterson<sup>1</sup>, Omar Lopez-Cruz<sup>2</sup>, Jose-Miguel Jauregui-Garcia<sup>2</sup>  
*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> INAOE  
Contributing team(s): SCI-HI Experiment Team
- 318.04 The STRong-lensing Insights into Dark Energy Survey (STRIDES)**  
**Author(s):** Tommaso Treu<sup>1</sup>, Adriano Agnello<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of California  
Contributing team(s): STRIDES Team
- 318.05 Removing Line Foregrounds from CO Intensity Mapping Surveys**  
**Author(s):** Patrick Breyse<sup>1</sup>, Ely Kovetz<sup>1</sup>, Marc Kamionkowski<sup>1</sup>  
*Institution(s):* <sup>1</sup> Johns Hopkins University
- 318.06D Formation of the first galaxies under Population III stellar feedback**  
**Author(s):** Myoungwon Jeon<sup>1</sup>  
*Institution(s):* <sup>1</sup> The University of Texas at Austin
- 318.07 From Darkness to Light: Observing the First Stars and Galaxies with the Redshifted 21-cm Line using the Dark Ages Radio Explorer**  
**Author(s):** Jack O. Burns<sup>6</sup>, Joseph Lazio<sup>3</sup>, Judd D. Bowman<sup>1</sup>, Richard F. Bradley<sup>4</sup>, Abhirup Datta<sup>6</sup>, Steven Furlanetto<sup>5</sup>, Dayton L. Jones<sup>3</sup>, Justin Kasper<sup>8</sup>, Abraham Loeb<sup>2</sup>, Geraint Harker<sup>7</sup>  
*Institution(s):* <sup>1</sup> Arizona State University, <sup>2</sup> Harvard University, <sup>3</sup> JPL/Caltech, <sup>4</sup> NRAO, <sup>5</sup> UCLA, <sup>6</sup> Univ. of Colorado at Boulder, <sup>7</sup> University College London, <sup>8</sup> University of Michigan

## 319 Results from the SDSS-III/APOGEE Survey II

Wednesday, 2:00 pm - 3:30 pm; 6B

Our understanding of the structure, formation, and evolution of the Milky Way Galaxy is being revolutionized by a new generation of spectroscopic surveys and the recently launched astrometric Gaia satellite. At the forefront of these efforts is the SDSS-III Apache Point Observatory Galactic Evolution Experiment (APOGEE). APOGEE is a recently completed high-resolution, near-infrared (NIR) spectroscopic survey of more than 100,000 stars in the Milky Way disk, bulge, and halo. The bulk of these stars are luminous red giants that in the NIR can be traced out to distances of 10 kpc and beyond, providing us for the first time with a comprehensive view of the Galactic disk and bulge populations. The high-resolution spectra allow precise radial velocities and elemental abundances of 15 elements to be measured. This special session will present the exciting and varied scientific explorations allowed by the high-quality APOGEE data, including the chemodynamical structure of the Milky Way disk, the structure of the bulge, new methods to trace the interstellar medium with diffuse interstellar bands, constraints on stellar physics and Galactic structure from the combination of the APOGEE data with asteroseismology from Kepler and CoRoT, the structure of young nebulous clusters, and others. A presentation of the second stage of APOGEE in SDSS-IV (2014-2020), which will expand the sky coverage to the Southern hemisphere, will also be given. This Special Session will include a survey overview and a combination of invited and contributed talks and posters, highlighting important APOGEE science results from the full three-year survey.

**Chairs:** Jo Bovy (*Institute for Advanced Study*)

### 319.01 Tracing chemical evolution over the extent of the Milky Way's Disk with APOGEE Red Clump Stars

**Author(s):** David L. Nidever<sup>5</sup>, Jo Bovy<sup>1</sup>, Jonathan C. Bird<sup>7</sup>, Brett Andrews<sup>4</sup>, Michael R. Hayden<sup>3</sup>, Jon A. Holtzman<sup>3</sup>, Steven R. Majewski<sup>6</sup>, Verne V. Smith<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Institute for Advanced Study*, <sup>2</sup> *National Optical Astronomy Observatory*, <sup>3</sup> *New Mexico State University*, <sup>4</sup> *Ohio State University*, <sup>5</sup> *University of Michigan*, <sup>6</sup> *University of Virginia*, <sup>7</sup> *Vanderbilt University*  
 Contributing team(s): APOGEE

### 319.02 Chemical Cartography with SDSS-III APOGEE: DR12 Results

**Author(s):** Michael R. Hayden<sup>6</sup>, Jon A. Holtzman<sup>6</sup>, Jo Bovy<sup>2</sup>, Steven R. Majewski<sup>12</sup>, David L. Nidever<sup>10</sup>, Gail Zasowski<sup>4</sup>, Ricardo P. Schiavon<sup>5</sup>, Peter M. Frinchaboy<sup>9</sup>, Fred Hearty<sup>8</sup>, Carlos Allende-Prieto<sup>3</sup>, Ana García Pérez<sup>3</sup>, Annie Robin<sup>1</sup>, Katia M. L. Cunha<sup>7</sup>, Timothy C. Beers<sup>11</sup>  
*Institution(s):* <sup>1</sup> *Institut UTINAM/OSU THETA*, <sup>2</sup> *Institute for Advanced Study*, <sup>3</sup> *Instituto de Astrofísica de Canarias*, <sup>4</sup> *Johns Hopkins University*, <sup>5</sup> *Liverpool John Moores University*, <sup>6</sup> *New Mexico State University*, <sup>7</sup> *Observatorio Nacional*, <sup>8</sup> *Pennsylvania State University*, <sup>9</sup> *Texas Christian University*, <sup>10</sup> *University of Michigan*, <sup>11</sup> *University of Notre Dame*, <sup>12</sup> *University of Virginia*  
 Contributing team(s): The APOGEE Team

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## 319.03 Probing Milky Way Structure with Near-Infrared Diffuse Interstellar Bands

**Author(s):** Gail Zasowski<sup>4</sup>, Brice Ménard<sup>4</sup>, Dmitry Bizyaev<sup>1</sup>, D Garcia-Hernandez<sup>3</sup>, Ana García Pérez<sup>10</sup>, Michael R. Hayden<sup>6</sup>, Fred Hearty<sup>8</sup>, Jon A. Holtzman<sup>6</sup>, Jennifer Johnson<sup>7</sup>, Karen Kinemuchi<sup>1</sup>, Steven R. Majewski<sup>10</sup>, David L. Nidever<sup>9</sup>, Kristen Sellgren<sup>7</sup>, Matthew D. Shetrone<sup>5</sup>, David G. Whelan<sup>2</sup>, John C. Wilson<sup>10</sup>  
*Institution(s):* <sup>1.</sup> APO/NMSU, <sup>2.</sup> Austin College, <sup>3.</sup> IAC, <sup>4.</sup> Johns Hopkins University, <sup>5.</sup> McDonald Observatory, <sup>6.</sup> NMSU, <sup>7.</sup> OSU, <sup>8.</sup> PSU, <sup>9.</sup> U. of Michigan, <sup>10.</sup> UVa

## 319.04 Unravelling The Chemical History Of The Solar Neighborhood With Giants

**Author(s):** Diane Feuillet<sup>1</sup>, Jon A. Holtzman<sup>1</sup>, Leo Girardi<sup>2</sup>  
*Institution(s):* <sup>1.</sup> New Mexico State University, <sup>2.</sup> Osservatorio Astronomico di Padova  
Contributing team(s): The APOGEE team

## 319.05 Detection of Neodymium in APOGEE H-band Spectra and its Application to Chemical Tagging

**Author(s):** Sten Hasselquist<sup>4</sup>, Matthew D. Shetrone<sup>9</sup>, Verne V. Smith<sup>5</sup>, Jon A. Holtzman<sup>4</sup>, James E. Lawler<sup>12</sup>, Inese I. Ivans<sup>10</sup>, Steven R. Majewski<sup>11</sup>, Ricardo P. Schiavon<sup>3</sup>, Gail Zasowski<sup>2</sup>, David L. Nidever<sup>7</sup>, Fred Hearty<sup>6</sup>, Carlos Allende-Prieto<sup>1</sup>, Timothy C. Beers<sup>8</sup>, Ana García Pérez<sup>1</sup>, Jennifer Sobek<sup>11</sup>  
*Institution(s):* <sup>1.</sup> Instituto de Astrofísica de Canarias, <sup>2.</sup> Johns Hopkins University, <sup>3.</sup> Liverpool John Moores University, <sup>4.</sup> New Mexico State University, <sup>5.</sup> NOAO, <sup>6.</sup> Pennsylvania State University, <sup>7.</sup> University of Michigan, <sup>8.</sup> University of Notre Dame, <sup>9.</sup> University of Texas, <sup>10.</sup> University of Utah, <sup>11.</sup> University of Virginia, <sup>12.</sup> University of Wisconsin  
Contributing team(s): APOGEE team

## 319.06 A Detailed Characterization of the Milky Way Bulge with APOGEE

**Author(s):** Ana E García Pérez<sup>1</sup>, Jennifer Johnson<sup>7</sup>, Carlos Allende-Prieto<sup>1</sup>, Katia M. L. Cunha<sup>5</sup>, Fred Hearty<sup>6</sup>, Jon A. Holtzman<sup>4</sup>, Steven R. Majewski<sup>9</sup>, David L. Nidever<sup>8</sup>, Ricardo P. Schiavon<sup>3</sup>, Jennifer Sobek<sup>9</sup>, Gail Zasowski<sup>2</sup>  
*Institution(s):* <sup>1.</sup> Instituto de Astrofísica de Canarias, <sup>2.</sup> John Hopkins University, <sup>3.</sup> Liverpool John Moores University, <sup>4.</sup> New Mexico State University, <sup>5.</sup> NOAO, <sup>6.</sup> Pennsylvania State University, <sup>7.</sup> The Ohio State University, <sup>8.</sup> University of Michigan, <sup>9.</sup> University of Virginia

## 319.07 Double Vision: The Dual Hemisphere Viewpoint of the SDSS-IV/APOGEE-2 Survey

**Author(s):** Jennifer Sobek<sup>1</sup>  
*Institution(s):* <sup>1.</sup> University of Virginia  
Contributing team(s): SDSS-IV/APOGEE-2 Collaboration

## 320 AGN, QSO, Blazars VI

Wednesday, 2:00 pm - 3:30 pm; 6C

Chair(s): Michael Eracleous (*The Pennsylvania State University*)

### 320.01 A Chandra survey of X-ray emission from radio jets: Correlations of the jet X-ray flux

**Author(s):** Daniel A. Schwartz<sup>5</sup>, Herman L. Marshall<sup>7</sup>, Diana M Worrall<sup>8</sup>, Mark Birkinshaw<sup>8</sup>, Eric S. Perlman<sup>4</sup>, Jim Lovell<sup>10</sup>, David L. Jauncey<sup>3</sup>, David William Murphy<sup>6</sup>, Jonathan Gelbord<sup>9</sup>, Leith Godfrey<sup>1</sup>, Geoffrey V. Bicknell<sup>2</sup>

*Institution(s):* <sup>1</sup>. *ASTRON*, <sup>2</sup>. *Australian National University*, <sup>3</sup>. *CISRO*, <sup>4</sup>. *Florida Institute of Technology*, <sup>5</sup>. *Harvard-Smithsonian, CfA*, <sup>6</sup>. *Jet Propulsion Lab*, <sup>7</sup>. *MIT*, <sup>8</sup>. *Physics Department, University of Bristol*, <sup>9</sup>. *The Pennsylvania State University*, <sup>10</sup>. *University of Tasmania*

### 320.02 Radio Loud and Radio Quiet Quasars

**Author(s):** Kenneth I. Kellermann<sup>2</sup>, Amy E. Kimball<sup>1</sup>, James J. Condon<sup>2</sup>, Richard A. Perley<sup>2</sup>, Zeljko Ivezić<sup>3</sup>

*Institution(s):* <sup>1</sup>. *CSIRO*, <sup>2</sup>. *NRAO*, <sup>3</sup>. *Univ. of Washington*

### 320.03 A ~100y study of extreme AGN flares with DASCH

**Author(s):** Jonathan E. Grindlay<sup>1</sup>, George Franklin Miller<sup>1</sup>

*Institution(s):* <sup>1</sup>. *Harvard-Smithsonian, CfA*

### 320.04D The highest redshift quasars with Pan-STARRS1

**Author(s):** Eduardo Banados<sup>1</sup>, Fabian Walter<sup>1</sup>, Bram Venemans<sup>1</sup>

*Institution(s):* <sup>1</sup>. *Max Planck Institute for Astronomy*

Contributing team(s): Pan-STARRS1

### 320.05 Dust-reddened Quasars in SDSS-III: Trends with Evolution or Orientation?

**Author(s):** Hanna Herbst<sup>4</sup>, Fred Hamann<sup>4</sup>, Carolin Villforth<sup>5</sup>, Isabelle Paris<sup>1</sup>, Nicholas Ross<sup>2</sup>, Kelly Denney<sup>3</sup>

*Institution(s):* <sup>1</sup>. *Institut d'Astrophysique de Paris*, <sup>2</sup>. *Lawrence Berkeley National Lab*, <sup>3</sup>. *Ohio State University*, <sup>4</sup>. *University of Florida*, <sup>5</sup>. *University of St Andrews*

Contributing team(s): BOSS QSO Team

### 320.06 Clustering-based redshifts of WISE galaxies and quasars.

**Author(s):** Alexander Mendez<sup>1</sup>, Brice Ménard<sup>1</sup>, Mubdi Rahman<sup>1</sup>

*Institution(s):* <sup>1</sup>. *Johns Hopkins University*

### 320.07 Revealing Massive Black Holes in Dwarf Galaxies with X-ray and Radio Observations

**Author(s):** Amy E. Reines<sup>1</sup>

*Institution(s):* <sup>1</sup>. *University of Michigan*

# WEDNESDAY, 7 JANUARY 2015

## 321 Galaxy Clusters II

Wednesday, 2:00 pm - 3:30 pm; 6E

Chair(s): Tracy Clarke (*Naval Research Lab.*)

**321.01 X-ray Observations of the Outskirts of the Nearest Non-Cool Core Cluster: the Antlia Cluster**

**Author(s):** Ka-Wah Wong<sup>1</sup>, Jimmy Irwin<sup>3</sup>, Daniel R. Wik<sup>2</sup>

*Institution(s):*<sup>1.</sup> Eureka Scientific, <sup>2.</sup> GSFC, <sup>3.</sup> University of Alabama - Tuscaloosa

**321.02D An X-ray View of Galaxies in Compact Groups and the Coma Cluster Infall Region**

**Author(s):** Tyler D. Desjardins<sup>1</sup>

*Institution(s):*<sup>1.</sup> The University of Western Ontario

**321.03D Cosmological Simulations of Galaxy Cluster Outskirts**

**Author(s):** Camille Avestruz<sup>1</sup>

*Institution(s):*<sup>1.</sup> Yale University

**321.04 The Morphology and Characteristics of the Planck ESZ Detected Clusters of Galaxies Compared to X-ray and Optically Selected Cluster Samples**

**Author(s):** Christine Jones<sup>1</sup>, William R. Forman<sup>1</sup>, Felipe Andrade-Santos<sup>1</sup>, Stephen S. Murray<sup>2</sup>, Eugene Churazov<sup>3</sup>

*Institution(s):*<sup>1.</sup> Harvard-Smithsonian, CfA, <sup>2.</sup> Johns Hopkins University, <sup>3.</sup> MPA-Garching

Contributing team(s): Chandra-Planck XVP Cluster Consortium

**321.05D The Dynamical Evolution of Galaxies and Their Gas in Group and Cluster Environments**

**Author(s):** Rukmani Vijayaraghavan<sup>1</sup>, Paul M. Ricker<sup>1</sup>

*Institution(s):*<sup>1.</sup> University of Illinois at Urbana-Champaign

**321.06 Strong Lensing and Giant Arc Statistics In the South Pole Telescope Cluster Survey**

**Author(s):** Matthew Bayliss<sup>2</sup>, Lindsey Bleem<sup>1</sup>

*Institution(s):*<sup>1.</sup> Argonne National Laboratory, <sup>2.</sup> Harvard-Smithsonian Center for Astrophysics

Contributing team(s): the South Pole Telescope Collaboration



## 322 The Quest for Gravitational Waves, 100 years After Einstein

Wednesday, 2:00 pm - 3:30 pm; 610

This session will present the past, present and future of the search for gravitational waves, which is reaching a very exciting phase at the 100th anniversary of Einstein's publication of the General Theory of Relativity that predicts . After decades of theoretical doubts on whether gravitational waves were "real", the predictions on measurable effects on detectors and on astrophysical observations started the exciting search for gravitational waves. The observation by Hulse and Taylor of orbital decay of the PSR B1913+16 binary pulsar provided another clear proof of Einstein's theory and showed beautifully the reality of gravitational waves carrying energy. Since then, we have seen many groups devise ways to detect the effects of astrophysical sources producing gravitational waves of many different wavelengths in the spectrum: early universe with cosmological scales imprinted in the CMB polarization, background of orbiting binary supermassive black holes with galactic size wavelengths in correlations in radio signals arrival times on Earth from pulsars, colliding galaxies and galactic binary white dwarfs producing AU wavelengths detectable by space instruments, colliding black holes and neutron stars generating 105 m waves detectable on ground based interferometers. We will present the history and status of the search for gravitational waves with a diverse spectrum of sources and detectors.

**Chair(s): Gabriela Gonzalez** (*Louisiana State University*)

### 322.01 "The Quest for Gravitational Waves, 100 years After Einstein"

**Author(s): Gabriela Gonzalez**<sup>1</sup>

*Institution(s):* <sup>1</sup> *Louisiana State University*

### 322.02 A brief history of gravitational waves - theoretical insight to measurement

**Author(s): Rainer Weiss**<sup>1</sup>

*Institution(s):* <sup>1</sup> *MIT*

Contributing team(s): on behalf of the LIGO Scientific Collaboration

### 322.03 Detecting Gravitational Waves with the LIGO and Virgo Detectors

**Author(s): Laura Cadonati**<sup>1</sup>

*Institution(s):* <sup>1</sup> *Georgia Institute of Technology*

Contributing team(s): LIGO Scientific Collaboration, Virgo Collaboration

### 322.04 Astrophysical sources of gravitational waves and electromagnetic counterparts

**Author(s): Daniel Holz**<sup>1</sup>

*Institution(s):* <sup>1</sup> *University of Chicago*

### 322.05 Detecting Gravitational Waves of Galactic and AU scales

**Author(s): Andrea N. Lommen**<sup>1</sup>

*Institution(s):* <sup>1</sup> *Franklin and Marshall College*

Contributing team(s): NANOGrav

# WEDNESDAY, 7 JANUARY 2015

## 323 Extrasolar Planets: Individual Systems

Wednesday, 2:00 pm - 3:30 pm; 616/617

Chair(s): Avi Shporer (*JPL*)

### 323.01D Constraining the Thermal Structure, Abundances, and Dynamics of the Exoplanet HD 209458b

**Author(s):** Robert Zellem<sup>3</sup>, Caitlin Ann Griffith<sup>3</sup>, Nikole Lewis<sup>4</sup>, Mark R. Swain<sup>2</sup>, Heather Knutson<sup>1</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Jet Propulsion Laboratory, California Institute of Technology, <sup>3</sup> Lunar and Planetary Laboratory - University of Arizona, <sup>4</sup> Massachusetts Institute of Technology

### 323.02D The Unusual Disintegrating Planet Candidate KIC 125557548b and Hot Jupiter CoRoT-1b in Transmission

**Author(s):** Everett Schlawin<sup>1</sup>, Ming Zhao<sup>3</sup>, Johanna K. Teske<sup>2</sup>, Terry L. Herter<sup>1</sup>

*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> Department of Terrestrial Magnetism Carnegie Institution of Washington, <sup>3</sup> Penn State

### 323.04 3D modeling of clouds in GJ1214b' s atmosphere

**Author(s):** Benjamin Charnay<sup>2</sup>, Victoria Meadows<sup>2</sup>, Jeremy Leconte<sup>1</sup>, Amit Misra<sup>2</sup>

*Institution(s):* <sup>1</sup> University of Toronto, <sup>2</sup> Virtual Planetary Laboratory, University of Washington

### 323.05 Compositional Constraints on the Best Characterized Rocky Exoplanet, Kepler-36 b

**Author(s):** Leslie Rogers<sup>1</sup>, Katherine Deck<sup>3</sup>, Jack J. Lissauer<sup>4</sup>, Joshua A. Carter<sup>2</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Massachusetts Institute of Technology, <sup>4</sup> NASA Ames Research Center

### 323.06 Characterization of the KOI-273 Planetary System with HARPS-N

**Author(s):** Sara Gettel<sup>1</sup>, David Charbonneau<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics  
Contributing team(s): HARPS-N Collaboration

### 323.07 Detection and characterization of the atmospheres of the HR 8799 b and c planets with high contrast HST/WFC3 imaging

**Author(s):** Abhijith Rajan<sup>1</sup>, Travis Barman<sup>5</sup>, Remi Soummer<sup>3</sup>, Laurent Pueyo<sup>3</sup>, Jenny Patience<sup>1</sup>, J. Brendan Hagan<sup>3</sup>, Bruce Macintosh<sup>4</sup>, Christian Marois<sup>2</sup>, Quinn M. Konopacky<sup>6</sup>

*Institution(s):* <sup>1</sup> Arizona State University / SESE, <sup>2</sup> NRC Canada, <sup>3</sup> Space Telescope Science Institute, <sup>4</sup> Stanford University, <sup>5</sup> University of Arizona/ LPL, <sup>6</sup> University of Toronto

## 323.08 New, Near-to-Mid Infrared High-Contrast Imaging of the Young Extrasolar Planets, HR 8799 bcde

**Author(s):** **Thayne M. Currie**<sup>4</sup>, Adam Seth Burrows<sup>7</sup>, Julien Girard<sup>3</sup>, Ryan Cloutier<sup>11</sup>, Misato Fukagawa<sup>6</sup>, Satoko Sorahana<sup>10</sup>, Marc J. Kuchner<sup>5</sup>, Scott Kenyon<sup>2</sup>, Nikku Madhusudhan<sup>1</sup>, Yoichi Itoh<sup>9</sup>, Ray Jayawardhana<sup>11</sup>, Soko Matsumura<sup>8</sup>, Tae-Soo Pyo<sup>4</sup>

*Institution(s):* <sup>1.</sup> Cambridge, <sup>2.</sup> CfA, <sup>3.</sup> ESO, <sup>4.</sup> NAOJ, <sup>5.</sup> NASA-Goddard, <sup>6.</sup> Osaka University, <sup>7.</sup> Princeton, <sup>8.</sup> University of Dundee, <sup>9.</sup> University of Hyogo, <sup>10.</sup> University of Tokyo, <sup>11.</sup> University of Toronto

## 324 Galaxies, Mergers and Black Holes

Wednesday, 2:00 pm - 3:30 pm; 618/619

**Chair(s):** Helene Flohic (*Universidad de Chile*)

### 324.01D Evolution of local luminous compact blue galaxies

**Author(s):** Katherine Rabidoux<sup>1</sup>, Daniel J. Pisano<sup>1</sup>

*Institution(s):* <sup>1.</sup> West Virginia University

### 324.02 The Galactic Tango: The Elegant Dance of Galaxies and their Supermassive Black Holes

**Author(s):** Sydney Sherman<sup>1</sup>, Yuexing Li<sup>1</sup>, Qirong Zhu<sup>1</sup>

*Institution(s):* <sup>1.</sup> Penn State University

### 324.03 Molecular Rain powers Cold Black Hole Feedback in a Cool Core Brightest Cluster Galaxy

**Author(s):** Grant Tremblay<sup>1</sup>

*Institution(s):* <sup>1.</sup> Yale University

### 324.04D Kinematic and Metallicity Comparisons between Dwarf Galaxies and Brightest Cluster Galaxies

**Author(s):** Jimmy<sup>3</sup>, Kim-Vy Tran<sup>3</sup>, Sarah Brough<sup>1</sup>, Amelie Saintonge<sup>4</sup>, Paola Oliva-Altamirano<sup>1</sup>, Anja Von Der Linden<sup>2</sup>

*Institution(s):* <sup>1.</sup> Australian Astronomical Observatory, <sup>2.</sup> Stanford, <sup>3.</sup> Texas A&M University, <sup>4.</sup> University College London

### 324.05 Star formation, quenching, black hole feedback and the fate of gas reservoirs

**Author(s):** Kevin Schawinski<sup>1</sup>, Ivy Wong<sup>4</sup>, C. Megan Urry<sup>5</sup>, Kyle Willett<sup>3</sup>, Brooke D Simmons<sup>2</sup>

*Institution(s):* <sup>1.</sup> ETH Zurich, <sup>2.</sup> Oxford University, <sup>3.</sup> University of Minnesota, <sup>4.</sup> University of Western Australia, <sup>5.</sup> Yale University

Contributing team(s): Galaxy Zoo team

### 324.06 Supermassive Black Holes at Work: ``Fossil Records'' of Outbursts from Supermassive Black Holes and the Effects of Outbursts on the Evolution of Gas Rich Galaxies, Groups, and Galaxy Clusters

**Author(s):** William R. Forman<sup>2</sup>, Eugene Churazov<sup>1</sup>, Christine Jones<sup>2</sup>, Sebastian Heinz<sup>3</sup>, Akos Bogdan<sup>2</sup>

*Institution(s):* <sup>1.</sup> MPE, <sup>2.</sup> SAO-CfA, <sup>3.</sup> University of Wisconsin

# WEDNESDAY, 7 JANUARY 2015

## 324.07 An ALMA detection of circumnuclear molecular gas in M87

**Author(s):** Catherine E Vlahakis<sup>2</sup>, Stephane Leon<sup>2</sup>, Sergio Martin<sup>1</sup>

*Institution(s):* <sup>1</sup> IRAM, <sup>2</sup> Joint ALMA Observatory

## 325 Public Policy Panel: Former Agency Rotators

Wednesday, 2:00 pm - 3:30 pm; 606

With the federal government focused on reducing the deficit, funding for the astronomical sciences is being squeezed along with the rest of federal discretionary spending. It is thus more important than ever for the members of the AAS community to understand how decisions are made at federal science agencies that administer the lion's share of federal funding for the astronomical sciences. Through a dialog with current chair of the Committee on Astronomy and Public Policy, a panel of former program officers on rotations at NASA and NSF will discuss their perspectives on policies and processes within their respective agencies. This will also provide an opportunity for those considering a rotation to learn what the job is like. There will be ample time for audience questions following a moderated discussion.

**Chair(s):** Debra Elmegreen (*Vassar College*)

## 326 Low Redshift ( $z < 3$ ) Galaxies

Wednesday, 2:00 pm - 3:30 pm; 607

**Chair(s):** Paola Oliva-Altamirano

### 326.01 Minor mergers: fundamental but unexplored drivers of galaxy stellar mass growth

**Author(s):** Sugata Kaviraj<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Hertfordshire

### 326.02 GLASS: detailed structure of high redshift galaxies from HST grism spectroscopy

**Author(s):** Tucker Jones<sup>3</sup>, Tommaso Treu<sup>2</sup>, Kasper B. Schmidt<sup>3</sup>, XIN WANG<sup>3</sup>, Gabriel Brammer<sup>1</sup>

*Institution(s):* <sup>1</sup> Space Telescope Science Institute, <sup>2</sup> University of California, Los Angeles, <sup>3</sup> University of California, Santa Barbara

Contributing team(s): GLASS

### 326.03 Metal-poor, Strongly Star-forming Galaxies in the DEEP2 Survey: The Relationship between Stellar Mass, Temperature-based Metallicity, and Star Formation Rate

**Author(s):** Chun Ly<sup>1</sup>, Jane R. Rigby<sup>1</sup>, Michael Cooper<sup>2</sup>, Renbin Yan<sup>3</sup>

*Institution(s):* <sup>1</sup> NASA GSFC, <sup>2</sup> University of California, Irvine, <sup>3</sup> University of Kentucky

### 326.04D Starbursting Dwarf Galaxies at $z > 1$

**Author(s):** Michael Maseda<sup>1</sup>, Arjen van der Wel<sup>1</sup>, Hans-Walter Rix<sup>1</sup>

*Institution(s):* <sup>1</sup> Max Planck Institute for Astronomy

Contributing team(s): 3D-HST

## 326.05 UV Spectral Slope and Dust Attenuation of Faint Star-Forming Galaxies at $1 < z < 3$ Behind the Lensing Cluster A1689

**Author(s):** Anahita Alavi<sup>3</sup>, Brian D. Siana<sup>3</sup>, Alberto Dominguez<sup>3</sup>, Johan Richard<sup>4</sup>, Marc Rafelski<sup>1</sup>, Daniel Stark<sup>2</sup>

*Institution(s):* <sup>1</sup> IPAC, <sup>2</sup> University of Arizona, <sup>3</sup> University of California Riverside, <sup>4</sup> University of Lyon

## 326.06D KPC-Scale Properties of Emission-line Galaxies

**Author(s):** Shoubaneh Hemmati<sup>1</sup>, Bahram Mobasher<sup>1</sup>

*Institution(s):* <sup>1</sup> UC Riverside

Contributing team(s): CANDELS

## 326.07 The MOSDEF Survey: Outflows from Star-forming Galaxies at $z \sim 2.3$

**Author(s):** William R. Freeman<sup>1</sup>, Brian D. Siana<sup>1</sup>, Alice E. Shapley<sup>3</sup>, Mariska T Kriek<sup>2</sup>, Naveen Reddy<sup>1</sup>, Bahram Mobasher<sup>1</sup>, Alison L. Coil<sup>4</sup>, Sedona Price<sup>2</sup>, Ryan Sanders<sup>3</sup>, Irene Shivaiei<sup>1</sup>, Laura DeGroot<sup>1</sup>

*Institution(s):* <sup>1</sup> Univ of CA Riverside, <sup>2</sup> Univ. of CA, Berkeley, <sup>3</sup> Univ. of CA, Los Angeles, <sup>4</sup> Univ. of CA, San Diego

## 327 Astronomy Education Research

Wednesday, 2:00 pm - 3:30 pm; 608

**Chair(s):** Douglas Duncan (*Univ. of Colorado*)

### 327.01 Investigating Student Ideas About the Fate of the Universe

**Author(s):** Mallory Conlon<sup>4</sup>, Kimberly A. Coble<sup>1</sup>, Janelle M. Bailey<sup>3</sup>, Lynn R. Cominsky<sup>2</sup>

*Institution(s):* <sup>1</sup> Chicago State University, <sup>2</sup> Sonoma State University, <sup>3</sup> Temple University, <sup>4</sup> University of Illinois at Urbana-Champaign

### 327.02 Comparison of Student Performance in Video Game Format vs. Traditional Approach in Introductory Astronomy Classes

**Author(s):** Daniel Barringer<sup>1</sup>, Julia M. Kregenow<sup>1</sup>, Christopher Palma<sup>1</sup>, Julia Plummer<sup>1</sup>

*Institution(s):* <sup>1</sup> Pennsylvania State University

### 327.03 Beyond the Wobbles: Teaching Students About Detecting Planets with the Transit and Gravitational Microlensing Methods

**Author(s):** Edward E. Prather<sup>1</sup>, Colin Scott Wallace<sup>3</sup>, Timothy G. Chambers<sup>1</sup>, Gina Brissenden<sup>1</sup>, Wesley A. Traub<sup>2</sup>, W. M. Greene<sup>2</sup>, Anya A Biferno<sup>2</sup>, Joshua Rodriguez<sup>2</sup>

*Institution(s):* <sup>1</sup> Center for Astronomy Education (CAE) Univ. of Arizona, <sup>2</sup> NASA Jet Propulsion Laboratory, <sup>3</sup> Univ. of North Carolina at Chapel Hill

### 327.04 How should we teach faculty about research-based teaching?

**Author(s):** Alice Olmstead<sup>2</sup>, Chandra Turpen<sup>2</sup>, Edward E. Prather<sup>1</sup>

*Institution(s):* <sup>1</sup> Center for Astronomy Education (CAE) Univ. of Arizona, <sup>2</sup> University of Maryland

# WEDNESDAY, 7 JANUARY 2015

## 327.05 Test Of Astronomy Standards TOAST Survey of K-12 Teachers

**Author(s):** Timothy F. Slater<sup>2</sup>, Stephanie Slater<sup>1</sup>, Debra J Stork<sup>2</sup>

*Institution(s):*<sup>1</sup> CAPER Center for Astronomy & Physics Education Research, <sup>2</sup> University of Wyoming

## 327.06 First Results from the iSTAR International Study on Astronomy Reasoning

**Author(s):** Coty B. Tatge<sup>2</sup>, Stephanie J Slater<sup>1</sup>, Timothy F. Slater<sup>2</sup>

*Institution(s):*<sup>1</sup> CAPER Center for Astronomy & Physics Education Research, <sup>2</sup> University of Wyoming

## 327.07 Impacts of Chandra X-ray Observatory Public Communications and Engagement

**Author(s):** Kimberly K. Arcand<sup>1</sup>, Megan Watzke<sup>1</sup>, Kathleen Lestition<sup>1</sup>, Peter Edmonds<sup>1</sup>

*Institution(s):*<sup>1</sup> Smithsonian Astrophysical Observatory

## 327.08 Visualizing Moon Phases in Virtual and Physical Astronomy Environments

**Author(s):** Patricia S. Udomprasert<sup>2</sup>, Alyssa A. Goodman<sup>2</sup>, Susan Sunbury<sup>2</sup>, Zihui Zhang<sup>1</sup>, Philip M. Sadler<sup>2</sup>, Mary E. Dussault<sup>2</sup>, Qin Wang<sup>3</sup>, Erin Johnson<sup>2</sup>, Erin Lotridge<sup>2</sup>, Jonathan Jackson<sup>2</sup>, Ana-Maria Constantin<sup>2</sup>

*Institution(s):*<sup>1</sup> Boston College, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Institute of Astronomy, Huazhong Normal University

## 328 Instrumentation: Space Missions -Ground Based or Airborne II

Wednesday, 2:00 pm - 3:30 pm; 609

**Chair(s):** Stephen Unwin (JPL)

### 328.01 Monitoring All the Sky All the Time with the Owens Valley Long Wavelength Array

**Author(s):** Gregg Hallinan<sup>1</sup>, Stephen Bourke<sup>1</sup>, Marin Anderson<sup>1</sup>, Michael Eastwood<sup>1</sup>, Ryan Monroe<sup>1</sup>, Lincoln J. Greenhill<sup>2</sup>, Gregory B. Taylor<sup>4</sup>, Joseph Lazio<sup>3</sup>, Sander Weinreb<sup>1</sup>

*Institution(s):*<sup>1</sup> California Institute of Technology, <sup>2</sup> Harvard CfA, <sup>3</sup> Jet Propulsion Laboratory, <sup>4</sup> University of New Mexico

### 328.02 Instrumentation to Detect the Dark Ages

**Author(s):** Danny C Price<sup>1</sup>

*Institution(s):*<sup>1</sup> Harvard

### 328.03 Hydrogen Epoch of Reionization Array (HERA)

**Author(s):** David R. DeBoer<sup>1</sup>

*Institution(s):*<sup>1</sup> UC, Berkeley  
Contributing team(s): HERA

### 328.04 The Zwicky Transient Facility

**Author(s):** Eric Christopher Bellm<sup>1</sup>, Shrinivas R. Kulkarni<sup>1</sup>

*Institution(s):*<sup>1</sup> Caltech  
Contributing team(s): ZTF Collaboration

## 328.05 Optical Spectroscopy with Starbugs, from TAIPAN to the Giant Magellan Telescope

**Author(s):** Kyler Kuehn<sup>1</sup>, David Brown<sup>1</sup>, Scott Case<sup>1</sup>, Matthew Colless<sup>2</sup>, Robert Content<sup>1</sup>, Luke Gers<sup>1</sup>, James Gilbert<sup>3</sup>, Michael Goodwin<sup>1</sup>, Andrew Hopkins<sup>1</sup>, Michael Ireland<sup>2</sup>, Nuria Lorente<sup>1</sup>, Rolf Muller<sup>1</sup>, Vijay Nichani<sup>1</sup>, Azizi Rakman<sup>1</sup>, Samuel Richards<sup>1</sup>, Will Saunders<sup>1</sup>, Nick Staszak<sup>1</sup>, Julia Tims<sup>1</sup>, Lewis Waller<sup>1</sup>  
*Institution(s):*<sup>1.</sup> Australian Astronomical Observatory, <sup>2.</sup> Australian National University, <sup>3.</sup> University of Oxford

## 328.06 The SDC: high contrast imaging with a multistage vortex coronagraph

**Author(s):** Michael Bottom<sup>1</sup>, Chris Shelton<sup>2</sup>, J. Kent Wallace<sup>2</sup>, Jonas Kuhn<sup>2</sup>, Bertrand Mennesson<sup>2</sup>, Randall D. Bartos<sup>1</sup>, Rick Burruss<sup>2</sup>, Dimitri Mawet<sup>1</sup>, Gene Serabyn<sup>2</sup>  
*Institution(s):*<sup>1.</sup> California Institute of Technology, <sup>2.</sup> Jet Propulsion Lab

## 328.07 ALTAIR: Precision Photometric Calibration via Low-Cost Artificial Light Sources Above the Atmosphere

**Author(s):** Justin Albert<sup>5</sup>, Karun Thanjavur<sup>5</sup>, Yorke Brown<sup>1</sup>, Christopher Stubbs<sup>2</sup>, J. Paul Kovacs<sup>5</sup>, Divya Bhatnagar<sup>5</sup>, James Hartwick<sup>5</sup>, Keith Vanderlinde<sup>6</sup>, Matt Dobbs<sup>3</sup>, Arnold Gaertner<sup>4</sup>  
*Institution(s):*<sup>1.</sup> Dartmouth College, <sup>2.</sup> Harvard University, <sup>3.</sup> McGill University, <sup>4.</sup> National Research Council of Canada, <sup>5.</sup> Univ. of Victoria, <sup>6.</sup> University of Toronto  
Contributing team(s): ALTAIR

## 328.08 The Gemini Instrument Feasibilities Studies project

**Author(s):** Pascale Hibon<sup>1</sup>, Stephen J. Goodsell<sup>1</sup>, Kayla Hardie<sup>1</sup>  
*Institution(s):*<sup>1.</sup> Gemini Observatory

## 328.09 Submillimeter Dust Polarimetry with the BLAST-TNG Telescope

**Author(s):** Nicholas Galitzki<sup>13</sup>, Peter Ade<sup>3</sup>, Francesco E Angilè<sup>13</sup>, Peter Ashton<sup>7</sup>, James Howard Beall<sup>6</sup>, Dan Becker<sup>6</sup>, Kristi J. Bradford<sup>4</sup>, George Che<sup>1</sup>, Hsiao-Mei Cho<sup>8</sup>, Mark J. Devlin<sup>13</sup>, Bradley Dober<sup>13</sup>, Laura M. Fissel<sup>7</sup>, Yasuo Fukui<sup>4</sup>, Jiansong Gao<sup>6</sup>, Christopher E. Groppi<sup>1</sup>, Seth N. Hillbrand<sup>2</sup>, Gene Hilton<sup>6</sup>, Kent Irwin<sup>9</sup>, Jeffrey Klein<sup>13</sup>, Jeffrey Van Lanen<sup>6</sup>, Dale Li<sup>6</sup>, Zhi-Yun Li<sup>15</sup>, Nathan Lourie<sup>13</sup>, Hamdi Mani<sup>1</sup>, Peter G. Martin<sup>14</sup>, Philip Maukopf<sup>1</sup>, Fumitaka Nakamura<sup>5</sup>, Giles Novak<sup>7</sup>, David P. Pappas<sup>6</sup>, Enzo Pascale<sup>3</sup>, Giampaolo Pisano<sup>3</sup>, Fabio P. Santos<sup>7</sup>, Giorgio Savini<sup>10</sup>, Douglas Scott<sup>11</sup>, Sara Stanchfield<sup>13</sup>, Carole Tucker<sup>3</sup>, Joel Ullom<sup>6</sup>, Matthew Underhill<sup>1</sup>, Michael Vissers<sup>6</sup>, Derek Ward-Thompson<sup>12</sup>, Hannes Hubmayr<sup>6</sup>, Simon Doyle<sup>3</sup>  
*Institution(s):*<sup>1.</sup> Arizona State University, <sup>2.</sup> California State University, <sup>3.</sup> Cardiff University, <sup>4.</sup> Nagoya University, <sup>5.</sup> National Astronomical Observatory, <sup>6.</sup> National Institute of Standards and Technology, <sup>7.</sup> Northwestern University, <sup>8.</sup> SLAC National Accelerator Laboratory, <sup>9.</sup> Stanford University, <sup>10.</sup> University College London, <sup>11.</sup> University of British Columbia, <sup>12.</sup> University of Central Lancashire, <sup>13.</sup> University of Pennsylvania, <sup>14.</sup> University of Toronto, <sup>15.</sup> University of Virginia

# WEDNESDAY, 7 JANUARY 2015

## 329 Galaxy Star Formation Rate and Stellar Mass

Wednesday, 2:00 pm - 3:30 pm; 611

Chair(s): Richard de Grijs (*Peking University*)

### 329.01 The Star Forming Main Sequence and its Scatter as Consequences of the Central Limit Theorem

Author(s): Daniel Kelson<sup>1</sup>

Institution(s): <sup>1</sup> *Carnegie Inst. of Washington*

### 329.02 The Star Formation Rate-Stellar Mass Correlation: Does the Scatter Matter?

Author(s): Eric J. Gawiser<sup>1</sup>

Institution(s): <sup>1</sup> *Rutgers University*

### 329.03 DA Turn-over in the Galaxy Main Sequence of Star Formation at $M^* \sim 10^{10} M_{\text{sun}}$

Author(s): Nicholas Lee<sup>1</sup>

Institution(s): <sup>1</sup> *University of Hawaii*

Contributing team(s): COSMOS team

### 329.04 Constraining the Low-Mass Slope of the Star Formation Sequence at $0.5 \leq z \leq 2.5$

Author(s): Katherine E. Whitaker<sup>2</sup>, Marijn Franx<sup>1</sup>, Joel Leja<sup>5</sup>, Pieter G. Van Dokkum<sup>5</sup>, Alaina L. Henry<sup>2</sup>, Rosalind Skelton<sup>3</sup>, Mattia Fumagalli<sup>1</sup>, Ivelina G. Momcheva<sup>5</sup>, Gabriel Brammer<sup>4</sup>, Ivo Labbe<sup>1</sup>, Erica Nelson<sup>5</sup>, Jane R. Rigby<sup>2</sup>  
Institution(s): <sup>1</sup> *Leiden Observatory*, <sup>2</sup> *NASA/GSFC*, <sup>3</sup> *SAAO*, <sup>4</sup> *STScI*, <sup>5</sup> *Yale University*

Contributing team(s): 3D-HST collaboration

### 329.05 D Inferring Galaxy Star Formation Histories from Statistical Metrics: What Ensemble Data Has and Hasn't Taught Us about Galaxy Growth

Author(s): Louis Evan Abramson<sup>1</sup>

Institution(s): <sup>1</sup> *University of Chicago*

Contributing team(s): IMACS Cluster Building Survey

### 329.06 Impact of star formation history on the measurement of star formation rates

Author(s): Mederic Boquien<sup>2</sup>, Veronique Buat<sup>1</sup>, Valentin Perret<sup>3</sup>

Institution(s): <sup>1</sup> *Laboratoire d'Astrophysique de Marseille*, <sup>2</sup> *University of Cambridge*, <sup>3</sup> *University of Zurich*

### 329.07 Sizing Up Dwarf Galaxies at $z > 1$ : UV Colors, Stellar Masses and Star Formation Rates

Author(s): Peter Kurczynski<sup>3</sup>, Eric J. Gawiser<sup>3</sup>, Marc Rafelski<sup>2</sup>, Harry I. Teplitz<sup>1</sup>, Duilia F. De Mello<sup>5</sup>, Steven L. Finkelstein<sup>6</sup>, Jonathan P. Gardner<sup>2</sup>, Anton M. Koekemoer<sup>4</sup>, Emmaris Soto<sup>5</sup>

Institution(s): <sup>1</sup> *IPAC MS 100-22, Cal Tech*, <sup>2</sup> *NASA Goddard Space Flight Center*, <sup>3</sup> *Rutgers, The State University of New Jersey*, <sup>4</sup> *Space Telescope Science Institute*, <sup>5</sup> *The Catholic University of America*, <sup>6</sup> *University of Texas at Austin*

Contributing team(s): UVUDF Team



## 330 Circumstellar and Debris Disks

Wednesday, 2:00 pm - 3:30 pm; 612

Chair(s): Gaspard Duchene (*University of California Berkeley*)

### 330.01 DiskDetective.org: The First 1,000,000 Classifications

Author(s): Marc J. Kuchner<sup>2</sup>, Steven Silverberg<sup>3</sup>, Alissa Bans<sup>1</sup>

Institution(s): <sup>1</sup> Adler Planetarium, <sup>2</sup> NASA's GSFC, <sup>3</sup> University of Oklahoma

Contributing team(s): The Disk Detective Team

### 330.02D Planetary Collisions outside the Solar System: Time Domain Characterization of Extreme Debris Disks

Author(s): Huan Meng<sup>1</sup>, Kate Y.L. Su<sup>1</sup>, George Rieke<sup>1</sup>

Institution(s): <sup>1</sup> University of Arizona

### 330.04 Evidence of Sculpting by Stellar and Sub-stellar Companions in Debris Disks in the ScoCen

Author(s): Hannah Jang-Condell<sup>7</sup>, Christine Chen<sup>3</sup>, Erika Nesvold<sup>2</sup>, Marc J.

Kuchner<sup>2</sup>, Tushar Mittal<sup>5</sup>, Manoj Puravankara<sup>4</sup>, Dan M. Watson<sup>6</sup>, Casey M. Lisse<sup>1</sup>

Institution(s): <sup>1</sup> JHU-APL, <sup>2</sup> NASA-GSFC, <sup>3</sup> STScI, <sup>4</sup> Tata Institute of Fundamental Research, <sup>5</sup> UC Berkeley, <sup>6</sup> University of Rochester, <sup>7</sup> University of Wyoming

### 330.05 Gemini Planet Imager Polarimetry of the Circumstellar Ring around HR 4796A

Author(s): Marshall D. Perrin<sup>2</sup>, Gaspard Duchene<sup>3</sup>, Michael P. Fitzgerald<sup>4</sup>, Max Millar-Blanchaer<sup>6</sup>, James R. Graham<sup>3</sup>, Sloane Wiktorowicz<sup>5</sup>, Paul Kalas<sup>3</sup>, Bruce Macintosh<sup>1</sup>

Institution(s): <sup>1</sup> Stanford University, <sup>2</sup> STScI, <sup>3</sup> UC Berkeley, <sup>4</sup> UCLA, <sup>5</sup> UCSC, <sup>6</sup> University of Toronto

Contributing team(s): the Gemini Planet Imager Team

### 330.06D Modeling Collisions in Circumstellar Debris Disks with SMACK

Author(s): Erika Nesvold<sup>2</sup>, Marc J. Kuchner<sup>1</sup>

Institution(s): <sup>1</sup> NASA/Goddard Space Flight Center, <sup>2</sup> University of Maryland, Baltimore County

### 330.07 Kozai-Lidov Oscillations of Circumstellar Disks

Author(s): Stephen H. Lubow<sup>2</sup>, Wen Fu<sup>1</sup>, Rebecca G. Martin<sup>3</sup>

Institution(s): <sup>1</sup> Rice University, <sup>2</sup> STScI, <sup>3</sup> University of Colorado

## 331 Intergalactic Medium, QSO Absorption Line Systems II

Wednesday, 2:00 pm - 3:30 pm; 615

Chair(s): Cameron Hummels (*Columbia Univ.*)

### 331.01 Thermal Evolution of the Intergalactic Medium

Author(s): Phoebe Upton Sanderbeck<sup>1</sup>, Matthew McQuinn<sup>1</sup>

Institution(s): <sup>1</sup> University of Washington

# WEDNESDAY, 7 JANUARY 2015

## 331.02 Probing Quasar Winds Using Intrinsic Narrow Absorption Lines

**Author(s):** Christopher S. Culliton<sup>1</sup>, Amber Roberts<sup>1</sup>, Jane C. Charlton<sup>1</sup>, Michael Eracleous<sup>1</sup>, Rajib Ganguly<sup>3</sup>, Toru Misawa<sup>2</sup>

*Institution(s):* <sup>1</sup> Pennsylvania State University, <sup>2</sup> Shinshu University, <sup>3</sup> University of Michigan, Flint

## 331.03D Optical depth ratios and metal-line absorption around $z \approx 2.3$ star-forming galaxies: insights from observations and simulations

**Author(s):** Monica Turner<sup>3</sup>, Joop Schaye<sup>3</sup>, Charles C. Steidel<sup>1</sup>, Gwen C. Rudie<sup>2</sup>, Allison Strom<sup>1</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Carnegie Observatories, <sup>3</sup> Leiden Observatory

## 331.04 Simultaneous detections of a Milky Way type 2175 Å bump and C I, CO in a metal-rich and highly dust depleted absorption system at $z=2.12$ towards QSO J1211+0833

**Author(s):** Jingzhe Ma<sup>2</sup>, Paul Caucal<sup>3</sup>, Pasquier Noterdaeme<sup>3</sup>, Jian Ge<sup>2</sup>, Shaohua Zhang<sup>4</sup>, Tuo Ji<sup>4</sup>, J. Xavier Prochaska<sup>1</sup>

*Institution(s):* <sup>1</sup> Department of Astronomy and Astrophysics, UCO/Lick Observatory, <sup>2</sup> Department of Astronomy, University of Florida, <sup>3</sup> Institut d'Astrophysique de Paris, <sup>4</sup> Polar Research Institute of China

## 331.05 Searching for HI at $\text{NHI} \sim 10^{17} \text{ cm}^{-2}$ around nearby galaxies.

**Author(s):** Daniel J. Pisano<sup>2</sup>, Felix J. Lockman<sup>1</sup>, Spencer A. Wolfe<sup>2</sup>

*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory, <sup>2</sup> West Virginia University

## 331.06D Kinematics of Baryons Cycling Through Galaxy Halos

**Author(s):** Nikole M. Nielsen<sup>1</sup>

*Institution(s):* <sup>1</sup> New Mexico State University

# 332 Catalogs/Surveys/Computation - UVOIR

Wednesday, 2:00 pm - 3:30 pm; 620

**Chair(s):** Steven Rodney (*Johns Hopkins University*)

## 332.01 Results from the Pan-STARRS1 Sky Surveys

**Author(s):** Kenneth C. Chambers<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Hawaii

Contributing team(s): PS1 Science Consortium

## 332.03 Establishing a Network of Next Generation SED Standards with DA White Dwarfs

**Author(s):** Gautham Narayan<sup>2</sup>, Abhijit Saha<sup>2</sup>, Thomas Matheson<sup>2</sup>, Jay B. Holberg<sup>4</sup>, Edward W. Olszewski<sup>4</sup>, Christopher Stubbs<sup>1</sup>, Susana E. Deustua<sup>3</sup>, Ralph Bohlin<sup>3</sup>, Ronald L. Gilliland<sup>3</sup>, Armin Rest<sup>3</sup>, Elena Sabbi<sup>3</sup>, John W. MacKenty<sup>3</sup>, Tim S. Axelrod<sup>4</sup>

*Institution(s):* <sup>1</sup> Harvard Univ., <sup>2</sup> National Optical Astronomy Observatory, <sup>3</sup> Space Telescope Science Institute, <sup>4</sup> University of Arizona

- 332.04 The Panchromatic Hubble Andromeda Treasury Survey: UV-IR Photometry of 117 Million Stars**  
**Author(s):** Benjamin F. Williams<sup>4</sup>, Dustin Lang<sup>1</sup>, Julianne Dalcanton<sup>4</sup>, Andrew E. Dolphin<sup>3</sup>, Daniel R. Weisz<sup>4</sup>, Lent C. Johnson<sup>4</sup>, Nell Byler<sup>4</sup>, Dylan Gregersen<sup>5</sup>, Anil Seth<sup>5</sup>, Leo Girardi<sup>2</sup>  
*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> Padova, <sup>3</sup> Raytheon, <sup>4</sup> Univ. of Washington, <sup>5</sup> University of Utah  
Contributing team(s): PHAT Survey Team
- 332.05 Version 1 of the Hubble Source Catalog**  
**Author(s):** Bradley C. Whitmore<sup>2</sup>, Sahar S. Allam<sup>2</sup>, Tamas Budavari<sup>1</sup>, Tom Donaldson<sup>2</sup>, Stephen H. Lubow<sup>2</sup>, Lee Quick<sup>2</sup>, Louis-Gregory Strolger<sup>2</sup>, Geoff Wallace<sup>2</sup>, Richard L. White<sup>2</sup>  
*Institution(s):* <sup>1</sup> JHU, <sup>2</sup> STScI
- 332.06 GLASS: Spectroscopic samples of Ly $\alpha$  emitters at  $z > 6$**   
**Author(s):** Kasper B. Schmidt<sup>2</sup>, Tommaso Treu<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of California Los Angeles (UCLA), <sup>2</sup> University of California Santa Barbara (UCSB)  
Contributing team(s): The GLASS Collaboration
- 332.07 Wide Integral Field Infrared Spectroscopic Survey of Nearby Galaxies**  
**Author(s):** Suresh Sivanandam<sup>2</sup>, Dae-Sik Moon<sup>4</sup>, Dennis F. Zaritsky<sup>3</sup>, Richard Chou<sup>1</sup>, Elliot Meyer<sup>4</sup>, Ke Ma<sup>4</sup>, Miranda Jarvis<sup>4</sup>, Joshua A. Eisner<sup>3</sup>  
*Institution(s):* <sup>1</sup> ASIAA, <sup>2</sup> Dunlap Institute, <sup>3</sup> University of Arizona, <sup>4</sup> University of Toronto
- 332.09 Targeted-mode pipeline for the Evryscope: a minute cadence, 10,000-square-degree FoV, gigapixel-scale telescope**  
**Author(s):** Octavi Fors Aldrich<sup>1</sup>, Nicholas M. Law<sup>1</sup>, Philip J. Wulfken<sup>1</sup>, Jeffrey Ratzloff<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of North Carolina at Chapel Hill

## NOAO Data Reduction Mini-Workshop: Near-IR Data

Wednesday, 2:30 pm - 4:00 pm; 401

The System User Support group at NOAO is sponsoring a series of data reduction mini-workshops as part of a new initiative on post-observing run support. The mini-workshops will cover data reduction topics of interest to the OIR community. The first workshop will focus on reductions of near-infrared data. Near-IR imaging and increasingly also near-IR imaging with AO is offered on a wide variety of 4 to 8 m class telescopes. Most observatories now also offer medium-resolution near-IR spectroscopy covering the 1 to 2.5 micron region. These workhorse capabilities support a wide range of science from solar system to high redshift. The workshop will start with a discussion of near-IR observing techniques and the reduction of near-IR images. The second half of the workshop will focus on the specific case of reducing GNIRS cross dispersed data. The techniques discussed should have wide application. Audience interaction will be encouraged. Links to reduction cookbooks will be provided.

**Organizer(s):** Kenneth Hinkle (NOAO)

# WEDNESDAY, 7 JANUARY 2015

## 333 Plenary Talk: Bringing the High Energy Universe into Focus: Science Highlights from the NuSTAR Mission

Wednesday, 3:40 pm - 4:30 pm; 6E

Chair(s): Paula Szkody (*Univ. of Washington*)



**333.01** Bringing the High Energy Universe into Focus: Science Highlights from the NuSTAR Mission

Author(s): Fiona Harrison<sup>1</sup>

Institution(s): <sup>1</sup> Caltech

## 334 Plenary Talk: Cosmological Results from Planck 2014

Wednesday, 4:30 pm - 5:20 pm; 6E

Chair(s): Jack Burns (*Univ. of Colorado*)



**334.01** Cosmological results from Planck 2014

Author(s): Martin White<sup>1</sup>

Institution(s): <sup>1</sup> UC, Berkeley

## Imposter: Understanding, Discussing, and Overcoming Imposter Syndrome

Wednesday, 5:30 pm - 7:00 pm; 616/617

Imagine that every time you went to school or work, these thoughts spiraled around: “Should I be here?” “I didn’t deserve this position, and soon everyone will find out.” “They’ll know I’m incompetent, that I’m only here by luck” “I had to work much harder than my smarter peers; they’ll know I’ve fooled them. “I’ll be exposed as an impostor.” For many people in astronomy this is a daily reality. Coined as the “Impostor Syndrome” (IS) by Pauline Clance and Suzanne Imes in 1978, such debilitating thoughts erode confidence and can cause individuals to attempt less because they doubt their capacity to achieve the same rigor or status as their peers/mentors. This can lead to depression, stagnation, and even leaving the field. Studies have shown that IS is more frequently experienced by women (but is not absent in men) and underrepresented minorities, and may be an underlying driver of underrepresentation in science, one of the primary climate issues identified in the Decadal Survey. IS can be addressed and combated by improving self-awareness and self-management, exploring how IS protects one’s self-worth versus limits one’s achievement, and learning/accepting one’s strengths and successes. We propose an AAS workshop to do just this. Pre-workshop readings and a short presentation will provide an introduction to IS, while the bulk of the workshop will concentrate

on identifying, exploring, and overcoming IS thoughts and behaviors. Attendees will leave with a deeper understanding of IS and effective IS-combating exercises, plus additional resources to share with their mentors/supervisors/peers. This workshop has been endorsed by the CSWA, CSMA, and WGLE. It is co-organized by Adam Burgasser, Caitlin Casey, Jessica Kirkpatrick, Loic Le Tiran, Kartik Sheth, and Johanna Teske. The title comes from a participant of the MIT Physics' Diversity & Inclusion luncheon. We propose this as the first in a series of workshops targeting important "wellness of the field" issues, with workshops on mindset, ethics, and sexual harassment planned for subsequent AAS winter meetings.

**Organizer(s): Johanna Teske** (*University of Arizona*)

## 335 Astronomical Science Policy and AAS Advocacy Town Hall

**Wednesday, 6:30 pm - 7:30 pm; 606**

The potential for ground-breaking discoveries in the astronomical sciences continues to grow as we open new eyes on our universe and send new probes out into our solar system. And yet, federal funding for the astronomical sciences is being squeezed, along with all federal discretionary spending, as the government focuses on deficit reduction. In addition to setting budgets, the federal government sets broad policies that determine the overall direction of the US science enterprise, while also regulating scientific conduct (e.g., policies on open-access to data and scientific publications). Join us for a discussion of how federal policies affect the astronomical sciences and how you can get involved. The AAS Public Policy staff will present a brief overview of the astronomical science policy landscape and the society's advocacy efforts, before opening up the floor for a discussion of these topics. We encourage anyone interested in engaging in science policy and advocacy to attend and contribute.

**Chair(s): Debra Elmegreen** (*Vassar College*)

## WFIRST Science Planning

**Wednesday, 6:00 pm - 8:00 pm; 607**

WFIRST is the top ranked large space mission of the Astro2010 Decadal Survey. NASA has recently acquired two "Hubble class" 2.4m mirror telescopes, one of which is being baselined for WFIRST. The NASA name for this configuration of the mission is the Astrophysics Focused Telescope Assets (AFTA). The predicted performance is impressive with IR surveys covering 1000's of square degrees to 27th magnitude. In addition to a wide-field imaging camera with a grism and an IFU spectrograph, a high contrast coronagraph will significantly advance exoplanet direct imaging, the highest ranked ASTRO2010 mid-scale priority. Observing time will be available to the community through a vigorous Guest Investigator program. The mission will make large advances in studies of dark energy, exoplanets, galaxy formation and many other areas of extragalactic, galactic and solar system astrophysics. This workshop will examine the scientific opportunities for the AAS community made available by the utilization of one of the 2.4m telescopes for the WFIRST-AFTA mission.

**Organizer(s): Neil Gehrels** (*NASA's GSFC*)

# WEDNESDAY, 7 JANUARY 2015

## 350 RAS Gold Medal Winner Talk: Looking for the Identity of Dark Matter in and Around the Milky Way

Wednesday, 8:00 pm - 9:00 pm; 6A

Chair(s): C. Megan Urry (Yale University)



**350.01** Looking for the identity of the dark matter in and around the Milky Way

**Author(s):** Carlos S Frenk<sup>1</sup>

*Institution(s):* <sup>1</sup> Institute for Computational Cosmology, University of Durham

## POSTERS

### 336 Catalogs, Surveys, and Computation Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

**336.00 Sharper Fermi LAT Images**

**Author(s):** Stephen Portillo<sup>1</sup>, Douglas P. Finkbeiner<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard University

**336.01 The X-ray Source Population of M33 as seen by XMM-Newton**

**Author(s):** Kristen Garofali<sup>7</sup>, Benjamin F. Williams<sup>7</sup>, Brian Wold<sup>7</sup>, Frank Haberl<sup>3</sup>, William P. Blair<sup>2</sup>, Terrance J. Gaetz<sup>1</sup>, K. D. Kuntz<sup>2</sup>, Knox S. Long<sup>6</sup>, Thomas Pannuti<sup>5</sup>, Wolfgang Pietsch<sup>3</sup>, Paul P. Plucinsky<sup>1</sup>, P. Frank Winkler<sup>4</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Johns Hopkins University, <sup>3</sup> Max-Planck-Institut für extraterrestrische, <sup>4</sup> Middlebury College, <sup>5</sup> Morehead State University, <sup>6</sup> Space Telescope Science Institute, <sup>7</sup> University of Washington

**336.02 Fermi's Other Source Class: The Unassociated Sources of the Fermi-LAT 3FGL Catalog**

**Author(s):** Elizabeth C. Ferrara<sup>1</sup>, Nestor R. Mirabal<sup>1</sup>

*Institution(s):* <sup>1</sup> NASA/GSFC

Contributing team(s): Fermi-LAT Collaboration

**336.03 Science with the Cherenkov Telescope Array**

**Author(s):** Lucy Fortson<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Minnesota

Contributing team(s): The CTA Consortium

**336.04 Planning the installation of the Dark Energy Spectroscopic Instrument on the NOAO Mayall telescope**

**Author(s):** Lori Allen<sup>3</sup>, David Sprayberry<sup>3</sup>, Robert D. Blum<sup>3</sup>, Ron Probst<sup>3</sup>, Richard R. Joyce<sup>3</sup>, Arjun Dey<sup>3</sup>, Matt Evatt<sup>3</sup>, Bob Marshall<sup>3</sup>, Robert Besuner<sup>2</sup>, Pat Jelinsky<sup>2</sup>, Robin Lafever<sup>2</sup>, Chris Bebek<sup>2</sup>, Brenna Flaugher<sup>1</sup>

*Institution(s):* <sup>1</sup> FNAL, <sup>2</sup> LBNL, <sup>3</sup> NOAO

Contributing team(s): the DESI collaboration

**336.05 The Dark Energy Spectroscopic Instrument (DESI): Science from the DESI Survey**

**Author(s):** Daniel Eisenstein<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard Univ.

Contributing team(s): DESI Collaboration

**336.06 The Dark Energy Spectroscopic Instrument (DESI): Bright-Time Science Program**

**Author(s):** Risa H. Wechsler<sup>1</sup>

*Institution(s):* <sup>1</sup> Stanford University

Contributing team(s): the DESI Collaboration

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## 336.07 The Dark Energy Spectroscopic Instrument (DESI): The NOAO DECam Legacy Imaging Survey and DESI Target Selection

**Author(s):** David J. Schlegel<sup>4</sup>, Robert D. Blum<sup>7</sup>, Francisco Javier Castander<sup>12</sup>, Arjun Dey<sup>7</sup>, Douglas P. Finkbeiner<sup>3</sup>, Sebastien Foucaud<sup>9</sup>, Klaus Honscheid<sup>8</sup>, David James<sup>7</sup>, Dustin Lang<sup>1</sup>, Michael Levi<sup>4</sup>, John Moustakas<sup>10</sup>, Adam D. Myers<sup>16</sup>, Jeffrey Newman<sup>15</sup>, Brian Nord<sup>2</sup>, Peter E. Nugent<sup>4</sup>, Anna Patej<sup>3</sup>, Kevin Reil<sup>11</sup>, Gregory Rudnick<sup>14</sup>, Eli S. Rykoff<sup>11</sup>, Eddie Ford Schlafly<sup>5</sup>, Casey Stark<sup>13</sup>, Francisco Valdes<sup>7</sup>, Alistair R. Walker<sup>7</sup>, Benjamin Weaver<sup>6</sup>

*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> FNAL, <sup>3</sup> Harvard University, <sup>4</sup> LBNL, <sup>5</sup> MPIA, <sup>6</sup> New York University, <sup>7</sup> NOAO, <sup>8</sup> Ohio State University, <sup>9</sup> Shanghai Jiao Tong University, <sup>10</sup> Siena College, <sup>11</sup> SLAC, <sup>12</sup> Universitat Autònoma de Barcelona, <sup>13</sup> University of California, Berkeley, <sup>14</sup> University of Kansas, <sup>15</sup> University of Pittsburgh, <sup>16</sup> University of Wyoming

Contributing team(s): DECam Legacy Survey Collaboration

## 336.08 The Dark Energy Spectroscopic Instrument (DESI): The Spectrographs

**Author(s):** Jerry Edelstein<sup>1</sup>

*Institution(s):* <sup>1</sup> University of California, Berkeley

Contributing team(s): The DESI Collaboration

## 336.09 The Dark Energy Spectroscopic Instrument (DESI): Data Systems

**Author(s):** Stephen Bailey<sup>1</sup>, Adam S Bolton<sup>7</sup>, Robert N. Cahn<sup>1</sup>, Kyle Dawson<sup>7</sup>, Jaime Forero Romero<sup>5</sup>, Julien Guy<sup>2</sup>, Theodore Kisner<sup>1</sup>, John Moustakas<sup>4</sup>, Peter E. Nugent<sup>1</sup>, David J. Schlegel<sup>1</sup>, Casey Stark<sup>6</sup>, Benjamin Weaver<sup>3</sup>

*Institution(s):* <sup>1</sup> LBNL, <sup>2</sup> LPNHE, <sup>3</sup> New York University, <sup>4</sup> Siena College,

<sup>5</sup> Universidad de los Andes, <sup>6</sup> University of California Berkeley, <sup>7</sup> University of Utah

Contributing team(s): DESI Collaboration

## 336.10 The Dark Energy Spectroscopic Instrument (DESI): Tiling and Fiber Assignment

**Author(s):** Robert N. Cahn<sup>1</sup>, Stephen J. Bailey<sup>1</sup>, Kyle S. Dawson<sup>3</sup>, Jaime Forero Romero<sup>2</sup>, David J. Schlegel<sup>1</sup>, Martin White<sup>4</sup>

*Institution(s):* <sup>1</sup> Lawrence Berkeley National Laboratory, <sup>2</sup> University of the Andes, <sup>3</sup> University of Utah, <sup>4</sup> University of California, Berkeley

Contributing team(s): DESI

## 336.11 A Comparison of Kinematic and Photometric Inclinations in the RESOLVE Survey

**Author(s):** Ryan William Beauchemin<sup>1</sup>, Sheila Kannappan<sup>1</sup>, Kathleen D. Eckert<sup>1</sup>, Erik A. Hoversten<sup>1</sup>, Kirsten Hall<sup>1</sup>

*Institution(s):* <sup>1</sup> University of North Carolina at Chapel Hill

Contributing team(s): RESOLVE

## 336.12 Galaxy and Group Baryonic Mass Functions for the RESOLVE Survey

**Author(s):** Kathleen D. Eckert<sup>1</sup>, Sheila Kannappan<sup>1</sup>, Amanda J. Moffett<sup>1</sup>, Ashley Baker<sup>1</sup>, David Stark<sup>1</sup>, Andreas A. Berlind<sup>2</sup>, Kate Storey-Fisher<sup>1</sup>, Adrienne L. Erickcek<sup>1</sup>, Mark A. Norris<sup>1</sup>

*Institution(s):* <sup>1</sup> University of North Carolina, Chapel Hill, <sup>2</sup> Vanderbilt University

Contributing team(s): The RESOLVE Team



- 336.13 Measuring the Properties of Void Galaxies in Environmental Context (ECO) using RESOLVE**  
**Author(s):** Jonathan Florez<sup>1</sup>, Andreas A. Berlind<sup>4</sup>, Amanda J. Moffett<sup>3</sup>, Roberto Gonzalez<sup>2</sup>, Kathleen D. Eckert<sup>3</sup>, Sheila Kannappan<sup>3</sup>  
*Institution(s):* <sup>1</sup> Fisk University, <sup>2</sup> Pontifical Catholic University of Chile, <sup>3</sup> University of North Carolina, <sup>4</sup> Vanderbilt University  
Contributing team(s): RESOLVE
- 336.14 Characterizing Compact Core Galaxies in the RESOLVE Survey**  
**Author(s):** Elaine M. Snyder<sup>5</sup>, Sheila Kannappan<sup>5</sup>, Dara J. Norman<sup>4</sup>, Samantha Dallas<sup>2</sup>, Ian P. Dell'Antonio<sup>2</sup>, Mark A. Norris<sup>3</sup>, Millicent Maier<sup>1</sup>, Kathleen D. Eckert<sup>5</sup>, David V. Stark<sup>5</sup>  
*Institution(s):* <sup>1</sup> Australian Astronomical Observatory, <sup>2</sup> Brown University, <sup>3</sup> Max Planck Institute for Astronomy, <sup>4</sup> NOAO, <sup>5</sup> University of North Carolina at Chapel Hill  
Contributing team(s): RESOLVE team
- 336.15 Open Exploration of the Time Domain with the Catalina Real-Time Transient Survey (CRTS)**  
**Author(s):** Stanislav G. Djorgovski<sup>1</sup>, Andrew J. Drake<sup>1</sup>, Ashish A. Mahabal<sup>1</sup>, Matthew Graham<sup>1</sup>, Ciro Donalek<sup>1</sup>, Ajit Kembhavi<sup>3</sup>, Georges Meylan<sup>2</sup>, Giuseppe Longo<sup>5</sup>, Eric J. Christensen<sup>4</sup>, Stephen M. Larson<sup>4</sup>  
*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> EPFL, <sup>3</sup> IUCAA, <sup>4</sup> LPL, <sup>5</sup> Univ. Federico II  
Contributing team(s): CRTS
- 336.16 APASS - The Latest Data Release**  
**Author(s):** Arne A. Henden<sup>1</sup>, Stephen Levine<sup>2</sup>, Dirk Terrell<sup>4</sup>, Douglas L. Welch<sup>3</sup>  
*Institution(s):* <sup>1</sup> AAVSO, <sup>2</sup> Lowell Observatory, <sup>3</sup> McMaster University, <sup>4</sup> Southwest Research Institute
- 336.17 Pan-STARRS-1 Medium Deep Survey**  
**Author(s):** Mark Huber<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Hawaii  
Contributing team(s): PS1-IPP Team, PS1 Science Consortium
- 336.18 SpIES: The Spitzer IRAC Equatorial Survey**  
**Author(s):** John Timlin<sup>4</sup>, Nicholas Ross<sup>4</sup>, Gordon T. Richards<sup>4</sup>, Mark Lacy<sup>5</sup>, Franz E. Bauer<sup>6</sup>, W. Niel Brandt<sup>1</sup>, Xiaohui Fan<sup>8</sup>, Daryl Haggard<sup>2</sup>, Martin Makler<sup>3</sup>, Adam D. Myers<sup>9</sup>, Michael A. Strauss<sup>7</sup>, C. Megan Urry<sup>10</sup>  
*Institution(s):* <sup>1</sup> Penn State University, <sup>2</sup> Amherst College, <sup>3</sup> Brazilian Center for Physics Research, <sup>4</sup> Drexel University, <sup>5</sup> NRAO, <sup>6</sup> Pontificia Universidad Católica de Chile, <sup>7</sup> Princeton University, <sup>8</sup> University of Arizona, <sup>9</sup> University of Wyoming, <sup>10</sup> Yale University  
Contributing team(s): SpIES Team
- 336.19 Understanding Galaxy Cluster MKW10**  
**Author(s):** Tim Sanders<sup>1</sup>, Swain Henry<sup>1</sup>, Kimberly A. Coble<sup>1</sup>, Jessica L. Rosenberg<sup>2</sup>, Rebecca A. Koopmann<sup>3</sup>  
*Institution(s):* <sup>1</sup> Chicago State University, <sup>2</sup> George Mason Univ., <sup>3</sup> Union Colleg

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## 336.20 Low Mass Stellar Companions to Nearby A and B Stars

**Author(s):** Kevin Gullikson<sup>1</sup>, Adam L. Kraus<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Texas Austin

## 336.21 Galaxy Evolution Explorer (GALEX): Galactic Plane Survey

**Author(s):** Cameron Lemley<sup>3</sup>, Steven Mohammed<sup>3</sup>, David Schiminovich<sup>3</sup>, Benjamin Tam<sup>4</sup>, Mark Seibert<sup>2</sup>, Christopher D. Martin<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Carnegie Institution for Science, <sup>3</sup> Columbia University, <sup>4</sup> McGill University

Contributing team(s): GALEX Science Team

## 336.22 PHAT Youths: Metallicity Gradient of M31 using Young Stars in the PHAT Survey

**Author(s):** Alex Deich<sup>1</sup>, Anil Seth<sup>2</sup>

*Institution(s):* <sup>1</sup> Reed College, <sup>2</sup> University of Utah

## 336.23 Grism Data Products from the 3D-HST Survey

**Author(s):** Ivelina G. Momcheva<sup>2</sup>, Gabriel Brammer<sup>1</sup>, Pieter G. Van Dokkum<sup>2</sup>

*Institution(s):* <sup>1</sup> STScI, <sup>2</sup> Yale University

Contributing team(s): The 3D-HST Team

## 336.24 Searching for Distant Galaxies with HST and Spitzer

**Author(s):** Peter Senchyna<sup>2</sup>, Matthew Ashby<sup>1</sup>, Joseph L. Hora<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> University of Washington

Contributing team(s): CANDELS, S-CANDELS

## 336.25 The Hubble Legacy Archive: Data Processing in the Era of AstroDrizzle

**Author(s):** Louis-Gregory Strolger<sup>1</sup>

*Institution(s):* <sup>1</sup> Space Telescope Science Institute

Contributing team(s): The Hubble Legacy Archive Team, The Hubble Source Catalog Team

## 336.26 Identification and Classification of Infrared Excess Sources in the Spitzer Enhanced Imaging Products (SEIP) Catalog

**Author(s):** David Strasburger<sup>5</sup>, Varoujan Gorjian<sup>4</sup>, Todd Burke<sup>2</sup>, Linda Childs<sup>3</sup>, Caroline Odden<sup>7</sup>, Kevin Tambara<sup>1</sup>, Antoinette Abate<sup>5</sup>, Nadir Akhtar<sup>9</sup>, Skyler Beach<sup>5</sup>, Ishaan Bhojwani<sup>5</sup>, Caden Brown<sup>2</sup>, AnnaMaria Dear<sup>7</sup>, Theodore Dumont<sup>2</sup>, Olivia Harden<sup>5</sup>, Laurent Joli-Coeur<sup>7</sup>, Rachel Nahirny<sup>5</sup>, Andie Nakahira<sup>8</sup>, Sabine Nix<sup>7</sup>, Sarp Orgul<sup>7</sup>, Johnny Parry<sup>5</sup>, John Picken<sup>5</sup>, Isabel Taylor<sup>7</sup>, Emre Toner<sup>5</sup>, Aspen Turner<sup>2</sup>, Jessica Xu<sup>6</sup>, Emily Zhu<sup>7</sup>

*Institution(s):* <sup>1</sup> Bert Lynn Middle School, <sup>2</sup> Estes Park High School, <sup>3</sup> Florida Virtual School, <sup>4</sup> JPL/Caltech, <sup>5</sup> Noble & Greenough School, <sup>6</sup> Palos Verdes Peninsula High School, <sup>7</sup> Phillips Academy, <sup>8</sup> Vistamar School, <sup>9</sup> West High School

## 336.27 The G-HAT Search for Advanced Extraterrestrial Civilizations: The Reddest Extended WISE Sources

**Author(s):** Jessica Maldonado<sup>1</sup>, Matthew S. Povich<sup>1</sup>, Jason Wright<sup>3</sup>, Roger Griffith<sup>3</sup>, Steinn Sigurdsson<sup>3</sup>, Brendan L. Mullan<sup>2</sup>

*Institution(s):* <sup>1</sup> California State Polytechnic University, <sup>2</sup> Carnegie Science Center, <sup>3</sup> Penn State

- 336.28 An Analysis of Offset, Gain, and Phase Corrections in Analog to Digital Converters**  
**Author(s):** Devin Cody<sup>2</sup>, John Ford<sup>1</sup>  
*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory, <sup>2</sup> Yale University
- 336.29 Searching for Fast Radio Bursts (FRBs) in GALFACTS Data**  
**Author(s):** Kristina Kaldon<sup>2</sup>, Tapasi Ghosh<sup>1</sup>, Christopher J. Salter<sup>1</sup>  
*Institution(s):* <sup>1</sup> Arecibo Observatory, <sup>2</sup> The Pennsylvania State University
- 336.30 A Blind Search for Neutral Hydrogen**  
**Author(s):** Julia Gross<sup>1</sup>, Emmanuel Momjian<sup>2</sup>, Jacqueline H. Van Gorkom<sup>1</sup>  
*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> National Radio Astronomy Observatory
- 336.31 Direction Dependent Effects In Widefield Wideband Full Stokes Radio Imaging**  
**Author(s):** Preshanth Jagannathan<sup>1</sup>, Sanjay Bhatnagar<sup>1</sup>, Urvashi Rau<sup>1</sup>, Russ Taylor<sup>2</sup>  
*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory, <sup>2</sup> Univeristy of Cape Town
- 336.32 Galactic Science with the Very Large Array Sky Survey**  
**Author(s):** T. Joseph W. Lazio<sup>1</sup>, Rachel A. Osten<sup>2</sup>, Cornelia C. Lang<sup>3</sup>  
*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory, California Institute of Technology, <sup>2</sup> Space Telescope Science Institute, <sup>3</sup> Univ. of Iowa  
Contributing team(s): VLASS Galactic Science Working Group
- 336.33 Monitoring the Low Frequency Sky with the LWA1 and the Prototype All-Sky Imager**  
**Author(s):** Kenneth Steven Obenberger<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of New Mexico  
Contributing team(s): LWA Collaboration
- 336.34 A Pipeline for High Resolution Radio Images**  
**Author(s):** Brianna P. Thomas<sup>1</sup>, Alison B. Peck<sup>2</sup>, Jacqueline Hodge<sup>2</sup>, Anthony J. Beasley<sup>2</sup>  
*Institution(s):* <sup>1</sup> Howard University, <sup>2</sup> National Radio Astronomy Observatory  
Contributing team(s): The VCS Team
- 336.35 ADMIT: ALMA Data Mining Toolkit**  
**Author(s):** Douglas N. Friedel<sup>3</sup>, Lisa Xu<sup>1</sup>, Leslie Looney<sup>3</sup>, Peter J. Teuben<sup>4</sup>, Marc W. Pound<sup>4</sup>, Kevin P. Rauch<sup>4</sup>, Lee G. Mundy<sup>4</sup>, Jeffrey S. Kern<sup>2</sup>  
*Institution(s):* <sup>1</sup> National Center for Supercomputing Applications, <sup>2</sup> National Radio Astronomy Observatory, <sup>3</sup> Univ. of Illinois, <sup>4</sup> University of Maryland
- 336.36 Overview of the SOFIA Data Processing System: A generalized system for manual and automatic data processing at the SOFIA Science Center**  
**Author(s):** Ralph Shuping<sup>3</sup>, Robert Krzaczek<sup>1</sup>, William D. Vacca<sup>4</sup>, Miguel Charcos-Llorens<sup>4</sup>, William T. Reach<sup>4</sup>, Rosemary Alles<sup>4</sup>, Melanie Clarke<sup>4</sup>, Riccardo Melchiorri<sup>4</sup>, James T. Radomski<sup>4</sup>, Sachindev S. Shenoy<sup>4</sup>, David Sandel<sup>4</sup>, Eric Omelian<sup>2</sup>  
*Institution(s):* <sup>1</sup> CIS-RIT, <sup>2</sup> NASA-SOFIA, <sup>3</sup> Space Science Institute, <sup>4</sup> USRA-SOFIA

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## 336.37 A Prototype External Event Broker for LSST

**Author(s):** Gabriella Elan Alvarez<sup>1</sup>, Keivan Stassun<sup>1</sup>, Dan Burger<sup>1</sup>, Robert Siverd<sup>1</sup>, Donald Cox<sup>1</sup>

*Institution(s):* <sup>1</sup> Vanderbilt University

## 336.38 LSST Site: Sky Brightness Data

**Author(s):** Jamison Burke<sup>2</sup>, Charles Claver<sup>1</sup>

*Institution(s):* <sup>1</sup> NOAO/KPNO, <sup>2</sup> Swarthmore College

## 336.39 Simulating Optical Surveys with the LSST Software Stack

**Author(s):** Scott Daniel<sup>1</sup>, K. Simon Krughoff<sup>1</sup>, Peter Yoachim<sup>1</sup>, R. Lynne Jones<sup>1</sup>, Yusra AlSayyad<sup>1</sup>, Bryce Kalmbach<sup>1</sup>, Andrew J. Connolly<sup>1</sup>, Zeljko Ivezic<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

Contributing team(s): LSST Image Simulation Team

## 336.40 The LSST Metrics Analysis Framework (MAF)

**Author(s):** R. Lynne Jones<sup>4</sup>, Peter Yoachim<sup>4</sup>, Srinivasan Chandrasekharan<sup>2</sup>, Andrew J. Connolly<sup>4</sup>, Kem H. Cook<sup>1</sup>, Zeljko Ivezic<sup>4</sup>, K. Simon Krughoff<sup>4</sup>, Catherine E. Petry<sup>3</sup>, Stephen T. Ridgway<sup>2</sup>

*Institution(s):* <sup>1</sup> Eureka Science, <sup>2</sup> NOAO, <sup>3</sup> Univ. of Arizona, <sup>4</sup> Univ. of Washington

## 336.41 Analyzing Simulated LSST Surveys With MAF

**Author(s):** Peter Yoachim<sup>4</sup>, R. Lynne Jones<sup>4</sup>, Srinivasan Chandrasekharan<sup>2</sup>, Andrew J. Connolly<sup>4</sup>, Kem H. Cook<sup>1</sup>, Zeljko Ivezic<sup>4</sup>, K. Simon Krughoff<sup>4</sup>, Catherine E. Petry<sup>3</sup>, Stephen T. Ridgway<sup>2</sup>

*Institution(s):* <sup>1</sup> Eureka Scientific, <sup>2</sup> NOAO, <sup>3</sup> Univ. of Arizona, <sup>4</sup> University of Washington

## 336.42 Building POCS: An open source observatory control system for amateur telescopes used by the PANOPTES project for the detection of extrasolar planets

**Author(s):** Wilfred T Gee<sup>1</sup>, Josh Walawender<sup>1</sup>, Mike Butterfield<sup>2</sup>, Olivier Guyon<sup>1</sup>, Nemanja Jovanovic<sup>1</sup>

*Institution(s):* <sup>1</sup> Subaru Telescope, National Astronomical Observatory of Japan, <sup>2</sup> The College of Optical Sciences, University of Arizona

Contributing team(s): PANOPTES Team

## 336.43 Adaptive Optics Images of the Galactic Center: Using Empirical Noise-maps to Optimize Image Analysis

**Author(s):** Sandra Albers<sup>1</sup>, Gunther Witzel<sup>1</sup>, Leo Meyer<sup>1</sup>, Breann Sitarski<sup>1</sup>, Anna Boehle<sup>1</sup>, Andrea M. Ghez<sup>1</sup>

*Institution(s):* <sup>1</sup> UCLA

## 336.44 Recovering Astrophysical Signals Lost in Noise: Light Curves of Background Objects in Kepler Data

**Author(s):** Rebecca Lyn Bowers<sup>1</sup>, Joshua Pepper<sup>1</sup>, Michael Abdul-Masih<sup>2</sup>, Andrej Prsa<sup>3</sup>

*Institution(s):* <sup>1</sup> Lehigh University, <sup>2</sup> Rensselaer Polytechnic Institute, <sup>3</sup> Villanova University

- 336.45 An Exploration Tool for Very Large Spectrum Data Sets**  
**Author(s):** Duane F. Carbon<sup>1</sup>, Christopher Henze<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA Ames Research Center
- 336.46 Understanding and Using the Fermi Science Tools**  
**Author(s):** Joseph Asercion<sup>1</sup>  
*Institution(s):* <sup>1</sup> ADNET Systems Inc.  
Contributing team(s): Fermi Science Support Center
- 336.47 Fact Checking LIGO's Radiometer Code with Simulated LIGO Data.**  
**Author(s):** Samantha Elaine Thrush<sup>1</sup>  
*Institution(s):* <sup>1</sup> Ohio University
- 336.48 AstroML: "better, faster, cheaper" towards state-of-the-art data mining and machine learning**  
**Author(s):** Zeljko Ivezić<sup>1</sup>, Andrew J. Connolly<sup>1</sup>, Jacob Vanderplas<sup>1</sup>  
*Institution(s):* <sup>1</sup> Univ. of Washington
- 336.49 Bayesian Identification of Emission-Line Galaxies with Photometric Equivalent Widths**  
**Author(s):** Andrew S. Leung<sup>2</sup>, Eric J. Gawiser<sup>2</sup>, Viviana Acquaviva<sup>1</sup>  
*Institution(s):* <sup>1</sup> CUNY NYC College of Technology, <sup>2</sup> Rutgers University  
Contributing team(s): HETDEX Collaboration
- 336.50 Statistical Computing for Galaxy Modeling and Residual Detection**  
**Author(s):** Sean McLaughlin<sup>1</sup>, Robert Brunner<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Illinois Urbana-Champaign
- 336.51 Separating Stars and Galaxies Probabilistically Based on Color**  
**Author(s):** Victoria Strait<sup>1</sup>  
*Institution(s):* <sup>1</sup> Furman University
- 336.52 Visualizing SPH Cataclysmic Variable Accretion Disk Simulations with Blender**  
**Author(s):** Brian R. Kent<sup>1</sup>, Matthew A. Wood<sup>2</sup>  
*Institution(s):* <sup>1</sup> NRAO, <sup>2</sup> Texas A&M University-Commerce
- 336.53 Computer analysis of digital sky surveys using citizen science and manual classification**  
**Author(s):** Evan Kuminski<sup>1</sup>, Lior Shamir<sup>1</sup>  
*Institution(s):* <sup>1</sup> Lawrence Technological University
- 336.54 Report of the Committee on the Participation of Women in the Sloan Digital Sky Survey**  
**Author(s):** Adam D. Myers<sup>5</sup>, Aleks Diamond-Stanic<sup>6</sup>, John S. Gallagher<sup>6</sup>, Bruce Andrew Gillespie<sup>4</sup>, Shirley Ho<sup>2</sup>, Karen Kinemuchi<sup>1</sup>, Sara Lucatello<sup>3</sup>, Britt Lundgren<sup>6</sup>, Christina A. Tremonti<sup>6</sup>, Gail Zasowski<sup>4</sup>  
*Institution(s):* <sup>1</sup> APO, <sup>2</sup> CMU, <sup>3</sup> INAF, <sup>4</sup> JHU, <sup>5</sup> University of Wyoming, <sup>6</sup> UW Madison  
Contributing team(s): The SDSS-III Collaboration, The SDSS-IV Collaboration

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## 336.55 Improved Functionality and Curation Support in the ADS

**Author(s):** Alberto Accomazzi<sup>1</sup>, Michael J. Kurtz<sup>1</sup>, Edwin A. Henneken<sup>1</sup>, Carolyn S. Grant<sup>1</sup>, Donna Thompson<sup>1</sup>, Roman Chyla<sup>1</sup>, Alexandra Holachek<sup>1</sup>, Vladimir Sudilovsky<sup>1</sup>, Stephen S. Murray<sup>1</sup>

*Institution(s):* <sup>1</sup> *Harvard Smithsonian, CfA*

## 336.56 Online Activity Around Scholarly Astronomy Literature - A Discussion of Altmetrics

**Author(s):** Edwin A. Henneken<sup>2</sup>, Alberto Accomazzi<sup>2</sup>, Michael J. Kurtz<sup>2</sup>, Donna Thompson<sup>2</sup>, Carolyn S. Grant<sup>2</sup>, Stephen S. Murray<sup>1</sup>

*Institution(s):* <sup>1</sup> *Johns Hopkins University*, <sup>2</sup> *Smithsonian Astrophysical Observatory*

## 336.57 Astrophysics Source Code Library -- Now even better!

**Author(s):** Alice Allen<sup>1</sup>, Judy Schmidt<sup>1</sup>, Bruce Berriman<sup>3</sup>, Kimberly DuPrie<sup>1</sup>, Robert J. Hanisch<sup>7</sup>, Jessica D. Mink<sup>8</sup>, Robert J. Nemiroff<sup>5</sup>, Lior Shamir<sup>4</sup>, Keith Shortridge<sup>2</sup>, Mark B Taylor<sup>9</sup>, Peter J. Teuben<sup>10</sup>, John F. Wallin<sup>6</sup>

*Institution(s):* <sup>1</sup> *Astrophysics Source Code Library*, <sup>2</sup> *Australian Astronomical Observatory*, <sup>3</sup> *California Institute of Technology*, <sup>4</sup> *Lawrence Technological University*, <sup>5</sup> *Michigan Technological University*, <sup>6</sup> *Middle Tennessee State University*, <sup>7</sup> *National Institute of Standards and Technology*, <sup>8</sup> *Smithsonian Astrophysical Observatory*, <sup>9</sup> *University of Bristol*, <sup>10</sup> *University of Maryland*

## 336.59 Beyond The Prime Directive: The MAST Discovery Portal and High Level Science Products

**Author(s):** Scott W. Fleming<sup>1</sup>, Faith Abney<sup>1</sup>, Tom Donaldson<sup>1</sup>, Theresa Dower<sup>1</sup>, Dorothy A. Fraquelli<sup>1</sup>, Anton M. Koekemoer<sup>1</sup>, Karen Levay<sup>1</sup>, Jacob Matuskey<sup>1</sup>, Brian McLean<sup>1</sup>, Lee Quick<sup>1</sup>, Anthony Rogers<sup>1</sup>, Bernie Shiao<sup>1</sup>, Randy Thompson<sup>1</sup>, Shui-Ay Tseng<sup>1</sup>, Geoff Wallace<sup>1</sup>, Richard L. White<sup>1</sup>

*Institution(s):* <sup>1</sup> *STScI*

## 336.60 IRSA's New Look: Design Considerations

**Author(s):** Vandana Desai<sup>1</sup>, Harry I. Teplitz<sup>1</sup>, Timothy Y. Brooke<sup>1</sup>, Steven Groom<sup>1</sup>, Justin Howell<sup>1</sup>, Robert L. Hurt<sup>1</sup>, Walter Landry<sup>1</sup>, Jacob Llamas<sup>1</sup>, Loi Ly<sup>1</sup>, Peregrine M. McGehee<sup>1</sup>, Wei Mi<sup>1</sup>, Serge Monkewitz<sup>1</sup>, Mark O'Dell<sup>1</sup>, Timothy Pyle<sup>1</sup>, Luisa M. Rebull<sup>1</sup>, Ramon Rey<sup>1</sup>, William Roby<sup>1</sup>, Gordon K. Squires<sup>1</sup>, Scott Terek<sup>1</sup>, Xiuqin Wu<sup>1</sup>, Angela Zhang<sup>1</sup>

*Institution(s):* <sup>1</sup> *Caltech*

## 336.61 The Science Content and Usage of the the Keck Observatory Archive

**Author(s):** Hien D. Tran<sup>2</sup>, G. Bruce Berriman<sup>1</sup>, Christopher R. Gelino<sup>1</sup>, Robert W. Goodrich<sup>2</sup>, Jen Holt<sup>2</sup>, M. Kong<sup>1</sup>, A. Laity<sup>1</sup>, P. Rosti<sup>1</sup>, M. Swain<sup>1</sup>, C. Wang<sup>1</sup>

*Institution(s):* <sup>1</sup> *NExScI*, <sup>2</sup> *W. M. Keck Observatory*

Contributing team(s): KOA Team

## 337 Instrumentation: Ground Based or Airborne Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 337.01 Spectroscopic Capability of a New 17--27 GHz Dual-Horn Receiver on the NASA 70 m Canberra Antenna

**Author(s):** T. B. H. Kuiper<sup>2</sup>, Graham Baines<sup>3</sup>, Manuel Franco<sup>2</sup>, Lincoln J. Greenhill<sup>4</sup>, Shinji Horiuchi<sup>3</sup>, Aquib Moin<sup>5</sup>, Timothy Olin<sup>3</sup>, Daniel Price<sup>4</sup>, Stephen Smith<sup>1</sup>, Ashish Soni<sup>3</sup>, Lawrence Teitelbaum<sup>2</sup>, Ingyin Zaw<sup>5</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Caltech-JPL, <sup>3</sup> CSIRO-CDSCC, <sup>4</sup> Harvard-Smithsonian CfA, <sup>5</sup> NYU Abu Dhabi

### 337.02 Flux density calibration of compact low frequency aperture arrays

**Author(s):** Frank Schinzel<sup>2</sup>, Emil Polisensky<sup>1</sup>, Jayce Dowell<sup>2</sup>, Gregory B. Taylor<sup>2</sup>

*Institution(s):* <sup>1</sup> Naval Research Laboratory, <sup>2</sup> University of New Mexico  
Contributing team(s): LWA1 Collaboration

### 337.03 Characterization and monitoring of Flamingos-II, a near-IR imager and spectrograph at Gemini South

**Author(s):** David Krogsrud<sup>1</sup>, Ruben Diaz<sup>1</sup>, Gabriel Ferrero<sup>1</sup>, Marcelo Mora<sup>1</sup>, Felipe Navarete<sup>1</sup>, Mischa Schirmer<sup>1</sup>

*Institution(s):* <sup>1</sup> Gemini Observatory

### 337.04 Preliminary Design of the iLocator Acquisition Camera for the LBT

**Author(s):** Erica J. Gonzales<sup>2</sup>, Andrew Bechter<sup>2</sup>, Ryan Ketterer<sup>2</sup>, Jack Brooks<sup>2</sup>, Jonathan Crass<sup>2</sup>, Justin R. Crepp<sup>2</sup>, Eric Bechter<sup>2</sup>, Bo Zhao<sup>1</sup>, Christopher T. Matthews<sup>2</sup>

*Institution(s):* <sup>1</sup> The University of Florida, <sup>2</sup> The University of Notre Dame

### 337.05 Commissioning new Hamamatsu CCDs for GMOS-S

**Author(s):** Katherine Roth<sup>1</sup>, German Gimeno<sup>2</sup>, Kristin Chiboucas<sup>1</sup>, Pascale Hibon<sup>2</sup>, Percy L. Gomez<sup>2</sup>, Vinicius Placco<sup>1</sup>

*Institution(s):* <sup>1</sup> Gemini Observatory, <sup>2</sup> Gemini Observatory

### 337.06 Scheduling Algorithm for the Large Synoptic Survey Telescope

**Author(s):** Jaimal Ichharam<sup>1</sup>, Christopher Stubbs<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard University

### 337.08 The 20-20-20 Airships NASA Centennial Challenge

**Author(s):** Alina Kiessling<sup>1</sup>, Ernesto Diaz<sup>1</sup>, Sarah Miller<sup>3</sup>, Jason Rhodes<sup>1</sup>, Sam Ortega<sup>2</sup>, Jeffrey L. Hall<sup>1</sup>, Randy Friedl<sup>1</sup>, Jeff Booth<sup>1</sup>

*Institution(s):* <sup>1</sup> JPL, <sup>2</sup> NASA Marshall Space Flight Center, <sup>3</sup> UC Irvine

### 337.09 Photometric commissioning results from MINERVA

**Author(s):** Jason D Eastman<sup>3</sup>, Jonathan Swift<sup>2</sup>, Thomas G. Beatty<sup>5</sup>, Michael Bottom<sup>2</sup>, John Johnson<sup>3</sup>, Jason Wright<sup>5</sup>, Nate McCrady<sup>6</sup>, Robert A. Wittenmyer<sup>8</sup>, Reed L. Riddle<sup>2</sup>, Peter Plavchan<sup>4</sup>, Philip Steven Muirhead<sup>1</sup>, Cullen Blake<sup>7</sup>, Ming Zhao<sup>5</sup>

*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> California Institute of Technology, <sup>3</sup> Harvard-Smithsonian Center for Astrophysics, <sup>4</sup> Missouri State University, <sup>5</sup> Penn State University, <sup>6</sup> University of Montana, <sup>7</sup> University of Pennsylvania, <sup>8</sup> UNSW Australia

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## 337.10 Manhattan Solar Cannon

**Author(s):** Richard R. Treffers<sup>3</sup>, George Loisos<sup>1</sup>, Susan Ubbelohde<sup>1</sup>, Susanna Douglas<sup>1</sup>, Eduardo Pintos<sup>1</sup>, James Mulherin<sup>2</sup>, David Pasley<sup>2</sup>

*Institution(s):* <sup>1</sup> Loisos + Ubbelohde, <sup>2</sup> Optical Mechanics Inc., <sup>3</sup> Starman Systems, LLC

## 337.11 BCK Network of Optical Telescopes

**Author(s):** Charles H. McGruder<sup>2</sup>, Krill Antoniuk<sup>1</sup>, Michael T. Carini<sup>2</sup>, Richard Gelderman<sup>2</sup>, Benjamin Hammond<sup>2</sup>, Stacy Hicks<sup>2</sup>, David Laney<sup>2</sup>, David Shakhovskoy<sup>1</sup>, Louis-Gregory Strolger<sup>2</sup>, Joshua Williams<sup>2</sup>

*Institution(s):* <sup>1</sup> Crimea Astrophysical Observatory, <sup>2</sup> Western Kentucky Univ.

## 337.12 CHARIS Construction Status, Design, and Future Science

**Author(s):** Tyler Dean Groff<sup>4</sup>, N. Jeremy Kasdin<sup>4</sup>, Mary Anne Peters<sup>4</sup>, Michael Galvin<sup>4</sup>, Gillian R. Knapp<sup>4</sup>, Timothy Brandt<sup>2</sup>, Craig Loomis<sup>4</sup>, Michael Carr<sup>4</sup>, Kyle Mede<sup>3</sup>, Norman Jarosik<sup>4</sup>, Michael W. McElwain<sup>1</sup>, Olivier Guyon<sup>5</sup>, Nemanja Jovanovic<sup>5</sup>, Naruhisa Takato<sup>5</sup>, Masahiko Hayashi<sup>3</sup>

*Institution(s):* <sup>1</sup> Goddard Space Flight Center, <sup>2</sup> Institute for Advanced Study, <sup>3</sup> National Astronomical Observatory of Japan, <sup>4</sup> Princeton University, <sup>5</sup> Subaru Telescope

## 337.13 Progress on the Low Frequency All Sky Monitor

**Author(s):** James Murray<sup>4</sup>, Fredrick Jenet<sup>4</sup>, Joseph Craig<sup>3</sup>, Teviet David Creighton<sup>4</sup>, Louis Percy Dartez<sup>4</sup>, Anthony J. Ford<sup>4</sup>, Andrés Hernandez<sup>4</sup>, Brian Hicks<sup>2</sup>, Jesus Hinojosa<sup>4</sup>, Ricardo Jaramillo<sup>4</sup>, Namir E. Kassim<sup>2</sup>, Joseph Lazio<sup>1</sup>, Grady Lunsford<sup>4</sup>, Rossina B. Miller<sup>4</sup>, Paul S. Ray<sup>2</sup>, Jesus Rivera<sup>4</sup>, Gregory B. Taylor<sup>3</sup>, Lawrence Teitelbaum<sup>1</sup>

*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory, <sup>2</sup> Naval Research Laboratory, <sup>3</sup> University of New Mexico, <sup>4</sup> University of Texas at Brownsville

Contributing team(s): Center for Advanced Radio Astronomy, University of Texas at Brownsville, University of New Mexico, Naval Research Laboratory, Jet Propulsion Laborator

## 337.14 Low Frequency All Sky Monitor Data, A First Look

**Author(s):** Louis Percy Dartez<sup>4</sup>, Fredrick Jenet<sup>4</sup>, Teviet David Creighton<sup>4</sup>, Anthony J. Ford<sup>1</sup>, Brian Hicks<sup>2</sup>, Namir E. Kassim<sup>2</sup>, Richard H Price<sup>4</sup>, Kevin Stovall<sup>3</sup>, Paul S. Ray<sup>2</sup>, Gregory B. Taylor<sup>3</sup>

*Institution(s):* <sup>1</sup> Arecibo Observatory, <sup>2</sup> U.S. Naval Research Lab, <sup>3</sup> University of New Mexico, <sup>4</sup> University of Texas - Brownsville

## 337.15 Systematic and Performance Tests of the Hard X-ray Polarimeter X-Calibur

**Author(s):** Ryan Endsley<sup>1</sup>, Matthias Beilicke<sup>1</sup>, Fabian Kislak<sup>1</sup>, Henric Krawczynski<sup>1</sup>

*Institution(s):* <sup>1</sup> Washington University in St. Louis

Contributing team(s): X-Calibur/InFOCuS



- 337.16 Early Results from the HexPak and GradPak Variable-Scale Dual-Head IFUs on the WIYN 3.5-meter Telescope**  
**Author(s):** Eric Hooper<sup>5</sup>, Matthew A. Bershady<sup>4</sup>, Arthur Eigenbrot<sup>4</sup>, Corey M. Wood<sup>4</sup>, Scott Buckley<sup>4</sup>, Michael Smith<sup>4</sup>, Charles Corson<sup>3</sup>, Marsha J. Wolf<sup>4</sup>, Guanying Y. Zhu<sup>2</sup>, Andrea Vang<sup>4</sup>, John S. Gallagher<sup>4</sup>, Andrew Sheinis<sup>1</sup>  
*Institution(s):* <sup>1</sup>. AAO, <sup>2</sup>. Nanjing University, <sup>3</sup>. NOAO, <sup>4</sup>. Univ. of Wisconsin-Madison, <sup>5</sup>. WIYN  
Contributing team(s): Washburn Astronomical Laboratories
- 337.17 The Goddard Integral Field Spectrograph at Apache Point Observatory: Current Status and Progress Towards Photon Counting**  
**Author(s):** Michael W. McElwain<sup>3</sup>, Carol A Grady<sup>3</sup>, John Bally<sup>6</sup>, Jonathan V. Brinkmann<sup>1</sup>, James Bubeck<sup>3</sup>, Qian Gong<sup>3</sup>, George M Hilton<sup>3</sup>, William F. Ketzeback<sup>1</sup>, Don Lindler<sup>3</sup>, Jorge Llop Sayson<sup>3</sup>, Michael A. Malatesta<sup>8</sup>, Timothy Norton<sup>3</sup>, Bernard J. Rauscher<sup>3</sup>, Johannes Rothe<sup>4</sup>, Lorrie Straka<sup>2</sup>, Ashlee N. Wilkins<sup>7</sup>, John P. Wisniewski<sup>8</sup>, Bruce E. Woodgate<sup>3</sup>, Donald G. York<sup>5</sup>  
*Institution(s):* <sup>1</sup>. Apache Point Observatory, <sup>2</sup>. Leiden Observatory, <sup>3</sup>. NASA Goddard Space Flight Center, <sup>4</sup>. Technical University Munich, <sup>5</sup>. University of Chicago, <sup>6</sup>. University of Colorado, <sup>7</sup>. University of Maryland, <sup>8</sup>. University of Oklahoma
- 337.18 Towards Using Smartphones to Refine Sunrise and Sunset Time Models**  
**Author(s):** Teresa Wilson<sup>1</sup>, Jennifer L. Bartlett<sup>2</sup>  
*Institution(s):* <sup>1</sup>. Michigan Technological University, <sup>2</sup>. US Naval Observatory

## 338 Instrumentation: Space Mission Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 338.01 First Year of WFIRST/AFTA Coronagraph Technology Development: Testbed Progress Update**  
**Author(s):** Ilya Poberezhskiy<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Jet Propulsion Laboratory  
Contributing team(s): Ilya Poberezhskiy, Feng Zhao, Xin An, Kunjithapatham Balasubramanian, Rus Belikov, Eric Cady, Rosemary Diaz, Brian Gordon, Olivier Guyon, N. Jeremy Kasdin, Brian Kern, Andreas Kuhnert, Dwight Moody, Richard Muller, Bijan Nemati, Keith Patterson, A.J. Riggs, Daniel Ryan, Byoung-Joon Seo, Erkin Sidick, Fang Shi, Hong Tang, John Trauger, Kent Wallace, Xu Wang, Daniel Wilson, Victor White, Karl Yee, Hanying Zhou, Neil Zimmerman
- 338.02 Moving Target Photometry Using WISE and NEOWISE**  
**Author(s):** Edward L. Wright<sup>1</sup>  
*Institution(s):* <sup>1</sup>. UC, Los Angeles
- 338.03 Recent Refinements to HST/ACS Image Reduction Tools: WFC Bias De-stripping Using Region Masking, and CTE Correction for WFC 2K Subarrays**  
**Author(s):** Sara Ogaz<sup>1</sup>, Leonardo Ubeda<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Space Telescope Science Institute  
Contributing team(s): ACS Team

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- 338.04 New ACS/WFC Geometric Distortion Model and New 47Tuc Astrometric Catalog**  
**Author(s):** David Borncamp<sup>1</sup>, Vera Kozhurina-Platais<sup>1</sup>, Jay Anderson<sup>1</sup>, Roberto J. Avila<sup>1</sup>  
*Institution(s):* <sup>1</sup> Space Telescope Science Institute
- 338.05 WFC3/UVIS Photometry of HST standards: Encircled Energy and Spatial Stability with Wavelength**  
**Author(s):** Ariel Bowers<sup>1</sup>, Jennifer Mack<sup>1</sup>, Susana E. Deustua<sup>1</sup>, Sylvia M. Baggett<sup>1</sup>, Derek Hammer<sup>1</sup>  
*Institution(s):* <sup>1</sup> Space Telescope Science Institute
- 338.06 WFC3: Instrument Status and Advice for Proposers and Observers**  
**Author(s):** John W. MacKenty<sup>1</sup>  
*Institution(s):* <sup>1</sup> STScI  
Contributing team(s): WFC3 Team
- 338.07 WFC3 UVIS Detector Performance**  
**Author(s):** Heather C. Gunning<sup>1</sup>, Sylvia M. Baggett<sup>1</sup>, Catherine Gosmeyer<sup>1</sup>, Matthew Bourque<sup>1</sup>, John W. MacKenty<sup>1</sup>, Jay Anderson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Space Telescope Science Institute  
Contributing team(s): WFC3 Team
- 338.08 WFC3/UVIS Dark Current Calibration and Detector Characteristics**  
**Author(s):** Matthew Bourque<sup>1</sup>, John A. Biretta<sup>1</sup>, Sylvia M. Baggett<sup>1</sup>, Jay Anderson<sup>1</sup>, John W. MacKenty<sup>1</sup>  
*Institution(s):* <sup>1</sup> STScI  
Contributing team(s): The WFC3 Team
- 338.09 Updated Calibration and Backgrounds for the WFC3 IR Grisms**  
**Author(s):** Norbert Pirzkal<sup>1</sup>, Gabriel Brammer<sup>1</sup>, Russell E. Ryan<sup>1</sup>  
*Institution(s):* <sup>1</sup> STScI
- 338.10 The Far Ultraviolet Channel of the Cosmic Origins Spectrograph on HST: Current Status and the Upcoming Lifetime Move**  
**Author(s):** David J. Sahnou<sup>1</sup>, John H. Debes<sup>1</sup>, Justin Ely<sup>1</sup>, Andrew Fox<sup>1</sup>, Svea Hernandez<sup>1</sup>, Philip Hodge<sup>1</sup>, Robert I. Jedrzejewski<sup>1</sup>, Sean A. Lockwood<sup>1</sup>, Derck Massa<sup>1</sup>, Cristina M. Oliveira<sup>1</sup>, Steven V. Penton<sup>1</sup>, Charles R. Proffitt<sup>1</sup>, Julia Roman-Duval<sup>1</sup>, Hugues Sana<sup>1</sup>, Paule Sonnentrucker<sup>1</sup>, Joanna M. Taylor<sup>1</sup>  
*Institution(s):* <sup>1</sup> Space Telescope Science Institute
- 338.11 Status of the JWST Integrated Science Instrument Module**  
**Author(s):** Matthew A. Greenhouse<sup>1</sup>, Jamie Dunn<sup>1</sup>, Randy A. Kimble<sup>1</sup>, Scott Lambros<sup>1</sup>, Ray Lundquist<sup>1</sup>, Bernard J. Rauscher<sup>1</sup>, Julie Van Campen<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA's GSFC
- 338.12 Small-Grid Dithering Strategy for Improved Coronagraphic Performance with JWST**  
**Author(s):** Charles-Philippe Lajoie<sup>1</sup>, Remi Soummer<sup>1</sup>, Laurent Pueyo<sup>1</sup>, Dean C. Hines<sup>1</sup>, Edmund P. Nelan<sup>1</sup>  
*Institution(s):* <sup>1</sup> Space Telescope Science Institute  
Contributing team(s): JWST Coronagraphs Working Group

## 338.13 The JWST Calibration Pipeline

**Author(s):** Christine Chen<sup>1</sup>, James Muzerolle<sup>1</sup>, William Van Dyke Dixon<sup>1</sup>, Rosa Izela Diaz<sup>1</sup>, Howard A. Bushouse<sup>1</sup>

*Institution(s):* <sup>1</sup>. STScI

## 338.15 Cryo-Vacuum Testing of the JWST Integrated Science Instrument Module

**Author(s):** Randy A. Kimble<sup>5</sup>, Scott R Antonille<sup>5</sup>, Brian J Comber<sup>5</sup>, Curtis C Fatig<sup>5</sup>, Pierre Ferruit<sup>3</sup>, Alistair Glasse<sup>7</sup>, Stuart D Glazer<sup>5</sup>, Douglas M. Kelly<sup>8</sup>, Ray Lundquist<sup>5</sup>, Steven D Mann<sup>5</sup>, Andre Martel<sup>6</sup>, Kevin J Novo-Gradac<sup>5</sup>, Raymond George Ohl<sup>5</sup>, Konstantin Penanen<sup>4</sup>, Edward L Shade<sup>5</sup>, Joseph Sullivan<sup>1</sup>, Maria B Vila<sup>5</sup>, Julie Van Campen<sup>5</sup>, Dean Zak<sup>6</sup>, Julia Zhou<sup>2</sup>

*Institution(s):* <sup>1</sup>. Ball Aerospace & Technology Corporation, <sup>2</sup>. Com Dev, Ltd, <sup>3</sup>. ESA/ESTEC, <sup>4</sup>. Jet Propulsion Laboratory, <sup>5</sup>. NASA's GSFC, <sup>6</sup>. STScI, <sup>7</sup>. UK Astronomy Technology Centre, <sup>8</sup>. Univ. of Arizona

## 338.16 Observations of Resolved Stellar Populations with the JWST Near Infrared Spectrograph

**Author(s):** Karoline Gilbert<sup>1</sup>, Tracy L. Beck<sup>1</sup>, Diane M. Karakla<sup>1</sup>

*Institution(s):* <sup>1</sup>. Space Telescope Science Institute

## 338.17 Improving JWST detector efficiency using row-by-row resets

**Author(s):** Rachel E. Lajoie<sup>1</sup>, Michael W. Regan<sup>1</sup>, Eddie Bergeron<sup>1</sup>, Douglas Long<sup>1</sup>

*Institution(s):* <sup>1</sup>. STScI

## 338.18 Beyond JWST: A Technology Path to the Next Great UVOIR Space Telescope

**Author(s):** David Redding<sup>3</sup>, David Schiminovich<sup>2</sup>, Sara Seager<sup>4</sup>, Julianne Dalcanton<sup>13</sup>, Suzanne Aigrain<sup>8</sup>, Steven Battel<sup>1</sup>, W. Niel Brandt<sup>9</sup>, Charlie Conroy<sup>15</sup>, Lee Feinberg<sup>5</sup>, Suvi Gezari<sup>12</sup>, Olivier Guyon<sup>11</sup>, Walter M. Harris<sup>14</sup>, Chris Hirata<sup>7</sup>, John C. Mather<sup>5</sup>, Marc Postman<sup>10</sup>, H. Philip Stahl<sup>6</sup>, Jason Tumlinson<sup>10</sup>

*Institution(s):* <sup>1</sup>. Battel Engineering, <sup>2</sup>. Columbia University, <sup>3</sup>. JPL, <sup>4</sup>. MIT, <sup>5</sup>. NASA Goddard Space Flight Center, <sup>6</sup>. NASA Marshall Space Flight Center, <sup>7</sup>. Ohio State University, <sup>8</sup>. Oxford U., <sup>9</sup>. Penn State, <sup>10</sup>. Space Telescope Science Institute, <sup>11</sup>. Subaru Observatory, <sup>12</sup>. U. Maryland, <sup>13</sup>. U. Washington, <sup>14</sup>. UC Davis, <sup>15</sup>. UC Santa Cruz

## 338.19 Beyond JWST: Science Drivers for the Next Great UVOIR Space Telescope

**Author(s):** Jason Tumlinson<sup>10</sup>, Sara Seager<sup>5</sup>, Julianne Dalcanton<sup>15</sup>, Marc Postman<sup>10</sup>, Suzanne Aigrain<sup>8</sup>, Steven battel<sup>1</sup>, W. Niel Brandt<sup>9</sup>, Charlie Conroy<sup>3</sup>, Lee Feinberg<sup>7</sup>, Suvi Gezari<sup>14</sup>, Olivier Guyon<sup>13</sup>, Walter M. Harris<sup>12</sup>, Chris Hirata<sup>11</sup>, John C. Mather<sup>7</sup>, David Redding<sup>4</sup>, David Schiminovich<sup>2</sup>, H. Philip Stahl<sup>6</sup>

*Institution(s):* <sup>1</sup>. Battel Engineering, <sup>2</sup>. Columbia University, <sup>3</sup>. Harvard, <sup>4</sup>. JPL, <sup>5</sup>. MIT, <sup>6</sup>. NASA Marshall, <sup>7</sup>. NASA/GSFC, <sup>8</sup>. Oxford University, <sup>9</sup>. Penn State University, <sup>10</sup>. Space Telescope Science Institute, <sup>11</sup>. The Ohio State University, <sup>12</sup>. UC Davis, <sup>13</sup>. University of Arizona, <sup>14</sup>. University of Maryland, <sup>15</sup>. University of Washington

## 338.20 A Future Large-Aperture UVOIR Space Observatory: Study Overview

**Author(s):** Marc Postman<sup>4</sup>, Harley A. Thronson<sup>3</sup>, Lee Feinberg<sup>3</sup>, David Redding<sup>1</sup>, H. Philip Stahl<sup>2</sup>

*Institution(s):* <sup>1</sup>. JPL/Caltech, <sup>2</sup>. Marshall Space Flight Center, <sup>3</sup>. NASA Goddard Space Flight Center, <sup>4</sup>. Space Telescope Science Institute

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- 338.21 Potential of a Future Large Aperture UVOIR Space Observatory for Breakthrough Observations of Star and Planet Formation**  
**Author(s):** William C. Danchi<sup>1</sup>, Carol A Grady<sup>1</sup>, Deborah Padgett<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA's GSFC
- 338.22 A Future Large-Aperture UVOIR Space Observatory: Key Technologies and Capabilities**  
**Author(s):** Carl Stahle<sup>2</sup>, Mark Clampin<sup>2</sup>, Kunjithapatham Balasubramanian<sup>1</sup>, Matthew R Bolcar<sup>2</sup>, Lee Feinberg<sup>2</sup>, Gary Mosier<sup>2</sup>, Manuel Quijada<sup>2</sup>, Bernard J. Rauscher<sup>2</sup>, David Redding<sup>1</sup>, Stuart Shaklan<sup>1</sup>, H. Philip Stahl<sup>3</sup>, Harley A. Thronson<sup>2</sup>  
*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory, <sup>2</sup> NASA Goddard Space Flight Center, <sup>3</sup> NASA Marshall Space Flight Center
- 338.23 A Future Large-Aperture UVOIR Space Observatory: Reference Designs**  
**Author(s):** Norman Rioux<sup>3</sup>, Lee Feinberg<sup>3</sup>, David Redding<sup>1</sup>, H. Philip Stahl<sup>2</sup>  
*Institution(s):* <sup>1</sup> JPL, <sup>2</sup> MSFC, <sup>3</sup> NASA GSFC
- 338.24 Measurements of High-Contrast Starshade Performance**  
**Author(s):** Tiffany M. Glassman<sup>1</sup>, Steven Warwick<sup>1</sup>, Megan Novicki<sup>1</sup>, Daniel Smith<sup>1</sup>  
*Institution(s):* <sup>1</sup> Northrop Grumman Aerospace Systems
- 338.25 Life Finder Detectors: An Overview of Detector Technologies for Detecting Life on Other Worlds**  
**Author(s):** Bernard J. Rauscher<sup>1</sup>, Shawn Domagal-Goldman<sup>1</sup>, Matthew A. Greenhouse<sup>1</sup>, Wen-Ting Hsieh<sup>1</sup>, Michael W. McElwain<sup>1</sup>, Samuel H Moseley<sup>1</sup>, Omid Noroozian<sup>1</sup>, Tim Norton<sup>1</sup>, Alexander Kutyrev<sup>1</sup>, Stephen Rinehart<sup>1</sup>, Joseph stock<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA's GSFC
- 338.26 High contrast imaging with an arbitrary aperture: active correction of aperture discontinuities: fundamental limits and practical trades offs**  
**Author(s):** Laurent Pueyo<sup>1</sup>, Colin Arthur Norman<sup>1</sup>, Remi Soummer<sup>1</sup>, Marshall D. Perrin<sup>1</sup>, Mamadou N'Diaye<sup>1</sup>, Elodie Choquet<sup>1</sup>  
*Institution(s):* <sup>1</sup> Space Telescope Science Institute
- 338.27 Low Order Wavefront Sensing and Control for WFIRST-AFTA Coronagraph**  
**Author(s):** FANG SHI<sup>1</sup>  
*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory
- 338.28 A Shaped Pupil Lyot Coronagraph for WFIRST-AFTA**  
**Author(s):** Neil Zimmerman<sup>1</sup>, A J Eldorado Riggs<sup>1</sup>, N. Jeremy Kasdin<sup>1</sup>, Alexis Carlotti<sup>1</sup>, Robert J. Vanderbei<sup>1</sup>  
*Institution(s):* <sup>1</sup> Princeton University
- 338.29 Integrated Modeling of the WFIRST AFTA Coronagraph Instrument**  
**Author(s):** Bijan Nemati<sup>1</sup>  
*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory  
Contributing team(s): JPL WFIRST-AFTA Integrated Modeling Team

## 338.30 Post-processing methods for high-contrast imaging in the context of the WFIRST-AFTA telescope

**Author(s):** Marie Ygouf<sup>2</sup>, Remi Soummer<sup>2</sup>, Marshall D. Perrin<sup>2</sup>, Laurent Pueyo<sup>2</sup>, Mamadou N'Diaye<sup>2</sup>, Bruce Macintosh<sup>1</sup>

*Institution(s):* <sup>1</sup> Stanford University, <sup>2</sup> STScI

## 338.31 New Stellar Science with Astro-H

**Author(s):** Yohko Tsuboi<sup>1</sup>, Kazunori Ishibashi<sup>5</sup>, Marc Audard<sup>7</sup>, Kenji Hamaguchi<sup>2</sup>, Maurice A. Leutenegger<sup>2</sup>, Yoshitomo Maeda<sup>3</sup>, Koji Mori<sup>4</sup>, Hiroshi Murakami<sup>6</sup>, Yasuharu Sugawara<sup>1</sup>, Masahiro Tsujimoto<sup>3</sup>

*Institution(s):* <sup>1</sup> Chuo University, <sup>2</sup> GSFC, <sup>3</sup> ISAS, <sup>4</sup> Miyazaki Univ., <sup>5</sup> Nagoya Univ., <sup>6</sup> Tohoku-gakuin Univ., <sup>7</sup> UniGE

Contributing team(s): The ASTRO-H team

## 338.32 The ASTRO-H Mission: Unprecedented Spectral Coverage in the X-ray and Soft Gamma-Ray Bands

**Author(s):** Paolo S. Coppi<sup>2</sup>, L. Stawarz<sup>1</sup>

*Institution(s):* <sup>1</sup> ISAS/JAXA, <sup>2</sup> Yale Univ.

Contributing team(s): the Astro-H collaboration

## 338.33 Studying Young and Old Supernova Remnants with the Upcoming ASTRO-H X-ray Mission

**Author(s):** Samar Safi-Harb<sup>1</sup>

*Institution(s):* <sup>1</sup> Univ. of Manitoba

Contributing team(s): John P. Hughes (Rutgers), Knox Long (STScI), Aya Bamba (Aoyama Gakuin U.), Felix Aharonian (DIAS/MPI-K), Adam Foster (Harvard-Smithsonian Center for Astrophysics), Stefan Funk (Stanford U.), Junko Hiraga (U. Tokyo), Manabu Ishida (ISAS), Satoru Katsuda (ISAS), Katsuji Koyama (Kyoto U.), Maurice Leutenegger (NASA GSFC), Yoshitomo Maeda (ISAS), Hironori Matsumoto (Nagoya U.), Koji Mori (Miyazaki U.), Hiroshi Nakajima (Osaka U.), Takashi Nakamori (Yamagata U.), Masayoshi Nobukawa (Kyoto U.), Masanobu Ozaki (ISAS), Robert Petre (NASA GSFC), Makoto Sawada (Aoyama Gakuin U.), Toru Tamagawa (RIKEN), Keisuke Tamura (ISAS), Takaaki Tanaka (Kyoto U.), Hiroshi Tomida (JAXA), Hiroshi Tsunemi (Osaka U.), Hiroyuki Uchida (Kyoto U.), Shin'ichiro Uno (Nihon Fukushi U.), Yasunobu Uchiyama (Rikkyo U.), Hiroya Yamaguchi (NASA/GSFC & UMD), and Shigeo Yamauchi (Nara Womens U.), on behalf of the ASTRO-H science working group

## 338.34 New Frontiers in Galaxy Clusters with ASTRO-H

**Author(s):** Eric D. Miller<sup>3</sup>, Tetsu Kitayama<sup>8</sup>, Hiroki Akamatsu<sup>6</sup>, Steven W. Allen<sup>7</sup>, Mark W. Bautz<sup>3</sup>, Jelle de Plaa<sup>6</sup>, Massimiliano Galeazzi<sup>10</sup>, Madoka Kawaharada<sup>2</sup>, Grzegorz Maria Madejski<sup>7</sup>, Maxim L. Markevitch<sup>5</sup>, Kyoko Matsushita<sup>9</sup>, Brian R. McNamara<sup>12</sup>, Kazuhiro Nakazawa<sup>11</sup>, Naomi Ota<sup>4</sup>, Helen Russell<sup>4</sup>, Kosuke Sato<sup>9</sup>, Norio Sekiya<sup>2</sup>, Aurora Simionescu<sup>2</sup>, Takayuki Tamura<sup>2</sup>, Yuusuke Uchida<sup>2</sup>, Eugenio Ursino<sup>10</sup>, Norbert Werner<sup>7</sup>, Irina Zhuravleva<sup>7</sup>, John A. ZuHone<sup>3</sup>

*Institution(s):* <sup>1</sup> Institute of Astronomy, <sup>2</sup> ISAS/JAXA, <sup>3</sup> MIT, <sup>4</sup> Nara Women's University, <sup>5</sup> NASA/GSFC, <sup>6</sup> SRON Netherlands Institute for Space Research, <sup>7</sup> Stanford University, <sup>8</sup> Toho University, <sup>9</sup> Tokyo University of Science, <sup>10</sup> University of Miami, <sup>11</sup> University of Tokyo, <sup>12</sup> University of Waterloo

Contributing team(s): ASTRO-H Team

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- 338.35 Future ASTRO-H observations of chemical evolution in high-z universe**  
**Author(s):** Masanori Ohno<sup>2</sup>, Makoto S Tashiro<sup>7</sup>, Daisuke Yonetoku<sup>4</sup>, Hiroaki Sameshima<sup>3</sup>, Hiromi Seta<sup>6</sup>, Haruka Ueno<sup>7</sup>, Richard Mushotzky<sup>10</sup>, Richard L. Kelley<sup>5</sup>, Takao Nakagawa<sup>3</sup>, Takayuki Tamura<sup>3</sup>, Frits B. Paerels<sup>1</sup>, Nobuyuki Kawai<sup>8</sup>, Takaya Ohashi<sup>9</sup>  
*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> Hiroshima University, <sup>3</sup> ISAS/JAXA, <sup>4</sup> Kanazawa University, <sup>5</sup> NASA/GSFC, <sup>6</sup> Rikkyo University, <sup>7</sup> Saitama University, <sup>8</sup> Tokyo Institute of Technology, <sup>9</sup> Tokyo Metropolitan University, <sup>10</sup> University of Maryland  
Contributing team(s): ASTRO-H team
- 338.36 Astro-H: New Spectral Features Seen in High-Resolution X-rays**  
**Author(s):** Randall K. Smith<sup>2</sup>, Hirokazu Odaka<sup>1</sup>  
*Institution(s):* <sup>1</sup> ISAS/JAXA, <sup>2</sup> Smithsonian Astrophysical Observatory  
Contributing team(s): The Astro-H Science Working Group
- 338.37 Optimizing Focusing X-Ray Optics for Planetary Science Applications**  
**Author(s):** Nicole Melso<sup>2</sup>, Suzanne Romaine<sup>1</sup>, Jaesub Hong<sup>1</sup>, Vincenzo Cotroneo<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> The Pennsylvania State University
- 338.38 High-efficiency blazed transmission gratings for high-resolution soft x-ray spectroscopy**  
**Author(s):** Ralf K. Heilmann<sup>1</sup>, Alexander R. Bruccoleri<sup>1</sup>, Mark L. Schattenburg<sup>1</sup>  
*Institution(s):* <sup>1</sup> MIT
- 338.39 Testing of a Narrow Gap Detector designed for a sensitive X-ray polarimeter**  
**Author(s):** Rafael Gilberto Almonte<sup>2</sup>, Joanne E. Hill<sup>1</sup>, David C Morris<sup>2</sup>, Thomas Emmett<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA GSFC, <sup>2</sup> University of the Virgin Islands
- 338.40 Polarization from Relativistic Astrophysical X-ray Sources: The PRAXYS Small Explorer Observatory**  
**Author(s):** Keith Jahoda<sup>1</sup>, Chryssa Kouveliotou<sup>2</sup>, Timothy R. Kallman<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA's GSFC, <sup>2</sup> NASA's MSFC  
Contributing team(s): PRAXYS team
- 338.41 System Architecture of Explorer Class Spaceborne Telescopes: A look at Optimization of Cost, Testability, Risk and Operational Duty Cycle from the Perspective of Primary Mirror Material Selection**  
**Author(s):** Anthony B. Hull<sup>2</sup>, Thomas Westerhoff<sup>1</sup>  
*Institution(s):* <sup>1</sup> SCHOTT AG, <sup>2</sup> University of New Mexico
- 338.42 An Evolvable Space Telescope for Future Astronomical Missions**  
**Author(s):** Ronald S. Polidan<sup>3</sup>, James B. Breckinridge<sup>1</sup>, Charles F. Lillie<sup>2</sup>, Howard A. MacEwen<sup>4</sup>, Martin Flannery<sup>3</sup>, Dean Dailey<sup>3</sup>  
*Institution(s):* <sup>1</sup> Breckinridge Associates, LLC, <sup>2</sup> Lillie Consulting, LLC, <sup>3</sup> Northrop Grumman Aerospace Systems, <sup>4</sup> Reviresco LLC
- 338.43 Advanced Mirror Technology Development (AMTD) Project: 3.0 Year Status**  
**Author(s):** H. Philip Stahl<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA

## 338.44 Future Gravitational-Wave Missions

**Author(s):** Robin T. Stebbins<sup>1</sup>

*Institution(s):* <sup>1</sup> NASA GSFC

Contributing team(s): The NASA Gravitational-Wave Study Team

## 338.45 A Giant Leap Towards a Space-based Gravitational-Wave Observatory: LISA Pathfinder, the LISA Test Package, and ST7-DRS

**Author(s):** James Thorpe<sup>2</sup>, Paul McNamara<sup>1</sup>, John Ziemer<sup>3</sup>

*Institution(s):* <sup>1</sup> ESA ESTEC, <sup>2</sup> NASA GSFC, <sup>3</sup> NASA JPL

Contributing team(s): LPF Team, LTP Team, ST7-DRS Team

## 338.46 Commissioning COSMOS: Detection of Lithium in Young Stars in Lupus 3 through Multi-Object Spectroscopy

**Author(s):** Kyle Lackey<sup>1</sup>, Cesar Briceno<sup>1</sup>, Jonathan H. Elias<sup>1</sup>

*Institution(s):* <sup>1</sup> National Optical Astronomy Observatory

## 338.47 SubLymE: The Sub-Lyman $\alpha$ Explorer

**Author(s):** James C. Green<sup>1</sup>, Kevin France<sup>1</sup>

*Institution(s):* <sup>1</sup> Univ. of Colorado

## 338.48 Changes to the Spectral Extraction Algorithm at the Third COS FUV Lifetime Position

**Author(s):** Joanna M. Taylor<sup>1</sup>, K. Azalee Bostroem<sup>1</sup>, John H. Debes<sup>1</sup>, Justin Ely<sup>1</sup>, Svea Hernandez<sup>1</sup>, Philip E. Hodge<sup>1</sup>, Robert I. Jedrzejewski<sup>1</sup>, Kevin Lindsay<sup>1</sup>, Sean A. Lockwood<sup>1</sup>, Derck Massa<sup>1</sup>, Cristina M. Oliveira<sup>1</sup>, Steven V. Penton<sup>1</sup>, Charles R. Proffitt<sup>1</sup>, Julia Roman-Duval<sup>1</sup>, David J. Sahnou<sup>1</sup>, Hugues Sana<sup>1</sup>, Paule Sonnentrucker<sup>1</sup>

*Institution(s):* <sup>1</sup> Space Telescope Science Institute

## 338.49 Planning Efficient NIRSPEC MSA Observations

**Author(s):** Diane M. Karakla<sup>1</sup>, Tracy L. Beck<sup>1</sup>, Karoline Gilbert<sup>1</sup>, Alexander Shyrovkov<sup>1</sup>

*Institution(s):* <sup>1</sup> STScI

## 338.50 Potential Impacts of ASTRO-H on the Studies of Accreting White Dwarf Binaries

**Author(s):** Koji Mukai<sup>1,2</sup>, Tadayuki Yuasa<sup>3</sup>, Atsushi Harayama<sup>4</sup>, Takayuki Hayashi<sup>4</sup>, Manabu Ishida<sup>4</sup>, Knox S. Long<sup>5</sup>, Yukikatsu Terada<sup>6</sup>, Masahiro Tsujimoto<sup>4</sup>

*Institution(s):* <sup>1</sup> NASA/GSFC, <sup>2</sup> University of Maryland, Baltimore, <sup>3</sup> Riken, <sup>4</sup> ISAS/JAXA, <sup>5</sup> STScI, <sup>6</sup> Saitama University

## 339 Laboratory Astrophysics Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 339.01 Transition Probabilities of the Rare Earth Neutral Lanthanum

**Author(s):** Andria Palmer<sup>1</sup>, James E. Lawler<sup>1</sup>, Elizabeth Den Hartog<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Wisconsin-Madison

### 339.02 Improved log(gf) Values for Lines of V I and V II, New Vanadium Abundances in the Sun and the Metal-Poor Star HD 84937

**Author(s):** James E. Lawler<sup>3</sup>, Michael P. Wood<sup>3</sup>, Elizabeth Den Hartog<sup>3</sup>, Thomas Feigenson<sup>3</sup>, Chris Sneden<sup>2</sup>, John J. Cowan<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Oklahoma, <sup>2</sup> University of Texas, <sup>3</sup> University of Wisconsin

# WEDNESDAY, 7 JANUARY 2015

## 339.03 Analysis of Fe V and Ni V Wavelength Standards in the Vacuum Ultraviolet

**Author(s):** Jacob Wolfgang Ward<sup>1</sup>, Gillian Nave<sup>2</sup>

*Institution(s):* <sup>1</sup> Arizona State University, <sup>2</sup> National Institute of Standards and Technology

## 339.04 Improved and Expanded Near-IR Oscillator Strengths for Fe-group Elements

**Author(s):** Michael P. Wood<sup>1</sup>, Gillian Nave<sup>1</sup>

*Institution(s):* <sup>1</sup> NIST

## 340 Results from the SDSS-III/APOGEE Survey Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 340.01 A Puzzling Li-rich Red Giant in the APOGEE Field

**Author(s):** Joleen K. Carlberg<sup>5</sup>, Verne V. Smith<sup>7</sup>, Katia M. L. Cunha<sup>8</sup>, Steven R. Majewski<sup>14</sup>, Szabolcs Meszaros<sup>2</sup>, Matthew D. Shetrone<sup>13</sup>, Carlos Allende-Prieto<sup>3</sup>, Dmitry Bizyaev<sup>1</sup>, Keivan Stassun<sup>15</sup>, Scott W. Fleming<sup>10</sup>, Gail Zasowski<sup>4</sup>, Fred Hearty<sup>9</sup>, David L. Nidever<sup>12</sup>, Donald P. Schneider<sup>9</sup>, Jon A. Holtzman<sup>6</sup>, Peter M. Frinchaboy<sup>11</sup>

*Institution(s):* <sup>1</sup> Apache Point Observatory, <sup>2</sup> ELTE Gothard Astrophysical Observatory, <sup>3</sup> Instituto de Astrofísica de Canarias, <sup>4</sup> Johns Hopkins University, <sup>5</sup> NASA/Goddard, <sup>6</sup> New Mexico State University, <sup>7</sup> NOAO, <sup>8</sup> Observatorio Nacional, <sup>9</sup> Pennsylvania State University, <sup>10</sup> Space Telescope Science Institute, <sup>11</sup> Texas Christian University, <sup>12</sup> University of Michigan, <sup>13</sup> University of Texas, <sup>14</sup> University of Virginia, <sup>15</sup> Vanderbilt University

### 340.02 A Pipeline for the Analysis of APOGEE Spectra Based on Equivalent Widths

**Author(s):** Rob Arfon Williams<sup>6</sup>, Corinne Bosley<sup>6</sup>, Hayden Jones<sup>6</sup>, Ricardo P. Schiavon<sup>6</sup>, Carlos Allende-Prieto<sup>4</sup>, Dmitry Bizyaev<sup>1</sup>, Ricardo Carrera<sup>4</sup>, Katia M. L. Cunha<sup>9</sup>, Duy Nguyen<sup>2</sup>, Diane Feuillet<sup>8</sup>, Peter M. Frinchaboy<sup>12</sup>, Ana García Pérez<sup>4</sup>, Sten Hasselquist<sup>8</sup>, Michael R. Hayden<sup>8</sup>, Fred R. Hearty<sup>11</sup>, Jon A. Holtzman<sup>8</sup>, Jennifer Johnson<sup>10</sup>, Steven R. Majewski<sup>15</sup>, Szabolcs Meszaros<sup>3</sup>, David L. Nidever<sup>13</sup>, Matthew D. Shetrone<sup>14</sup>, Verne V. Smith<sup>7</sup>, Jennifer Sobek<sup>15</sup>, Nicholas William Troup<sup>15</sup>, John C. Wilson<sup>15</sup>, Gail Zasowski<sup>5</sup>

*Institution(s):* <sup>1</sup> Apache Point Observatory and New Mexico State University, <sup>2</sup> Dunlap Institute for Astronomy and Astrophysics, University of Toronto, <sup>3</sup> Indiana University, <sup>4</sup> Instituto de Astrofísica de Canarias, <sup>5</sup> Johns Hopkins University, <sup>6</sup> Liverpool John Moores University, <sup>7</sup> National Optical Astronomy Observatory, <sup>8</sup> New Mexico State University, <sup>9</sup> Observatorio Nacional, <sup>10</sup> Ohio State University, <sup>11</sup> Penn State University, <sup>12</sup> Texas Christian University, <sup>13</sup> University of Michigan, <sup>14</sup> University of Texas at Austin, McDonald Observatory, <sup>15</sup> University of Virginia

### 340.03 The Open Cluster Chemical Abundances and Mapping (OCCAM) Survey: Detailed Age and Abundance Gradients using DR12

**Author(s):** Peter M. Frinchaboy<sup>8</sup>, Benjamin A. Thompson<sup>8</sup>, Julia O'Connell<sup>8</sup>, Brianne Meyer<sup>8</sup>, John Donor<sup>8</sup>, Steven R. Majewski<sup>10</sup>, Jon A. Holtzman<sup>4</sup>, Gail Zasowski<sup>3</sup>, Timothy C. Beers<sup>1</sup>, Rachael Beaton<sup>10</sup>, Katia M. L. Cunha<sup>6</sup>, Fred Hearty<sup>7</sup>, David L. Nidever<sup>9</sup>, Ricardo P. Schiavon<sup>2</sup>, Verne V. Smith<sup>5</sup>, Michael R. Hayden<sup>4</sup>



*Institution(s):* <sup>1</sup>. Dept. of Physics & JINA-CEE, Univ. of Notre Dame, <sup>2</sup>. John Moores University, <sup>3</sup>. Johns Hopkins University, <sup>4</sup>. New Mexico State University, <sup>5</sup>. NOAO, <sup>6</sup>. Observatorio Nacional- MCTI, <sup>7</sup>. Penn State University, <sup>8</sup>. Texas Christian Univ. (TCU), <sup>9</sup>. University of Michigan, <sup>10</sup>. University of Virginia

## **340.04 The APOGEE-1 Catalog of Keplerian Orbit Fits to RV Variable Sources**

**Author(s):** Nicholas W. Troup<sup>9</sup>, David L. Nidever<sup>5</sup>, Scott W. Fleming<sup>3</sup>, Rohit Deshpande<sup>4</sup>, Suvrath Mahadevan<sup>4</sup>, John P. Wisniewski<sup>6</sup>, Matthew D. Shetrone<sup>7</sup>, Arpita Roy<sup>4</sup>, Nathan M. De Lee<sup>2</sup>, Keivan Stassun<sup>10</sup>, Joshua Pepper<sup>1</sup>, Duy Cuong Nguyen<sup>8</sup>, Fred Hearty<sup>4</sup>, Jennifer Sobek<sup>9</sup>, Steven R. Majewski<sup>9</sup>

*Institution(s):* <sup>1</sup>. Lehigh University, <sup>2</sup>. Northern Kentucky University, <sup>3</sup>. Space Telescope Science Institute, <sup>4</sup>. The Pennsylvania State University, <sup>5</sup>. University of Michigan, <sup>6</sup>. University of Oklahoma, <sup>7</sup>. University of Texas, <sup>8</sup>. University of Toronto, <sup>9</sup>. University of Virginia, <sup>10</sup>. Vanderbilt University

## **340.05 Two for the Price of One: SB2s in the SDSS-III/APOGEE Survey**

**Author(s):** S. Drew Chojnowski<sup>3</sup>, Duy Cuong Nguyen<sup>10</sup>, David L. Nidever<sup>8</sup>, Gail Zasowski<sup>1</sup>, Chad F. Bender<sup>5</sup>, Nicholas William Troup<sup>11</sup>, Timothy C. Beers<sup>9</sup>, Nathan M. De Lee<sup>4</sup>, Scott W. Fleming<sup>6</sup>, Peter M. Frinchaboy<sup>7</sup>, Ana García Pérez<sup>11</sup>, Fred R. Hearty<sup>5</sup>, Jon A. Holtzman<sup>3</sup>, Steven R. Majewski<sup>11</sup>, Ricardo P. Schiavon<sup>2</sup>

*Institution(s):* <sup>1</sup>. Johns Hopkins University, <sup>2</sup>. Liverpool John Moores University, <sup>3</sup>. New Mexico State University, <sup>4</sup>. Northern Kentucky University, <sup>5</sup>. Pennsylvania State University, <sup>6</sup>. Space Telescope Science Institute, <sup>7</sup>. Texas Christian University, <sup>8</sup>. University of Michigan, <sup>9</sup>. University of Notre Dame, <sup>10</sup>. University of Toronto, <sup>11</sup>. University of Virginia

Contributing team(s): APOGEE Team

## **340.06 A Study of Statistical Binaries with SDSS/APOGEE**

**Author(s):** Duy Cuong Nguyen<sup>5</sup>, Joleen K. Carlberg<sup>1</sup>, Nicholas William Troup<sup>6</sup>, David L. Nidever<sup>4</sup>, Nathan M. De Lee<sup>2</sup>, Scott Suriano<sup>6</sup>, Apurva Oza<sup>6</sup>, Fred R. Hearty<sup>3</sup>, Steven R. Majewski<sup>6</sup>

*Institution(s):* <sup>1</sup>. Carnegie Institution of Washington, <sup>2</sup>. Northern Kentucky University, <sup>3</sup>. Pennsylvania State University, <sup>4</sup>. University of Michigan, <sup>5</sup>. University of Toronto, <sup>6</sup>. University of Virginia

## **341 Relativistic Astrophysics, Gravitational Lenses & Waves Posters**

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### **341.01 A Detailed Study of Contamination in Deep Rapid Searches for Gravitational Wave Optical Counterparts**

**Author(s):** Philip Cowperthwaite<sup>1</sup>, Edo Berger<sup>1</sup>, Ryan Chornock<sup>3</sup>, Wen-fai Fong<sup>2</sup>  
*Institution(s):* <sup>1</sup>. Harvard University, <sup>2</sup>. University of Arizona, <sup>3</sup>. University of Ohio

### **341.02 Testing new technologies for the LISA Gravitational Reference Sensor**

**Author(s):** John Conklin<sup>1</sup>, Andrew Chilton<sup>1</sup>, Taiwo Olatunde<sup>1</sup>, Stephen Apple<sup>1</sup>, Giacomo Ciani<sup>1</sup>, Guido Mueller<sup>1</sup>  
*Institution(s):* <sup>1</sup>. University of Florida

# WEDNESDAY, 7 JANUARY 2015

- 341.03 Superluminal Sweeping Spot Pair Events in Astronomical Settings**  
**Author(s):** Robert J. Nemiroff<sup>1</sup>  
*Institution(s):* <sup>1</sup> Michigan Technological Univ.
- 341.04 Using the null stream approach to find sky position of PTA sources**  
**Author(s):** Jeffrey S. Hazboun<sup>2</sup>, Shane L Larson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Center for Interdisciplinary Exploration and Research in Astrophysics, Northwestern University, <sup>2</sup> Utah State University
- 341.05 BayesWave: Bayesian Inference for Gravitational Wave Bursts and Instrument Glitches**  
**Author(s):** Joey Shapiro Key<sup>4</sup>, Neil Cornish<sup>2</sup>, Tyson Littenberg<sup>3</sup>, Jonah Kanner<sup>1</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Montana State University, <sup>3</sup> Northwestern University, <sup>4</sup> University of Texas at Brownsville
- 341.06 Radiation-dominated, relativistic jets and their boundary layers**  
**Author(s):** Eric Robert Coughlin<sup>1</sup>, Mitchell C. Begelman<sup>1</sup>  
*Institution(s):* <sup>1</sup> JILA, University of Colorado at Boulder and National Institute of Standards and Technology
- 341.07 Rapid Monte Carlo Simulation of Gravitational Wave Galaxies**  
**Author(s):** Katelyn Breivik<sup>1</sup>, Shane L Larson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Center for Interdisciplinary Exploration and Research in Astrophysics & Department of Physics and Astronomy, Northwestern University
- 341.08 Techniques for Analysis and Visualization of Black Hole Spacetimes in Numerical Relativity**  
**Author(s):** Tehani K. Finch<sup>1</sup>, John G. Baker<sup>1</sup>, Bernard J. Kelly<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA / GSFC
- 341.09 NANOGrav Millisecond Pulsar Observing Program**  
**Author(s):** David J. Nice<sup>1</sup>  
*Institution(s):* <sup>1</sup> Lafayette College  
Contributing team(s): NANOGrav
- 341.10 Forecasting the Observability and Demographics of Supermassive Black Holes in the Pulsar Timing Array Band**  
**Author(s):** Joseph Simon<sup>2</sup>, Sarah Burke-Spolaor<sup>1</sup>, Xavier Siemens<sup>2</sup>  
*Institution(s):* <sup>1</sup> NRAO, <sup>2</sup> University of Wisconsin-Milwaukee

## 342 Stellar Evolution and Stellar Population Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 342.01 Measuring Boron Abundances in Rapidly Rotating Early-B Stars**  
**Author(s):** Charles R. Proffitt<sup>1</sup>  
*Institution(s):* <sup>1</sup> Computer Sciences Corporation
- 342.02 The Sample Properties of Metallic-line, A-stars in SDSS, Data Release 8**  
**Author(s):** Chloe Keeling<sup>1</sup>, Ronald J. Wilhelm<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Kentucky

- 342.03 Ultraviolet Synthetic Spectra for Three Lambda Bootis Stars**  
**Author(s):** Kwang-Ping Cheng<sup>2</sup>, James E. Neff<sup>3</sup>, Richard O. Gray<sup>1</sup>, Christopher J. Corbally<sup>4</sup>, Dustin Johnson<sup>2</sup>, Erik Tarbell<sup>2</sup>  
*Institution(s):*<sup>1</sup>. *Appalachian State University*, <sup>2</sup>. *California State University, Fullerton*, <sup>3</sup>. *College of Charleston*, <sup>4</sup>. *Vatican Observatory*
- 342.04 The Kinematics of Dwarf Carbon Stars**  
**Author(s):** Kathryn A. Plant<sup>1</sup>, Bruce H. Margon<sup>1</sup>, Puragra Guhathakurta<sup>1</sup>, Constance M. Rockosi<sup>1</sup>  
*Institution(s):*<sup>1</sup>. *University of California, Santa Cruz*
- 342.05 The PTI Giant Star Angular Size Survey: Effective Temperatures & Linear Radii**  
**Author(s):** Gerard van Belle<sup>3</sup>, David R. Ciardi<sup>2</sup>, Kaspar von Braun<sup>3</sup>, Genady Pilyavsky<sup>1</sup>  
*Institution(s):*<sup>1</sup>. *Arizona State University*, <sup>2</sup>. *Caltech*, <sup>3</sup>. *Lowell Observatory*
- 342.06 Mid-Infrared Spectroscopy of M Giants from the Spitzer Space Telescope**  
**Author(s):** Christopher Goes<sup>1</sup>, Gregory C. Sloan<sup>1</sup>, Ramses Ramirez<sup>2</sup>, Kathleen E. Kraemer<sup>3</sup>, Charles W. Engelke<sup>3</sup>  
*Institution(s):*<sup>1</sup>. *CRSR, Cornell University*, <sup>2</sup>. *Institute for Pale Blue Dots, Cornell University*, <sup>3</sup>. *Institute for Scientific Research, Boston College*
- 342.07 Lithium Abundance in M3 Red Giant**  
**Author(s):** Rashad Givens<sup>1</sup>, Catherine A. Pilachowski<sup>1</sup>  
*Institution(s):*<sup>1</sup>. *Indiana University of Bloomington*
- 342.08 Effects of Age and Metallicity on the RGB and AGB Luminosity**  
**Author(s):** Hyun-chul Lee<sup>1</sup>, Charles Cartwright<sup>1</sup>  
*Institution(s):*<sup>1</sup>. *The University of Texas - Pan American*
- 342.09 Using JVLA Observations of SiO Masers to Probe the Extended Atmosphere of an AGB Star: W Hydrae**  
**Author(s):** Patrick S. Kamienieski<sup>1</sup>, Lynn D. Matthews<sup>2</sup>  
*Institution(s):*<sup>1</sup>. *Bowdoin College*, <sup>2</sup>. *MIT Haystack Observatory*
- 342.10 Spectroscopy and Multi-Band Photometry of Yellow and Red Supergiants in M31 and M33**  
**Author(s):** Michael Gordon<sup>1</sup>, Roberta M. Humphreys<sup>1</sup>  
*Institution(s):*<sup>1</sup>. *Minnesota Institute for Astrophysics*
- 342.11 An Infrared High Resolution Spectroscopic Abundance Study of the Metal-Poor Giant HD 122563**  
**Author(s):** Christopher Sneden<sup>2</sup>, Melike Afsar<sup>1</sup>, Daniel Thomas Jaffe<sup>2</sup>, Hwiyun Kim<sup>2</sup>, Gregory Mace<sup>2</sup>  
*Institution(s):*<sup>1</sup>. *Ege University*, <sup>2</sup>. *Univ. of Texas*
- 342.12 Empirical constraints of stellar evolution models using properties of the red clump and early-AGB bump in M31**  
**Author(s):** Nell Byler<sup>3</sup>, Philip Rosenfield<sup>2</sup>, Morgan Fouesneau<sup>1</sup>, Julianne Dalcanton<sup>3</sup>  
*Institution(s):*<sup>1</sup>. *Max Planck Institute for Astronomy*, <sup>2</sup>. *University of Padova*, <sup>3</sup>. *University of Washington*  
Contributing team(s): PHAT Collaboration

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- 342.13 Stellar Parameter Determination Using Bayesian Techniques.**  
**Author(s):** Gemunu B Ekanayake<sup>1</sup>, Ronald J. Wilhelm<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Kentucky
- 342.14 Studying Semi-Convection by Pseudo-Incompressible Spectral Element with Variable Diffusivity**  
**Author(s):** Justin Brown<sup>1</sup>, Pascale Garaud<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of California - Santa Cruz
- 342.15 The Mass-Transfer Formation Frequency of Blue Straggler Stars in the Old Open Cluster NGC 188**  
**Author(s):** Natalie M. Gosnell<sup>5</sup>, Robert D. Mathieu<sup>6</sup>, Alison Sills<sup>2</sup>, Aaron M. Geller<sup>3</sup>, Nathan Leigh<sup>1</sup>, Christian Knigge<sup>4</sup>  
*Institution(s):* <sup>1</sup> American Museum of Natural History, <sup>2</sup> McMaster University, <sup>3</sup> Northwestern University, <sup>4</sup> University of Southampton, <sup>5</sup> University of Texas at Austin, <sup>6</sup> University of Wisconsin-Madison
- 342.16 Barium Enhancement in NGC 6819 Blue Stragglers**  
**Author(s):** Katelyn Milliman<sup>2</sup>, Robert D. Mathieu<sup>2</sup>, Simon C. Schuler<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Tampa, <sup>2</sup> University of Wisconsin-Madison
- 342.17 A Spectroscopic Study of Anomalous Stellar Populations in M67**  
**Author(s):** Courtney McGahee<sup>1</sup>, Jeremy R King<sup>2</sup>, Constantine P. Deliyannis<sup>3</sup>  
*Institution(s):* <sup>1</sup> Appalachian State University, <sup>2</sup> Clemson University, <sup>3</sup> Indiana University
- 342.18 A spectroscopic and photometric study of post main sequence stars in M68**  
**Author(s):** Marc Schaeuble<sup>2</sup>, George W. Preston<sup>1</sup>, Chris Sneden<sup>2</sup>, Ian Thompson<sup>1</sup>, Stephen A. Sackett<sup>1</sup>, Gregory S. Burley<sup>1</sup>  
*Institution(s):* <sup>1</sup> Carnegie Observatories, <sup>2</sup> University of Texas at Austin
- 342.19 Hunting the Most Distant Stars in the Milky Way**  
**Author(s):** John J. Bochanski<sup>6</sup>, Beth Willman<sup>4</sup>, Nelson Caldwell<sup>2</sup>, Robyn Ellyn Sanderson<sup>3</sup>, Andrew A. West<sup>1</sup>, Jay Strader<sup>5</sup>, Warren R. Brown<sup>2</sup>, Tobias Fritz<sup>7</sup>, Nitya Kallivayalil<sup>7</sup>  
*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> Center for Astrophysics, <sup>3</sup> Columbia University, <sup>4</sup> Haverford College, <sup>5</sup> Michigan State University, <sup>6</sup> Rider University, <sup>7</sup> University of Virginia
- 342.20 The Radial Distribution of Asymptotic Giant Branch Stars in Nearby Dwarf Galaxies**  
**Author(s):** Mallory B. Mitchell<sup>5</sup>, Kristen B. McQuinn<sup>5</sup>, Martha L Boyer<sup>4</sup>, Evan D. Skillman<sup>5</sup>, Robert D. Gehrz<sup>5</sup>, Greg Sloan<sup>1</sup>, Iain McDonald<sup>2</sup>, Martin Groenewegen<sup>3</sup>  
*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> Keele University, <sup>3</sup> Royal Observatory of Belgium, <sup>4</sup> Space Telescope Science Institution, <sup>5</sup> University of Minnesota
- 342.21 Chemical Abundances in the Small Magellanic Cloud**  
**Author(s):** Evan Lohn<sup>1</sup>, Kiana Borjian<sup>1</sup>, Jessica Werk<sup>2</sup>  
*Institution(s):* <sup>1</sup> The Harker School, <sup>2</sup> University of California, Santa Cruz

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- 342.22 On the Nature of Bright Infrared Sources in the Small Magellanic Cloud: Interpreting MSX through the Lens of Spitzer**  
**Author(s):** Kathleen E. Kraemer<sup>1</sup>, G. C. Sloan<sup>2</sup>  
*Institution(s):* <sup>1</sup> Boston College, <sup>2</sup> Cornell University
- 342.23 Identification of Red Supergiants in the Magellanic Clouds.**  
**Author(s):** Brian Allan Barandi<sup>2</sup>, Philip Massey<sup>1</sup>, Emily M. Levesque<sup>3</sup>  
*Institution(s):* <sup>1</sup> Lowell Observatory, <sup>2</sup> Northern Arizona University, <sup>3</sup> University of Boulder Colorado
- 342.24 DUSTINGS Reveals Dust Production in Very Metal Poor Galaxies**  
**Author(s):** Martha L. Boyer<sup>7</sup>, Kristen B. W. McQuinn<sup>4</sup>, Pauline Barmby<sup>12</sup>, Alceste Z Bonanos<sup>8</sup>, Robert D. Gehrz<sup>4</sup>, Karl D. Gordon<sup>10</sup>, M. A. T. Groenewegen<sup>9</sup>, Eric Lagadec<sup>11</sup>, Daniel J Lennon<sup>3</sup>, Massimo Marengo<sup>5</sup>, Iain McDonald<sup>6</sup>, Margaret Meixner<sup>10</sup>, Evan D. Skillman<sup>4</sup>, G. C. Sloan<sup>2</sup>, George Sonneborn<sup>7</sup>, Jacco Th. van Loon<sup>1</sup>, Albert Zijlstra<sup>6</sup>  
*Institution(s):* <sup>1</sup> Astrophysics Group, Keele University, <sup>2</sup> Cornell University, <sup>3</sup> ESA - European Space Astronomy Centre, <sup>4</sup> Institute for Astrophysics, University of Minnesota, <sup>5</sup> Iowa State University, <sup>6</sup> Jodrell Bank Centre for Astrophysics, University of Manchester, <sup>7</sup> NASA Goddard Space Flight Center, <sup>8</sup> National Observatory of Athens, <sup>9</sup> Royal Observatory of Belgium, <sup>10</sup> Space Telescope Science Institute, <sup>11</sup> University of Nice, Observatoire de la Cote d'Azur, <sup>12</sup> University of Western Ontario

## 343 Variable Stars and White Dwarfs Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 343.01 Multi-mode Observations of Be Stars from the APOGEE and KELT Surveys**  
**Author(s):** Jonathan Labadie-Bartz<sup>2</sup>, Joshua Pepper<sup>2</sup>, M. Virginia McSwain<sup>2</sup>, S. Drew Chojnowski<sup>3</sup>, John P. Wisniewski<sup>4</sup>, David G. Whelan<sup>1</sup>  
*Institution(s):* <sup>1</sup> Austin College, <sup>2</sup> Lehigh University, <sup>3</sup> New Mexico State University, <sup>4</sup> University of Oklahoma
- 343.02 VX Her: Eclipsing Binary System or Single Variable Star**  
**Author(s):** Kathleen Perry<sup>2</sup>, Michael Castelaz<sup>2</sup>, Gary Henson<sup>1</sup>, Andrew Boghuzian<sup>1</sup>  
*Institution(s):* <sup>1</sup> East Tennessee State University, <sup>2</sup> Pisgah Astronomical Research Institute
- 343.03 Lightcurve Analysis of Six Beta-Lyrae Type Variables**  
**Author(s):** Tyler Gardner<sup>1</sup>, Orion Guan<sup>1</sup>, Vayujeet Gokhale<sup>1</sup>  
*Institution(s):* <sup>1</sup> Truman State University
- 343.04 Radial Velocity Time Corrections and their Effect on Variable Star Periods**  
**Author(s):** Rachael Hunter<sup>1</sup>, Eric G. Hintz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brigham Young University
- 343.05 Mass Loss in Classical and Type II Cepheids**  
**Author(s):** Edward G. Schmidt<sup>1</sup>  
*Institution(s):* <sup>1</sup> Univ. of Nebraska

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- 343.06 Establishing a Reliable Reddening Scale for Galactic Cepheids**  
**Author(s):** David G. Turner<sup>1</sup>  
*Institution(s):* <sup>1</sup> Saint Mary's Univ.
- 343.07 Modernizing the Harvard Observatory Catalog of Variable Stars in the Magellanic Clouds**  
**Author(s):** Zachary Murray<sup>1</sup>, Julia Kruk<sup>1</sup>, Lucien Christie-Dervaux<sup>1</sup>, Dong Yi Chen<sup>1</sup>, Or Graur<sup>2</sup>, Ashley Pagnotta<sup>1</sup>  
*Institution(s):* <sup>1</sup> American Museum of Natural History, <sup>2</sup> New York University
- 343.08 Field 1: A First Look at the KELT RR Lyrae Project**  
**Author(s):** Nathan M. De Lee<sup>3</sup>, Karen Kinemuchi<sup>1</sup>, Joshua Pepper<sup>2</sup>, Joseph E. Rodriguez<sup>4</sup>, Martin Paegert<sup>4</sup>  
*Institution(s):* <sup>1</sup> APO, <sup>2</sup> Lehigh University, <sup>3</sup> Northern Kentucky University, <sup>4</sup> Vanderbilt University
- 343.09 Periodic Variable Stars Across the Southern Sky**  
**Author(s):** Andrew J. Drake<sup>2</sup>, Matthew Graham<sup>2</sup>, Stanislav G. Djorgovski<sup>2</sup>, Marcio Catelan<sup>5</sup>, Gabriel Torrealba<sup>3</sup>, Ashish A. Mahabal<sup>2</sup>, Ciro Donalek<sup>2</sup>, Eric J. Christensen<sup>4</sup>, Stephen M. Larson<sup>4</sup>, Robert McNaught<sup>1</sup>, Gordon Garradd<sup>1</sup>  
*Institution(s):* <sup>1</sup> ANU, <sup>2</sup> Caltech, <sup>3</sup> Cambridge University, <sup>4</sup> LPL, <sup>5</sup> Pontificia Universidad Catolica
- 343.10 New BVR Photometry of BL Camelopardalis**  
**Author(s):** Michael D. Joner<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brigham Young Univ.
- 343.11 The Evolution of ONeMg Cores with MESA**  
**Author(s):** Josiah Schwab<sup>1</sup>, Eliot Quataert<sup>1</sup>, Lars Bildsten<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of California, Berkeley
- 343.12 Results from recent time-series photometric studies of pulsating extremely low-mass white dwarfs.**  
**Author(s):** Keaton Bell<sup>4</sup>, Warren R. Brown<sup>1</sup>, Alex Gianninas<sup>3</sup>, JJ Hermes<sup>5</sup>, S. O. Kepler<sup>2</sup>, Mukremin Kilic<sup>3</sup>, Michael H. Montgomery<sup>4</sup>, Donald E. Winget<sup>4</sup>  
*Institution(s):* <sup>1</sup> Smithsonian Astrophysical Observatory, <sup>2</sup> UFRGS, <sup>3</sup> University of Oklahoma, <sup>4</sup> University of Texas-Austin, <sup>5</sup> University of Warwick
- 343.13 The Local Population of White Dwarfs within 25 pc**  
**Author(s):** Jay B. Holberg<sup>3</sup>, Terry D. Oswalt<sup>2</sup>, Edward M. Sion<sup>1</sup>  
*Institution(s):* <sup>1</sup> Department of Astrophysics and Planetary Astronomy, <sup>2</sup> Embry-Riddle Aeronautical University, <sup>3</sup> Lunar and Planetary Laboratory
- 343.14 Origin of Variability of a White Dwarf in the Kepler Field**  
**Author(s):** Donald W. Hoard<sup>1</sup>, Steve B. Howell<sup>2</sup>  
*Institution(s):* <sup>1</sup> Max Planck Institute for Astronomy, <sup>2</sup> NASA-Ames Research Center

- 343.15 Faint White Dwarfs From A Deep Proper Motion Survey Within The Sloan Digital Sky Survey Footprint**  
**Author(s):** Jeffrey A. Munn<sup>5</sup>, Hugh C. Harris<sup>5</sup>, Ted von Hippel<sup>4</sup>, Mukremin Kilic<sup>7</sup>, James W. Liebert<sup>6</sup>, Kurtis A. Williams<sup>3</sup>, Steven DeGenarro<sup>2</sup>, Elizabeth Jeffery<sup>1</sup>, Trudy Tilleman<sup>5</sup>  
*Institution(s):* <sup>1</sup>. *BYU Department of Physics and Astronomy*, <sup>2</sup>. *Department of Astronomy, University of Texas at Austin*, <sup>3</sup>. *Department of Physics and Astronomy, Texas A&M University-Commerce*, <sup>4</sup>. *Embry-Riddle Aeronautical University*, <sup>5</sup>. *U.S. Naval Observatory, Flagstaff Station*, <sup>6</sup>. *University of Arizona, Steward Observatory*, <sup>7</sup>. *University of Oklahoma*
- 343.17 Luminous Blue Variables are Antisocial: Their Isolation Implies they are Kicked Mass Gainers in Binary Evolution**  
**Author(s):** Ryan Tomblason<sup>1</sup>, Nathan Smith<sup>1</sup>  
*Institution(s):* <sup>1</sup>. *Steward Observatory*
- 343.18 Low-Cost Automated Variable Star Detection System**  
**Author(s):** Marin Nicole Meades<sup>1</sup>, Nathaniel Paust<sup>1</sup>  
*Institution(s):* <sup>1</sup>. *Whitman College*
- 343.19 The Pan-STARRS 1 Medium Deep Field Variable Star Catalog**  
**Author(s):** Heather Flewelling<sup>1</sup>  
*Institution(s):* <sup>1</sup>. *University of Hawaii*
- 343.20 Starspots on LO Pegasi, 2006-2014**  
**Author(s):** Robert O. Harmon<sup>3</sup>, Dominique Berry<sup>2</sup>, Mark Chalmers<sup>3</sup>, Josh Denison<sup>3</sup>, Don Stevens<sup>3</sup>, Kaylee Yuhas<sup>1</sup>  
*Institution(s):* <sup>1</sup>. *Baldwin Wallace University*, <sup>2</sup>. *Florida A&M University*, <sup>3</sup>. *Ohio Wesleyan University*
- 343.21 Using RS CVn Binaries as a Novel Approach to Measuring Gravity Darkening**  
**Author(s):** Rachael M. Roettenbacher<sup>3</sup>, John D. Monnier<sup>3</sup>, Heidi Korhonen<sup>4</sup>, Robert O. Harmon<sup>1</sup>, Gregory W. Henry<sup>2</sup>  
*Institution(s):* <sup>1</sup>. *Ohio Wesleyan University*, <sup>2</sup>. *Tennessee State University*, <sup>3</sup>. *University of Michigan*, <sup>4</sup>. *University of Turku*  
 Contributing team(s): CHARA Collaboration
- 343.22 EE Cep Winks in Full Color**  
**Author(s):** Gary E. Walker<sup>1</sup>  
*Institution(s):* <sup>1</sup>. *Maria Mitchell Association Observatory*
- 343.23 H-alpha Tracking in the Clusters NGC 659, NGC 663, and Cygnus OB-2**  
**Author(s):** Eric G. Hintz<sup>1</sup>, Michael D. Joner<sup>1</sup>  
*Institution(s):* <sup>1</sup>. *Brigham Young Univ.*
- 343.24 A Search for Variable Stars in Open Cluster NGC 7654**  
**Author(s):** Adam Pierce<sup>1</sup>, Eric G. Hintz<sup>1</sup>  
*Institution(s):* <sup>1</sup>. *Brigham Young University*
- 343.25 Discovering Variable Stars in the Open Clusters of Cygnus and Ophiuchus**  
**Author(s):** Emma Dahl<sup>3</sup>, Peter B. Stetson<sup>1</sup>, Chantanelle Nava<sup>2</sup>  
*Institution(s):* <sup>1</sup>. *Herzberg Insitute for Astrophysics*, <sup>2</sup>. *Montana State University*, <sup>3</sup>. *Whitman College*

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## 344 Cataclysmic Variables, Stellar Winds and Ejecta, and Eta Carina Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 344.01 New Nova Candidates from the RSBE M31 Nova Survey**  
**Author(s):** Stephanie Lauber<sup>1</sup>, Travis A. Rector<sup>2</sup>, Allen W. Shafter<sup>1</sup>  
*Institution(s):* <sup>1</sup> San Diego State University, <sup>2</sup> University of Alaska Anchorage
- 344.02 The All-Sky Automated Survey for Supernovae CV Patrol**  
**Author(s):** Alexandra Bianca Davis<sup>3</sup>, Benjamin John Shappee<sup>1</sup>, Bartlett Archer Shappee<sup>2</sup>  
*Institution(s):* <sup>1</sup> Hubble Carnegie-Princeton Fellow, <sup>2</sup> Simplified Complexity Llc, <sup>3</sup> The Ohio State University  
Contributing team(s): ASAS-SN
- 344.03 CSS120422: Diving Below the Period Minimum with HST and LBT Spectra**  
**Author(s):** Mark Kennedy<sup>2</sup>, Peter M. Garnavich<sup>2</sup>, Paula Szkody<sup>3</sup>, Paul Callanan<sup>1</sup>  
*Institution(s):* <sup>1</sup> University College Cork, <sup>2</sup> University of Notre Dame, <sup>3</sup> University of Washington
- 344.04 Characterizing Cataclysmic Variable Stars in NGC 6791 Using Kepler**  
**Author(s):** Peter M. Garnavich<sup>2</sup>, Katrina Magno<sup>2</sup>, Martin D. Still<sup>1</sup>, Thomas Barclay<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA/Ames, <sup>2</sup> Univ. of Notre Dame
- 344.05 3D Hydrodynamic Simulation of Classical Novae Explosions**  
**Author(s):** Coleman J. Kendrick<sup>1</sup>  
*Institution(s):* <sup>1</sup> Los Alamos High School
- 344.06 What is the Origin of the Shell Around R Coronae Borealis?**  
**Author(s):** Geoffrey C. Clayton<sup>1</sup>, Edward Montiel<sup>1</sup>, Dominic Marcello<sup>1</sup>, Felix J. Lockman<sup>2</sup>  
*Institution(s):* <sup>1</sup> Louisiana State Univ., <sup>2</sup> NRAO
- 344.07 Searching for IR Excesses around Li-Rich and Rapidly Rotating K Giants Using WISE**  
**Author(s):** John Gibbs<sup>3</sup>, Luisa M. Rebull<sup>2</sup>, David V Black<sup>5</sup>, Elin Deeb<sup>1</sup>, Estefania Larsen<sup>4</sup>, Sarah Cashen<sup>3</sup>, Ashwin Datta<sup>3</sup>, Emily Hodgson<sup>3</sup>, Megan Lince<sup>3</sup>, Rosie Buhrlay<sup>5</sup>, Julie Herring<sup>5</sup>, Kendall Jacoby<sup>5</sup>, Elena Mitchell<sup>5</sup>, Shailyn Altepeter<sup>4</sup>, Ethan Bucksbee<sup>4</sup>, Matthew Clarke<sup>4</sup>  
*Institution(s):* <sup>1</sup> Bear Creek High School, <sup>2</sup> Caltech, <sup>3</sup> Glencoe High School, <sup>4</sup> Millard South High School, <sup>5</sup> Walden School of Liberal Arts
- 344.08 Mining the HST "Advanced Spectral Library (ASTRAL)": Winds of the Evolved M Stars Alpha Ori (M2 lab) and Gamma Cru (M3.4 III)**  
**Author(s):** Kenneth G. Carpenter<sup>2</sup>, Krister E. Nielsen<sup>1</sup>, Gladys V. Kober<sup>1</sup>, Thomas R. Ayres<sup>3</sup>  
*Institution(s):* <sup>1</sup> Catholic University of America, <sup>2</sup> NASA's GSFC, <sup>3</sup> University of Colorado



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- 344.09 Mass Loss from Hypergiant Stars: Searching for Cool Dust in the Near-to-Mid IR**  
**Author(s):** Dinesh Shenoy<sup>2</sup>, Roberta M. Humphreys<sup>2</sup>, Terry Jay Jones<sup>2</sup>, Massimo Marengo<sup>1</sup>, Robert D. Gehrz<sup>2</sup>, L. Andrew Helton<sup>3</sup>  
*Institution(s):* <sup>1</sup> Iowa State University, <sup>2</sup> University of Minnesota, <sup>3</sup> USRA/SOFIA
- 344.10 A Tale of Two Impostors**  
**Author(s):** Roberta M. Humphreys<sup>1</sup>, Kris Davidson<sup>1</sup>, Skyler Grammer<sup>1</sup>  
*Institution(s):* <sup>1</sup> Univ. of Minnesota
- 344.11 Investigating Binary Wolf-Rayet Binary Stars as Potential Gamma-Ray Source**  
**Author(s):** Jacqueline Meadows<sup>1</sup>, Michael J Alexander<sup>1</sup>, M. Virginia McSwain<sup>1</sup>  
*Institution(s):* <sup>1</sup> Lehigh University
- 344.12 A Chandra Observation of the Eclipsing Wolf-Rayet Binary CQ Cep**  
**Author(s):** Steve L. Skinner<sup>3</sup>, Svetozar Zhekov<sup>2</sup>, Manuel Guedel<sup>4</sup>, Werner Schmutz<sup>1</sup>  
*Institution(s):* <sup>1</sup> PMOD/WRC, <sup>2</sup> Space Research and Tech. Institute, <sup>3</sup> Univ. Of Colorado, <sup>4</sup> Univ. of Vienna
- 344.13 Constraining the Dust Mass and Morphology of the Quintuplet Proper Members from SOFIA/FORCAST**  
**Author(s):** Matthew Hankins<sup>1</sup>, Ryan M. Lau<sup>1</sup>, Mark Morris<sup>3</sup>, Joseph D. Adams<sup>2</sup>, Terry L. Herter<sup>1</sup>  
*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> SOFIA/USRA, <sup>3</sup> UCLA
- 344.14 The Increased He II Emission and the Continuing Evolution of the Wind During Eta Carinae's 2014.6 Spectroscopic Event**  
**Author(s):** John C. Martin<sup>3</sup>, Kris Davidson<sup>4</sup>, Andrea Mehner<sup>1</sup>, Roberta M. Humphreys<sup>4</sup>, Kazunori Ishibashi<sup>2</sup>  
*Institution(s):* <sup>1</sup> ESO - Chile, <sup>2</sup> Nagoya University, <sup>3</sup> U of Illinois Springfield, <sup>4</sup> University of Minnesota
- 344.15 The X-ray Lightcurve of Eta Carinae, 1996-2014**  
**Author(s):** Michael F. Corcoran<sup>9</sup>, Kenji Hamaguchi<sup>5</sup>, Jamar Liburd<sup>8</sup>, Theodore R. Gull<sup>2</sup>, Thomas Madura<sup>4</sup>, Mairan Teodoro<sup>3</sup>, Anthony F. J. Moffat<sup>7</sup>, Noel Richardson<sup>7</sup>, Christopher Michael Post Russell<sup>4</sup>, A. Pollock<sup>1</sup>, Stanley P. Owocki<sup>6</sup>  
*Institution(s):* <sup>1</sup> ESA, <sup>2</sup> NASA/GSFC, <sup>3</sup> NASA/GSFC & CNPq, <sup>4</sup> NASA/GSFC & ORAU, <sup>5</sup> NASA/GSFC & UMBC, <sup>6</sup> University of Delaware, <sup>7</sup> University of Montreal, <sup>8</sup> University of the Virgin Islands, <sup>9</sup> USRA
- 344.16 The interacting winds of Eta Carinae: Observed forbidden line changes and the Forbidden Blue(-Shifted) Crab**  
**Author(s):** Theodore R. Gull<sup>3</sup>, Thomas Madura<sup>3</sup>, Michael F. Corcoran<sup>3</sup>, Mairan Teodoro<sup>3</sup>, Noel Richardson<sup>5</sup>, Kenji Hamaguchi<sup>4</sup>, Jose H Groh<sup>1</sup>, Desmond John Hillier<sup>6</sup>, Augusto Damineli<sup>7</sup>, Gerd Weigelt<sup>2</sup>  
*Institution(s):* <sup>1</sup> Geneva Observatory, <sup>2</sup> MPfIR, <sup>3</sup> NASA/GSFC, <sup>4</sup> UMBC, <sup>5</sup> Univ de Montreal, <sup>6</sup> Univ of Pittsburgh, <sup>7</sup> Univ of Sao Paulo

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## 344.17 Extremely Hard X-ray Emission from Eta Carinae observed with XMM-Newton and NuSTAR around Periastron in 2014.5

**Author(s):** Kenji Hamaguchi<sup>4</sup>, Michael F. Corcoran<sup>4</sup>, Hiromitsu Takahashi<sup>3</sup>, Tadayuki Yuasa<sup>5</sup>, Jose H Groh<sup>2</sup>, Christopher Michael Post Russell<sup>6</sup>, Julian M Pittard<sup>7</sup>, Thomas Madura<sup>4</sup>, Stanley P. Owocki<sup>6</sup>, Brian Grefenstette<sup>1</sup>

*Institution(s):* <sup>1</sup>. Caltech, <sup>2</sup>. Geneva Observatory, <sup>3</sup>. Hiroshima University, <sup>4</sup>. NASA's GSFC, <sup>5</sup>. RIKEN, <sup>6</sup>. University of Delaware, <sup>7</sup>. University of Leeds

## 344.18 Swift Observations of the Recent X-ray Activity of Eta Carinae

**Author(s):** Jamar Kalil Liburd<sup>1</sup>, Michael F. Corcoran<sup>2</sup>, David C Morris<sup>1</sup>

*Institution(s):* <sup>1</sup>. University of the Virgin Islands, <sup>2</sup>. USRA

Contributing team(s): Theodore Gull, Kenji Hamaguchi, Thomas Madura, Mairan Teodoro, Nick Durofchalk, Caleb Gimar.

## 344.19 Ultraviolet analysis of Eta Carinae using observations from the International Ultraviolet Explorer

**Author(s):** Nicholas C Durofchalk<sup>1</sup>, Caleb J Gimar<sup>3</sup>, Theodore R. Gull<sup>2</sup>

*Institution(s):* <sup>1</sup>. Lebanon Valley College, <sup>2</sup>. NASA Goddard Space Flight Center, <sup>3</sup>. Wichita State University

## 344.20 3D Model of the Eta Carinae Little Homunculus Nebula

**Author(s):** Wolfgang Steffen<sup>6</sup>, Mairan Teodoro<sup>1</sup>, Thomas Madura<sup>1</sup>, Jose H Groh<sup>4</sup>, Theodore R. Gull<sup>1</sup>, Michael F. Corcoran<sup>2</sup>, Augusto Damineli<sup>5</sup>, Kenji Hamaguchi<sup>3</sup>

*Institution(s):* <sup>1</sup>. Astrophysics Science Division, Code 667, NASA Goddard Space Flight Center, <sup>2</sup>. CRESST and X-ray Astrophysics Laboratory, NASA Goddard Space Flight Center, <sup>3</sup>. Department of Physics, University of Maryland, <sup>4</sup>. Geneva Observatory, Geneva University, <sup>5</sup>. Instituto de Astronomia, Geofísica e Ciências Atmosféricas, Universidade de São Paulo, <sup>6</sup>. Universidad Nacional Autónoma de Mexico

## 344.21 On the changes in the physical properties of the ionized region around the Weigelt structures in $\eta$ Carinae over the 5.54-yr spectroscopic cycle

**Author(s):** Mairan Teodoro<sup>4</sup>, Theodore R. Gull<sup>2</sup>, Manuel Bautista<sup>4</sup>, Desmond John Hillier<sup>3</sup>, Gerd Weigelt<sup>1</sup>

*Institution(s):* <sup>1</sup>. Max-Planck-Institut für Radioastronomie, <sup>2</sup>. NASA/GSFC, <sup>3</sup>. University of Pittsburgh, <sup>4</sup>. Western Michigan University

## 344.22 3D Printing Meets Computational Astrophysics: Deciphering the Structure of Eta Carinae's Colliding Winds Using 3D Prints of Smoothed Particle Hydrodynamics Simulations

**Author(s):** Thomas Madura<sup>3</sup>, Theodore R. Gull<sup>2</sup>, Nicola Clementel<sup>1</sup>, Jan-Pieter Paardekooper<sup>4</sup>, Chael Kruij<sup>1</sup>, Michael F. Corcoran<sup>6</sup>, Kenji Hamaguchi<sup>5</sup>, Mairan Teodoro<sup>2</sup>

*Institution(s):* <sup>1</sup>. Leiden Observatory, Leiden University, <sup>2</sup>. NASA GSFC, <sup>3</sup>. Oak Ridge Associated Universities (ORAU)/NASA GSFC, <sup>4</sup>. Universität Heidelberg, <sup>5</sup>. University of Maryland, Baltimore County, <sup>6</sup>. USRA

## 345 Binary Stellar Systems & X-Ray Binaries Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 345.01 FIRST, a fibered aperture masking instrument: Results of the Lick observing campaign**  
**Author(s):** Baylee Bordwell<sup>7</sup>, Gaspard Duchene<sup>6</sup>, Elsa Huby<sup>9</sup>, Sean Goebel<sup>8</sup>, Franck Marchis<sup>4</sup>, Guy Perrin<sup>3</sup>, Sylvestre Lacour<sup>3</sup>, Takayuki Kotani<sup>2</sup>, Elinor L. Gates<sup>1</sup>, Elodie Choquet<sup>5</sup>  
*Institution(s):* <sup>1</sup> Lick Observatory, <sup>2</sup> NAOJ, <sup>3</sup> Observatoire de Paris, <sup>4</sup> SETI Institute, <sup>5</sup> Space Telescope Science Institute, <sup>6</sup> University of California Berkeley, <sup>7</sup> University of Colorado Boulder, <sup>8</sup> University of Hawaii at Manoa, <sup>9</sup> University of Liège
- 345.02 New data on separation and position angle of selected binaries**  
**Author(s):** Rafael J. Muller<sup>1</sup>, Andy J Lopez<sup>1</sup>, Brian S Torres<sup>1</sup>, Lizyan Mendoza<sup>1</sup>, Nelson Vergara<sup>1</sup>, Juan Cersosimo<sup>1</sup>, Luis Martinez<sup>1</sup>  
*Institution(s):* <sup>1</sup> Univ. of Puerto Rico, Humacao
- 345.03 Multiplicity of the Galactic Senior Citizens: A high-resolution search for cool subdwarf companions**  
**Author(s):** Carl Ziegler<sup>1</sup>, Nicholas M. Law<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of North Carolina - Chapel Hill
- 345.04 Follow-up Observations and Analysis of V530 Andromedae: A Totally Eclipsing Shallow Contact Solar Type Binary**  
**Author(s):** Heather Chamberlain<sup>1</sup>, Ronald G. Samec<sup>4</sup>, Daniel B. Caton<sup>2</sup>, Danny R Faulkner<sup>5</sup>, Jeremy Clark<sup>3</sup>, Travis Shebs<sup>3</sup>  
*Institution(s):* <sup>1</sup> American Public University System, <sup>2</sup> Appalachian State University, <sup>3</sup> Bob Jones University, <sup>4</sup> Pisgah Astronomical Research Institute, <sup>5</sup> University of South Carolina, Lancaster
- 345.05 BVRI Photometric Analysis of the W UMa Binary, V428, in the field of NGC188**  
**Author(s):** Ronald G. Samec<sup>3</sup>, David Edward Maloney<sup>2</sup>, Jeremy Clark<sup>2</sup>, Daniel B. Caton<sup>1</sup>, Danny R. Faulkner<sup>4</sup>  
*Institution(s):* <sup>1</sup> Appalachian State University, <sup>2</sup> Bob Jones Univ., <sup>3</sup> Pisgah Astronomical Research Institute, <sup>4</sup> University of South Carolina, Lancaster
- 345.06 Period Change in the Near-Contact Binary UU Lynxis**  
**Author(s):** Olivia Mulherin<sup>2</sup>, Eric G. Hintz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brigham Young University, <sup>2</sup> St. Bonaventure University
- 345.07 Title: BVRI Photometric Study and Spectra of Algol type Pre-contact W UMa Binary, V500 Pegasi**  
**Author(s):** Daniel B. Caton<sup>1</sup>, Ronald G. Samec<sup>3</sup>, Walter V. Van Hamme<sup>3</sup>, Russell M. Robb<sup>5</sup>, Jeremy Clark<sup>2</sup>, Danny R Faulkner<sup>4</sup>  
*Institution(s):* <sup>1</sup> Appalachian State Univ., <sup>2</sup> Bob Jones University, <sup>3</sup> SARA Observatory, <sup>4</sup> Univ. South Carolina - Lancaster, <sup>5</sup> University of Victoria
- 345.08 Another Component in the V523 Cassiopeiae Eclipsing Binary System**  
**Author(s):** Michael W. Castelaz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brevard College

# WEDNESDAY, 7 JANUARY 2015

- 345.09 Heartbeat Stars: Spectroscopic Orbital Solutions for Six Highly Eccentric Binary Systems**  
**Author(s):** Henry A. Kobulnicky<sup>1</sup>, Rachel Smullen<sup>2</sup>  
*Institution(s):* <sup>1</sup> Univ. of Wyoming, <sup>2</sup> University of Arizona
- 345.10 Stellar Masses in the Mysterious Young Triple Star System AS 205**  
**Author(s):** Frankie Encalada<sup>3</sup>, Viviana A. Rosero<sup>2</sup>, Lisa A. Prato<sup>1</sup>, Sara Bruhns<sup>4</sup>  
*Institution(s):* <sup>1</sup> Lowell Observatory, <sup>2</sup> New Mexico Tech, <sup>3</sup> University of Florida, <sup>4</sup> University of Virginia
- 345.12 Modeling Gyrosynchrotron Coronae of Radio-Loud Stars**  
**Author(s):** William M. Peterson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Augustana College
- 345.13 Simulations of lightcurves of common envelope binary interactions**  
**Author(s):** Orsola De Marco<sup>2</sup>, Pablo Galaviz<sup>2</sup>, Jan E. Staff<sup>2</sup>, Jean-Claude Passy<sup>1</sup>, Roberto Iaconi<sup>2</sup>  
*Institution(s):* <sup>1</sup> Argelander Institute, University of Bonn, <sup>2</sup> Macquarie University
- 345.14 Hydrodynamic Simulations of the Interaction between Giant Stars and Planets**  
**Author(s):** Jan E. Staff<sup>1</sup>, Orsola De Marco<sup>1</sup>, Jean-Claude Passy<sup>2</sup>, Pablo Galaviz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Macquarie University, <sup>2</sup> University of Bonn
- 345.15 Optical and Infrared Photometry of Low-Mass Stars in Eclipsing Binaries**  
**Author(s):** Zachary Hartman<sup>1</sup>, Donald M. Terndrup<sup>1</sup>  
*Institution(s):* <sup>1</sup> Ohio State University
- 345.16 The Double Red Giant Binary With Odd Oscillations**  
**Author(s):** Meredith L. Rawls<sup>2</sup>, Patrick Gaulme<sup>2</sup>, Jean McKeever<sup>2</sup>, Jerome A. Orosz<sup>3</sup>, David W. Latham<sup>1</sup>, Jason Jackiewicz<sup>2</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> New Mexico State University, <sup>3</sup> San Diego State University
- 345.17 Monitoring Symbiotic Stars for Photometric Variability**  
**Author(s):** Caitlin Doughty<sup>1</sup>, Julie H. Lutz<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Washington
- 345.18 Kepler and the Eclipsing Symbiotic System CH Cyg**  
**Author(s):** Kenneth H. Hinkle<sup>2</sup>, Francis C. Fekel<sup>3</sup>, Richard R. Joyce<sup>2</sup>, Thomas Lebzelter<sup>4</sup>, Erich Hartig<sup>4</sup>, Jennifer L. Sokoloski<sup>1</sup>  
*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> NOAO, <sup>3</sup> Tennessee State University, <sup>4</sup> University of Vienna
- 345.19 Compact Binaries Discovered and Characterized by the Palomar Transient Factory**  
**Author(s):** Thomas Allen Prince<sup>1</sup>  
*Institution(s):* <sup>1</sup> Caltech  
Contributing team(s): PTF Collaboration, iPTF Collaboration
- 345.20 A Bayesian Estimation for Spica's Apsidal Period from 111 years of Spectroscopic Observations**  
**Author(s):** Jason P. Aufdenberg<sup>1</sup>, Timothy M Robinette<sup>1</sup>  
*Institution(s):* <sup>1</sup> Embry-Riddle Aeronautical Univ.

- 345.21 A Search for Microlensing Signals in the Kepler Field**  
**Author(s):** Kelsey L. Hoffman<sup>1</sup>, Jason Rowe<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA-Ames Research Centre
- 345.22 Prospect with ASTRO-H on New Sciences of Accreting Pulsars, Magnetars, & Related Sources**  
**Author(s):** Shunji Kitamoto<sup>4</sup>, Teruaki Enoto<sup>3</sup>, Samar Safi-Harb<sup>6</sup>, Masha Chernyakova<sup>1</sup>, Carlo Ferrigno<sup>5</sup>, Katja Pottschmidt<sup>2</sup>  
*Institution(s):* <sup>1</sup> Dublin Institute for Advanced Studies, <sup>2</sup> NASA/GSFC, <sup>3</sup> Riken, <sup>4</sup> Rikkyo University, <sup>5</sup> University de Geneve, <sup>6</sup> University of Manitoba  
Contributing team(s): ASTRO-H collaboration, High-mass binaries and magnetars
- 345.23 X-ray Sources Discovered in the Cores of Galactic Globular Clusters NGC6717 and NGC6287**  
**Author(s):** David C Morris<sup>1</sup>, Ruel Mitchel<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of the Virgin Islands
- 345.24 A Survey of the Discrete X-ray Source Population of M51**  
**Author(s):** Catherine Ann Martlin<sup>3</sup>, Roy E. Kilgard<sup>4</sup>, Trevor Dorn-Wallenstein<sup>4</sup>, K. D. Kuntz<sup>2</sup>, Greg Schulman<sup>1</sup>  
*Institution(s):* <sup>1</sup> Clark University, <sup>2</sup> John Hopkins, <sup>3</sup> Swarthmore College, <sup>4</sup> Wesleyan University  
Contributing team(s): The M51 Chandra VLP Collaboration
- 345.25 Properties of the Discrete X-ray Source Population of M51**  
**Author(s):** Trevor Z Dorn-Wallenstein<sup>4</sup>, Roy E. Kilgard<sup>4</sup>, Catherine Martlin<sup>3</sup>, K. D. Kuntz<sup>2</sup>, Greg Schulman<sup>1</sup>  
*Institution(s):* <sup>1</sup> Clark University, <sup>2</sup> Johns Hopkins University, <sup>3</sup> Swarthmore College, <sup>4</sup> Wesleyan University  
Contributing team(s): The M51 Chandra VLP Collaboration
- 345.26 Hydrodynamic Simulations of Contact Binaries**  
**Author(s):** Kundan Kadam<sup>2</sup>, Geoffrey C. Clayton<sup>2</sup>, Juhan Frank<sup>2</sup>, Dominic Marcello<sup>2</sup>, Patrick M. Motl<sup>1</sup>, Jan E. Staff<sup>3</sup>  
*Institution(s):* <sup>1</sup> Indiana University Kokomo, <sup>2</sup> Louisiana State University, <sup>3</sup> Macquarie University
- 345.27 A Radio Emission Analysis of Nova Puppis 1991 (V351 Pup)**  
**Author(s):** Carolyn Wendeln<sup>1</sup>, Laura Chomiuk<sup>1</sup>  
*Institution(s):* <sup>1</sup> Michigan State University
- 345.28 Combining Fits of The Optical Photometry and X-ray Spectra of the Low Mass X-ray Binary V1408 Aquilae.**  
**Author(s):** Sebastian Gomez<sup>2</sup>, Paul A. Mason<sup>2</sup>, Edward L. Robinson<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Texas at Austin, <sup>2</sup> University of Texas-El Paso
- 345.29 Two tracks in Three Dimensions: Correlations between optical, soft X-ray and hard X-ray brightness variations of the Neutron Star X-ray Binary Aquila X-1**  
**Author(s):** John Scarpaci<sup>1</sup>, Dipankar Maitra<sup>1</sup>  
*Institution(s):* <sup>1</sup> Wheaton College

# WEDNESDAY, 7 JANUARY 2015

## 345.30 Does the HMXB IGR J18214-1318 contain a black hole or neutron star?

**Author(s):** Francesca Fornasini<sup>7</sup>, John Tomsick<sup>6</sup>, Matteo Bachetti<sup>5</sup>, Felix Fuerst<sup>1</sup>, Lorenzo Natalucci<sup>3</sup>, Katja Pottschmidt<sup>4</sup>, David M. Smith<sup>8</sup>, Joern Wilms<sup>2</sup>  
*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Dr. Karl Remeis Observatory, <sup>3</sup> INAF-IAPS, <sup>4</sup> NASA/GSFC, <sup>5</sup> Osservatorio Astronomico di Cagliari, <sup>6</sup> Space Sciences Laboratory, UC Berkeley, <sup>7</sup> UC Berkeley, <sup>8</sup> UC Santa Cruz

## 345.31 Study of the Correlations and the MAXI Hardness Ratio between the Anomalous and Normal Low States of LMC X-3

**Author(s):** Trevor Torpin<sup>1</sup>, Patricia T. Boyd<sup>2</sup>, Alan P. Smale<sup>2</sup>  
*Institution(s):* <sup>1</sup> Catholic University of America, <sup>2</sup> NASA's GSFC

## 345.32 Global Simulations of the Interaction of Microquasar Jets with a Stellar wind in High-Mass X-ray Binaries

**Author(s):** Doosoo Yoon<sup>1</sup>, Sebastian Heinz<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Wisconsin, Madison

## 345.33 The 0.3–30 keV spectra of Powerful Starburst Galaxies: NuSTAR and Chandra observations of NGC 3256 and NGC 3310

**Author(s):** Joshua Tyler<sup>3</sup>, Bret Lehmer<sup>2</sup>, Ann E. Hornschemeier<sup>3</sup>, Mihoko Yukita<sup>2</sup>, Daniel R. Wik<sup>2</sup>, Andrew Ptak<sup>3</sup>, Daniel Stern<sup>4</sup>, Fiona Harrison<sup>1</sup>, Tom Maccarone<sup>6</sup>, Andreas Zezas<sup>5</sup>, Vallia Antoniou<sup>5</sup>  
*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> JHU, <sup>3</sup> NASA GSFC, <sup>4</sup> NASA JPL, <sup>5</sup> SAO, <sup>6</sup> Texas Tech  
Contributing team(s): NuSTAR Starburst Team

## 346 Pulsars and Neutron Stars Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 346.01 A flexible real-time pulsar processing system for the VLA

**Author(s):** Paul Demorest<sup>5</sup>, Bryan J. Butler<sup>5</sup>, James M. Cordes<sup>2</sup>, Shami Chatterjee<sup>2</sup>, Adam Deller<sup>1</sup>, Vivek Dhawan<sup>5</sup>, Joseph Lazio<sup>3</sup>, Walid A. Majid<sup>3</sup>, Scott M. Ransom<sup>4</sup>, Robert Wharton<sup>2</sup>  
*Institution(s):* <sup>1</sup> ASTRON, <sup>2</sup> Cornell University, <sup>3</sup> Jet Propulsion Laboratory, <sup>4</sup> National Radio Astronomy Observatory, <sup>5</sup> National Radio Astronomy Observatory

### 346.02 The Arecibo Remote Command Center at Franklin and Marshall College

**Author(s):** Fronefield Crawford<sup>1</sup>, Fredrick Jenet<sup>2</sup>, Xavier Siemens<sup>3</sup>, Andrea N. Lommen<sup>1</sup>, Emma Handzo<sup>2</sup>, Nicolas Mahany<sup>1</sup>, Kristina Rolph<sup>1</sup>, Sierra Blazer<sup>1</sup>, Richard Camuccio<sup>1</sup>, Abel Gebeyehu<sup>1</sup>, Christopher Haylon<sup>1</sup>, Mark Lederer<sup>1</sup>, Kathleen Lefebvre<sup>1</sup>, Yaoyue Liang<sup>1</sup>, Daniel Mix<sup>1</sup>, John McMahan<sup>1</sup>, Christopher Morrow<sup>1</sup>, Jonathan Munro<sup>1</sup>, Ryan Nesselrodt<sup>1</sup>, Caitlin Rose<sup>1</sup>, Chase TenBrook<sup>1</sup>, Matthew Tibbetts<sup>1</sup>, Lam Tran<sup>1</sup>, Rachel Umberger<sup>1</sup>, Emily Wilson<sup>1</sup>, Kristen Wymer<sup>1</sup>  
*Institution(s):* <sup>1</sup> Franklin and Marshall College, <sup>2</sup> University of Texas at Brownsville, <sup>3</sup> University of Wisconsin Milwaukee

- 346.03 Pulsar Search Results from the Arecibo Remote Command Center**  
**Author(s):** Miguel Rodriguez<sup>4</sup>, Kevin Stovall<sup>3</sup>, Shawn A Banaszak<sup>5</sup>, Alison Becker<sup>5</sup>, Christopher M Biver<sup>5</sup>, Keith Boehler<sup>4</sup>, Keeisi Caballero<sup>4</sup>, Brian Christy<sup>1</sup>, Stephanie Cohen<sup>4</sup>, Fronefield Crawford<sup>1</sup>, Andres Cuellar<sup>4</sup>, Andrew Danford<sup>4</sup>, Louis Percy Dartez<sup>4</sup>, David Day<sup>5</sup>, Joseph D Flanigan<sup>5</sup>, Aldo Fonrouge<sup>4</sup>, Adolfo Gonzalez<sup>4</sup>, Kathy Gustavson<sup>2</sup>, Emma Handzo<sup>4</sup>, Jesus Hinojosa<sup>4</sup>, Fredrick A Jenet<sup>4</sup>, David L.A. Kaplan<sup>5</sup>, Andrea N. Lommen<sup>1</sup>, Chasity Longoria<sup>4</sup>, Janine Lopez<sup>4</sup>, Grady Lunsford<sup>4</sup>, Nicolas Mahany<sup>1</sup>, Jose Martinez<sup>4</sup>, Alberto Mata<sup>4</sup>, Andy Miller<sup>4</sup>, James Murray<sup>4</sup>, Chris Pankow<sup>5</sup>, Ivan Ramirez<sup>4</sup>, Jackie Reser<sup>4</sup>, Pablo Rojas<sup>4</sup>, Matthew Rohr<sup>5</sup>, Kristina Rolph<sup>1</sup>, Caitlin Rose<sup>1</sup>, Philip Rudnik<sup>4</sup>, Xavier Siemens<sup>5</sup>, Andrea Tellez<sup>4</sup>, Nicholas Tillman<sup>5</sup>, Arielle Walker<sup>5</sup>, Bradley L Wells<sup>5</sup>, Jonathan Zaldivar<sup>4</sup>, Adrienne Zermeno<sup>4</sup>  
*Institution(s):* <sup>1.</sup> Franklin and Marshall College, <sup>2.</sup> Nicolet High School, <sup>3.</sup> University of New Mexico, <sup>4.</sup> University of Texas at Brownsville, <sup>5.</sup> University of Wisconsin-Milwaukee  
 Contributing team(s): GBNCC Consortium, PALFA Consortium, GBTDRIFT Consortium, AO327 Consortium
- 346.04 Hybrid Imaging-Periodicity Search for Radio Pulsars: A Pilot VLA Survey**  
**Author(s):** Molly Finn<sup>7</sup>, Robert Wharton<sup>2</sup>, Shami Chatterjee<sup>2</sup>, James M. Cordes<sup>2</sup>, David L.A. Kaplan<sup>8</sup>, Sarah Burke-Spolaor<sup>1</sup>, Fronefield Crawford<sup>3</sup>, Adam Deller<sup>6</sup>, Joseph Lazio<sup>4</sup>, Scott M. Ransom<sup>5</sup>  
*Institution(s):* <sup>1.</sup> California Institute of Technology, <sup>2.</sup> Cornell University, <sup>3.</sup> Franklin and Marshall College, <sup>4.</sup> Jet Propulsion Laboratory, <sup>5.</sup> National Radio Astronomy Observatory, <sup>6.</sup> The Netherlands Institute for Radio Astronomy, <sup>7.</sup> University of Rochester, <sup>8.</sup> University of Wisconsin, Milwaukee
- 346.05 Phased-Array Search for Pulsars within 0.3 pc of Sgr A\* using the Jansky VLA**  
**Author(s):** Robert Wharton<sup>2</sup>, Paul Demorest<sup>5</sup>, Adam Deller<sup>1</sup>, Joseph Lazio<sup>3</sup>, Scott M. Ransom<sup>4</sup>, Shami Chatterjee<sup>2</sup>, James M. Cordes<sup>2</sup>, Walid A. Majid<sup>3</sup>  
*Institution(s):* <sup>1.</sup> ASTRON, <sup>2.</sup> Cornell University, <sup>3.</sup> JPL/Caltech, <sup>4.</sup> NRAO, <sup>5.</sup> NRAO
- 346.06 Searching for Pulsars Using the Low Frequency All Sky Monitor**  
**Author(s):** Emma Handzo<sup>1</sup>, Fredrick Jenet<sup>1</sup>, Teviet David Creighton<sup>1</sup>, Louis Percy Dartez<sup>1</sup>  
*Institution(s):* <sup>1.</sup> University of Texas at Brownsville
- 346.07 Discovery of a 1.69 ms radio pulsar associated with the X-ray binary XSS J12270-4859**  
**Author(s):** Paul S. Ray<sup>4</sup>, Jayanta Roy<sup>5</sup>, Bhaswati Bhattacharyya<sup>5</sup>, Benjamin Stappers<sup>5</sup>, Jayaram N. Chengalur<sup>3</sup>, Julia S. Deneva<sup>2</sup>, Fernando M. Camilo<sup>1</sup>  
*Institution(s):* <sup>1.</sup> Columbia University, <sup>2.</sup> National Research Council, <sup>3.</sup> NCRA, <sup>4.</sup> NRL, <sup>5.</sup> University of Manchester
- 346.08 A Low Frequency Survey of Giant Pulses from the Crab Pulsar**  
**Author(s):** Tarraneh Eftekhari<sup>1</sup>, Gregory B. Taylor<sup>1</sup>, Kevin Stovall<sup>1</sup>  
*Institution(s):* <sup>1.</sup> University of New Mexico
- 346.09 LOFAR discovery of a quiet emission mode in PSR B0823+26**  
**Author(s):** Charlotte Sobey<sup>1</sup>  
*Institution(s):* <sup>1.</sup> ASTRON  
 Contributing team(s): LOFAR collaboration

# WEDNESDAY, 7 JANUARY 2015

- 346.10 An improved algorithm for inferring neutron star masses and radii using NICER waveform data**  
**Author(s):** Frederick K. Lamb<sup>1</sup>, M. Coleman Miller<sup>2</sup>  
*Institution(s):* <sup>1</sup> Univ. of Illinois, <sup>2</sup> Univ. of Maryland
- 346.11 An Exploration of X-ray Based Distance Estimates to Pulsars**  
**Author(s):** Kristof Bogнар<sup>2</sup>, Mallory Roberts<sup>2</sup>, Shami Chatterjee<sup>1</sup>  
*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> New York University Abu Dhabi
- 346.12 On the Sensitivity of Black Widow Pulsars to the Stochastic Gravitational Wave Background**  
**Author(s):** Christopher Bochenek<sup>1</sup>, Scott M. Ransom<sup>1</sup>, Paul Demorest<sup>1</sup>  
*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory
- 346.13 A Search for Gamma-ray Emission from Wind-Wind Interactions in Black Widow and Redback Millisecond Pulsars**  
**Author(s):** Tyrel J. Johnson<sup>3</sup>, Paul S. Ray<sup>4</sup>, Fernando M. Camilo<sup>1</sup>, Mallory S. E. Roberts<sup>2</sup>  
*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> Eureka Scientific, Inc., <sup>3</sup> George Mason University, <sup>4</sup> US Naval Research Laboratory  
Contributing team(s): Fermi Large Area Telescope Collaboration
- 346.14 PINT, a New Pulsar Timing Software**  
**Author(s):** Jing Luo<sup>4</sup>, Fredrick A Jenet<sup>4</sup>, Scott M. Ransom<sup>3</sup>, Paul Demorest<sup>3</sup>, Rutger Van Haasteren<sup>2</sup>, Anne Archibald<sup>1</sup>  
*Institution(s):* <sup>1</sup> ASTRON, <sup>2</sup> JPL, <sup>3</sup> NRAO, <sup>4</sup> The University of Texas at Brownsville
- 346.15 Long-term Timing of the Pulsar Triple System in M4**  
**Author(s):** Emmanuel Fonseca<sup>5</sup>, Ingrid H. Stairs<sup>5</sup>, Zaven Arzumianian<sup>2</sup>, Steinn Sigurdsson<sup>4</sup>, Stephen E. Thorsett<sup>7</sup>, Michael Kramer<sup>1</sup>, Nicolas Caballero<sup>1</sup>, Benjamin Stappers<sup>6</sup>, Andrew Lyne<sup>6</sup>, Anne Archibald<sup>3</sup>  
*Institution(s):* <sup>1</sup> Max Planck Institute for Radio Astronomy, <sup>2</sup> NASA Goddard Space Flight Center, <sup>3</sup> The Netherlands Institute for Radio Astronomy, <sup>4</sup> The Pennsylvania State University, <sup>5</sup> The University of British Columbia, <sup>6</sup> The University of Manchester, <sup>7</sup> Willamette University
- 346.16 The Double Pulsar: Timing and Strong-Field Gravity**  
**Author(s):** Ingrid H. Stairs<sup>5</sup>, Michael Kramer<sup>4</sup>, Marta Burgay<sup>1</sup>, Robert D. Ferdman<sup>3</sup>, Paulo Freire<sup>4</sup>, Duncan Lorimer<sup>7</sup>, Andrew Lyne<sup>6</sup>, Richard N. Manchester<sup>2</sup>, Maura McLaughlin<sup>7</sup>, Andrea Possenti<sup>1</sup>, John Sarkissian<sup>2</sup>, Norbert Wex<sup>4</sup>  
*Institution(s):* <sup>1</sup> Osservatorio Astronomico di Cagliari, <sup>2</sup> CSIRO Astronomy and Space Science, <sup>3</sup> McGill University, <sup>4</sup> MPIfR, <sup>5</sup> Univ. of BC, <sup>6</sup> University of Manchester, <sup>7</sup> West Virginia University
- 346.17 Flux Density Variations in the Parkes Pulsar Timing Array Millisecond Pulsars**  
**Author(s):** Renée Spiewak<sup>2</sup>, Ryan Shannon<sup>1</sup>, George Hobbs<sup>1</sup>, Matthew Kerr<sup>1</sup>  
*Institution(s):* <sup>1</sup> CSIRO Astronomy and Space Science, <sup>2</sup> University of WI - Milwaukee
- 346.18 Precision Pulsar Timing at the DSN**  
**Author(s):** Walid A. Majid<sup>1</sup>  
*Institution(s):* <sup>1</sup> JPL/Caltech



## 346.19 The Effect of Thermalization on Light Curves from Kilonova

**Author(s):** Jennifer Barnes<sup>1</sup>, Daniel Kasen<sup>1</sup>

*Institution(s):* <sup>1</sup> University of California - Berkeley

## 347 Black Hole Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 347.01 The Black Hole Formation Probability

**Author(s):** Drew R. Clausen<sup>1</sup>, Anthony Piro<sup>2</sup>, Christian D. Ott<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Carnegie Observatories

### 347.02 A Second Look at the Accretion Disk Wind in GRS 1915+015 as Observed with Chandra and RXTE

**Author(s):** Mason Keck<sup>1</sup>, Joseph Neilsen<sup>1</sup>

*Institution(s):* <sup>1</sup> Boston University

### 347.03 Temporal Variability in a Long, Global Accretion Disk Simulation

**Author(s):** J. Drew Hogg<sup>1</sup>, Christopher S. Reynolds<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Maryland

### 347.04 The impact of non-thermal electrons on resolved black hole accretion disk images

**Author(s):** Shengkai Mao<sup>2</sup>, Jason Dexter<sup>1</sup>, Eliot Quataert<sup>2</sup>

*Institution(s):* <sup>1</sup> Max Planck Institute for Extraterrestrial Physics, <sup>2</sup> UC Berkeley

### 347.05 Stellar Tidal Disruption by a Supermassive Black Hole Binary

**Author(s):** Angelo Ricarte<sup>2</sup>, Priyamvada Natarajan<sup>2</sup>, Lixin J. Dai<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Maryland, <sup>2</sup> Yale University

### 347.06 Recoiling Supermassive Black Holes: a search in the Nearby Universe

**Author(s):** Davide Lena<sup>4</sup>, Andrew Robinson<sup>4</sup>, Alessandro Marconi<sup>1</sup>, David Axon<sup>5</sup>, Alessandro Capetti<sup>3</sup>, David Merritt<sup>4</sup>, Daniel Batcheldor<sup>2</sup>

*Institution(s):* <sup>1</sup> Dipartimento di Fisica e Astronomia, Università degli Studi di Firenze, <sup>2</sup> Florida Institute of Technology, <sup>3</sup> Osservatorio Astronomico di Torino, <sup>4</sup> Rochester Institute of Technology, <sup>5</sup> University of Sussex

### 347.07 Constraining the Orbits of the Supermassive Binary Blackhole Pair 0402+379

**Author(s):** Ben Holland<sup>1</sup>, Alison B. Peck<sup>2</sup>, Gregory B. Taylor<sup>5</sup>, Robert T. Zavala<sup>4</sup>, Roger W. Romani<sup>3</sup>

*Institution(s):* <sup>1</sup> Colorado School of Mines, <sup>2</sup> NRAO, <sup>3</sup> Stanford University, <sup>4</sup> U.S. Naval Observatory Flagstaff Station, <sup>5</sup> University of New Mexico

### 347.08 Supermassive Black Hole Binary Mergers within Axisymmetric Galaxies: An Orbital Perspective.

**Author(s):** Baile Li<sup>2</sup>, Kelly Holley-Bockelmann<sup>2</sup>, Fazeel Khan<sup>1</sup>

*Institution(s):* <sup>1</sup> Institute of Space Technology, <sup>2</sup> Vanderbilt University

### 347.09 Data formats for a library of Kerr metric transfer functions

**Author(s):** Jonathan C. McDowell<sup>2</sup>, Laura Brenneman<sup>2</sup>, Christopher S. Reynolds<sup>3</sup>, Mason Keck<sup>2</sup>, Guido Risaliti<sup>1</sup>

*Institution(s):* <sup>1</sup> Arcetri (INAF), <sup>2</sup> Harvard-Smithsonian CfA, <sup>3</sup> University of Maryland

# WEDNESDAY, 7 JANUARY 2015

- 347.10 A systematic search for  $z \geq 5$  active galactic nuclei in the Chandra Deep Field South**  
**Author(s):** Anna K. Weigel<sup>1</sup>, Kevin Schawinski<sup>1</sup>, Ezequiel Treister<sup>2</sup>, Michael Koss<sup>1</sup>, C. Megan Urry<sup>3</sup>, Benny Trakhtenbrot<sup>1</sup>  
*Institution(s):* <sup>1</sup>ETH Zurich, <sup>2</sup>Universidad de Concepción, <sup>3</sup>Yale University
- 347.11 The impact of Lyman-alpha trapping on the massive black hole seed formation**  
**Author(s):** Qi Ge<sup>1</sup>  
*Institution(s):* <sup>1</sup>Georgia Institute of Technology
- 347.12 The Dynamics of Seed Black Holes in the First Galaxies**  
**Author(s):** Chao Shi<sup>1</sup>, John Wise<sup>1</sup>, Hao Xu<sup>3</sup>, Michael L. Norman<sup>3</sup>, Brian W. O'Shea<sup>2</sup>  
*Institution(s):* <sup>1</sup>Georgia Institute of Technology, <sup>2</sup>Michigan State University, <sup>3</sup>University of California San Diego

## 348 Young Stellar Objects, Very Young Stars, T-Tauri Stars, H-H Objects Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

- 348.01 Dissecting a Molecular Shock: Spatially Resolved H<sub>2</sub> Line Ratios Across the HH7 Bow Shock**  
**Author(s):** Rosemary E. Pike<sup>5</sup>, Thomas R. Geballe<sup>1</sup>, Michael G. Burton<sup>4</sup>, Antonio Chrysostomou<sup>3</sup>, Peter Brand<sup>2</sup>  
*Institution(s):* <sup>1</sup>Gemini Observatory, <sup>2</sup>Royal University Edinburgh, <sup>3</sup>University of Hertfordshire, <sup>4</sup>University of New South Wales, <sup>5</sup>University of Victoria
- 348.02 Spectro-astrometric Study of HI emission lines from Herbig Ae/Be Stars**  
**Author(s):** Steven Cade Adams<sup>2</sup>, Sean D. Brittain<sup>2</sup>, Catherine Dougados<sup>3</sup>, Myriam Benisty<sup>5</sup>, Linda Podio<sup>1</sup>, Emma Whelan<sup>4</sup>  
*Institution(s):* <sup>1</sup>Arcetri Astrophysical Observatory, <sup>2</sup>Clemson University, <sup>3</sup>Universidad de Chile, <sup>4</sup>Universität Tübingen, <sup>5</sup>Université de Grenoble
- 348.03 Revisiting Forbidden Lines in T Tauri stars**  
**Author(s):** Wanda Feng<sup>2</sup>, Suzan Edwards<sup>2</sup>, Ilaria Pascucci<sup>3</sup>, Elisabetta Rigliaco<sup>1</sup>  
*Institution(s):* <sup>1</sup>ETH Zurich, <sup>2</sup>Smith College, <sup>3</sup>University of Arizona
- 348.04 Multi-Wavelength Spectroscopy of Two Classical T Tauri Stars**  
**Author(s):** Andrea K. Dupree<sup>1</sup>, Nancy S. Brickhouse<sup>1</sup>, Steven R. Cranmer<sup>1</sup>  
*Institution(s):* <sup>1</sup>SAO
- 348.05 Measurement of 12CO, 13CO, and C18O Ratios in HL~Tau and GV~Tau**  
**Author(s):** Scott Davis<sup>1</sup>, Thomas Teasley<sup>1</sup>, Sean D. Brittain<sup>1</sup>, Greg Doppmann<sup>3</sup>, Joan R. Najita<sup>2</sup>  
*Institution(s):* <sup>1</sup>Clemson University, <sup>2</sup>National Optical Astronomy Observatory, <sup>3</sup>W. M. Keck Observatory
- 348.06 No evidence of disk destruction by OB stars**  
**Author(s):** Alexander J.W. Richert<sup>1</sup>, Eric Feigelson<sup>1</sup>  
*Institution(s):* <sup>1</sup>The Pennsylvania State University

- 348.07 Mid-Infrared Variability Among YSOs in Rho Oph, IRAS 20050+2720 and GGD 12-15 Star Formation Regions**  
**Author(s):** Scott J. Wolk<sup>2</sup>, Katja Poppenhaeger<sup>2</sup>, Hans Moritz Günther<sup>2</sup>, Luisa M. Rebull<sup>1</sup>  
*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> SAO  
 Contributing team(s): YSOVAR Team
- 348.08 Nature or Nurture: the peculiar HH 900 jet and outflow system in the Carina nebula**  
**Author(s):** Megan Reiter<sup>1</sup>, Nathan Smith<sup>1</sup>, Megan M. Kiminki<sup>1</sup>, John Bally<sup>2</sup>  
*Institution(s):* <sup>1</sup> The University of Arizona, <sup>2</sup> University of Colorado, Boulder
- 348.09 Vertically Global, Horizontally Local Models for Astrophysical Disks**  
**Author(s):** Colin P. McNally<sup>1</sup>, Martin Pessah<sup>1</sup>  
*Institution(s):* <sup>1</sup> NBIA, U. Copenhagen
- 348.10 EVLA Observation of Centimeter Continuum Emission from Protostars in Serpens South**  
**Author(s):** Nicholas S. Kern<sup>3</sup>, John J. Tobin<sup>1</sup>, Jared A. Keown<sup>4</sup>, Robert A. Gutermuth<sup>2</sup>  
*Institution(s):* <sup>1</sup> University of Leiden, <sup>2</sup> University of Massachusetts, <sup>3</sup> University of Michigan, <sup>4</sup> University of Victoria
- 348.11 Time-series Photometry of the Pre-Main Sequence Binary V4046 Sgr: Testing the Accretion Stream Theory**  
**Author(s):** Benjamin M. Tofflemire<sup>3</sup>, Robert D. Mathieu<sup>3</sup>, David R. Ardila<sup>1</sup>, David R. Ciardi<sup>2</sup>  
*Institution(s):* <sup>1</sup> Aerospace Corp, <sup>2</sup> Caltech, <sup>3</sup> University of Wisconsin - Madison
- 348.12 Stellar Radius Measurements of the Young Debris Disk Host AU Mic**  
**Author(s):** Russel J. White<sup>1</sup>, Gail Schaefer<sup>1</sup>, Theo Ten Brummelaar<sup>1</sup>, Christopher D. Farrington<sup>1</sup>, Harold A. McAlister<sup>1</sup>, Stephen T. Ridgway<sup>1</sup>, Judit Sturmann<sup>1</sup>, Laszlo Sturmann<sup>1</sup>, Nils H. Turner<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia State University
- 348.13 SLICC: Spectral Linear Combination for Coronagraphy**  
**Author(s):** Andrew W Cox<sup>2</sup>, Carol A Grady<sup>1</sup>  
*Institution(s):* <sup>1</sup> Eureka Scientific, <sup>2</sup> University of Maryland, Baltimore County
- 348.14 Near-IR Variability of Young Stars in Orion OB1**  
**Author(s):** Alexander Contreras<sup>2</sup>, Cesar Briceño<sup>1</sup>  
*Institution(s):* <sup>1</sup> Cerro Tololo Inter-American Observatory, <sup>2</sup> Universidad de Valparaíso
- 348.15 Infrared Photometry and Spectroscopy of V582 Mon (KH15D)**  
**Author(s):** Nicole Annemarie Arulanantham<sup>2</sup>, William Herbst<sup>2</sup>, Sandy K. Leggett<sup>1</sup>  
*Institution(s):* <sup>1</sup> Gemini Observatory, <sup>2</sup> Wesleyan University
- 348.16 A survey of molecular hydrogen emission in the Rosette Molecular Cloud**  
**Author(s):** Jason E. Ybarra<sup>1</sup>, Carlos Román-Zuñiga<sup>1</sup>, Elizabeth A. Lada<sup>4</sup>, Scott W. Fleming<sup>3</sup>, Randy L. Phelps<sup>2</sup>  
*Institution(s):* <sup>1</sup> Instituto de Astronomía, UNAM, <sup>2</sup> NSF-OIIA, <sup>3</sup> STSci, <sup>4</sup> University of Florida

# WEDNESDAY, 7 JANUARY 2015

## 348.17 Proper motion measurements of HH 224

**Author(s):** Erika F. Perez Rivera<sup>1</sup>, Jason E. Ybarra<sup>3</sup>, Mary Barsony<sup>4</sup>, Randy L. Phelps<sup>2</sup>, Carlos Román-Zuñiga<sup>3</sup>, Mauricio Tapia<sup>3</sup>, Juan José Downes<sup>3</sup>  
*Institution(s):* <sup>1</sup> *Facultad de Ciencias, UNAM*, <sup>2</sup> *IIA, NSF*, <sup>3</sup> *Instituto de Astronomía, UNAM*, <sup>4</sup> *SETI Institute*

## 348.18 YSOVAR: Light Curve Classification Scheme

**Author(s):** Luisa M. Rebull<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Caltech*  
Contributing team(s): YSOVAR team

## 349 Circumstellar Disk Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

### 349.01 The shell spectrum of HD 94509

**Author(s):** Charles R. Cowley<sup>3</sup>, Norbert Przybilla<sup>1</sup>, Svetlana Hubrig<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Institut fuer Astro- und Teilchen Physik*, <sup>2</sup> *Leibnitz-Institut fuer Astrophysik*, <sup>3</sup> *Univ. of Michigan*

### 349.02 Transferring Mass between Circumstellar Disks during Stellar Flybys

**Author(s):** Michael Hammer<sup>1</sup>, Lucie Jílková<sup>2</sup>, Simon Portegies Zwart<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Cornell University*, <sup>2</sup> *Leiden University*

### 349.03 Spitzer observations of epsilon Aurigae's disk temperature

**Author(s):** Richard L. Pearson<sup>3</sup>, Robert E. Stencel<sup>3</sup>, Donald W. Hoard<sup>1</sup>, Steve B. Howell<sup>2</sup>  
*Institution(s):* <sup>1</sup> *Eureka Scientific, Inc.*, <sup>2</sup> *NASA Ames Research Center*, <sup>3</sup> *University of Denver*

### 349.04 Disk Variability and Pulsation in the Be Star $\pi$ Aquarii

**Author(s):** Geraldine J. Peters<sup>2</sup>, Douglas R. Gies<sup>1</sup>, Luqian Wang<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Georgia State University*, <sup>2</sup> *Univ. of Southern California*

### 349.05 PDS 66 Resolved in Polarimetry with the Gemini Planet Imager

**Author(s):** Schuyler Wolff<sup>1</sup>, Marshall D. Perrin<sup>2</sup>, Jason Wang<sup>3</sup>, James R. Graham<sup>3</sup>, Laurent Pueyo<sup>2</sup>, Max Millar-Blanchaer<sup>4</sup>, Paul Kalas<sup>3</sup>  
*Institution(s):* <sup>1</sup> *Johns Hopkins University*, <sup>2</sup> *Space Telescope Science Institute*, <sup>3</sup> *UC Berkeley*, <sup>4</sup> *University of Toronto*  
Contributing team(s): GPIES Team

### 349.06 Characterizing a Young Protoplanetary Disk in the Orion Nebula Cluster

**Author(s):** Samuel M. Factor<sup>2</sup>, A. Meredith Hughes<sup>2</sup>, Rita K. Mann<sup>1</sup>  
*Institution(s):* <sup>1</sup> *National Research Council Canada*, <sup>2</sup> *Wesleyan University*

### 349.07 Ionization Chemistry and Role of Grains on Non-ideal MHD Effects in Protoplanetary Disks

**Author(s):** Rui Xu<sup>2</sup>, Xue-Ning Bai<sup>1</sup>, Karin I. Oberg<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Harvard-Smithsonian Center for Astrophysics*, <sup>2</sup> *Yuanpei College, Peking University*

- 349.08 Effects of dust feedback on vortices in protoplanetary disks**  
**Author(s):** Wen Fu<sup>2</sup>, Stephen H. Lubow<sup>3</sup>, Shengtai Li<sup>1</sup>, Edison P. Liang<sup>2</sup>  
*Institution(s):* <sup>1</sup> Los Alamos National Laboratory, <sup>2</sup> Rice University, <sup>3</sup> Space Telescope Science Institute
- 349.09 Modeling Far-UV Fluorescent Emission Features of Warm Molecular Hydrogen in the Inner Regions of Protoplanetary Disks**  
**Author(s):** Keri Hoadley<sup>1</sup>, Kevin France<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Colorado - Boulder
- 349.10 Near-infrared Scattered Light Imaging of the Protoplanetary Disk Around V4046 Sgr with the Gemini Planet Imager**  
**Author(s):** Valerie Rapson<sup>3</sup>, Joel Kastner<sup>3</sup>, Sean M. Andrews<sup>1</sup>, Dean C. Hines<sup>4</sup>, Bruce Macintosh<sup>5</sup>, Max Millar-Blanchaer<sup>6</sup>, Motohide Tamura<sup>2</sup>  
*Institution(s):* <sup>1</sup> Harvard Smithsonian Center for Astrophysics, <sup>2</sup> National Astronomical Observatory of Japan, <sup>3</sup> Rochester Institute of Technology, <sup>4</sup> Space Telescope Science Institute, <sup>5</sup> Stanford, <sup>6</sup> University of Toronto
- 349.11 Understanding Planetary Compositions Using Elemental Ratios in Protoplanetary Disks**  
**Author(s):** Christopher Merchantz<sup>1</sup>, Lauren Ilseadore Cleeves<sup>3</sup>, Karin I. Oberg<sup>2</sup>  
*Institution(s):* <sup>1</sup> Harvard College, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> University of Michigan
- 349.12 Modeling Planet-Building Stellar Disks with Radiative Transfer Code**  
**Author(s):** Jeremy R Swearingen<sup>9</sup>, Michael L. Sitko<sup>9</sup>, Barbara Whitney<sup>12</sup>, Carol A Grady<sup>3</sup>, Kevin Robert Wagner<sup>9</sup>, Elizabeth H Champney<sup>9</sup>, Alexa N Johnson<sup>9</sup>, Chelsea C. Warren<sup>9</sup>, Ray W. Russell<sup>7</sup>, Heidi B. Hammel<sup>6</sup>, Casey M. Lisse<sup>1</sup>, Michel Cure<sup>8</sup>, Stefan Kraus<sup>10</sup>, Misato Fukagawa<sup>5</sup>, Nuria Calvet<sup>11</sup>, Catherine Espaillat<sup>4</sup>, John D. Monnier<sup>11</sup>, Rafael Millan-Gabet<sup>2</sup>, David J. Wilner<sup>4</sup>  
*Institution(s):* <sup>1</sup> Applied Physics Lab, <sup>2</sup> California Institute of Technology, <sup>3</sup> Eureka Scientific, <sup>4</sup> Harvard-Smithsonian Center for Astrophysics, <sup>5</sup> Osaka University, <sup>6</sup> Space Science Institute, <sup>7</sup> The Aerospace Corporation, <sup>8</sup> Universidad de Valparaiso, <sup>9</sup> University of Cincinnati, <sup>10</sup> University of Exeter, <sup>11</sup> University of Michigan, <sup>12</sup> University of Wisconsin
- 349.13 Exploring Structures and Variability in the Pre-transitional Disk in HD 169142**  
**Author(s):** Kevin Robert Wagner<sup>9</sup>, Michael L. Sitko<sup>9</sup>, Carol A Grady<sup>1</sup>, Barbara Whitney<sup>14</sup>, Jeremy R Swearingen<sup>9</sup>, Elizabeth H Champney<sup>9</sup>, Alexa N Johnson<sup>9</sup>, Chelsea C. Warren<sup>9</sup>, Ray W. Russell<sup>7</sup>, Glenn Schneider<sup>8</sup>, Muntake Momose<sup>3</sup>, Takayuki Muto<sup>4</sup>, Akio K Inoue<sup>5</sup>, James Thomas Lauroesch<sup>11</sup>, Jeremy Hornbeck<sup>11</sup>, Alexander Brown<sup>10</sup>, Misato Fukagawa<sup>6</sup>, Thayne M. Currie<sup>13</sup>, John P. Wisniewski<sup>12</sup>, Bruce E. Woodgate<sup>2</sup>  
*Institution(s):* <sup>1</sup> Eureka Scientific, <sup>2</sup> Goddard Space Flight Center, <sup>3</sup> Ibaraki University, <sup>4</sup> Kogakuin University, <sup>5</sup> Osaka Sangyo University, <sup>6</sup> Osaka University, <sup>7</sup> The Aerospace Corporation, <sup>8</sup> University of Arizona, <sup>9</sup> University of Cincinnati, <sup>10</sup> University of Colorado, <sup>11</sup> University of Louisville, <sup>12</sup> University of Oklahoma, <sup>13</sup> University of Toronto, <sup>14</sup> University of Wisconsin

# WEDNESDAY, 7 JANUARY 2015

- 349.14 A Spectro-Astrometric Study of Gas in Transition Disks around HAeBe stars: Evidence of a Forming Companions?**  
**Author(s):** Sean D. Brittain<sup>1</sup>, Joan R. Najita<sup>2</sup>, John S Carr<sup>3</sup>  
*Institution(s):* <sup>1</sup> *Clemson Univ.*, <sup>2</sup> *NOAO*, <sup>3</sup> *NRL*
- 349.15 Dust Depletion and Large Scale Asymmetries in Transitional Disks**  
**Author(s):** Laura M. Perez<sup>2</sup>, Andrea Isella<sup>3</sup>, John M. Carpenter<sup>1</sup>, Claire J. Chandler<sup>2</sup>, Anneila I. Sargent<sup>1</sup>  
*Institution(s):* <sup>1</sup> *California Institute of Technology*, <sup>2</sup> *NRAO*, <sup>3</sup> *Rice University*
- 349.16 AU Mic's Debris Disk Chemistry Revealed Using Spatially Resolved Spectroscopy**  
**Author(s):** Jamie Renae Lomax<sup>5</sup>, Jessica Donaldson<sup>2</sup>, John H. Debes<sup>4</sup>, Eliot Malumuth<sup>1</sup>, Aki Roberge<sup>3</sup>, Alycia J. Weinberger<sup>2</sup>, John P. Wisniewski<sup>5</sup>  
*Institution(s):* <sup>1</sup> *ADNET Systems*, <sup>2</sup> *Carnegie Institute of Washington*, <sup>3</sup> *NASA/GSFC*, <sup>4</sup> *Space Telescope Science Institute*, <sup>5</sup> *University of Oklahoma*
- 349.17 Probing the AU Microscopii Debris Disk at Close Separations with the Gemini Planet Imager**  
**Author(s):** Jason Wang<sup>4</sup>, James R. Graham<sup>4</sup>, Laurent Pueyo<sup>2</sup>, Eric L. Nielsen<sup>3</sup>, Gaspard Duchene<sup>4</sup>, Max Millar-Blanchaer<sup>5</sup>, Paul Kalas<sup>4</sup>, Christine Chen<sup>2</sup>, Brenda C. Matthews<sup>1</sup>  
*Institution(s):* <sup>1</sup> *NRC of Canada*, <sup>2</sup> *Space Telescope Science Institute*, <sup>3</sup> *Stanford University*, <sup>4</sup> *UC Berkeley*, <sup>5</sup> *University of Toronto*  
Contributing team(s): Gemini Planet Imager team
- 349.18 Resolving the Dusty Debris Disk of 49 Ceti**  
**Author(s):** Jesse Lieman-Sifry<sup>1</sup>, A. Meredith Hughes<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Wesleyan University*
- 349.19 Exocomets and variable circumstellar gas absorption in the debris disks of nearby A-type stars**  
**Author(s):** Sharon Lynn Montgomery<sup>1</sup>, Barry Welsh<sup>2</sup>, Benjamin Bukoski<sup>1</sup>, Sarah Strausbaugh<sup>1</sup>  
*Institution(s):* <sup>1</sup> *Clarion University*, <sup>2</sup> *U.C. Berkeley*
- 349.20 ALICE: Analysis of New Debris Disk Images**  
**Author(s):** Elodie Choquet<sup>5</sup>, Marshall D. Perrin<sup>5</sup>, Christine Chen<sup>5</sup>, David A. Golimowski<sup>5</sup>, John H. Debes<sup>5</sup>, Glenn Schneider<sup>6</sup>, Laurent Pueyo<sup>5</sup>, Dean C. Hines<sup>5</sup>, Schuyler Wolff<sup>4</sup>, Tushar Mittal<sup>2</sup>, Amaya Moro-Martin<sup>5</sup>, Dimitri Mawet<sup>3</sup>, Julien Milli<sup>3</sup>, J. Brendan Hagan<sup>5</sup>, Abhijith Rajan<sup>1</sup>, Margaret Moerchen<sup>5</sup>, Mamadou N'Diaye<sup>5</sup>, Jonathan Aguilar<sup>4</sup>, Remi Soummer<sup>5</sup>  
*Institution(s):* <sup>1</sup> *Arizona State University*, <sup>2</sup> *Berkeley*, <sup>3</sup> *ESO*, <sup>4</sup> *John Hopkins University*, <sup>5</sup> *Space Telescope Science Institute*, <sup>6</sup> *University of Arizona*
- 349.21 ALICE: Project Overview and High Level Science Products**  
**Author(s):** Remi Soummer<sup>4</sup>, Elodie Choquet<sup>4</sup>, Laurent Pueyo<sup>4</sup>, J. Brendan Hagan<sup>4</sup>, Elena Gofas-Salas<sup>4</sup>, Abhijith Rajan<sup>4</sup>, Marshall D. Perrin<sup>4</sup>, Christine Chen<sup>4</sup>, John H. Debes<sup>4</sup>, David A. Golimowski<sup>4</sup>, Dean C. Hines<sup>4</sup>, Glenn Schneider<sup>5</sup>, Mamadou N'Diaye<sup>4</sup>, Dimitri Mawet<sup>1</sup>, Christian Marois<sup>2</sup>, Travis Barman<sup>3</sup>  
*Institution(s):* <sup>1</sup> *ESO*, <sup>2</sup> *HIA-NRC*, <sup>3</sup> *Ipl*, <sup>4</sup> *Space Telescope Science Institute*, <sup>5</sup> *University of Arizona*

**349.22 New Data Reduction Techniques for Circumstellar Disk Imaging with the Hubble DICE Survey**

**Author(s):** Benjamin Wilson<sup>1</sup>, Zachary Griggs<sup>1</sup>, Clay Gardner<sup>1</sup>, Joseph Carson<sup>1</sup>, Glenn Schneider<sup>3</sup>, Christopher C. Stark<sup>2</sup>

*Institution(s):* <sup>1</sup> College of Charleston, <sup>2</sup> NASA Goddard Space Flight Center, <sup>3</sup> University of Arizona

Contributing team(s): HST/GO 12228 Team

**349.23 Herschel Observations of Dusty Debris Disks**

**Author(s):** Laura Vican<sup>3</sup>, Geoff Bryden<sup>2</sup>, Ben M. Zuckerman<sup>3</sup>, Joseph Rhee<sup>1</sup>, Carl Melis<sup>4</sup>, Inseok Song<sup>5</sup>

*Institution(s):* <sup>1</sup> Cal Poly Pomona, <sup>2</sup> JPL/Caltech, <sup>3</sup> UCLA, <sup>4</sup> UCSD, <sup>5</sup> University of Georgia

**349.24 Stellar Multiplicity in the DEBRIS disk sample**

**Author(s):** David R Rodriguez<sup>3</sup>, Gaspard Duchene<sup>4</sup>, Henry Tom<sup>4</sup>, Grant Kennedy<sup>5</sup>, Brenda C. Matthews<sup>2</sup>, Harold M. Butner<sup>1</sup>

*Institution(s):* <sup>1</sup> James Madison University, <sup>2</sup> National Research Council, <sup>3</sup> Universidad de Chile, <sup>4</sup> University of California, Berkeley, <sup>5</sup> University of Cambridge

# THURSDAY, 8 JANUARY 2015

## 400 Plenary Talk: Planetary Nebulae: Reviews and Previews of a Rapidly Evolving World

Thursday, 8:30 am - 9:20 am; 6E

Chair(s): Paula Szkody (*Univ. of Washington*)



### 400.01 Planetary Nebulae: Reviews and Previews of a Rapidly Evolving Field

Author(s): Bruce Balick<sup>1</sup>

Institution(s): <sup>1</sup> *Univ. of Washington*

## Hack Day

Thursday, 10:00 am - 7:00 pm; 4C-2

A day to work intensively on collaborative projects. A wide-variety of projects will be undertaken and will be everything from software development and coding to creative outreach projects. Projects that take advantage of the unique gathering of enthusiasm and expertise at the Winter AAS Meeting are particularly encouraged. Hack ideas and participants will be solicited before and during the meeting. Participants can either lead a project or join a project and should plan on focusing primarily on only one hack. In addition, we ask participants to commit to hacking for the majority of the day. Registration is encouraged to facilitate pre-meeting coordination, but not required.

Organizer(s): Kelle Cruz (*Hunter College/CUNY and AMNH*) & David Hogg (*New York Univ.*)

## 401 Galaxy Clusters III

Thursday, 10:00 am - 11:30 am; 6A

Chair(s): D. E. Harris (*HEA-Center for Astrophysics*)

### 401.01 On the Trail of the Most Massive Galaxy Clusters in the Universe

Author(s): John Patrick Hughes<sup>3</sup>, Felipe Menanteau<sup>1</sup>, Felipe Barrientos<sup>2</sup>, Leopoldo Infante<sup>2</sup>

Institution(s): <sup>1</sup> *NCSA*, <sup>2</sup> *Pontificia Univ Catolica de Chile*, <sup>3</sup> *Rutgers Univ.*

### 401.02D How well can we measure galaxy cluster masses using galaxies as tracers?

Author(s): Lyndsay Old<sup>13</sup>, Ramin A. Skibba<sup>10</sup>, Frazer Pearce<sup>13</sup>, Darren Croton<sup>6</sup>, Stuart Muldrew<sup>11</sup>, Juan Carlos Munoz-Cuartas<sup>8</sup>, Daniel Gifford<sup>12</sup>, Meghan Gray<sup>13</sup>, Anja Von Der Linden<sup>5</sup>, Gary Mamon<sup>1</sup>, Michael Merrifield<sup>13</sup>, Volker Mueller<sup>2</sup>, Richard Pearson<sup>9</sup>, Trevor Ponman<sup>9</sup>, Alex Saro<sup>4</sup>, Tiit Sepp<sup>7</sup>, Cristobal Sifon<sup>3</sup>, Elmo Tempel<sup>7</sup>, Elena Tundo<sup>13</sup>, Yang Wang<sup>13</sup>, Radek Wojtak<sup>5</sup>

Institution(s): <sup>1</sup> *Institut d'Astrophysique de Paris*, <sup>2</sup> *Leibniz-Institut fur Astrophysik Potsdam*, <sup>3</sup> *Leiden Observatory*, <sup>4</sup> *Ludwig-Maximilians-Universitat*, <sup>5</sup> *Niels Bohr Institute*, <sup>6</sup> *Swinburne University of Technology*, <sup>7</sup> *Tartu Observatory*, <sup>8</sup> *Universidad de Antiquia*, <sup>9</sup> *University of Birmingham*, <sup>10</sup> *University of California*, <sup>11</sup> *University of Leicester*, <sup>12</sup> *University of Michigan*, <sup>13</sup> *University of Nottingham*



## 401.03 Calibrating the Cluster Richness-Mass Relation for the Dark Energy Survey

**Author(s):** Devon Lawrence Hollowood<sup>2</sup>, Tesla E. Jeltema<sup>2</sup>, Eli S. Rykoff<sup>1</sup>, Eduardo Rozo<sup>1</sup>

*Institution(s):* <sup>1</sup> SLAC National Accelerator Laboratory, <sup>2</sup> University of California, Santa Cruz

Contributing team(s): Dark Energy Survey Collaboration

## 401.04 Do Cluster Mass Reconstruction Techniques Really Paint The Same Picture?

**Author(s):** Austen Max Groener<sup>1</sup>

*Institution(s):* <sup>1</sup> Drexel University

## 401.05 Galaxy Cluster Studies with Weak Lensing Magnification and Shear

**Author(s):** Jes Ford<sup>1</sup>

*Institution(s):* <sup>1</sup> University of British Columbia

## 401.06 The Atacama Cosmology Telescope: Followup Imaging of SZE-Selected Clusters with ATCA, LABOCA, and Herschel

**Author(s):** Andrew J. Baker<sup>9</sup>, Robert R. Lindner<sup>15</sup>, Paula Aguirre<sup>7</sup>, John Richard Bond<sup>1</sup>, Matt Hilton<sup>14</sup>, Adam D. Hincks<sup>12</sup>, Kevin Huffenberger<sup>3</sup>, John Patrick Hughes<sup>9</sup>, Leopoldo Infante<sup>7</sup>, Marcos Lima<sup>11</sup>, Tobias A. Marriage<sup>4</sup>, Felipe Menanteau<sup>13</sup>, Michael D. Niemack<sup>2</sup>, Lyman Alexander Page<sup>8</sup>, Neelima Sehgal<sup>10</sup>, Axel Weiss<sup>5</sup>, Edward Wollack<sup>6</sup>

*Institution(s):* <sup>1</sup> Canadian Institute for Theoretical Astrophysics, <sup>2</sup> Cornell University, <sup>3</sup> Florida State University, <sup>4</sup> Johns Hopkins University, <sup>5</sup> MPIfR, <sup>6</sup> NASA GSCF, <sup>7</sup> Pontificia Universidad Católica de Chile, <sup>8</sup> Princeton University, <sup>9</sup> Rutgers, the State University of NJ, <sup>10</sup> Stony Brook University, <sup>11</sup> Universidade de São Paulo, <sup>12</sup> University of British Columbia, <sup>13</sup> University of Illinois, <sup>14</sup> University of KwaZulu Natal, <sup>15</sup> University of Wisconsin

Contributing team(s): Atacama Cosmology Telescope team

## 402 Dark Matter & Dark Energy

Thursday, 10:00 am - 11:30 am; 6B

**Chair(s):** Robyn Sanderson (Columbia University)

### 402.01 The history of galaxy formation as a cosmological probe

**Author(s):** Christopher Conselice<sup>5</sup>, Asa Bluck<sup>4</sup>, Alice Mortlock<sup>3</sup>, David Peter Palamara<sup>2</sup>, Andrew Benson<sup>1</sup>

*Institution(s):* <sup>1</sup> Carnegie Institute of Washington, <sup>2</sup> Monash University, <sup>3</sup> Royal Observatory Edinburgh, <sup>4</sup> U. Victoria, <sup>5</sup> Univ. of Nottingham

### 402.02 Mapping the Small-Scale Structure of Dark Matter Halos with Strong Gravitational Lensing

**Author(s):** Yashar D. Hezaveh<sup>1</sup>

*Institution(s):* <sup>1</sup> Sanford University

### 402.03 Do Dark Matter Axions Form A Bose-Einstein Condensate?

**Author(s):** Chanda Prescod-Weinstein<sup>1</sup>, Mark Hertzberg<sup>1</sup>

*Institution(s):* <sup>1</sup> MIT

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## 402.04 The Kinematics of Milky Way Satellites as a Test of Dark Matter Models

**Author(s):** Mei-Yu Wang<sup>1</sup>, Louis Strigari<sup>1</sup>, Till Sawala<sup>3</sup>, Mark Lovell<sup>2</sup>, Carlos S Frenk<sup>3</sup>

*Institution(s):* <sup>1</sup> Texas A&M University, <sup>2</sup> University of Amsterdam, <sup>3</sup> University of Durham

## 402.05D Self Interacting Dark Matter and Baryons

**Author(s):** Alexander B. Fry<sup>2</sup>, Fabio Governato<sup>2</sup>, Andrew Pontzen<sup>1</sup>, Thomas R. Quinn<sup>2</sup>

*Institution(s):* <sup>1</sup> University College London, <sup>2</sup> University of Washington

## 402.06 Dark matter or point sources? Utilizing the 1-pt PDF to understand the origin of the GeV excess seen by the Fermi LAT detector

**Author(s):** Natalie Harrison<sup>2</sup>, Jennifer M. Siegal-Gaskins<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> University of Chicago

## 402.07 Self-Scattering for Dark Matter with an Excited State

**Author(s):** Katelin Schutz<sup>2</sup>, Tracy Slatyer<sup>1</sup>

*Institution(s):* <sup>1</sup> MIT, <sup>2</sup> UC Berkeley

## 402.08 Testing a MOND Prediction in NGC3923

**Author(s):** Bryan W. Miller<sup>2</sup>, Stacy S. McGaugh<sup>1</sup>, Chris Mihos<sup>1</sup>

*Institution(s):* <sup>1</sup> Case Western Reserve University, <sup>2</sup> Gemini Observatory

## 403 Cosmology III

Thursday, 10:00 am - 11:30 am; 6C

**Chair(s):** Joey Key (*University of Texas at Brownsville*)

## 403.01 Multi-redshift limits on the Epoch of Reionization 21cm power spectrum from PAPER

**Author(s):** Danny Jacobs<sup>1</sup>, Jonathan Pober<sup>3</sup>, Aaron Parsons<sup>2</sup>

*Institution(s):* <sup>1</sup> Arizona State University, <sup>2</sup> UC Berkeley, <sup>3</sup> University of Washington

Contributing team(s): PAPER Team

## 403.02D Weak Lensing Tomography Using > 50 High Redshift, $z > 0.4$ , Galaxy Clusters

**Author(s):** Rebecca Santana<sup>1</sup>

*Institution(s):* <sup>1</sup> Ohio University

## 403.03 Wide-field imaging of the polarized sky with PAPER

**Author(s):** Saul Aryeh Kohn<sup>2</sup>, James E. Aguirre<sup>2</sup>, David Moore<sup>2</sup>, Jason Ling<sup>2</sup>, Gianni Bernardi<sup>1</sup>

*Institution(s):* <sup>1</sup> SKA SA, <sup>2</sup> University of Pennsylvania

Contributing team(s): PAPER

## 403.04 Limits on the Polarized Power Spectrum at 126 and 164 MHz from PAPER South Africa 32-Element Data

**Author(s):** James E. Aguirre<sup>1</sup>, David Moore<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Pennsylvania

Contributing team(s): PAPER Collaboration

## 403.05D From Enormous 3D Maps of the Universe to Astrophysical and Cosmological Constraints: Statistical Tools for Realizing the Promise of 21 cm Cosmology

**Author(s):** Joshua S. Dillon<sup>1</sup>, Max Tegmark<sup>1</sup>

*Institution(s):* <sup>1</sup> Massachusetts Institute of Technology

## 403.06 Combined Cosmological Constraints using the WiggleZ Multipole Power Spectrum

**Author(s):** Jason Dossett<sup>1</sup>, Chris Blake<sup>2</sup>, David Parkinson<sup>3</sup>, Signe Riemer-Sørensen<sup>4</sup>, Jun Koda<sup>2</sup>, Tamara Davis<sup>3</sup>

*Institution(s):* <sup>1</sup> INAF - Osservatorio Astronomico di Brera, <sup>2</sup> Swinburne University of Technology, <sup>3</sup> The University of Queensland, <sup>4</sup> University of Oslo

## 403.07 Constraining the Thermal State of the IGM at $z \sim 20$

**Author(s):** Lincoln J. Greenhill<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian, CfA

Contributing team(s): LEDA Collaboration

## 404 Planck 2014 Results

Thursday, 10:00 am - 11:30 am; 6E

The Planck 2014 data release includes the full mission data in both temperature and polarization. Scientific results cover a huge range of topics from cosmology to the zodiacal light. A plenary talk on Planck Wednesday afternoon will give an overview of the the principle cosmological results. This Special Session covers: 1. The 2014 Planck mission products, and a general description of the microwave and submillimeter sky, including CMB statistics, global isotropy, and anomalies. 2. Planck measurements of polarization and their implications for both galactic astronomy and cosmology, including large-angular-scale polarization and its implications. 3. Separation and characterization of astrophysical components in the multi-frequency full sky observations by Planck, with all-sky maps of synchrotron, free-free, spinning dust, thermal dust, CO, and SZ emission. 4. Cluster cosmology analysis based on the full Planck data set, including a new cluster catalog and analysis techniques, recent results on cluster masses, and a new look at the tension between clusters and the primary CMB constraints.

**Chair(s):** Charles Lawrence (JPL)

### 404.01 Planck Cluster Cosmology 2014

**Author(s):** James G. Bartlett<sup>1</sup>

*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory and APC Univ. Paris 7

Contributing team(s): Planck Collaboration

### 404.02 The microwave sky as seen by Planck

**Author(s):** Ingunn Kathrine Wehus<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech/JPL

Contributing team(s): Planck Collaboration

### 404.03 Planck 2014 Cosmological Parameter Constraints

**Author(s):** Marius Millea<sup>1</sup>

*Institution(s):* <sup>1</sup> UC Davis

Contributing team(s): Planck Collaboration

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## 404.04 A Joint Analysis of Planck and BICEP2/Keck Array Data

**Author(s):** Brendan Crill<sup>1</sup>

*Institution(s):* <sup>1</sup> JPL/Caltech

## 405 Large Scale Structure, Cosmic Distance Scale I

Thursday, 10:00 am - 11:30 am; 610

**Chair(s):** J. Moody (*Brigham Young Univ.*)

### 405.01 Theoretical Predictions of Large Scale Clustering in the Lyman-alpha Forest

**Author(s):** Agnieszka M Cieplak<sup>1</sup>, Anze Slosar<sup>1</sup>, Nishikanta Khandai<sup>1</sup>

*Institution(s):* <sup>1</sup> Brookhaven National Laboratory

### 405.02D Position-dependent power spectrum of the large-scale structure: a novel method to measure the squeezed-limit bispectrum

**Author(s):** Chi-Ting Chiang<sup>1</sup>, Christian Wagner<sup>1</sup>, Fabian Schmidt<sup>1</sup>, Eiichiro Komatsu<sup>1</sup>

*Institution(s):* <sup>1</sup> Max-Planck-Institute for Astrophysics

### 405.03 $\Lambda$ CDM Halo Models of Galaxy Clustering and Evolution in the PRIMUS Survey at $0 < z < 1$

**Author(s):** Ramin A. Skibba<sup>3</sup>, Alison L. Coil<sup>3</sup>, Alexander Mendez<sup>3</sup>, Michael R. Blanton<sup>2</sup>, Daniel Eisenstein<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> New York University, <sup>3</sup> University of California, San Diego

Contributing team(s): PRIMUS

### 405.04 Understanding Cosmological Perturbation Theory

**Author(s):** Matthew McQuinn<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

### 405.05D The Cosmic Web Unravelled: A study of filamentary structure in the Galaxy and Mass Assembly survey

**Author(s):** Mehmet Alpaslan<sup>1</sup>

*Institution(s):* <sup>1</sup> NASA Ames Research Centre

Contributing team(s): Galaxy And Mass Assembly (GAMA) survey team

### 405.06 CHP-II: The Carnegie Hubble Program to Measure $H_0$ to 3% Using Population II

**Author(s):** Jeffrey Rich<sup>1</sup>, Wendy L. Freedman<sup>5</sup>, Barry F. Madore<sup>1</sup>, Andy Monson<sup>1</sup>, Victoria Scowcroft<sup>1</sup>, Rachael Beaton<sup>1</sup>, Juna A. Kollmeier<sup>1</sup>, Mark Seibert<sup>1</sup>, Giuseppe Bono<sup>4</sup>, Gisella Clementini<sup>2</sup>, Soung-Chul Yang<sup>1</sup>, Myung Gyoon Lee<sup>3</sup>, In Sung Jang<sup>3</sup>

*Institution(s):* <sup>1</sup> Carnegie Observatories, <sup>2</sup> INAF, <sup>3</sup> Seoul National University,

<sup>4</sup> Universita di Roma Tor Vergata, <sup>5</sup> University of Chicago

### 405.07 SDSS-IV: Exploring Large-Scale Structure at High Redshift using eBOSS LRGs

**Author(s):** Abhishek Prakash<sup>1</sup>, Jeffrey Newman<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Pittsburgh

Contributing team(s): The SDSS-IV/eBOSS Collaboration

## 406 Extrasolar Planets: Habitable and/or Earthlike

Thursday, 10:00 am - 11:30 am; 616/617

Chair(s): Eric Agol (*Univ. of Washington*)

### 406.01D The Frequency of Habitable Planets Around Small Stars and the Characterization of Planets Orbiting Bright Kepler Targets

Author(s): Courtney D. Dressing<sup>1</sup>

Institution(s): <sup>1</sup> Harvard Univ.

### 406.02D Uncovering the Chemistry of Earth-like Planets

Author(s): Li Zeng<sup>1</sup>, Stein Jacobsen<sup>1</sup>, Dimitar D. Sasselov<sup>1</sup>

Institution(s): <sup>1</sup> Harvard University

### 406.03D The Prevalence of Earth-size Planets Orbiting Sun-like Stars

Author(s): Erik Petigura<sup>2</sup>, Geoffrey W. Marcy<sup>2</sup>, Andrew Howard<sup>1</sup>

Institution(s): <sup>1</sup> Institute for Astronomy, <sup>2</sup> University of California, Berkeley

### 406.04 Persistence of oceans on Earth-like planets

Author(s): Laura Schaefer<sup>1</sup>, Dimitar D. Sasselov<sup>1</sup>

Institution(s): <sup>1</sup> Harvard-Smithsonian Center for Astrophysics

### 406.05 Earth as an Exoplanet: Lessons in Recognizing Planetary Habitability

Author(s): Victoria Meadows<sup>6</sup>, Tyler Robinson<sup>3</sup>, Amit Misra<sup>6</sup>, Kimberly Ennico<sup>3</sup>, William B. Sparks<sup>4</sup>, Mark Claire<sup>5</sup>, David Crisp<sup>2</sup>, Edward Schwieterman<sup>6</sup>, D. Ben J. Bussey<sup>1</sup>, Jonathan Breiner<sup>6</sup>

Institution(s): <sup>1</sup> APL/Johns Hopkins University, <sup>2</sup> Jet Propulsion Laboratory/California Institute of Technology, <sup>3</sup> NASA Ames Research Center, <sup>4</sup> Space Telescope Science Institute, <sup>5</sup> University of St. Andrews, <sup>6</sup> University of Washington

### 406.06 The Venus Zone: Seeking the Twin of Earth's Twin

Author(s): Stephen R. Kane<sup>3</sup>, Ravi Kumar Kopparapu<sup>2</sup>, Shawn Domagal-Goldman<sup>1</sup>

Institution(s): <sup>1</sup> NASA Goddard Space Flight Center, <sup>2</sup> Penn State University, <sup>3</sup> San Francisco State University

## 407 Laboratory Astrophysics and Astrobiology

Thursday, 10:00 am - 11:30 am; 618/619

Chair(s): Christina Richey (*NASA HQ*)

### 407.01 High-J Rotational Quenching of CO from Collisions with H

Author(s): Kyle M. Walker<sup>3</sup>, Lei Song<sup>2</sup>, Benhui H. Yang<sup>3</sup>, Gerrit C. Groenenboom<sup>2</sup>, Ad van der Avoird<sup>2</sup>, Balakrishnan Naduvalath<sup>4</sup>, Robert C. Forrey<sup>1</sup>, Phillip C. Stancil<sup>3</sup>

Institution(s): <sup>1</sup> Pennsylvania State University, Berks Campus, <sup>2</sup> Radboud University Nijmegen, <sup>3</sup> University of Georgia, <sup>4</sup> University of Nevada Las Vegas

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## 407.02 Charge Exchange Induced X-Ray Emission of Fe XXVI and Fe XXV

**Author(s):** Patrick Dean Mullen<sup>1</sup>, Renata Cumbee<sup>1</sup>, David Lyons<sup>1</sup>, Phillip C. Stancil<sup>1</sup>

*Institution(s):* <sup>1</sup> Department of Physics and Astronomy and Center for Simulational Physics, The University of Georgia

Contributing team(s): B. J. Wargelin

## 407.03D Time-Domain TeraHertz Spectroscopy and Observational Probes of Prebiotic Interstellar Gas and Ice Chemistry

**Author(s):** Brett A. McGuire<sup>1</sup>

*Institution(s):* <sup>1</sup> National Radio Astronomy Observatory

## 407.04 Extreme Water Loss and Abiotic O<sub>2</sub> Buildup On Planets Throughout the Habitable Zones of M Dwarfs

**Author(s):** Rodrigo Luger<sup>1</sup>, Rory Barnes<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

## 407.05 Examining a link between SPEs and ground level radiation

**Author(s):** Andrew Overholt<sup>1</sup>

*Institution(s):* <sup>1</sup> MidAmerica Nazarene University

## 407.06 Terrestrial effects of a Solar proton event at AD 774-775

**Author(s):** Brian Thomas<sup>1</sup>

*Institution(s):* <sup>1</sup> Washburn Univ.

## 407.07 Mechanisms for Generating False Positives for Extrasolar Life

**Author(s):** Shawn Domagal-Goldman<sup>2</sup>, Victoria Meadows<sup>5</sup>, Edward Schwieterman<sup>5</sup>, Rodrigo Luger<sup>5</sup>, Robin Wordsworth<sup>1</sup>, Rory Barnes<sup>5</sup>, Antígona Segura<sup>3</sup>, Mark Claire<sup>4</sup>

*Institution(s):* <sup>1</sup> Harvard University, <sup>2</sup> NASA Goddard Space Flight Center, <sup>3</sup> Universidad Nacional Autónoma de México, <sup>4</sup> University of St. Andrews, <sup>5</sup> University of Washington

Contributing team(s): Virtual Planetary Laboratory

## 407.08 Distinguishing True and False Positive Oxygen Signatures with Models and Observations

**Author(s):** Edward Schwieterman<sup>3</sup>, Shawn Domagal-Goldman<sup>1</sup>, Victoria Meadows<sup>3</sup>, Rodrigo Luger<sup>3</sup>, Rory Barnes<sup>3</sup>, Robin Wordsworth<sup>2</sup>

*Institution(s):* <sup>1</sup> Goddard Space Flight Center, <sup>2</sup> University of Chicago, <sup>3</sup> University of Washington

Contributing team(s): Virtual Planetary Laboratory

## 408 From Hot Jupiters to Scorched Earths: Understanding the Shortest-Period Exoplanets

Thursday, 10:00 am - 11:30 am; 606

From wispy gas giants on the verge of disruption to tiny rocky bodies already falling apart, short-period exoplanets pose a severe challenge to theories of planet formation and evolution, but they dominate observational constraints on planetary composition, internal structure, meteorology, and more. This special AAS session will gather together experts in detection, characterization, theory of short period planets, and star-planet interactions. The session will link the lessons learned from hot Jupiters to the characterization of the emergent population of small, short-period planets. <https://sites.google.com/site/spexoplaas225th/>

**Chair(s):** Brian Jackson (*Boise State University*)

### 408.01 Characterizing the shortest-period planets found by Kepler

**Author(s):** Roberto Sanchis Ojeda<sup>1</sup>, Joshua N. Winn<sup>1</sup>, Saul A. Rappaport<sup>1</sup>  
*Institution(s):*<sup>1</sup> MIT

### 408.02 Short-period terrestrial planets and radial velocity stellar jitter.

**Author(s):** Xavier Dumusque<sup>1</sup>  
*Institution(s):*<sup>1</sup> Harvard-Smithsonian Center for Astrophysics

### 408.03 Thermal Emission from KELT-1b: Probing Brown Dwarf Atmospheres in Extreme Irradiation

**Author(s):** Thomas G. Beatty<sup>5</sup>, B. Scott Gaudi<sup>4</sup>, Richard W. Pogge<sup>4</sup>, Karen A Collins<sup>9</sup>, Jonathan J. Fortney<sup>7</sup>, Heather Knutson<sup>1</sup>, Jacob M. Bruns<sup>8</sup>, Adam P. Showman<sup>6</sup>, Jason D Eastman<sup>2</sup>, Joshua Pepper<sup>3</sup>, Robert Siverd<sup>10</sup>, Keivan Stassun<sup>10</sup>, John F. Kielkopf<sup>9</sup>  
*Institution(s):*<sup>1</sup> California Institute of Technology, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Lehigh University, <sup>4</sup> Ohio State University, <sup>5</sup> Pennsylvania State University, <sup>6</sup> University of Arizona, <sup>7</sup> University of California, Santa Cruz, <sup>8</sup> University of Colorado, Boulder, <sup>9</sup> University of Louisville, <sup>10</sup> Vanderbilt University

### 408.04 Precise Water Abundance Estimates for Hot Jupiters from HST/WFC3

**Author(s):** Laura Kreidberg<sup>1</sup>  
*Institution(s):*<sup>1</sup> University of Chicago

### 408.05 The atmospheric circulation of ultra-short period exoplanets

**Author(s):** Tiffany Kataria<sup>5</sup>, Adam P. Showman<sup>2</sup>, Jonathan J. Fortney<sup>3</sup>, Kevin B. Stevenson<sup>4</sup>, Nikole K. Lewis<sup>1</sup>  
*Institution(s):*<sup>1</sup> Massachusetts Institute of Technology, <sup>2</sup> University of Arizona, <sup>3</sup> University of California, Santa Cruz, <sup>4</sup> University of Chicago, <sup>5</sup> University of Exeter

### 408.06 Warm Jupiters as failed hot Jupiters

**Author(s):** Rebekah Ilene Dawson<sup>1</sup>, Eugene Chiang<sup>1</sup>  
*Institution(s):*<sup>1</sup> UC Berkeley

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## 408.07 Tidal Decay and Disruption of Gaseous Exoplanets

**Author(s):** Brian K. Jackson<sup>1</sup>, Phil Arras<sup>4</sup>, Sarah Peacock<sup>3</sup>, Kaloyan Penev<sup>2</sup>  
*Institution(s):* <sup>1</sup>Boise State University, Dept. of Physics, <sup>2</sup>Princeton University, Dept. of Astrophysical Sciences, <sup>3</sup>University of Arizona, Lunar and Planetary Laboratory, <sup>4</sup>University of Virginia, Dept. of Astronomy

## 408.08 Many Ultra-Short-Period Rocky Planets are Evaporated Sub-Neptunes

**Author(s):** Eric David Lopez<sup>1</sup>  
*Institution(s):* <sup>1</sup>Institute for Astronomy, University of Edinburgh

## 408.09 The Transition Between Rocky and Gaseous Planets

**Author(s):** Leslie Rogers<sup>1</sup>  
*Institution(s):* <sup>1</sup>California Institute of Technology

## 408.10 Disintegrating Mercuries

**Author(s):** Eugene Chiang<sup>1</sup>  
*Institution(s):* <sup>1</sup>UC Berkeley

## 409 Extrasolar Planets: Radial Velocities

Thursday, 10:00 am - 11:30 am; 607

**Chair(s):** Dmitry Suvansky (Cornell University)

## 409.01 Early Science Results from Dharma Planet Survey (DPS), a Robotic, High Cadence and High Doppler Precision Survey of Close-in Super-Earths

**Author(s):** Bo Ma<sup>2</sup>, Jian Ge<sup>2</sup>, Matthew W. Mutterspaugh<sup>1</sup>, Sirinrat Sithajan<sup>2</sup>, Neil B Thomas<sup>2</sup>, Nolan Senan Seieroe Grieves<sup>2</sup>, Rui Li<sup>2</sup>, Michael Singer<sup>2</sup>, Scott Powell<sup>2</sup>, Frank Varosi<sup>2</sup>, Bo Zhao<sup>2</sup>, Jian Liu<sup>2</sup>, Sidney Schofield<sup>2</sup>, Hali Jakeman<sup>2</sup>, William Yoder<sup>2</sup>, Michael W Williamson<sup>2</sup>, Ted Maxwell<sup>1</sup>, Louis Avner<sup>2</sup>, Jakob Gittelmacher<sup>2</sup>  
*Institution(s):* <sup>1</sup>Tennessee State University, <sup>2</sup>University of Florida

## 409.02 Results from the HARPS-N 2014 Campaign to Estimate Accurately the Densities of Planets Smaller than 2.5 Earth Radii

**Author(s):** David Charbonneau<sup>1</sup>  
*Institution(s):* <sup>1</sup>Harvard Univ.  
Contributing team(s): The HARPS-N Collaboration

## 409.03 The SDSS-III DR12 MARVELS radial velocity data release: the first data release from the multiple object Doppler exoplanet survey

**Author(s):** Jian Ge<sup>5</sup>, Neil B Thomas<sup>5</sup>, Rui Li<sup>5</sup>, Nolan Senan Seieroe Grieves<sup>5</sup>, Bo Ma<sup>5</sup>, Nathan M. De Lee<sup>3</sup>, Brian C. Lee<sup>4</sup>, Jian Liu<sup>5</sup>, Adam S Bolton<sup>6</sup>, Aniruddha R. Thakar<sup>1</sup>, Benjamin Weaver<sup>2</sup>  
*Institution(s):* <sup>1</sup>Johns Hopkins University, <sup>2</sup>New York University, <sup>3</sup>Northern Kentucky University, <sup>4</sup>Santa Fee College, <sup>5</sup>Univ. of Florida, <sup>6</sup>University of Utah  
Contributing team(s): The SDSS-III MARVELS team



## 409.04 NRES: The Network of Robotic Echelle Spectrographs

**Author(s):** Robert Siverd<sup>2</sup>, Jason D Eastman<sup>1</sup>, Timothy M. Brown<sup>2</sup>, John Hygelund<sup>2</sup>, Todd Henderson<sup>2</sup>, Joseph Tufts<sup>2</sup>, Julian C. Van Eyken<sup>2</sup>, Stuart Barnes<sup>3</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Las Cumbres Global Telescope Network, Inc., <sup>3</sup> Stuart Barnes Optical Design

## 409.05 Constraining the Masses of the Kepler-11 Planets through Radial Velocity Measurements

**Author(s):** Lauren M. Weiss<sup>1</sup>, Geoffrey W. Marcy<sup>1</sup>, Howard T. Isaacson<sup>1</sup>  
*Institution(s):* <sup>1</sup> UC Berkeley

## 410 Formal and Informal Education I

Thursday, 10:00 am - 11:30 am; 608

**Chair(s):** Stacy Palen (*Weber State Univ.*)

### 410.01 Communicating the Science from NASA's Astrophysics Missions

**Author(s):** Hashima Hasan<sup>1</sup>, Denise A. Smith<sup>2</sup>  
*Institution(s):* <sup>1</sup> NASA Headquarters, <sup>2</sup> Space Telescope Science Institute

### 410.02 Engaging Scientists in Meaningful E/PO: How the NASA SMD E/PO Community Addresses the Needs of the Higher Ed Community

**Author(s):** James Manning<sup>2</sup>, Bonnie K. Meinke<sup>3</sup>, Gregory R. Schultz<sup>1</sup>, Denise A. Smith<sup>3</sup>, Brandon L. Lawton<sup>3</sup>, Suzanne Gurton<sup>1</sup>  
*Institution(s):* <sup>1</sup> Astronomical Society of the Pacific, <sup>2</sup> NASA Astrophysics SEPOF, <sup>3</sup> Space Telescope Science Institute

Contributing team(s): NASA Astrophysics E/PO Community

### 410.03 NASA Science Mission Directorate Education and Public Outreach: Engaging with Scientists and Educators through the Higher Education Working Group

**Author(s):** Gregory R. Schultz<sup>1</sup>, Nicholas Gross<sup>2</sup>, Sanlyn Buxner<sup>5</sup>, Russanne Low<sup>4</sup>, Mark Moldwin<sup>6</sup>, Andrew Fraknoi<sup>3</sup>, Jennifer A. Grier<sup>5</sup>  
*Institution(s):* <sup>1</sup> Astronomical Society of the Pacific, <sup>2</sup> Boston Univ., <sup>3</sup> Foothill College, <sup>4</sup> Institute for Global Environmental Strategies, <sup>5</sup> Planetary Science Institute, <sup>6</sup> Univ. of Michigan

### 410.04 Engaging Scientists in Meaningful E/PO: How the NASA SMD E/PO Community Addresses the needs of Underrepresented Audiences through NASA Science4Girls and Their Families

**Author(s):** Bonnie K. Meinke<sup>3</sup>, Denise A. Smith<sup>3</sup>, Lora Bleacher<sup>2</sup>, Karin Hauck<sup>4</sup>, Cassie Soeffing<sup>1</sup>  
*Institution(s):* <sup>1</sup> IGES, <sup>2</sup> NASA Goddard Space Flight Center, <sup>3</sup> STScI, <sup>4</sup> UC Berkeley/SSL

Contributing team(s): NASA SMD E/PO Community

### 410.05 Engaging Scientists in Meaningful E/PO: How the NASA SMD E/PO Community Addresses Informal Educators' Preferences for PD and Materials

**Author(s):** Lindsay Bartolone<sup>1</sup>, Andi Nelson<sup>1</sup>, Denise A. Smith<sup>2</sup>  
*Institution(s):* <sup>1</sup> NASA SMD Astrophysics Forum, <sup>2</sup> Space Telescope Science Institute  
Contributing team(s): NASA SMD Astrophysics E/PO Community

# THURSDAY, 8 JANUARY 2015

- 410.06 NASA Astrophysics E/PO: The Impact of the Space Telescope Science Institute Office of Public Outreach**  
**Author(s):** Denise A. Smith<sup>1</sup>, Hussein Jirdeh<sup>1</sup>, Bonnie Eisenhamer<sup>1</sup>, Ray Villard<sup>1</sup>  
*Institution(s):* <sup>1</sup> STScI
- 410.07 NASA Astrophysics E/PO Impact: The Astrophysics Educator Ambassador Program**  
**Author(s):** Lynn R. Cominsky<sup>1</sup>, Kevin M. McLin<sup>1</sup>  
*Institution(s):* <sup>1</sup> Sonoma State Univ.  
Contributing team(s): SSU E/PO team
- 410.08 NASA Astrophysics E/PO Impact: NASA SOFIA AAA Program Evaluation Results**  
**Author(s):** Pamela Harman<sup>1</sup>, Dana E. Backman<sup>1</sup>, Coral Clark<sup>2</sup>  
*Institution(s):* <sup>1</sup> SETI Institute, <sup>2</sup> USRA  
Contributing team(s): Inverness Research SOFIA AAA Evaluation Team, WestEd SOFIA AAA Evaluation Team
- 410.09 Frontier Fields: Engaging Educators, the Youth, and the Public in Exploring the Cosmic Frontier**  
**Author(s):** Brandon L. Lawton<sup>1</sup>, Bonnie Eisenhamer<sup>1</sup>, Denise A. Smith<sup>1</sup>, Frank Summers<sup>1</sup>, John A. Darnell<sup>1</sup>, Holly Ryer<sup>1</sup>  
*Institution(s):* <sup>1</sup> STScI

## 411 Starburst Galaxies I

Thursday, 10:00 am - 11:30 am; 609

**Chair(s):** Philip Appleton (*Caltech*)

- 411.01 GOALS: HI Mapping of Local (U)LIRGs**  
**Author(s):** George C. Privon<sup>7</sup>, Aaron S. Evans<sup>8</sup>, John E. Hibbard<sup>3</sup>, Joshua E. Barnes<sup>2</sup>, Raffaella Morganti<sup>5</sup>, Tom Oosterloo<sup>5</sup>, Sabrina Stierwalt<sup>8</sup>, David T. Frayer<sup>4</sup>, Joseph M. Mazzarella<sup>1</sup>, Lee Armus<sup>6</sup>, Ezequiel Treister<sup>7</sup>  
*Institution(s):* <sup>1</sup> Infrared Processing and Analysis Center, *Caltech*, <sup>2</sup> Institute for Astronomy, University of Hawaii, <sup>3</sup> National Radio Astronomy Observatory, <sup>4</sup> National Radio Astronomy Observatory, <sup>5</sup> Netherlands Institute for Radio Astronomy (ASTRON), <sup>6</sup> Spitzer Science Center, *Caltech*, <sup>7</sup> Universidad de Concepción, <sup>8</sup> University of Virginia  
Contributing team(s): GOALS
- 411.02D Why is the Radio Continuum Spectral Index of a Star-Forming Galaxy Approximately -0.7?**  
**Author(s):** Joshua Marvil<sup>1</sup>, Jean Eilek<sup>2</sup>, Frazer N. Owen<sup>3</sup>  
*Institution(s):* <sup>1</sup> CSIRO Astronomy & Space Science, <sup>2</sup> New Mexico Tech, <sup>3</sup> NRAO
- 411.03 ALMA (Band 7 & 9) Imaging of Arp 220 in HCN and Dust continuum**  
**Author(s):** Nicholas Scoville<sup>1</sup>  
*Institution(s):* <sup>1</sup> Caltech

## 411.04D Molecular Gas in Starbursts ARP 220 & NGC 6240: Understanding Mergers using High Density Gas Tracers

**Author(s):** Swarnima Manohar<sup>1</sup>, Nicholas Scoville<sup>1</sup>, Kartik Sheth<sup>2</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> North America ALMA Science Center, NRAO

## 411.06 Extreme Starbursts at $z > 4$

**Author(s):** Alexander J. Conley<sup>1</sup>, Jason Glenn<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Colorado at Boulder  
Contributing team(s): HerMES collaboration

## 411.07 Cosmic Ray Interactions, Gamma-Rays, and Neutrinos in Starbursting Galaxies

**Author(s):** Tova M Yoast-Hull<sup>1</sup>, John S. Gallagher<sup>1</sup>, Ellen Gould Zweibel<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Wisconsin-Madison

## 412 High Redshift ( $z > 3$ ) Galaxies

Thursday, 10:00 am - 11:30 am; 611

**Chair(s):** Viviana Acquaviva (CUNY NYC College of Technology)

### 412.01 On the intergalactic attenuation for high- $z$ galaxies

**Author(s):** Akio K Inoue<sup>1</sup>

*Institution(s):* <sup>1</sup> Osaka Sangyo University

### 412.02 Investigating the Physical Cause Behind a Constant Characteristic Magnitude at High Redshift

**Author(s):** Steven L. Finkelstein<sup>5</sup>, Russell E. Ryan<sup>3</sup>, Casey J. Papovich<sup>4</sup>, Mark Dickinson<sup>1</sup>, Mimi Song<sup>5</sup>, Peter Behroozi<sup>3</sup>, Rachel S. Somerville<sup>2</sup>, Henry Closson Ferguson<sup>3</sup>

*Institution(s):* <sup>1</sup> NOAO, <sup>2</sup> Rutgers University, <sup>3</sup> Space Telescope Science Institute, <sup>4</sup> Texas A&M University, <sup>5</sup> University of Texas at Austin

Contributing team(s): CANDELS Team, S-CANDELS Team

### 412.03D Probing stellar mass build-up in galaxies at $z=4-7$ with CANDELS and S-CANDELS

**Author(s):** Mimi Song<sup>3</sup>, Steven L. Finkelstein<sup>3</sup>, Matthew Ashby<sup>1</sup>, Emiliano Merlin<sup>2</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> INAF, <sup>3</sup> University of Texas at Austin

### 412.04 Origin of Lyman Alpha Photons in High-Redshift Galaxies

**Author(s):** Vivian U<sup>1</sup>, Shoubaneh Hemmati<sup>1</sup>, Bahram Mobasher<sup>1</sup>, Behnam Darvish<sup>1</sup>, Hooshang Nayyeri<sup>1</sup>

*Institution(s):* <sup>1</sup> UC Riverside

### 412.05 High-Redshift Results from the First Half of the Frontier Fields Program

**Author(s):** Dan A. Coe<sup>2</sup>, Larry D. Bradley<sup>2</sup>, Adi Zitrin<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> STScI

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## 412.06 Do Massive Galaxies at $z \sim 6$ Present a Challenge for Hierarchical Merging?

**Author(s):** Charles L. Steinhardt<sup>1</sup>, Peter L. Capak<sup>1</sup>, Daniel Masters<sup>1</sup>, Josh S. Speagle<sup>2</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Harvard

Contributing team(s): SPLASH

## 413 Instrumentation: Space Missions -Ground Based or Airborne III

Thursday, 10:00 am - 11:30 am; 612

**Chair(s):** Robin Stebbins (NASA GSFC)

### 413.01 Observing the Sun with ALMA: A New Window into Solar Physics

**Author(s):** Timothy S. Bastian<sup>2</sup>, Masumi Shimojo<sup>1</sup>, Sven Wedemeyer-Bohm<sup>3</sup>

*Institution(s):* <sup>1</sup> NAOJ, <sup>2</sup> NRAO, <sup>3</sup> University of Oslo

Contributing team(s): the ALMA North American Solar Development Team

### 413.02 Observation strategies with the Fermi Gamma-ray Space Telescope

**Author(s):** Julie E. McEnery<sup>1</sup>

*Institution(s):* <sup>1</sup> NASA's GSFC

Contributing team(s): Fermi mission teams

### 413.03 The IMACS Occultation Survey for KBOs

**Author(s):** Matthew John Payne<sup>1</sup>, Matthew J. Holman<sup>1</sup>, Charles Alcock<sup>1</sup>, Hilke Schlichting<sup>1</sup>, David J. Osip<sup>1</sup>, Federica Bianco<sup>1</sup>, Ruth Murray-Clay<sup>1</sup>, Pavlos Protopapas<sup>1</sup>, Paul Nulsen<sup>1</sup>, Ian Thompson<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics

### 413.04 The Dark Energy Spectroscopic Instrument (DESI): Instrument Design

**Author(s):** Claire Poppett<sup>1</sup>

*Institution(s):* <sup>1</sup> Lawrence Berkeley National Lab

Contributing team(s): the DESI collaboration

### 413.05 SuperHERO: The Next Generation Hard X-Ray Focusing Telescope

**Author(s):** Jessica Gaskin<sup>3</sup>, Colleen Wilson-Hodge<sup>3</sup>, Brian Ramsey<sup>3</sup>, Ronald Elsner<sup>3</sup>, Allyn F. Tennant<sup>3</sup>, Kiranmayee Kilaru<sup>6</sup>, Douglas A. Swartz<sup>6</sup>, Steven Christe<sup>2</sup>, Albert Y. Shih<sup>2</sup>, Frederick K. Baganoff<sup>1</sup>, Paul Seller<sup>5</sup>, Matthew Wilson<sup>5</sup>, David Stuchlik<sup>4</sup>

*Institution(s):* <sup>1</sup> MIT Kavli Institute for Astrophysics, <sup>2</sup> NASA Goddard Space Flight Center, <sup>3</sup> NASA Marshall Space Flight Center, <sup>4</sup> NASA Wallops Flight Facility, <sup>5</sup> Rutherford Appleton Laboratory, <sup>6</sup> Universities Space Research Association

### 413.06D The Adaptive Optics Lucky Imager: Diffraction limited imaging at visible wavelengths with large ground-based telescopes

**Author(s):** Jonathan Crass<sup>5</sup>, Craig Mackay<sup>2</sup>, David King<sup>2</sup>, Rafael Rebolo-López<sup>3</sup>, Lucas Labadie<sup>1</sup>, Marta Puga<sup>3</sup>, Alejandro Oscoz<sup>3</sup>, Victor González Escalera<sup>3</sup>, Antonio Pérez Garrido<sup>4</sup>, Roberto López<sup>3</sup>, Jorge Pérez-Prieto<sup>3</sup>, Luis Rodríguez-Ramos<sup>3</sup>, Sergio Velasco<sup>3</sup>, Isidro Villó<sup>4</sup>

*Institution(s):* <sup>1</sup> I. Physikalisches Institut, Universität zu Köln, <sup>2</sup> Institute of Astronomy, University of Cambridge, <sup>3</sup> Instituto de Astrofísica de Canarias, <sup>4</sup> Universidad Politecnica de Cartagena, <sup>5</sup> University of Notre Dame

**413.07D On-sky validation of an optimal LQG control with vibration mitigation: from the CANARY Multi-Object Adaptive Optics demonstrator to the Gemini Multi-Conjugated Adaptive Optics facility.**

**Author(s):** Gaetano Sivo<sup>1</sup>

*Institution(s):* <sup>1</sup> Gemini South Observatory

Contributing team(s): caroline kulcsár, Jean-Marc Conan, Henri-François Raynaud, Éric Gendron, Alastair Basden, Damien Gratadour, Tim Morris, Cyril Petit, Serge Meimon, Gérard Rousset, Vincent Garrel, Benoit Neichel, Marcos van Dam, Eduardo Marin, Rodrigo Carrasco, Mischa Schirmer, William Rambold, Cristian Moreno, Vanessa Montes, Kayla Hardie, Chad Trujillo

## 414 Young Stellar Objects, Very Young Stars, T-Tauri Stars, H-H Objects

Thursday, 10:00 am - 11:30 am; 615

**Chair(s):** Andrea Dupree (SAO)

**414.01 The Serpens South Protocluster Core as Viewed by SOFIA/FORCAST**

**Author(s):** Tracy L. Huard<sup>1</sup>, Marc W. Pound<sup>1</sup>, Lee G. Mundy<sup>1</sup>

*Institution(s):* <sup>1</sup> Univ. of Maryland

**414.02D Using He I  $\lambda 10830$  to Diagnose Mass Flows Around Herbig Ae/Be Stars**

**Author(s):** Paul W. Cauley<sup>2</sup>, Christopher M. Johns-Krull<sup>1</sup>

*Institution(s):* <sup>1</sup> Rice University, <sup>2</sup> Wesleyan University

**414.03 Recollimation boundary layers as X-ray sources in young stellar jets**

**Author(s):** Hans Moritz Guenther<sup>2</sup>, Zhi-Yun Li<sup>3</sup>, Peter C Schneider<sup>1</sup>

*Institution(s):* <sup>1</sup> Hamburger Sternwarte, <sup>2</sup> MIT, <sup>3</sup> University of Virginia

**414.04DA Study of Galactic Ring-Shaped HII Regions: Searching For Possible Sites of Triggered Star Formation**

**Author(s):** Sung-Ju Kang<sup>1</sup>, Charles R. Kerton<sup>1</sup>

*Institution(s):* <sup>1</sup> Iowa State University

**414.05D New Exozodi and Asteroid Belt Analogs using WISE**

**Author(s):** Rahul Patel<sup>1</sup>, Stanimir Metchev<sup>2</sup>, Aren Heinze<sup>1</sup>

*Institution(s):* <sup>1</sup> SUNY Stony Brook, <sup>2</sup> University of Western Ontario

## 415 Binaries - Stellar

Thursday, 10:00 am - 11:30 am; 620

**Chair(s):** Donald Hoard (Eureka Scientific, Inc.)

**415.01 A Joint Approach to the Study of S-Type and P-Type Habitable Zones in Binary Systems: New Results in the View of 3-D Planetary Climate Models**

**Author(s):** Manfred Cuntz<sup>1</sup>

*Institution(s):* <sup>1</sup> Univ. of Texas at Arlington

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## 415.03D The Binary INformation from Open Clusters using SEDs (BINOCS) Project:

### Radial Migration of Binary Systems in Open Clusters

**Author(s):** Benjamin A. Thompson<sup>1</sup>, Peter M. Frinchaboy<sup>1</sup>

*Institution(s):* <sup>1</sup> Texas Christian University

## 415.04 Observations and Analysis of a Newly Discovered Binary Star in the Hercules Constellation

**Author(s):** W. Lee Powell<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Nebraska Kearney

## 415.05 A prediction of a luminous red nova eruption

**Author(s):** Lawrence A. Molnar<sup>2</sup>, Daniel M. Van Noord<sup>2</sup>, Steven D. Steenwyk<sup>2</sup>, Chris J. Spedden<sup>2</sup>, Karen Kinemuchi<sup>1</sup>

*Institution(s):* <sup>1</sup> Apache Point Observatory, <sup>2</sup> Calvin College

## 415.06 A triple eclipsing system as a test case for close binary formation through Kozai cycles

**Author(s):** Kyle E. Conroy<sup>1</sup>, Andrej Prsa<sup>2</sup>, Keivan Stassun<sup>1</sup>

*Institution(s):* <sup>1</sup> Vanderbilt University, <sup>2</sup> Villanova University

## 415.07 Fundamental Parameters of Kepler Eclipsing Binary KIC 5738698

**Author(s):** Rachel A. Matson<sup>1</sup>, Douglas R. Gies<sup>1</sup>, Zhao Guo<sup>1</sup>

*Institution(s):* <sup>1</sup> GSU

## 415.08 Ages of Red Giants from Asteroseismology

**Author(s):** Jean McKeever<sup>1</sup>, Patrick Gaulme<sup>1</sup>, Meredith L. Rawls<sup>1</sup>, Jason Jackiewicz<sup>1</sup>

*Institution(s):* <sup>1</sup> New Mexico State University

## 416 Plenary Talk: Alma Presents a Transformational View of the Universe

Thursday, 11:40 am - 12:30 pm; 6E

**Chair(s):** Paula Szkody (*Univ. of Washington*)



## 416.01 ALMA Presents a Transformational View of the Universe

**Author(s):** Al Wootten<sup>1</sup>

*Institution(s):* <sup>1</sup> NRAO

## Career Hour 6: Negotiation Strategy and Tactics

Thursday, 12:30 pm - 1:30 pm; 618/619

Did you know that the salary of your very first job after graduation or your postdoc determines your salaries for the rest of your life? Learn how to create a win-win situation and negotiate right from start to finish in the job decision process. Clarifying your needs and wants, and those of the other party are key. The negotiation skills you learn are valuable in that they can be applied to any situation in your professional (and even personal) life.

**Organizer(s):** Alaina Levine (*Quantum Success Solutions*)

## 417 Hubble Space Telescope Town Hall

Thursday, 12:45 pm - 1:45 pm; 6E

The Hubble Space Telescope is nearing 25 years in space. With more than 12,000 papers based on Hubble data appearing in the refereed scientific literature, and nearly half a million citations to those papers, Hubble is arguably the most scientifically productive observatory of all time. Throughout its storied history, Hubble has profoundly transformed our understanding of the universe, inspired generations of students, rewritten textbooks, infiltrated popular culture, and become synonymous with NASA space science. The observatory is in excellent health and more powerful than ever. Planning for Hubble's remaining years is underway, with a goal of at least one year of observational overlap with the James Webb Space Telescope, which will commence science operations in mid-2019. This town hall will feature a pair of short talks outlining a "Hubble 2020 vision" and key observing initiatives that are either underway or planned for the coming years. We will be seeking community input on this vision and these observing initiatives. There will be ample time available for audience questions and comments.

**Chair(s):** Kenneth Sembach (*STScI*)

## 418 Galaxy Clusters IV

Thursday, 2:00 pm - 3:30 pm; 6A

**Chair(s):** Eric Perlman (*Florida Institute of Technology*)

### 418.01 3C320: Second Cousin of Cygnus A

**Author(s):** D. E. Harris<sup>2</sup>, Martin Hardcastle<sup>1</sup>, C. C. Cheung<sup>4</sup>, J. Croston<sup>5</sup>, F. Massaro<sup>6</sup>, Paul Nulsen<sup>2</sup>, L. Stawarz<sup>3</sup>

*Institution(s):* <sup>1</sup>. University of Hertfordshire, <sup>2</sup>. HEA- Center for Astrophysics, <sup>3</sup>. Institute of Space and Astronautical Science JAXA, <sup>4</sup>. Naval Research Laboratory, <sup>5</sup>. University of Southampton, <sup>6</sup>. Yale University

### 418.02D Radio Galaxies in Galaxy Clusters: Feedback, Merger Signatures, and Signposts

**Author(s):** Rachel Paterno-Mahler<sup>1</sup>, Elizabeth L. Blanton<sup>1</sup>, Scott W. Randall<sup>3</sup>, Felipe Andrade-Santos<sup>3</sup>, Matthew Ashby<sup>3</sup>, Mark Brodwin<sup>6</sup>, Esra Bulbul<sup>3</sup>, Tracy E. Clarke<sup>5</sup>, Emmet Golden-Marx<sup>1</sup>, Ryan Johnson<sup>2</sup>, Christine Jones<sup>3</sup>, Stephen S. Murray<sup>4</sup>, Joshua Wing<sup>3</sup>

*Institution(s):* <sup>1</sup>. Boston Univ., <sup>2</sup>. Gettysburg College, <sup>3</sup>. Harvard-Smithsonian Center for Astrophysics, <sup>4</sup>. Johns Hopkins University, <sup>5</sup>. Naval Research Laboratory, <sup>6</sup>. University of Missouri-Kansas City

# THURSDAY, 8 JANUARY 2015

## 418.03 The Abundance of Large Arcs From CLASH

Author(s): Bingxiao Xu<sup>2</sup>, Marc Postman<sup>3</sup>, Massimo Meneghetti<sup>1</sup>, Dan A. Coe<sup>3</sup>  
Institution(s): <sup>1</sup> Jet Propulsion Laboratory, California Institute of Technology,  
<sup>2</sup> Johns Hopkins University, <sup>3</sup> Space Telescope Science Institute  
Contributing team(s): CLASH team

## 418.04D High Resolution Cluster Pressure Profile Measurements with MUSTANG and Bolocam

Author(s): Charles Romero<sup>5</sup>, Brian S. Mason<sup>2</sup>, Jack Sayers<sup>1</sup>, Alexander Young<sup>4</sup>,  
Simon Dicker<sup>4</sup>, Tony Mroczkowski<sup>3</sup>, Erik D. Reese<sup>4</sup>, Craig L. Sarazin<sup>5</sup>, Nicole G.  
Czakon<sup>1</sup>, Mark J. Devlin<sup>4</sup>, Phillip Korngut<sup>1</sup>  
Institution(s): <sup>1</sup> California Institute of Technology, <sup>2</sup> National Radio Astronomy  
Observatory, <sup>3</sup> Naval Research Laboratory, <sup>4</sup> University of Pennsylvania,  
<sup>5</sup> University of Virginia

## 418.05 Star Formation Histories in CLASH Brightest Cluster Galaxies

Author(s): Kevin Fogarty<sup>1</sup>, Marc Postman<sup>4</sup>, Megan Donahue<sup>2</sup>, John Moustakas<sup>3</sup>,  
Thomas Connor<sup>2</sup>  
Institution(s): <sup>1</sup> Johns Hopkins University, <sup>2</sup> Michigan State University, <sup>3</sup> Siena  
College, <sup>4</sup> Space Telescope Science Institute  
Contributing team(s): CLASH Science Team

## 418.06D Environment and Star Formation Activity in Galaxies out to $z \sim 3$

Author(s): Behnam Darvish<sup>1</sup>, Bahram Mobasher<sup>1</sup>  
Institution(s): <sup>1</sup> University of California, Riverside  
Contributing team(s): the COSMOS science team, the HiZELS science team

# 419 Large Scale Structure, Cosmic Distance Scale II

Thursday, 2:00 pm - 3:30 pm; 610

Chair(s): Ramin Skibba (University of California, San Diego)

## 419.01D The Very Small Scale Clustering of SDSS-II and SDSS-III Galaxies

Author(s): Jennifer Piscionere<sup>1</sup>  
Institution(s): <sup>1</sup> Vanderbilt University

## 419.02 A Geometric Distance to the Megamaser Galaxy NGC 5765b by the Megamaser Cosmology Project

Author(s): Feng Gao<sup>5</sup>, James A. Braatz<sup>4</sup>, Mark J. Reid<sup>2</sup>, Fred K.Y. Lo<sup>4</sup>, James J.  
Condon<sup>4</sup>, Christian Henkel<sup>3</sup>, Cheng-Yu Kuo<sup>1</sup>, Caterina Impellizzeri<sup>4</sup>, Dom Pesce<sup>6</sup>,  
Wei Zhao<sup>5</sup>  
Institution(s): <sup>1</sup> Academia Sinica Institute of Astronomy and Astrophysics,  
<sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Max-Planck Institut für  
Radioastronomie, <sup>4</sup> NRAO, <sup>5</sup> Shanghai Astronomical Observatory, <sup>6</sup> University of  
Virginia

## 419.03D Modeling Large Scale Structure from Photometric Galaxy Surveys

Author(s): Yiran Wang<sup>1</sup>, Robert Brunner<sup>1</sup>  
Institution(s): <sup>1</sup> University of Illinois at Urbana-Champaign



## 419.04 Comparing the 2MTF and 6dFGS Peculiar Velocity Surveys to models from redshift surveys

**Author(s):** Christopher M. Springob<sup>3</sup>, Tao Hong<sup>5</sup>, Christina Magoulas<sup>11</sup>, Matthew Colless<sup>8</sup>, Lister Staveley-Smith<sup>3</sup>, Pirin Erdogdu<sup>1</sup>, D. Heath Jones<sup>4</sup>, John R. Lucey<sup>10</sup>, Karen Masters<sup>12</sup>, Jeremy R. Mould<sup>6</sup>, Tom Jarrett<sup>9</sup>, Baerbel Koribalski<sup>2</sup>, Lucas M. Macri<sup>7</sup>, Morag Scrimgeour<sup>13</sup>

*Institution(s):* <sup>1.</sup> Australian College of Kuwait, <sup>2.</sup> CASS / ATNF, <sup>3.</sup> ICRAR / University of Western Australia, <sup>4.</sup> Monash University, <sup>5.</sup> NAOC, <sup>6.</sup> Swinburne University, <sup>7.</sup> Texas A&M University, <sup>8.</sup> The Australian National University, <sup>9.</sup> University of Cape Town, <sup>10.</sup> University of Durham, <sup>11.</sup> University of Melbourne, <sup>12.</sup> University of Portsmouth, <sup>13.</sup> University of Waterloo

## 419.05D The Evolution of Baryons in Cosmic Large Scale Structure

**Author(s):** Ali Snedden<sup>1</sup>, Lara Arielle Phillips<sup>1</sup>, Grant James Mathews<sup>1</sup>, Jared Coughlin<sup>1</sup>, In-Saeng Suh<sup>1</sup>, Aparna Bhattacharya<sup>1</sup>

*Institution(s):* <sup>1.</sup> University of Notre Dame

## 419.06 Accurate Modeling of Galaxy Clustering on Small Scales: Testing the Standard $\Lambda$ CDM + Halo Model

**Author(s):** Manodeep Sinha<sup>3</sup>, Andreas A. Berlind<sup>3</sup>, Cameron McBride<sup>1</sup>, Roman Scoccimarro<sup>2</sup>

*Institution(s):* <sup>1.</sup> CfA, <sup>2.</sup> NYU, <sup>3.</sup> Vanderbilt University

## 420 Extrasolar Planets: Binariness, Multiplicity and Moons

Thursday, 2:00 pm - 3:30 pm; 616/617

**Chair(s):** Laura Schaefer (Washington Univ.)

### 420.01D Detailed Chemical Abundances of Planet-Hosting Wide Binary Systems

**Author(s):** Claude E. Mack<sup>3</sup>, Simon C. Schuler<sup>2</sup>, Keivan Stassun<sup>3</sup>, Joshua Pepper<sup>1</sup>

*Institution(s):* <sup>1.</sup> Lehigh University, <sup>2.</sup> University of Tampa, <sup>3.</sup> Vanderbilt University

### 420.02 The Occurrence of Compact Multiple Exoplanetary Systems Orbiting Mid-M Dwarf Stars

**Author(s):** Philip Steven Muirhead<sup>2</sup>, Andrew W Mann<sup>6</sup>, Andrew Vanderburg<sup>4</sup>, Timothy D Morton<sup>5</sup>, Adam L. Kraus<sup>6</sup>, Michael J Ireland<sup>1</sup>, Jonathan J Swift<sup>3</sup>, Gregory A. Feiden<sup>8</sup>, Eric Gaidos<sup>7</sup>, J. Zachary Gazak<sup>7</sup>

*Institution(s):* <sup>1.</sup> Australian National University, <sup>2.</sup> Boston University, <sup>3.</sup> California Institute of Technology, <sup>4.</sup> Harvard University, <sup>5.</sup> Princeton University, <sup>6.</sup> The University of Texas at Austin, <sup>7.</sup> University of Hawai'i at Manoa, <sup>8.</sup> Uppsala University

### 420.03 Multiplicity of Planets Among the Kepler M Dwarfs

**Author(s):** Sarah Ballard<sup>2</sup>, John Johnson<sup>1</sup>

*Institution(s):* <sup>1.</sup> Harvard University, <sup>2.</sup> University of Washington

### 420.04 Planet Formation in Binary Stars

**Author(s):** Ji Wang<sup>1</sup>

*Institution(s):* <sup>1.</sup> YALE UNIVERSITY

# THURSDAY, 8 JANUARY 2015

- 420.05 Friends of hot Jupiters II: No correspondence between hot Jupiter spin-orbit misalignment and the incidence of directly imaged stellar companions**  
**Author(s):** Henry Ngo<sup>2</sup>, Heather A. Knutson<sup>2</sup>, Sasha Hinkley<sup>5</sup>, Justin R. Crepp<sup>7</sup>, Eric B. Bechter<sup>7</sup>, Konstantin Batygin<sup>2</sup>, Andrew W. Howard<sup>6</sup>, John A. Johnson<sup>3</sup>, Timothy D. Morton<sup>4</sup>, Philip Steven Muirhead<sup>1</sup>  
*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> California Institute of Technology, <sup>3</sup> Harvard University, <sup>4</sup> Princeton University, <sup>5</sup> University of Exeter, <sup>6</sup> University of Hawaii, <sup>7</sup> University of Notre Dame
- 420.06 Constraints on planet formation from Kepler's multiple planet systems**  
**Author(s):** Elisa V. Quintana<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA Ames Research Center
- 420.08 The Hunt for Exomoons with Kepler (HEK) Project: A Survey of 40 New Planetary Candidates for Moons**  
**Author(s):** David M. Kipping<sup>2</sup>, Chelsea Huang<sup>3</sup>, Guillermo Torres<sup>2</sup>, Lars A. Buchhave<sup>2</sup>, David Nesvorný<sup>4</sup>, Gaspar Bakos<sup>3</sup>, Joel Hartman<sup>3</sup>, Allan Schmitt<sup>1</sup>  
*Institution(s):* <sup>1</sup> Citizen Scientist, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Princeton University, <sup>4</sup> Southwest Research Institute

## 421 Optical and Radio Pulsars

Thursday, 2:00 pm - 3:30 pm; 618/619

**Chair(s):** Walid Majid (*JPL/Caltech*)

- 421.01 Discovery of Optical Circular Polarization of the Crab Pulsar**  
**Author(s):** Sloane Wiktorowicz<sup>3</sup>, Enrico Ramirez-Ruiz<sup>3</sup>, Rainer M. E. Illing<sup>1</sup>, Larissa Nofi<sup>2</sup>  
*Institution(s):* <sup>1</sup> Ball Aerospace and Tech. Corp., <sup>2</sup> Institute for Astronomy, University of Hawaii, <sup>3</sup> University of California, Santa Cruz
- 421.02D One Does Not Simply Model Radio Polarization of Pulsars (and Connect It to Data)**  
**Author(s):** Helen Craig<sup>1</sup>  
*Institution(s):* <sup>1</sup> Stanford University
- 421.03 Pulsar Observations Using the First Station of the Long Wavelength Array**  
**Author(s):** Kevin Stovall<sup>3</sup>, Paul Demorest<sup>1</sup>, Paul S. Ray<sup>2</sup>, Jayce Dowell<sup>3</sup>, Frank Schinzel<sup>3</sup>, Gregory B. Taylor<sup>3</sup>  
*Institution(s):* <sup>1</sup> NRAO, <sup>2</sup> NRL, <sup>3</sup> University of New Mexico
- 421.04D Emission and rotational variability in pulsars.**  
**Author(s):** Paul Brook<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Oxford
- 421.05 Low Frequency Study of Rotating Radio Transients**  
**Author(s):** Michael McCrackan<sup>1</sup>, Rossina B. Miller<sup>2</sup>, Kevin Stovall<sup>1</sup>, Maura McLaughlin<sup>2</sup>, Gregory B. Taylor<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of New Mexico, <sup>2</sup> West Virginia University

- 421.06 Observing Rats, Giants, and Ghosts below 100 MHz with the LWA**  
**Author(s):** Gregory B. Taylor<sup>1</sup>, Michael J. McCracken<sup>1</sup>, Tarraneh Eftekhari<sup>1</sup>, Kenneth Obenberger<sup>1</sup>, Jayce Dowell<sup>1</sup>, Kevin Stovall<sup>1</sup>  
*Institution(s):* <sup>1</sup> Univ. of New Mexico

## 422 Catalogs/Surveys/Computation - High Energy, Large Data, and Classification

Thursday, 2:00 pm - 3:30 pm; 606

**Chair(s):** Stanislav G. Djorgovski (*Caltech*)

- 422.01 New constraints on the 2-10 keV X-ray luminosity function from the Chandra COSMOS Legacy Survey**

**Author(s):** Stefano Marchesi<sup>3</sup>, Francesca M. Civano<sup>3</sup>, Martin Elvis<sup>2</sup>, C. Megan Urry<sup>3</sup>, Andrea Comastri<sup>1</sup>

*Institution(s):* <sup>1</sup> INAF-OABO, <sup>2</sup> SAO - Smithsonian Astrophysical Observatory, <sup>3</sup> Yale University

Contributing team(s): the Chandra COSMOS Legacy Team

- 422.02 The Fermi Large Area Telescope Third Gamma-ray Source Catalog**

**Author(s):** Thomas E. Stephens<sup>2</sup>, Jean Ballet<sup>3</sup>, Toby Burnett<sup>5</sup>, Elisabetta Cavazzuti<sup>1</sup>, Seth William Digel<sup>4</sup>

*Institution(s):* <sup>1</sup> Agenzia Spaziale Italiana Science Data Center, <sup>2</sup> Brigham Young University, <sup>3</sup> Laboratoire AIM, Saclay, <sup>4</sup> SLAC National Accelerator Laboratory, <sup>5</sup> University of Washington

Contributing team(s): Fermi LAT Collaboration

- 422.03 A Catalog of Fermi-LAT Sources Detected above 50 GeV**

**Author(s):** Alberto Dominguez<sup>2</sup>, Marco Ajello<sup>2</sup>, Dario Gasparrini<sup>1</sup>, Sara Cutini<sup>1</sup>

*Institution(s):* <sup>1</sup> ASI Science Data Center, <sup>2</sup> Clemson University

Contributing team(s): on behalf of the Fermi-LAT collaboration

- 422.04D Managing Astronomy Research Data: Case Studies of Big and Small Research Projects**

**Author(s):** Ashley E. Sands<sup>1</sup>

*Institution(s):* <sup>1</sup> UCLA

- 422.05 Effects of the Earth's atmosphere and human neural processing of light on the apparent colors of stars**

**Author(s):** Michael Savino<sup>1</sup>, Neil Francis Comins<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Maine

- 422.06 Fast and accurate probability density estimation in large high dimensional astronomical datasets**

**Author(s):** Pramod Gupta<sup>1</sup>, Andrew J. Connolly<sup>1</sup>, Jeffrey P. Gardner<sup>1</sup>

*Institution(s):* <sup>1</sup> Department of Astronomy, University of Washington

- 422.07 FERRE: A Code for Spectroscopic Analysis**

**Author(s):** Carlos Allende-Prieto<sup>1</sup>

*Institution(s):* <sup>1</sup> Instituto de Astrofísica de Canarias

Contributing team(s): APOGEE Team

# THURSDAY, 8 JANUARY 2015

## 422.08 Bayesian Model Selection in ‘Big Data’ Spectral Analysis

**Author(s):** Travis C. Fischer<sup>1</sup>, D. Michael Crenshaw<sup>1</sup>, Fabien Baron<sup>1</sup>, Brian K. Kloppenborg<sup>1</sup>, Crystal L Pope<sup>1</sup>  
*Institution(s):* <sup>1</sup> Georgia State University

## 423 Extrasolar Planets: Imaging and Detection Strategies

Thursday, 2:00 pm - 3:30 pm; 607

**Chair(s):** Steve Bryson (*NASA Ames Research Center*)

### 423.01D Searching For Planets in “Holey Debris Disks”

**Author(s):** Tiffany Meshkat<sup>1</sup>, Vanessa P. Bailey<sup>2</sup>, Kate Y.L. Su<sup>2</sup>, Matthew A. Kenworthy<sup>1</sup>, Eric E. Mamajek<sup>3</sup>, Philip Hinz<sup>2</sup>, Paul S. Smith<sup>2</sup>  
*Institution(s):* <sup>1</sup> Leiden University, <sup>2</sup> University of Arizona, <sup>3</sup> University of Rochester

### 423.02D Exploring Planetary System Evolution Through High-Contrast Imaging

**Author(s):** Thomas Esposito<sup>3</sup>, Michael P. Fitzgerald<sup>3</sup>, Paul Kalas<sup>2</sup>, James R. Graham<sup>2</sup>, Max Millar-Blanchaer<sup>1</sup>  
*Institution(s):* <sup>1</sup> U. Toronto, <sup>2</sup> UC, Berkeley, <sup>3</sup> UCLA  
Contributing team(s): GPIES team

### 423.03 The Gemini Planet Imager

**Author(s):** James R. Graham<sup>14</sup>, Bruce Macintosh<sup>11</sup>, Marshall D. Perrin<sup>12</sup>, Patrick Ingraham<sup>11</sup>, Quinn M. Konopacky<sup>19</sup>, Christian Marois<sup>8</sup>, Lisa Poyneer<sup>5</sup>, Brian Bauman<sup>5</sup>, Travis Barman<sup>17</sup>, Adam Seth Burrows<sup>9</sup>, Andrew Cardwell<sup>4</sup>, Jeffrey K. Chilcote<sup>19</sup>, Robert John J De Rosa<sup>14</sup>, Daren Dillon<sup>16</sup>, Rene Doyon<sup>13</sup>, Jennifer Dunn<sup>8</sup>, Darren Erikson<sup>8</sup>, Michael P. Fitzgerald<sup>15</sup>, Donald Gavel<sup>16</sup>, Stephen J. Goodsell<sup>4</sup>, Markus Hartung<sup>4</sup>, Pascale Hibon<sup>4</sup>, Paul Kalas<sup>14</sup>, James E. Larkin<sup>15</sup>, Jerome Maire<sup>19</sup>, Franck Marchis<sup>10</sup>, Mark S. Marley<sup>6</sup>, James McBride<sup>14</sup>, Max Millar-Blanchaer<sup>19</sup>, Kathleen M. Morzinski<sup>17</sup>, Eric L. Nielsen<sup>11</sup>, Andrew Norton<sup>16</sup>, Rebecca Oppenheimer<sup>1</sup>, David Palmer<sup>5</sup>, Jenny Patience<sup>2</sup>, Laurent Pueyo<sup>12</sup>, Fredrik Rantakyro<sup>4</sup>, Naru Sadakuni<sup>4</sup>, Leslie Saddlemyer<sup>8</sup>, Dmitry Savransky<sup>3</sup>, Andrew W. Serio<sup>4</sup>, Remi Soummer<sup>12</sup>, Anand Sivaramakrishnan<sup>12</sup>, Inseok Song<sup>18</sup>, Sandrine Thomas<sup>6</sup>, J. Kent Wallace<sup>7</sup>, Jason Wang<sup>14</sup>, Sloane Wiktorowicz<sup>16</sup>, Schulyer Wolff<sup>12</sup>  
*Institution(s):* <sup>1</sup> AMNH, <sup>2</sup> Arizona State, <sup>3</sup> Cornell, <sup>4</sup> Gemini Observatory, <sup>5</sup> LLNL, <sup>6</sup> NASA/Ames, <sup>7</sup> NASA/JPL, <sup>8</sup> NRC, <sup>9</sup> Princeton, <sup>10</sup> SETI Institute, <sup>11</sup> Stanford, <sup>12</sup> STScI, <sup>13</sup> U. Montreal, <sup>14</sup> UC, Berkeley, <sup>15</sup> UCLA, <sup>16</sup> UCSC, <sup>17</sup> University of Arizona, <sup>18</sup> University of Georgia, <sup>19</sup> University of Toronto  
Contributing team(s): GPI/GPIES team

### 423.04 Managing the wavefront for exoplanet imaging with a space coronagraph

**Author(s):** John T. Trauger<sup>1</sup>, Dwight Moody<sup>1</sup>, John Krist<sup>1</sup>, Brian Gordon<sup>1</sup>  
*Institution(s):* <sup>1</sup> JPL

## 423.05 Data reduction and astrometric calibration of a starshade test using real starlight

**Author(s):** Ian J.E. Jordan<sup>2</sup>, Paul Henze<sup>4</sup>, Webster C. Cash<sup>3</sup>, Remi Soummer<sup>1</sup>, Michael W. Regan<sup>1</sup>

*Institution(s):* <sup>1</sup> Association of Universities for Research in Astronomy, <sup>2</sup> Computer Sciences Corporation, <sup>3</sup> University of Colorado, <sup>4</sup> Westminster Astronomical Society

Contributing team(s): Westminster Astronomical Society, New Worlds

## 423.06 Science Yield Modeling for the WFIRST-AFTA Coronagraph

**Author(s):** Dmitry Savransky<sup>1</sup>, Aastha Acharya<sup>1</sup>, Bruce Macintosh<sup>3</sup>, Neil Gehrels<sup>2</sup>

*Institution(s):* <sup>1</sup> Cornell University, <sup>2</sup> NASA GSFC, <sup>3</sup> Stanford University

## 423.07 Transiting Planets with LSST: Assessing the Potential for LSST Exoplanet Detection

**Author(s):** Michael Lund<sup>2</sup>, Joshua Pepper<sup>1</sup>, Keivan Stassun<sup>2</sup>, Savannah Jacklin<sup>3</sup>

*Institution(s):* <sup>1</sup> Lehigh University, <sup>2</sup> Vanderbilt University, <sup>3</sup> Villanova University

## 424 Formal and Informal Education II

Thursday, 2:00 pm - 3:30 pm; 608

**Chair(s):** Jay Pasachoff (*Williams College*)

### 424.01 Partial Restoration of Public Education and Outreach at the Dominion Astrophysical Observatory

**Author(s):** James E. Hesser<sup>1</sup>

*Institution(s):* <sup>1</sup> NRC Herzberg Astronomy and Astrophysics

### 424.02 The Air Force Academy's Falcon Telescope Network: An Educational and Research Network for K-12 and Higher Education

**Author(s):** Francis Chun<sup>2</sup>, Roger Tippetts<sup>2</sup>, Devin J. Della-Rose<sup>2</sup>, Daniel Polsgrove<sup>2</sup>, Kimberlee Gresham<sup>2</sup>, David A. Barnaby<sup>1</sup>

*Institution(s):* <sup>1</sup> Air Force Research Laboratory, <sup>2</sup> US Air Force Academy

### 424.03 World's Most Advanced Planetarium Opens; University Partners Sought

**Author(s):** Douglas K. Duncan<sup>1</sup>

*Institution(s):* <sup>1</sup> Univ. of Colorado

### 424.04 Einstein's Symphony: A Gravitational Wave Voyage Through Space and Time

**Author(s):** Joey Shapiro Key<sup>2</sup>, Nico Yunes<sup>1</sup>, Irene Grinberg<sup>1</sup>

*Institution(s):* <sup>1</sup> Montana State University, <sup>2</sup> University of Texas at Brownsville

### 424.05 The National Astronomy Consortium (NAC) - Overview

**Author(s):** Kartik Sheth<sup>1</sup>, Elisabeth A.C. Mills<sup>1</sup>, Eric Hooper<sup>2</sup>

*Institution(s):* <sup>1</sup> NRAO, <sup>2</sup> University of Wisconsin

Contributing team(s): The National Astronomy Consortium

### 424.06 Mentoring Undergraduate Students through the Space Shuttle Hitchhiker GoldHELOX Project

**Author(s):** J. Ward Moody<sup>1</sup>, Jonathan Barnes<sup>2</sup>, Peter Roming<sup>3</sup>, Dallin Durfee<sup>1</sup>, Branton Campbell<sup>1</sup>, Steve Turley<sup>1</sup>, Paul Eastman<sup>1</sup>

*Institution(s):* <sup>1</sup> Brigham Young Univ., <sup>2</sup> Salt Lake Community College, <sup>3</sup> SwRI

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## 424.07 Mentoring Student Scientists

**Author(s):** James Armstrong<sup>1</sup>, Mary Ann Kadooka<sup>1</sup>, Michael A. Nassir<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Hawaii

## 424.08 Teaching Astronomy with Technology

**Author(s):** Carmen Austin<sup>1</sup>, Chris David Impey<sup>1</sup>, Matthew Wenger<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Arizona

## 424.09 A New Comprehensive Final Exam

**Author(s):** Suketu P. Bhavsar<sup>1</sup>  
*Institution(s):* <sup>1</sup> Cal Poly Pomona

## 425 Starburst Galaxies II

Thursday, 2:00 pm - 3:30 pm; 609

**Chair(s):** Gerhardt Meurer (*University of Western Australia*)

### 425.01 A New Interpretation for the Variation in Starburst Galaxy Emission Line Spectra

**Author(s):** Chris T. Richardson<sup>2</sup>, James T. Allen<sup>5</sup>, Jack A. Baldwin<sup>3</sup>, Paul C. Hewett<sup>1</sup>, Gary J. Ferland<sup>4</sup>, Helen Meskhidze<sup>2</sup>  
*Institution(s):* <sup>1</sup> Cambridge University, <sup>2</sup> Elon University, <sup>3</sup> Michigan State University, <sup>4</sup> University of Kentucky, <sup>5</sup> University of Sydney

### 425.02D Hot galactic winds constrained by the X-ray luminosities of galaxies and cool cloud acceleration and destruction in hot winds

**Author(s):** Dong Zhang<sup>2</sup>, Todd A. Thompson<sup>2</sup>, Norman W. Murray<sup>1</sup>, Eliot Quataert<sup>3</sup>  
*Institution(s):* <sup>1</sup> CITA, <sup>2</sup> The Ohio State University, <sup>3</sup> UC Berkeley

### 425.03 Broadband Spectral Modeling of NGC 253 from Hard X-rays to TeV Gamma Rays

**Author(s):** Tonia M. Venters<sup>7</sup>, Daniel R. Wik<sup>6</sup>, Bret Lehmer<sup>6</sup>, Ann E. Hornschemeier<sup>7</sup>, Mihoko Yukita<sup>6</sup>, Andrew Ptak<sup>7</sup>, Andreas Zezas<sup>12</sup>, Vallia Antoniou<sup>4</sup>, Megan Argo<sup>1</sup>, Keith Bechtol<sup>11</sup>, Steven E. Boggs<sup>10</sup>, Finn Christensen<sup>8</sup>, William W. Craig<sup>10</sup>, Charles James Hailey<sup>3</sup>, Fiona Harrison<sup>2</sup>, Roman Krivonos<sup>10</sup>, Thomas J. Maccarone<sup>9</sup>, Daniel Stern<sup>5</sup>, William Zhang<sup>7</sup>  
*Institution(s):* <sup>1</sup> ASTRON, <sup>2</sup> Caltech, <sup>3</sup> Columbia University, <sup>4</sup> Harvard-Smithsonian Center for Astrophysics, <sup>5</sup> Jet Propulsion Laboratory, <sup>6</sup> Johns Hopkins University, <sup>7</sup> NASA Goddard Space Flight Center, <sup>8</sup> Technical University of Denmark, <sup>9</sup> Texas Tech University, <sup>10</sup> UC Berkeley, <sup>11</sup> University of Chicago, <sup>12</sup> University of Crete

### 425.05 X-raying metal-poor starburst galaxies: Evidence of an overabundance of luminous X-ray binaries

**Author(s):** Antara Basu-Zych<sup>2</sup>, Bret Lehmer<sup>1</sup>, Ann E. Hornschemeier<sup>2</sup>, Andrew Ptak<sup>2</sup>, Mihoko Yukita<sup>1</sup>, Andreas Zezas<sup>3</sup>  
*Institution(s):* <sup>1</sup> Johns Hopkins University, <sup>2</sup> NASA Goddard Space Flight Center, <sup>3</sup> Smithsonian Astrophysical Observatory

## 425.06 Extragalactic X-ray binaries from 0.5-30 keV with Chandra and NuSTAR

**Author(s):** Ann E. Hornschemeier<sup>6</sup>, Bret Lehmer<sup>4</sup>, Mihoko Yukita<sup>4</sup>, Daniel R. Wik<sup>4</sup>, Andrew Ptak<sup>6</sup>, Joshua Tyler<sup>2</sup>, Andreas Zezas<sup>8</sup>, Tom Maccarone<sup>9</sup>, Tonia M. Venters<sup>6</sup>, Keith Bechtol<sup>5</sup>, Megan Argo<sup>3</sup>, Fiona Harrison<sup>1</sup>, Daniel Stern<sup>7</sup>  
*Institution(s):* <sup>1</sup>. Caltech, <sup>2</sup>. CUA, <sup>3</sup>. JBCA, <sup>4</sup>. JHU, <sup>5</sup>. KICP, <sup>6</sup>. NASA GSFC, <sup>7</sup>. NASA JPL, <sup>8</sup>. SAO, <sup>9</sup>. Texas Tech  
 Contributing team(s): NuSTAR team

## 426 Galaxy Morphology

Thursday, 2:00 pm - 3:30 pm; 611

**Chair(s):** Kyle Willett (*University of Minnesota*)

### 426.01 Galaxy Zoo: Are Bars Responsible for the Feeding of Active Galactic Nuclei at $0.2 < z < 1.0$ ?

**Author(s):** Edmond Cheung<sup>5</sup>, Jonathan Trump<sup>7</sup>, Lia Athanassoula<sup>6</sup>, Steven Bamford<sup>12</sup>, Eric F. Bell<sup>10</sup>, Albert Bosma<sup>6</sup>, Carolin N. Cardamone<sup>1</sup>, Kevin Casteels<sup>8</sup>, Sandra M. Faber<sup>9</sup>, Jerome J. Fang<sup>9</sup>, Lucy Fortson<sup>11</sup>, Dale Kocevski<sup>3</sup>, David C. Koo<sup>9</sup>, Seppo J. Laine<sup>2</sup>, Chris Lintott<sup>13</sup>, Karen Masters<sup>14</sup>, Tom Melvin<sup>14</sup>, Robert Nichol<sup>14</sup>, Kevin Schawinski<sup>4</sup>, Brooke D Simmons<sup>13</sup>, Rebecca Smethurst<sup>13</sup>, Kyle Willett<sup>11</sup>  
*Institution(s):* <sup>1</sup>. Brown University, <sup>2</sup>. Caltech, <sup>3</sup>. Colby University, <sup>4</sup>. ETH Zurich, <sup>5</sup>. Kavli Institute for the Physics and Mathematics of the Universe, <sup>6</sup>. Marseille University, <sup>7</sup>. Penn State, <sup>8</sup>. Universitat de Barcelona, <sup>9</sup>. University of California Santa Cruz, <sup>10</sup>. University of Michigan, <sup>11</sup>. University of Minnesota, <sup>12</sup>. University of Nottingham, <sup>13</sup>. University of Oxford, <sup>14</sup>. University of Portsmouth  
 Contributing team(s): Galaxy Zoo, AEGIS, COSMOS, GOODS

### 426.02 First Results from Galaxy Zoo CANDELS: The Settling of Galactic Disks from $0.5 < z < 2$

**Author(s):** Brooke Simmons<sup>5</sup>, Tom Melvin<sup>6</sup>, Chris Lintott<sup>5</sup>, Karen Masters<sup>6</sup>, Kyle Willett<sup>4</sup>, William C. Keel<sup>3</sup>, Rebecca Smethurst<sup>5</sup>, Edmond Cheung<sup>2</sup>, Robert Nichol<sup>6</sup>, Kevin Schawinski<sup>1</sup>  
*Institution(s):* <sup>1</sup>. ETH Zurich, <sup>2</sup>. KIPMU, <sup>3</sup>. University of Alabama, <sup>4</sup>. University of Minnesota, <sup>5</sup>. University of Oxford, <sup>6</sup>. University of Portsmouth  
 Contributing team(s): Galaxy Zoo, CANDELS

### 426.03D Secular evolution in action: unravelling the nature of bars and bulges

**Author(s):** Marja Kristin Seidel<sup>1</sup>, Jesus Falcon Barroso<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Instituto de Astrofísica de Canarias

### 426.04 The rest-frame optical morphology of starburst galaxies at $1 < z < 3.5$

**Author(s):** Bomee Lee<sup>1</sup>, Mauro Giavalisco<sup>1</sup>  
*Institution(s):* <sup>1</sup>. University of Massachusetts at Amherst  
 Contributing team(s): CANDELS, GOODS-Herschel

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## 426.06 The formation and evolution of clumpy galaxies from $z=3$ to $z=0.5$

**Author(s):** Yicheng Guo<sup>3</sup>, Henry Closson Ferguson<sup>2</sup>, Eric F. Bell<sup>7</sup>, Christopher Conselice<sup>5</sup>, David C. Koo<sup>3</sup>, Swara Ravindranath<sup>2</sup>, Mauro Giavalisco<sup>6</sup>, Avishai Dekel<sup>1</sup>, Sandra M. Faber<sup>3</sup>, Joel R. Primack<sup>4</sup>, Nir Mandelker<sup>1</sup>

**Institution(s):** <sup>1</sup> Hebrew University of Jerusalem, <sup>2</sup> STScI, <sup>3</sup> UCO/Lick Observatory, <sup>4</sup> UCSC, <sup>5</sup> Univ. of Nottingham, <sup>6</sup> University of Massachusetts, <sup>7</sup> University of Michigan  
Contributing team(s): CANDELS

## 426.07 Decoding the Astrophysical Properties of Galaxies: the SAMI Galaxy Survey at 1000 Galaxies

**Author(s):** Iraklis Konstantopoulos<sup>1</sup>, Scott Croom<sup>2</sup>

**Institution(s):** <sup>1</sup> Australian Astronomical Observatory, <sup>2</sup> Sydney Institute for Astrophysics

Contributing team(s): The SAMI Galaxy Survey Team

## 427 Gas Properties in & around Galaxies

Thursday, 2:00 pm - 3:30 pm; 612

**Chair(s):** Lincoln Greenhill (*Harvard-Smithsonian, CfA*)

## 427.01 Connection Between the Circumgalactic Medium and the Atomic Hydrogen in Galaxies

**Author(s):** Sanchayeeta Borthakur<sup>2</sup>, Timothy Heckman<sup>2</sup>, Jason Tumlinson<sup>3</sup>, Rongmon Bordoloi<sup>3</sup>, Barbara Catinella<sup>4</sup>, David Schiminovich<sup>1</sup>

**Institution(s):** <sup>1</sup> Columbia University, <sup>2</sup> Johns Hopkins University, <sup>3</sup> Space Telescope Science Institute, <sup>4</sup> Swinburne Institute of Technology

## 427.02D Interpreting Sky-Averaged 21-cm Measurements

**Author(s):** Jordan Mirocha<sup>1</sup>

**Institution(s):** <sup>1</sup> University of Colorado

## 427.03D The COSMOS HI Large Extragalactic Survey (CHILES): Probing HI Across Cosmic Time

**Author(s):** Ximena Fernandez<sup>1</sup>, Jacqueline H. Van Gorkom<sup>1</sup>, Emmanuel Momjian<sup>2</sup>

**Institution(s):** <sup>1</sup> Columbia University, <sup>2</sup> NRAO

Contributing team(s): CHILES Team

## 427.04D The Influence of Local and Large-Scale Environment on Galaxy Gas Reservoirs in the RESOLVE Survey

**Author(s):** David V Stark<sup>9</sup>, Sheila Kannappan<sup>9</sup>, Ashley Baker<sup>10</sup>, Andreas A. Berlind<sup>11</sup>, Joseph Burchett<sup>8</sup>, Kathleen D. Eckert<sup>9</sup>, Jonathan Florez<sup>11</sup>, Kirsten Hall<sup>5</sup>, Martha P. Haynes<sup>2</sup>, Riccardo Giovanelli<sup>2</sup>, Roberto Gonzalez<sup>7</sup>, David Guynn<sup>9</sup>, Erik A. Hoversten<sup>9</sup>, Adam K. Leroy<sup>6</sup>, Amanda J. Moffett<sup>4</sup>, Daniel J. Pisano<sup>12</sup>, Linda C. Watson<sup>3</sup>, Lisa H. Wei<sup>1</sup>

**Institution(s):** <sup>1</sup> Atmospheric and Environmental Research, <sup>2</sup> Cornell University, <sup>3</sup> Harvard-Smithsonian Center for Astrophysics, <sup>4</sup> ICRAR, <sup>5</sup> Johns Hopkins University, <sup>6</sup> NRAO, <sup>7</sup> University of Chicago, <sup>8</sup> University of Massachusetts, <sup>9</sup> University of North Carolina-Chapel Hill, <sup>10</sup> University of Pennsylvania, <sup>11</sup> Vanderbilt University, <sup>12</sup> West Virginia University

Contributing team(s): The RESOLVE Team



## 427.05 COPSS: The Carbon Monoxide Power Spectrum Survey

**Author(s):** Garrett K. Keating<sup>2</sup>, Geoffrey C. Bower<sup>1</sup>, Daniel P. Marrone<sup>3</sup>, Carl E. Heiles<sup>2</sup>, David R. DeBoer<sup>2</sup>

*Institution(s):* <sup>1</sup> ASIAA, <sup>2</sup> UC Berkeley, <sup>3</sup> University of Arizona

## 428 Binaries - White Dwarf, X-Ray, and Gamma-Ray

Thursday, 2:00 pm - 3:30 pm; 615

**Chair(s):** Daniel Wilkins (*St. Mary's University*)

### 428.01D Constraining the Initial-Final Mass Relation with Wide Double White Dwarfs

**Author(s):** Jeffrey Andrews<sup>1</sup>, Marcel A. Agueros<sup>1</sup>, Alex Gianninas<sup>3</sup>, Mukremin Kilic<sup>3</sup>, Saurav Dhital<sup>2</sup>, Scott F. Anderson<sup>4</sup>

*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> Embry-Riddle Aeronautical University, <sup>3</sup> University of Oklahoma, <sup>4</sup> University of Washington

### 428.02D Accretion and Outflows in X-ray Binaries: What's Really Going on During X-ray Quiescence

**Author(s):** Rachel K.D. MacDonald<sup>1</sup>, Charles D. Bailyn<sup>1</sup>, Michelle Buxton<sup>1</sup>

*Institution(s):* <sup>1</sup> Yale University

### 428.04 The Longterm Variability of 4u 1705-44---A Chaotic System?

**Author(s):** Patricia T. Boyd<sup>2</sup>, Rebecca Nichols<sup>1</sup>, Alan Smale<sup>2</sup>

*Institution(s):* <sup>1</sup> Colorado State University, <sup>2</sup> NASA's GSFC

### 428.05 Gemini Spectroscopy of Galactic Bulge Sources: A Population of Hidden Accreting Binaries Revealed?

**Author(s):** Jianfeng Wu<sup>1</sup>, Peter Jonker<sup>4</sup>, Manuel Torres<sup>4</sup>, Christopher Britt<sup>5</sup>, Chris Johnson<sup>2</sup>, Robert I. Hynes<sup>2</sup>, Sandra Greiss<sup>7</sup>, Danny Steeghs<sup>7</sup>, Tom Maccarone<sup>5</sup>, Craig O. Heinke<sup>6</sup>, Thomas Wevers<sup>3</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Louisiana State University, <sup>3</sup> Radboud University Nijmegen, <sup>4</sup> SRON Netherlands Institute for Space Research, <sup>5</sup> Texas Tech University, <sup>6</sup> University of Alberta, <sup>7</sup> University of Warwick

### 428.06 Gamma-Ray Activity from the Binary System PSR B1259-63/LS 2883 Near its 2014 Periastron Passage

**Author(s):** Kent S. Wood<sup>4</sup>, Giuseppe Andrea Caliendo<sup>5</sup>, Chi C. Cheung<sup>4</sup>, Jian Li<sup>2</sup>, Jeffrey Scargle<sup>3</sup>, Diego F Torres<sup>2</sup>, Masha Chernyakova<sup>1</sup>

*Institution(s):* <sup>1</sup> DCU, <sup>2</sup> IEEC-CSIC, <sup>3</sup> NASA-Ames, <sup>4</sup> NRL, <sup>5</sup> SLAC

Contributing team(s): Fermi LAT Collaboration

# THURSDAY, 8 JANUARY 2015

## 429 The Andromeda Galaxy

Thursday, 2:00 pm - 3:30 pm; 620

Chair(s): Jeffrey Rich (*University Of Hawaii*)

### 429.01D Uncovering the Detailed Structure and Dynamics of Andromeda's Complex Stellar Disk

**Author(s):** Claire Dorman<sup>2</sup>, Puragra Guhathakurta<sup>2</sup>, Anil Seth<sup>3</sup>, Julianne Dalcanton<sup>4</sup>, Larry Widrow<sup>1</sup>

*Institution(s):* <sup>1</sup> Queens University, <sup>2</sup> UC Santa Cruz, <sup>3</sup> University of Utah, <sup>4</sup> University of Washington

Contributing team(s): SPLASH team, PHAT team

### 429.02 The spatially-resolved recent star formation history of M31

**Author(s):** Alexia Lewis<sup>1</sup>, Julianne Dalcanton<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Washington

Contributing team(s): PHAT Collaboration

### 429.03D Andromeda Optical & Infrared Disk Survey: Stellar Populations and Mass Decomposition

**Author(s):** Jonathan Sick<sup>5</sup>, Stephane Courteau<sup>5</sup>, Jean-Charles Cuillandre<sup>1</sup>, Julianne Dalcanton<sup>6</sup>, Roelof S de Jong<sup>3</sup>, Michael McDonald<sup>4</sup>, R. Brent Tully<sup>2</sup>

*Institution(s):* <sup>1</sup> Canada-France-Hawaii Telescope, <sup>2</sup> IfA, <sup>3</sup> Leibniz Institute for Astrophysics Potsdam, <sup>4</sup> MIT, <sup>5</sup> Queen's University, <sup>6</sup> University of Washington

### 429.04 Constraints on the early history of formation of the Andromeda galaxy from chemical compositions of its globular clusters

**Author(s):** Ricardo P. Schiavon<sup>2</sup>, Nelson Caldwell<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard Center for Astrophysics, <sup>2</sup> Liverpool John Moores University

### 429.05 The M31 nucleus in the mid-infrared

**Author(s):** Pauline Barmby<sup>3</sup>, Dimuthu Hemachandra<sup>3</sup>, Els Peeters<sup>3</sup>, Steven P. Willner<sup>1</sup>, Matthew Ashby<sup>1</sup>, Howard Alan Smith<sup>1</sup>, Karl D. Gordon<sup>2</sup>, Denise A. Smith<sup>2</sup>, Giovanni G. Fazio<sup>1</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Space Telescope Science Institute, <sup>3</sup> Univ. of Western Ontario

### 429.06 Three-Dimensional Self-Gravitating Schwarzschild Models of the Nucleus of M31

**Author(s):** Calum Brown<sup>1</sup>, John Magorrian<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Oxford

## 430 Henry Norris Russell Lecture: A Historical and Scientific Perspective on Harvard College Observatory and CfA

Thursday, 3:40 pm - 4:30 pm; 6E

### George Field (*Harvard-Smithsonian CfA*) -The Henry Norris Russell Lecture Award 2014

The Henry Norris Russell Lecture for 2014 is awarded to George Brooks Field “for a lifetime of contributions to our basic understanding of diffuse plasmas in the universe that continue to motivate current astronomers. As the founding director of the Harvard-Smithsonian Center for Astrophysics, he created a significant institution to advance astronomy. His visionary leadership of the 1980 decadal survey remains a landmark in science policy that brought powerful new instrumental capabilities to the astronomical community.”

Chair(s): C. Megan Urry (*Yale University*)

## 431 Lancelot M. Berkeley Prize: Cosmological Highlights from the Sloan Digital Sky Survey

Thursday, 4:30 pm - 5:20 pm; 6E

Chair(s): C. Megan Urry (*Yale University*)



### Dr. David Weinberg (*Ohio State University*)

Dr. David Weinberg has been a leader in the Sloan Digital Sky Survey since its beginning, with involvement in survey strategy, as Publication Coordinator, Collaboration Spokesperson for SDSS-II and Project Scientist for SDSS-III, in addition to his primary research work on interpretation of galaxy formation and clustering. He is awarded the Berkeley Prize for his widely cited paper entitled “The Baryon Oscillation Spectroscopic Survey of SDSS-III”.

#### 431.01 Cosmological Highlights from the Sloan Digital Sky Survey

Author(s): David H. Weinberg<sup>1</sup>

Institution(s): <sup>1</sup> Ohio State Univ.

Contributing team(s): SDSS Collaboration

## Closing Reception

Thursday, 5:30 pm - 7:00 pm; Leonesa Ballroom, Grand Hyatt

Please join us as we close the 225th AAS Meeting, and say goodbye to old friends and new, with light refreshments provided.

# THURSDAY, 8 JANUARY 2015

## 432 AGN and Friends Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

- 432.01 Disk+Jet Quasars: Separating the Components with Optical/Infrared Variability**  
**Author(s):** Jennifer Kadowaki<sup>1</sup>, Matthew Arnold Malkan<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of California, Los Angeles (UCLA)
- 432.02 Can 3000 IR spectra unveil the connection between AGN and the interstellar medium of their host galaxies?**  
**Author(s):** Erini Lambrides<sup>1</sup>, Andreea Petric<sup>2</sup>, Thomas R. Geballe<sup>2</sup>, Rachel Mason<sup>2</sup>  
*Institution(s):* <sup>1</sup> American Museum of Natural History, <sup>2</sup> Gemini Observatory
- 432.03 Variability in the Intrinsic UV Absorption in Mrk 279 based on HST/COS Spectra**  
**Author(s):** Benjamin R Schmachtenberger<sup>2</sup>, Jack Gabel<sup>2</sup>, D. Michael Crenshaw<sup>3</sup>, Steven B. Kraemer<sup>1</sup>  
*Institution(s):* <sup>1</sup> Catholic University of America, <sup>2</sup> Creighton University, <sup>3</sup> Georgia State University
- 432.04 A spectral energy distribution analysis of AGN host galaxies in the Chandra-COSMOS Legacy Survey**  
**Author(s):** Hyewon Suh<sup>2</sup>, Francesca M. Civano<sup>3</sup>, Guenther Hasinger<sup>2</sup>, Martin Elvis<sup>1</sup>, Stefano Marchesi<sup>3</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> Institute for Astronomy, University of Hawaii, <sup>3</sup> Yale University
- 432.05 The Remarkable Case of NGC 5252 Viewed by Chandra**  
**Author(s):** Junfeng Wang<sup>1</sup>  
*Institution(s):* <sup>1</sup> Xiamen University
- 432.06 Optically Elusive AGN in the 3XMM Catalog and the Chandra-COSMOS field**  
**Author(s):** Estelle Pons<sup>1</sup>, Mike Watson<sup>2</sup>, Martin Elvis<sup>1</sup>, Francesca M. Civano<sup>3</sup>  
*Institution(s):* <sup>1</sup> Harvard Smithsonian Center for Astrophysics, <sup>2</sup> University of Leicester, <sup>3</sup> Yale University
- 432.07 The Effects of Orientation on Proxies for the M- $\sigma^*$  Relation in Quasars**  
**Author(s):** Vikram Singh<sup>2</sup>, Michael S. Brotherton<sup>2</sup>, Jessie C. Runnoe<sup>1</sup>  
*Institution(s):* <sup>1</sup> Penn State, <sup>2</sup> University of Wyoming
- 432.08 A New Method for Selecting Compton Thick AGN Above 10 keV with NuSTAR and Swift BAT**  
**Author(s):** Michael Koss<sup>1</sup>  
*Institution(s):* <sup>1</sup> ETH Zurich  
Contributing team(s): NuSTAR
- 432.09 Probing the Non-local MBH- $\sigma$  Relation: Spectroscopy of Narrow-Line Seyfert 1s**  
**Author(s):** Kyle D Hiner<sup>2</sup>, Sabrina Cales<sup>4</sup>, Paula Calderon<sup>2</sup>, Ezequiel Treister<sup>2</sup>, Gabriela Canalizo<sup>3</sup>, C. Megan Urry<sup>4</sup>, Jong-Hak Woo<sup>1</sup>  
*Institution(s):* <sup>1</sup> Seoul National University, <sup>2</sup> Universidad de Concepción, <sup>3</sup> University of California, Riverside, <sup>4</sup> Yale University
- 432.10 NuSTAR Detection of Multiple Reflections in NGC 1068**

**Author(s):** Franz E. Bauer<sup>11</sup>, Patricia Arevalo<sup>15</sup>, Poshak Gandhi<sup>12</sup>, Daniel Stern<sup>8</sup>, D. M. Alexander<sup>5</sup>, Mislav Balokovic<sup>1</sup>, Steven E. Boggs<sup>13</sup>, W. Niel Brandt<sup>10</sup>, Murray Brightman<sup>1</sup>, Finn Christensen<sup>4</sup>, Andrea Comastri<sup>7</sup>, William W. Craig<sup>9</sup>, Agnese Del Moro<sup>5</sup>, Charles James Hailey<sup>2</sup>, Fiona Harrison<sup>1</sup>, Ryan C. Hickox<sup>3</sup>, Bin Luo<sup>10</sup>, Craig Markwardt<sup>6</sup>, Andrea Marinucci<sup>16</sup>, Giorgio Matt<sup>16</sup>, Jane R. Rigby<sup>6</sup>, Elizabeth Rivers<sup>1</sup>, Cristian Saez<sup>17</sup>, Ezequiel Treister<sup>14</sup>, C. Megan Urry<sup>18</sup>, William Zhang<sup>6</sup>  
*Institution(s):* <sup>1</sup>. Caltech, <sup>2</sup>. Columbia University, <sup>3</sup>. Dartmouth, <sup>4</sup>. DTU, <sup>5</sup>. Durham, <sup>6</sup>. GSFC, <sup>7</sup>. INAF-Bologna, <sup>8</sup>. Jet Propulsion Laboratories, <sup>9</sup>. LLNL, <sup>10</sup>. Penn State, <sup>11</sup>. Pontificia Universidad Catolica de Chile, <sup>12</sup>. Southampton, <sup>13</sup>. SSL, <sup>14</sup>. Universidad de Concepción, <sup>15</sup>. Universidad de Valparaiso, <sup>16</sup>. Università Roma Tre, <sup>17</sup>. University of Maryland, <sup>18</sup>. Yale

## 432.11 Characterizing the Jet Precession of Quasar 3C273 at 1.3mm with the Event Horizon Telescope

**Author(s):** Michael Calzadilla<sup>3</sup>, Vincent L. Fish<sup>1</sup>, Rusen Lu<sup>1</sup>, Kazunori Akiyama<sup>2</sup>, Sheperd Doeleman<sup>1</sup>

*Institution(s):* <sup>1</sup>. MIT Haystack Observatory, <sup>2</sup>. National Astronomical Observatory of Japan, <sup>3</sup>. University of South Florida

## 433 Catalogs and Surveys Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

### 433.01 The U.S. Naval Observatory Robotic Astrometric Telescope 1st Catalog (URAT1)

**Author(s):** Norbert Zacharias<sup>1</sup>, Charlie T. Finch<sup>1</sup>, John P. Subasavage<sup>1</sup>, Trudy Tilleman<sup>1</sup>, Mike DiVittorio<sup>1</sup>, Hugh C. Harris<sup>1</sup>, Ted Rafferty<sup>1</sup>, Gary Wieder<sup>1</sup>

*Institution(s):* <sup>1</sup>. U.S. Naval Observatory

Contributing team(s): Eric Ferguson, Chris Kilian, Albert Rhodes, Mike Schultheis

### 433.02 The Time Domain Spectroscopic Survey: Spectroscopic Variability Investigations Within SDSS-IV/eBOSS

**Author(s):** Paul J. Green<sup>2</sup>, Scott F. Anderson<sup>8</sup>, Eric Morganson<sup>2</sup>, Michael Eracleous<sup>5</sup>, Yue Shen<sup>3</sup>, W. Niel Brandt<sup>5</sup>, John J. Ruan<sup>8</sup>, Sarah J. Schmidt<sup>4</sup>, Carles Badenes<sup>7</sup>, Andrew A. West<sup>1</sup>, Wenhua Ju<sup>6</sup>, Jenny E. Greene<sup>6</sup>

*Institution(s):* <sup>1</sup>. Boston University, <sup>2</sup>. Harvard-Smithsonian CfA, <sup>3</sup>. OCIW, <sup>4</sup>. Ohio State University, <sup>5</sup>. Pennsylvania State University, <sup>6</sup>. Princeton University, <sup>7</sup>. University of Pittsburgh, <sup>8</sup>. University of Washington

Contributing team(s): TDSS, PanSTARRS-1, SDSS-IV

### 433.03 Searching the All-WISE Data Release for Galactic Substructures

**Author(s):** Carl J. Grillmair<sup>1</sup>

*Institution(s):* <sup>1</sup>. Caltech

# THURSDAY, 8 JANUARY 2015

## 434 Computation, Data Handling and Other Matters Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

**434.01 Spherical harmonic transit analysis with PAPER**

**Author(s):** Jason Ling<sup>1</sup>, Saul Aryeh Kohn<sup>1</sup>, James E. Aguirre<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Pennsylvania

Contributing team(s): The PAPER Collaboration

**434.02 Time-domain Surveys and Data Shift: Case Study at the intermediate Palomar Transient Factory**

**Author(s):** Umaa Rebbapragada<sup>1</sup>, Brian Bue<sup>1</sup>, Przemyslaw R. Wozniak<sup>2</sup>

*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory, <sup>2</sup> Los Alamos National Laboratory

**434.03 A new ultra-fast Moving Object Discovery Engine for iPTF, ZTF, and beyond**

**Author(s):** Frank J. Masci<sup>2</sup>, Adam Waszczak<sup>1</sup>, Russ Laher<sup>2</sup>, James M. Bauer<sup>2</sup>,

Thomas Allen Prince<sup>1</sup>, George Helou<sup>2</sup>, Shrinivas R. Kulkarni<sup>1</sup>

*Institution(s):* <sup>1</sup> Caltech, <sup>2</sup> Caltech/IPAC

**434.04 Comparing the Mass Functions of Simulated Galaxies**

**Author(s):** Nicholas Miller<sup>2</sup>, Ariyeh Maller<sup>3</sup>, M.K Ryan Joung<sup>1</sup>, Julien Devriendt<sup>5</sup>, James Bullock<sup>4</sup>

*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> Marietta College, <sup>3</sup> New York City College of Technology, <sup>4</sup> University of California, Irvine, <sup>5</sup> University of Oxford

**434.05 A New Laboratory for MM-/Sub-MM-Wave Characterization of Cosmic Dust Analogs**

**Author(s):** Samuel Birsa<sup>1</sup>, Huy Do<sup>1</sup>, Frederick Williams<sup>1</sup>, Lunjun Liu<sup>1</sup>, Ryan Schonert<sup>1</sup>, Thushara Perera<sup>1</sup>

*Institution(s):* <sup>1</sup> Illinois Wesleyan University

**434.06 IPAC Firefly package goes open source**

**Author(s):** Xiuqin Wu<sup>1</sup>, William Roby<sup>1</sup>, Tatiana Goldina<sup>1</sup>, Loi Ly<sup>1</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology

Contributing team(s): IRSA IPAC

## 435 Dwarf and Irregular Galaxies Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

**435.01 Turbulence and Star Formation in Dwarf Galaxies**

**Author(s):** Gigja Hollyday<sup>2</sup>, Deidre Ann Hunter<sup>1</sup>

*Institution(s):* <sup>1</sup> Lowell Observatory, <sup>2</sup> University of Redlands

Contributing team(s): LITTLE THINGS team

**435.02 The Fraction of Binaries in the Distant Dwarf Spheroidal Leo II**

**Author(s):** Meghin E Spencer<sup>3</sup>, Mario L. Mateo<sup>3</sup>, Matthew G Walker<sup>1</sup>, Edward W. Olszewski<sup>2</sup>

*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> University of Arizona, <sup>3</sup> University of Michigan

## 436 Education and Public Outreach Thursday Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

- 436.01 Hubble's 25th Anniversary: A Quarter-Century of Discovery and Inspiration**  
**Author(s):** Amber Straughn<sup>1</sup>, Hussein Jirdeh<sup>2</sup>  
*Institution(s):* <sup>1</sup> NASA Headquarters, <sup>2</sup> Space Telescope Science Institute
- 436.02 New Hubble Space Telescope Multi-Wavelength Imaging of the Eagle Nebula**  
**Author(s):** Zoltan G. Levay<sup>2</sup>, Carol A. Christian<sup>2</sup>, Jennifer Mack<sup>2</sup>, Lisa M. Frattare<sup>2</sup>, Mario Livio<sup>2</sup>, Michele L. Meyett<sup>2</sup>, Maximilian J. Mutchler<sup>2</sup>, Keith S. Noll<sup>1</sup>  
*Institution(s):* <sup>1</sup> NASA, <sup>2</sup> STScI  
Contributing team(s): Hubble Heritage
- 436.03 Development of an Interdisciplinary STEM Classroom Activity for Radio Receiver Technology**  
**Author(s):** Kristina Davis<sup>1</sup>  
*Institution(s):* <sup>1</sup> Arizona State University
- 436.04 Launching Astronomy: Standards and STEM Integration (LASSI)**  
**Author(s):** Debbie French<sup>1</sup>, Andrea C Burrows<sup>1</sup>, Adam D. Myers<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Wyoming
- 436.07 Authentic Mars Research in the High School**  
**Author(s):** Katie Kortekaas<sup>1</sup>, Dani Leach<sup>1</sup>  
*Institution(s):* <sup>1</sup> Lakewood High School

## 437 Evolution of Galaxies Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

- 437.01 Morphological Transformation and Star Formation Across Cosmic Time**  
**Author(s):** Tommy Wiklind<sup>1</sup>  
*Institution(s):* <sup>1</sup> ESO  
Contributing team(s): CANDELS Team
- 437.02 Evolution of ULIRGs Among a Mass-Complete Sample to  $z=1.1$  with MAGES**  
**Author(s):** David Wesley Atlee<sup>1</sup>, Buell Jannuzi<sup>2</sup>, Mark Dickinson<sup>1</sup>, Arjun Dey<sup>1</sup>, Benjamin J. Weiner<sup>2</sup>  
*Institution(s):* <sup>1</sup> National Optical Astronomy Observatory, <sup>2</sup> University of Arizona  
Contributing team(s): The MAGES Team
- 437.03 Characterizing a Large-Scale Structure with a Forming Cluster at  $z=2.44$**   
**Author(s):** Yi-Kuan Chiang<sup>2</sup>, Roderik Overzier<sup>1</sup>, Karl Gebhardt<sup>2</sup>  
*Institution(s):* <sup>1</sup> Observatorio Nacional, <sup>2</sup> UT Austin  
Contributing team(s): HETDEX collaboration
- 437.04 UV to FIR SED-fitting with CIGALE on Local Luminous and Ultraluminous Infrared Galaxies from the IRAS 2 Jy Redshift Survey**  
**Author(s):** Stephanie Fiorenza<sup>2</sup>, Tsutomu T Takeuchi<sup>3</sup>, Katarzyna E Malek<sup>3</sup>, Charles Liu<sup>1</sup>  
*Institution(s):* <sup>1</sup> CUNY College of Staten Island, <sup>2</sup> CUNY Graduate Center, <sup>3</sup> Nagoya University

# THURSDAY, 8 JANUARY 2015

## 437.05 The dwarf galaxy population of nearby galaxy clusters

**Author(s):** Thorsten Lisker<sup>6</sup>, Carolin Wittmann<sup>6</sup>, Mina Pak<sup>3</sup>, Joachim Janz<sup>4</sup>, Daniel Bialas<sup>6</sup>, Reynier Peletier<sup>2</sup>, Eva Grebel<sup>6</sup>, Jesus Falcon Barroso<sup>1</sup>, Elisa Toloba<sup>5</sup>  
*Institution(s):* <sup>1</sup> Instituto de Astrofísica de Canarias, <sup>2</sup> Kapteyn Instituut, Rijksuniversiteit Groningen, <sup>3</sup> Korea University of Science & Technology (UST), <sup>4</sup> Swinburne University of Technology, <sup>5</sup> UCO/Lick Observatory, University of California, <sup>6</sup> Zentrum fuer Astronomie der Universitaet Heidelberg  
Contributing team(s): SMAKCED collaboration, FOCUS collaboration

## 437.06 Sussing Merger Trees: The Impact of Halo Merger Trees on Galaxy Properties in a Semi-Analytic Model

**Author(s):** Jaehyun Lee<sup>1</sup>, Sukyoung Yi<sup>1</sup>  
*Institution(s):* <sup>1</sup> Yonsei University

## 437.07 NGC 5523: An Isolated Product of a Soft Galaxy Merger

**Author(s):** Leah Fulmer<sup>1</sup>, John S. Gallagher<sup>1</sup>, Zishan Xia<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Wisconsin - Madison

## 437.08 The impact of feedback on merger-driven bulge growth

**Author(s):** Charlotte Christensen<sup>1</sup>, Alyson Brooks<sup>2</sup>  
*Institution(s):* <sup>1</sup> Grinnell College, <sup>2</sup> Rutgers University

## 437.09 Pixel-by-Pixel SED Fitting of Intermediate Redshift Galaxies

**Author(s):** Seth H. Cohen<sup>1</sup>, Hwihyun Kim<sup>2</sup>, Sara M. Petty<sup>3</sup>, Duncan Farrah<sup>3</sup>  
*Institution(s):* <sup>1</sup> Arizona State Univ., <sup>2</sup> Univ. of Texas, <sup>3</sup> Virginia Tech

## 438 Extrasolar Planets Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

### 438.01 Determining the architecture of the Kepler-297 system using transit timing variations

**Author(s):** Hannah Diamond-Lowe<sup>3</sup>, Kevin B. Stevenson<sup>3</sup>, Daniel Fabrycky<sup>3</sup>, Sarah Ballard<sup>4</sup>, Eric Agol<sup>4</sup>, Jacob Bean<sup>3</sup>, Matthew J. Holman<sup>2</sup>, Darin Ragozzine<sup>1</sup>  
*Institution(s):* <sup>1</sup> Florida Institute for Technology, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> University of Chicago, <sup>4</sup> University of Washington

### 438.02 Validation of Twelve Small Kepler Transiting Planets in the Habitable Zone

**Author(s):** Douglas A. Caldwell<sup>10</sup>, Guillermo Torres<sup>4</sup>, David M. Kipping<sup>4</sup>, Sarah Ballard<sup>13</sup>, Natalie Batalha<sup>6</sup>, William J. Borucki<sup>6</sup>, Steve Bryson<sup>6</sup>, David R. Ciardi<sup>7</sup>, Justin R. Crepp<sup>12</sup>, Mark Everett<sup>8</sup>, Francois Fressin<sup>4</sup>, Christopher Henze<sup>6</sup>, Elliott Horch<sup>11</sup>, Andrew Howard<sup>5</sup>, Steve B. Howell<sup>6</sup>, Howard T. Isaacson<sup>1</sup>, Jon Michael Jenkins<sup>6</sup>, Rea Kolbl<sup>1</sup>, Geoffrey W. Marcy<sup>1</sup>, Sean D McCauliff<sup>9</sup>, Philip Steven Muirhead<sup>3</sup>, Elizabeth Newton<sup>4</sup>, Erik Petigura<sup>1</sup>, Joseph D. Twicken<sup>10</sup>, Elisa V. Quintana<sup>6</sup>, Thomas Barclay<sup>2</sup>  
*Institution(s):* <sup>1</sup> Astronomy Department, UC Berkeley, <sup>2</sup> Bay Area Environmental Research Corp., <sup>3</sup> Department of Astronomy, Boston University, <sup>4</sup> Harvard-Smithsonian Center for Astrophysics, <sup>5</sup> Institute for Astronomy, UH Manoa, <sup>6</sup> NASA Ames Research Center, <sup>7</sup> NASA Exoplanet Science Institute, <sup>8</sup> National



*Optical Astronomy Observatory, <sup>9</sup>. Orbital Sciences Corp, NASA ARC, <sup>10</sup>. SETI Institute, <sup>11</sup>. Southern Connecticut State University, <sup>12</sup>. University of Notre Dame, <sup>13</sup>. University of Washington*

- 438.03 Multifractal structures in radial velocity measurements for exoplanets**  
**Author(s):** Fabio Del Sordo<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Yale University  
Contributing team(s): Sahil Agarwal, Debra A. Fischer, John S. Wettlaufer
- 438.04 Finding Circumbinary Planets via Microlensing**  
**Author(s):** Jacob K. Luhn<sup>1</sup>, Matthew Penny<sup>1</sup>, B. Scott Gaudi<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Ohio State University
- 438.05 Multiplexed Fiber Spectroscopy at Magellan: Searching for Exoplanets in Star Clusters**  
**Author(s):** John Ira Bailey<sup>3</sup>, Mario L. Mateo<sup>3</sup>, Russel J. White<sup>2</sup>, Jeffrey D. Crane<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Carnegie Observatories, <sup>2</sup>. Georgia State University, <sup>3</sup>. University of Michigan
- 438.06 Next Generation Visible Nulling Coronagraph**  
**Author(s):** Brian Hicks<sup>1</sup>, Richard Lyon<sup>1</sup>, Mark Clampin<sup>1</sup>, Matthew R Bolcar<sup>1</sup>, Udayan Mallik<sup>1</sup>, Eric Mentzell<sup>1</sup>, Peter Petrone<sup>2</sup>  
*Institution(s):* <sup>1</sup>. NASA/GSFC, <sup>2</sup>. Sigma Space Corporation
- 438.07 First Semester Science Operations with the Gemini Planet Imager**  
**Author(s):** Fredrik Tord Rantakyro<sup>1</sup>, Pascale Hibon<sup>1</sup>, Andrew Cardwell<sup>1</sup>, Naru Sadakuni<sup>1</sup>, Carlos Quiroz<sup>1</sup>, Rene Rutten<sup>1</sup>, Gaston Gausachs<sup>1</sup>, Ramon Galvez<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Gemini Observatory  
Contributing team(s): GPI Commissioning Team, GPIES team
- 438.08 Measuring the Mass of Kepler-78b Using a Gaussian Process Model**  
**Author(s):** Samuel Kai Grunblatt<sup>1</sup>, Andrew Howard<sup>1</sup>, Raphaëlle Haywood<sup>2</sup>  
*Institution(s):* <sup>1</sup>. University of Hawaii-Manoa, <sup>2</sup>. University of St. Andrews
- 438.09 Thermal Structure of WASP-43b from Phase-Resolved Emission Spectroscopy**  
**Author(s):** Kevin B. Stevenson<sup>3</sup>, Jean-Michel Desert<sup>4</sup>, Michael R. Line<sup>1</sup>, Jacob Bean<sup>3</sup>, Jonathan J. Fortney<sup>1</sup>, Adam P. Showman<sup>2</sup>, Tiffany Kataria<sup>2</sup>, Laura Kreidberg<sup>3</sup>  
*Institution(s):* <sup>1</sup>. UC Santa Cruz, <sup>2</sup>. University of Arizona, <sup>3</sup>. University of Chicago, <sup>4</sup>. University of Colorado
- 438.10 Super earth interiors and validity of Birch's Law for ultra-high pressure metals and ionic solids**  
**Author(s):** Lucas Andrew Ware<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Seattle University
- 438.11 Building massive, tightly packed planetary systems by in-situ accretion of pebbles**  
**Author(s):** John Moriarty<sup>1</sup>, Debra Fischer<sup>1</sup>  
*Institution(s):* <sup>1</sup>. Yale University

# THURSDAY, 8 JANUARY 2015

## 439 Galaxy Clusters Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

### 439.02 Cooling, AGN Feedback and Star Formation in Cool-Core Galaxy Clusters

**Author(s):** Yuan Li<sup>2</sup>, Greg Bryan<sup>1</sup>, Mateusz Ruszkowski<sup>2</sup>

*Institution(s):* <sup>1</sup> Columbia University, <sup>2</sup> University of Michigan

### 439.03 Hot Halo Emission Detected at Outskirts of Two Poor Galaxy Groups Using Suzaku

**Author(s):** Jenna Nugent<sup>2</sup>, Xinyu Dai<sup>2</sup>, Ming Sun<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Alabama, <sup>2</sup> University of Oklahoma

### 439.04 New Limits on Gamma-Ray Emission from Galaxy Clusters

**Author(s):** Rhiannon Danae Griffin<sup>2</sup>, Xinyu Dai<sup>2</sup>, Christopher S. Kochanek<sup>1</sup>

*Institution(s):* <sup>1</sup> Ohio State University, <sup>2</sup> University of Oklahoma

### 439.05 Examining the Center: Positions, Dominance, and Star Formation Rates of Most Massive Group Galaxies at Intermediate Redshift

**Author(s):** Jennifer L. Connelly<sup>4</sup>, Laura C. Parker<sup>3</sup>, Sean McGee<sup>5</sup>, John S. Mulchaey<sup>1</sup>, Alexis Finoguenov<sup>6</sup>, Michael Balogh<sup>7</sup>, David Wilman<sup>2</sup>

*Institution(s):* <sup>1</sup> Carnegie Institution of Washington, <sup>2</sup> Max Planck Institute for Extraterrestrial Physics, <sup>3</sup> McMaster University, <sup>4</sup> Rochester Institute of Technology, <sup>5</sup> University of Birmingham, <sup>6</sup> University of Helsinki, <sup>7</sup> University of Waterloo  
Contributing team(s): Group Environment Evolution Collaboration

## 440 Gravitational Waves Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

### 440.01 Computing the Influence of a Gravitational Wave on an Electromagnetic Field

**Author(s):** Varadarajan Srinivasan<sup>1</sup>

*Institution(s):* <sup>1</sup> Columbia University

### 440.02 Assessing the Detectability of Gravitational Waves from Coalescing Binary Black Holes with Precessing Spin

**Author(s):** Sara Frederick<sup>3</sup>, Stephen Privitera<sup>2</sup>, Alan J. Weinstein<sup>1</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Max Planck Institute for Gravitational Physics (Albert Einstein Institute), <sup>3</sup> University of Rochester  
Contributing team(s): LIGO Scientific Collaboration

## 441 GRBs Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

### 441.01 Exploring biases in the measurement of Isotropic Equivalent Energies of Gamma-ray Bursts with the Fermi Telescope

**Author(s):** Kimberly Zoldak<sup>2</sup>, Judith L. Racusin<sup>1</sup>, Julia D. Kenefick<sup>2</sup>

*Institution(s):* <sup>1</sup> NASA/GSFC, <sup>2</sup> University of Arkansas

- 441.02 Relativistic Shear Flows and Applications to Gamma-ray Burst and Blazar Jets**  
Author(s): Edison P. Liang<sup>2</sup>, Markus Boettcher<sup>1</sup>, Wen Fu<sup>2</sup>, Parisa Roustazadeh<sup>1</sup>  
Institution(s): 1. northwest university, 2. Rice Univ.

## 442 Instrumentation: Space and Ground Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

- 442.01 Performing Fowler Sampling and Removing Cosmic Ray Hits to Reduce Noise Numerically from Long-Infrared Detector Images**  
Author(s): Chelsea Lynn Jean<sup>1</sup>  
Institution(s): <sup>1</sup> University of Rochester  
Contributing team(s): Craig McMurtry, Meghan Dorn, Judy Pipher, University of Rochester
- 442.02 NASA Astrophysics Cosmic Origins (COR) and Physics of the Cosmos (PCOS) Strategic Technology Development Program**  
Author(s): Thai Pham<sup>1</sup>, Bernard D. Seery<sup>1</sup>  
Institution(s): <sup>1</sup> NASA Astrophysics PCOS and COR
- 442.03 The SAPHIRA Near-Infrared Avalanche Photodiode Array: Telescope Deployments and Future Developments**  
Author(s): Dani Eleanor Atkinson<sup>1</sup>, Donald Hall<sup>1</sup>, Christoph Baranec<sup>1</sup>  
Institution(s): <sup>1</sup> University of Hawai'i
- 442.04 Dome Flat Stability of the Gemini South Adaptive Optics Imager (GSAOI)**  
Author(s): Joanna E. Thomas-Osip<sup>1</sup>, Eleazar Rodrigo Carrasco Damele<sup>1</sup>  
Institution(s): <sup>1</sup> Gemini Observatory
- 442.05 Update on the Gemini High-Resolution Optical SpecTrograph (GHOST)**  
Author(s): Steven J. Margheim<sup>1</sup>  
Institution(s): <sup>1</sup> Gemini Obs.  
Contributing team(s): GHOST Instrument Team
- 442.06 Northrop Grumman/Xinetics Deformable Mirrors: Enabling Reliable Advanced Imaging for 20 Years and Beyond**  
Author(s): Russ Matijevich<sup>1</sup>  
Institution(s): <sup>1</sup> Northrop Grumman  
Contributing team(s): Jeff Cavaco, Northrop Grumman Xinetics

## 443 Large Scale Structure and Cosmological Topics Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

- 443.01 Quantifying the statistical and systematic uncertainties in galaxy group catalogues**  
Author(s): Victor Calderon<sup>1</sup>, Andreas A. Berlind<sup>1</sup>, Manodeep Sinha<sup>1</sup>  
Institution(s): <sup>1</sup> Vanderbilt University

# THURSDAY, 8 JANUARY 2015

- 443.02 A search for ultra-light axions using precision cosmological data**  
**Author(s):** Daniel Grin<sup>4</sup>, Renee Hlozek<sup>3</sup>, David Marsh<sup>2</sup>, Pedro Ferreira<sup>1</sup>  
*Institution(s):* <sup>1</sup> Oxford University, <sup>2</sup> Perimeter Institute, <sup>3</sup> Princeton University, <sup>4</sup> University of Chicago
- 443.03 Effects of massive neutrinos on the properties of cluster scale halos**  
**Author(s):** Rahul Biswas<sup>3</sup>, Katrin Heitmann<sup>1</sup>, Salman Habib<sup>1</sup>, Adrian Pope<sup>1</sup>, Hal Finkel<sup>1</sup>, Amol Upadhye<sup>4</sup>, Nicholas Frontiere<sup>2</sup>  
*Institution(s):* <sup>1</sup> Argonne National Laboratory, <sup>2</sup> University of Chicago, <sup>3</sup> University of Washington, <sup>4</sup> University of Wisconsin
- 443.04 Weak Lensing Mass Calibration of the RBC X-ray Galaxy Cluster Catalog**  
**Author(s):** Melanie Simet<sup>1</sup>, Nicholas Battaglia<sup>2</sup>, Rachel Mandelbaum<sup>1</sup>, Uros Seljak<sup>3</sup>  
*Institution(s):* <sup>1</sup> Carnegie Mellon University, <sup>2</sup> Princeton University, <sup>3</sup> University of California, Berkeley
- 443.05 Radio and Gamma-Ray Monitoring of Strongly Lensed Quasars and Blazars**  
**Author(s):** Nick Rumbaugh<sup>5</sup>, Chris Fassnacht<sup>5</sup>, John McKean<sup>2</sup>, Leon Koopmans<sup>3</sup>, Matthew Auger<sup>6</sup>, Sherry Suyu<sup>1</sup>, Philip J. Marshall<sup>4</sup>  
*Institution(s):* <sup>1</sup> ASIAA, <sup>2</sup> ASTRON, <sup>3</sup> Kapteyn Astronomical Institute, <sup>4</sup> SLAC National Accelerator Laboratory, <sup>5</sup> University of California, Davis, <sup>6</sup> University of Cambridge
- 443.06 Current state of the final cosmology analysis of the Supernova Legacy Survey (SNLS)**  
**Author(s):** Patrick El-Hage<sup>1</sup>  
*Institution(s):* <sup>1</sup> CNRS/IN2P3  
Contributing team(s): SNLS Collaboration
- 443.07 Inferring the Intrinsic Ellipticity Distribution of Galaxies**  
**Author(s):** Michael Schneider<sup>2</sup>, William Dawson<sup>2</sup>, David W. Hogg<sup>3</sup>, Philip J. Marshall<sup>4</sup>, Joshua Meyers<sup>4</sup>, Deborah J. Bard<sup>4</sup>, Dustin Lang<sup>1</sup>  
*Institution(s):* <sup>1</sup> CMU, <sup>2</sup> Lawrence Livermore Natl Lab, <sup>3</sup> NYU, <sup>4</sup> SLAC
- 443.08 Sensitivity of a Dark Matter Search with the Micro-X and XQC Rocket Payloads**  
**Author(s):** David Goldfinger<sup>1</sup>, Eneetali Figueroa-Feliciano<sup>1</sup>, Daniel Castro<sup>1</sup>, Adam Anderson<sup>1</sup>  
*Institution(s):* <sup>1</sup> Massachusetts Institute of Technology

## 444 Not Quite and Brand New Stars Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

- 444.01 A Catalog of Low-Mass Star-Forming Cores Observed with SHARC-II at 350  $\mu\text{m}$**   
**Author(s):** Akshaya Suresh<sup>1</sup>, Hector G. Arce<sup>1</sup>, Michael Dunham<sup>1</sup>  
*Institution(s):* <sup>1</sup> Yale University
- 444.02 A M2FS Spectroscopic Study of Low-mass Young Stars in Orion OB1**  
**Author(s):** Catherine C. Kaleida<sup>2</sup>, Cesar Briceño<sup>2</sup>, Nuria Calvet<sup>3</sup>, Mario L. Mateo<sup>3</sup>, Jesus Hernandez<sup>1</sup>  
*Institution(s):* <sup>1</sup> Centro de Investigaciones de Astronomía (CIDA), <sup>2</sup> Cerro Tololo Inter-American Observatory, <sup>3</sup> University of Michigan

## 444.03 ClassLess: A Comprehensive Database of Young Stellar Objects

**Author(s):** Lynne Hillenbrand<sup>1</sup>, Nairn Baliber<sup>1</sup>

*Institution(s):* <sup>1</sup> *California Institute of Technology*

## 445 Pulsars, Black Holes and Their Environments Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

### 445.01 Characterization of the Inner Knot of the Crab: The Site of the Gamma-ray Flares?

**Author(s):** Martin C. Weisskopf<sup>1</sup>

*Institution(s):* <sup>1</sup> *NASA/MSFC*

Contributing team(s): On behalf of the Chandra/HST/Keck gamma-ray flare team

### 445.02 The Binary Companion of Young, Relativistic Pulsar J1906+0746

**Author(s):** Joeri van Leeuwen<sup>1</sup>, Laura Kasian<sup>2</sup>, Ingrid H. Stairs<sup>2</sup>

*Institution(s):* <sup>1</sup> *ASTRON, the Netherlands Institute for Radio Astronomy*, <sup>2</sup> *UBC*

Contributing team(s): PALFA Team

### 445.03 EXPLORING THE TIME EVOLUTION OF LUMINOSITY AND PULSE PROFILE IN X-RAY PULSARS.

**Author(s):** Silas Laycock<sup>4</sup>, Dimitris Christodoulou<sup>4</sup>, Rigel Cappallo<sup>4</sup>, Wynn Ho<sup>5</sup>, Malcolm Coe<sup>5</sup>, Robin Corbet<sup>3</sup>, Helen Klus<sup>5</sup>, Demosthenes Kazanas<sup>1</sup>, Jose Luis Galache<sup>2</sup>, Samuel Fingerman<sup>4</sup>, Jun Yang<sup>4</sup>, Scott Norton<sup>4</sup>

*Institution(s):* <sup>1</sup> *NASA/GSFC*, <sup>2</sup> *Smithsonian Astrophysical Observatory*, <sup>3</sup> *UMBC*, <sup>4</sup> *University of Massachusetts*, <sup>5</sup> *University of Southampton*

### 445.04 Calculating a Lensing Rate for the Supermassive Black Hole at the Galactic Center

**Author(s):** Isabel A Lipartito<sup>1</sup>

*Institution(s):* <sup>1</sup> *University of California, Los Angeles*

Contributing team(s): UCLA Galactic Center Group

### 445.05 SMBH Measurements and Host-Galaxy Correlations: Ellipticals, Bulges, Pseudobulges, and Composite Bulges

**Author(s):** Peter Erwin<sup>1</sup>, Roberto Saglia<sup>1</sup>, Jens Thomas<sup>1</sup>, Michael Opitsch<sup>1</sup>, Maximilian Fabricius<sup>1</sup>, Nina Nowak<sup>2</sup>, Ralf Bender<sup>1</sup>, Michael John Williams<sup>1</sup>, Ximena Mazzalay<sup>1</sup>

*Institution(s):* <sup>1</sup> *MPE*, <sup>2</sup> *Stockholm University, Dept. of Astronomy*

### 445.06 A Highly Ordered Magnetic Field in a Crushed Pulsar Wind Nebula in G327.1-1.1

**Author(s):** Yik Ki Ma<sup>5</sup>, Chi-Yung Ng<sup>5</sup>, Niccolò Bucciantini<sup>2</sup>, Bryan M. Gaensler<sup>4</sup>, Patrick O. Slane<sup>1</sup>, Tea Temim<sup>3</sup>

*Institution(s):* <sup>1</sup> *Harvard-Smithsonian, CfA*, <sup>2</sup> *INAF Osservatorio di Arcetri*, <sup>3</sup> *NASA GSFC*, <sup>4</sup> *The University of Sydney*, <sup>5</sup> *University of Hong Kong*

# THURSDAY, 8 JANUARY 2015

## 446 Spiral Galaxies Thursday Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

- 446.02 Constraints on the Efficiency of Radial Migration in Spiral Galaxies**  
**Author(s):** Kathryn J Daniel<sup>1</sup>, Rosemary F. G. Wyse<sup>1</sup>  
*Institution(s):* <sup>1</sup> Johns Hopkins University
- 446.03 Extending the Surface Brightness Profile of the Andromeda Galaxy Using Spitzer-IRAC Observations**  
**Author(s):** Masoud Rafiei Ravandi<sup>4</sup>, Pauline Barmby<sup>4</sup>, Matthew Ashby<sup>2</sup>, Tim Davidge<sup>1</sup>, Seppo J. Laine<sup>3</sup>, Jenna Zhang<sup>2</sup>  
*Institution(s):* <sup>1</sup> Dominion Astrophysical Observatory, National Research Council of Canada, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Spitzer Science Center, California Institute of Technology, <sup>4</sup> University of Western Ontario
- 446.04 Evidence of Interactions or Minor Merger from Neutral Gas Observations of NGC 3521**  
**Author(s):** Christopher L. Taylor<sup>1</sup>  
*Institution(s):* <sup>1</sup> California State Univ. Sacramento
- 446.05 Effects of Spiral Arms on Gaseous Structures and Mass Drift in Spiral Galaxies**  
**Author(s):** Yonghwi Kim<sup>1</sup>, Woong-Tae Kim<sup>1</sup>  
*Institution(s):* <sup>1</sup> Seoul National University
- 446.06 Nature of the Wiggle Instability of Galactic Spiral Shocks**  
**Author(s):** Woong-Tae Kim<sup>1</sup>, Yonghwi Kim<sup>1</sup>, Jeong-Gyu Kim<sup>1</sup>  
*Institution(s):* <sup>1</sup> Seoul National Univ.
- 446.07 Can Spiral Arms Affect Star Formation in Nuclear Rings of Barred-spiral Galaxies?**  
**Author(s):** Woo-Young Seo<sup>1</sup>, Woong-Tae Kim<sup>1</sup>  
*Institution(s):* <sup>1</sup> Seoul National University
- 446.08 Short GMC lifetimes: an observational estimate with the PdBI Arcsecond Whirlpool Survey (PAWS)**  
**Author(s):** Sharon Meidt<sup>3</sup>, Annie Hughes<sup>2</sup>, Clare L. Dobbs<sup>8</sup>, Jerome Pety<sup>1</sup>, Todd A. Thompson<sup>6</sup>, Santiago Garcia-Burillo<sup>5</sup>, Adam K. Leroy<sup>4</sup>, Eva Schinnerer<sup>3</sup>, Dario Colombo<sup>7</sup>, Miguel Querejeta<sup>3</sup>, Carsten Kramer<sup>1</sup>, Karl Schuster<sup>1</sup>, Gaele Dumas<sup>1</sup>  
*Institution(s):* <sup>1</sup> IRAM, <sup>2</sup> IRAP, <sup>3</sup> Max Planck Institute for Astronomy, <sup>4</sup> NRAO, <sup>5</sup> OAN, <sup>6</sup> OSU, <sup>7</sup> University of Alberta, <sup>8</sup> University of Exeter
- 446.09 Environmental dependence of GMCs in M83**  
**Author(s):** Yusuke Fujimoto<sup>1</sup>  
*Institution(s):* <sup>1</sup> Hokkaido University

## 447 Star Clusters and Associations Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

- 447.01 The Open Cluster NGC 6811: An Eclipsing Binary, the Turnoff, and Age**  
**Author(s):** Eric L. Sandquist<sup>5</sup>, Jens Jessen-Hansen<sup>1</sup>, Matthew D. Shetrone<sup>4</sup>, Karsten Brogaard<sup>1</sup>, Soren Meibom<sup>2</sup>, Marika Leitner<sup>3</sup>, Dennis Stello<sup>6</sup>, Jerome A. Orosz<sup>5</sup>, Frank Grundahl<sup>1</sup>, Soren Frandsen<sup>1</sup>  
*Institution(s):* <sup>1</sup> Aarhus University, <sup>2</sup> Harvard-Smithsonian Center for Astrophysics, <sup>3</sup> Humboldt State University, <sup>4</sup> McDonald Observatory/University of Texas, <sup>5</sup> San Diego State University, <sup>6</sup> University of Sydney
- 447.02 The Structure and Stellar Populations of Nuclear Star Clusters in Late-type Spiral Galaxies From HST/WFC3 Imaging**  
**Author(s):** Daniel Carson<sup>4</sup>, Aaron J. Barth<sup>4</sup>, Anil Seth<sup>6</sup>, Mark den Brok<sup>6</sup>, Michele Cappellari<sup>5</sup>, Jenny E. Greene<sup>3</sup>, Luis C. Ho<sup>1</sup>, Nadine Neumayer<sup>2</sup>  
*Institution(s):* <sup>1</sup> Kavli Institute for Astronomy and Astrophysics, <sup>2</sup> Max Planck Institute for Astronomy, <sup>3</sup> Princeton University, <sup>4</sup> University of California Irvine, <sup>5</sup> University of Oxford, <sup>6</sup> University of Utah
- 447.03 Distinguishing radio properties of the galactic and extragalactic sources towards the Orion Molecular Clouds**  
**Author(s):** Marina Kounke<sup>2</sup>, Lee W. Hartmann<sup>2</sup>, Laurent Loinard<sup>1</sup>, Gisela Ortiz-Leon<sup>1</sup>  
*Institution(s):* <sup>1</sup> CRYA, <sup>2</sup> Univ. of Michigan  
Contributing team(s): Gould's Belt Distances Survey Group

## 448 Starburst Galaxies Thursday Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

- 448.01 Probing the ISM of High-Redshift Gravitationally Lensed Dusty Star Forming Galaxies**  
**Author(s):** Gregory Walth<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Arizona  
Contributing team(s): Herschel Lensing Survey
- 448.02 Variations of the ISM conditions across the Main Sequence of star forming galaxies: observations and simulations.**  
**Author(s):** Juan R. Martinez Galarza<sup>3</sup>, Howard Alan Smith<sup>3</sup>, Lauranne Lanz<sup>1</sup>, Christopher C. Hayward<sup>1</sup>, Andreas Zezas<sup>3</sup>, Chao-Ling Hung<sup>3</sup>, Lee Rosenthal<sup>2</sup>, Aaron Weiner<sup>3</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> Haverford College, <sup>3</sup> Smithsonian Astrophysical Observatory
- 448.03 Age dating Star Clusters in Starburst Galaxy Merger NGC3256**  
**Author(s):** Tamar Lambert-Brown<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Maryland College Park

# THURSDAY, 8 JANUARY 2015

## 448.04 Probing Star Formation in the Early Universe with Far-IR Spectroscopy using ZEUS-2

**Author(s):** Amit Vishwas<sup>2</sup>, Carl Ferkinhoff<sup>2</sup>, Thomas Nikola<sup>2</sup>, Stephen Parshley<sup>2</sup>, Justin Paul Schoenwald<sup>2</sup>, Gordon J. Stacey<sup>2</sup>, James L. Higdon<sup>6</sup>, Sarah Higdon<sup>6</sup>, Drew Brisbin<sup>2</sup>, Aprajita Verma<sup>8</sup>, Dominik A. Riechers<sup>2</sup>, Steve Hailey-Dunsheath<sup>1</sup>, Karl Menten<sup>9</sup>, Rolf Güsten<sup>9</sup>, Axel Weiss<sup>9</sup>, Kent Irwin<sup>7</sup>, Hsiao-Mei Cho<sup>10</sup>, Michael D. Niemack<sup>2</sup>, Mark Halpern<sup>5</sup>, Mandana Amiri<sup>5</sup>, Matthew Hasselfield<sup>3</sup>, Donald V. Wiebe<sup>5</sup>, Peter A. R. Ade<sup>4</sup>, Carole E Tucker<sup>4</sup>

*Institution(s):* <sup>1.</sup> California Institute of Technology, <sup>2.</sup> Department of Astronomy, Cornell University, <sup>3.</sup> Department of Astrophysical Sciences, Princeton University, <sup>4.</sup> Department of Physics and Astronomy, Cardiff University, <sup>5.</sup> Department of Physics and Astronomy, University of British Columbia, <sup>6.</sup> Department of Physics, Georgia Southern University, <sup>7.</sup> Department of Physics, Stanford University, <sup>8.</sup> Department of Physics, University of Oxford, <sup>9.</sup> Max-Planck-Institut für Radioastronomie, <sup>10.</sup> NIST Boulder

## 449 Stars and Friends Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

### 449.01 A Detailed Spectroscopic Analysis of The EQ Pegasi System

**Author(s):** Joshua E. Schlieder<sup>3</sup>, Simon Murphy<sup>1</sup>, Adric R. Riedel<sup>2</sup>

*Institution(s):* <sup>1.</sup> ARI/Heidelberg University, <sup>2.</sup> CUNY/Hunter College, <sup>3.</sup> NASA Ames Research Center

### 449.02 The Ages of Early-Type Stars: Strömgren Photometric Methods Calibrated, Validated, Tested, and Applied to Hosts and Prospective Hosts of Directly Imaged Exoplanets

**Author(s):** Trevor J. David<sup>1</sup>, Lynne Hillenbrand<sup>1</sup>

*Institution(s):* <sup>1.</sup> California Institute of Technology

### 449.03 Time-Resolved Near-Ultraviolet Flare Spectra with the Hubble Space Telescope / Cosmic Origins Spectrograph

**Author(s):** Adam F Kowalski<sup>4</sup>, Suzanne L. Hawley<sup>13</sup>, Christopher M. Johns-Krull<sup>8</sup>, Sarah J. Schmidt<sup>10</sup>, Alexander Brown<sup>11</sup>, John P. Wisniewski<sup>12</sup>, James R. A. Davenport<sup>13</sup>, Cecilia Farina<sup>3</sup>, Nicola Pietro Gentile Fusillo<sup>3</sup>, Manolis Xilouris<sup>5</sup>, Mihalis Mathioudakis<sup>7</sup>, Rachel A. Osten<sup>9</sup>, Jon A. Holtzman<sup>6</sup>, Ngoc Phan-Bao<sup>1</sup>, Jeff A. Valenti<sup>9</sup>, Lucianne Walkowicz<sup>2</sup>

*Institution(s):* <sup>1.</sup> Academia Sinica, <sup>2.</sup> Adler Planetarium, <sup>3.</sup> Isaac Newton Group of Telescopes, <sup>4.</sup> NASA Goddard Space Flight Center, <sup>5.</sup> National Observatory of Athens, <sup>6.</sup> New Mexico State University, <sup>7.</sup> Queen's University of Belfast, <sup>8.</sup> Rice University, <sup>9.</sup> Space Telescope Science Institute, <sup>10.</sup> The Ohio State University, <sup>11.</sup> University of Colorado, <sup>12.</sup> University of Oklahoma, <sup>13.</sup> University of Washington

### 449.04 M-Dwarf Metallicity through Analysis of Binary Partner

**Author(s):** Daniel Nagasawa<sup>1</sup>, Jennifer L. Marshall<sup>1</sup>, Ting Li<sup>1</sup>

*Institution(s):* <sup>1.</sup> Texas A&M University



- 449.05 Using PSF fitting to Identify Possible Unresolved Binary Systems in the HST Archives**  
**Author(s):** Elora N. Salway<sup>1</sup>, Denise C. Stephens<sup>1</sup>, Douglas B. Gardner<sup>1</sup>  
*Institution(s):* <sup>1</sup> Brigham Young University
- 449.06 Identifying New Fe I Levels from Stellar Spectra**  
**Author(s):** Ruth Peterson<sup>2</sup>, Robert L. Kurucz<sup>1</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> SETI Institute
- 449.07 Very low-luminosity Class I/Flat outflow sources in sigma Orionis: Clues to alternative formation mechanisms for very low-mass stars**  
**Author(s):** Basma Riaz<sup>4</sup>, E. Whelan<sup>2</sup>, M. Thompson<sup>3</sup>, E. Vorobyov<sup>5</sup>, N. Lodieu<sup>1</sup>  
*Institution(s):* <sup>1</sup> IAC, <sup>2</sup> Uni of Tuebingen, <sup>3</sup> Uni. of Hertfordshire, <sup>4</sup> Uni. of Maryland, <sup>5</sup> Uni. of Vienna
- 449.08 The Dearth of Lithium-Rich Red Giants in Globular Clusters**  
**Author(s):** Andrew J Zhang<sup>2</sup>, Evan N Kirby<sup>1</sup>, Puragra Guhathakurta<sup>3</sup>  
*Institution(s):* <sup>1</sup> California Institute of Technology, <sup>2</sup> The Harker School, <sup>3</sup> University of California, Santa Cruz
- 449.09 The Kepler Cluster Study: rotation period measurements for cool stars in the 2.5 billion year open cluster NGC 6819**  
**Author(s):** Soren Meibom<sup>1</sup>, Sydney A. Barnes<sup>3</sup>, Imants Platais<sup>2</sup>, Ronald L. Gilliland<sup>4</sup>, David W. Latham<sup>1</sup>, Robert D. Mathieu<sup>5</sup>  
*Institution(s):* <sup>1</sup> Harvard-Smithsonian, CfA, <sup>2</sup> Johns Hopkins University, <sup>3</sup> Leibniz-Institute for Astrophysics, <sup>4</sup> The Pennsylvania State University, <sup>5</sup> University of Wisconsin - Madison  
 Contributing team(s): Kepler Science Team, Kepler Science Operations Center
- 449.10 Herschel Observations of Protoplanetary Disks in Lynds 1641: Far IR Constraints on the Dust Distribution**  
**Author(s):** Sierra Grant<sup>7</sup>, Nuria Calvet<sup>7</sup>, S. Thomas Megeath<sup>8</sup>, William J. Fischer<sup>5</sup>, Kyoung Hee Kim<sup>6</sup>, Babar Ali<sup>4</sup>, Laura Ingleby<sup>1</sup>, Melissa McClure<sup>3</sup>, Wen-hsin Hsu<sup>7</sup>, Cesar Briceno<sup>2</sup>  
*Institution(s):* <sup>1</sup> Boston University, <sup>2</sup> Cerro Tololo Inter-American Observatory, <sup>3</sup> European Southern Observatory, <sup>4</sup> NASA Herschel Science Center, <sup>5</sup> Oberlin College, <sup>6</sup> The Korea Astronomy and Space Science Institute, <sup>7</sup> University of Michigan, <sup>8</sup> University of Toledo
- 449.11 Ultraviolet Spectra of Star-Grazing Comets in the 49 Ceti Disk System**  
**Author(s):** Brittany E. Miles<sup>3</sup>, Aki Roberge<sup>2</sup>, Barry Welsh<sup>1</sup>  
*Institution(s):* <sup>1</sup> Eureka Scientific, <sup>2</sup> GSFC, <sup>3</sup> UCLA
- 449.12 Investigating Star-disk Interactions During Late-stage Circumstellar Disk Evolution in the Nearby Pre-MS Stars T Cha and TWA 30**  
**Author(s):** David Principe<sup>7</sup>, Joel Kastner<sup>6</sup>, Juan Alcalá<sup>3</sup>, Michael S Bessell<sup>1</sup>, David Huenemoerder<sup>5</sup>, Giuseppe Sacco<sup>2</sup>, Beate Stelzer<sup>4</sup>  
*Institution(s):* <sup>1</sup> Australia National University, <sup>2</sup> INAF-Osservatorio Astrofisico di Arcetri, <sup>3</sup> INAF-Osservatorio Astronomico di Capodimonte, <sup>4</sup> INAF-Osservatorio Astronomico di Palermo, <sup>5</sup> MIT, <sup>6</sup> Rochester Institute of Technology, <sup>7</sup> Universidad Diego Portales

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- 449.13 Characterizing the Long-Term Variability of X-ray Binary 4U1705-44 Evidence for an Underlying Double-Welled Nonlinear Oscillator**  
**Author(s):** Rebecca A Phillipson-Nichols<sup>1</sup>, Patricia T. Boyd<sup>2</sup>, Alan P. Smale<sup>2</sup>  
*Institution(s):* 1. Colorado State University, 2. NASA's Goddard Space Flight Center
- 449.14 A Hyper Luminous X-ray Source Catalog Based on Chandra ACIS Data**  
**Author(s):** Hang Gong<sup>1</sup>, Jifeng Liu<sup>1</sup>  
*Institution(s):* <sup>1</sup> NAOC  
Contributing team(s): CXC
- 449.15 A Multi-band Extension of the Analysis of Variance Period Finding Algorithm**  
**Author(s):** Nicholas Mondrik<sup>1</sup>, Jennifer L. Marshall<sup>1</sup>, James Long<sup>1</sup>  
*Institution(s):* <sup>1</sup> Texas A&M University
- 449.16 High-Cadence, Long-Baseline Light Curves of Red Giant Variable Stars**  
**Author(s):** Robert Alexander Arnold<sup>2</sup>, Joshua Pepper<sup>1</sup>, Joseph E. Rodriguez<sup>3</sup>  
*Institution(s):* <sup>1</sup> Lehigh University, <sup>2</sup> University of Central Arkansas, <sup>3</sup> Vanderbilt  
Contributing team(s): KELT Collaboration
- 449.17 Deriving Precise Ages for Field White Dwarfs using Bayesian Techniques**  
**Author(s):** Aaron Webster<sup>1</sup>, Ted von Hippel<sup>1</sup>  
*Institution(s):* <sup>1</sup> Embry Riddle Aeronautical University  
Contributing team(s): Bayesian Analysis of Stellar Evolution (BASE)
- 449.18 A Comprehensive Search for Cataclysmic Variables in 47 Tucanae**  
**Author(s):** Matthew Wilde<sup>1</sup>, Michael Shara<sup>1</sup>  
*Institution(s):* <sup>1</sup> American Museum of Natural History
- 449.19 The Spatial Distribution of Novae in M31 : Bulge vs Disk Decomposition**  
**Author(s):** A. Kaur<sup>1</sup>, Dieter Hartmann<sup>1</sup>  
*Institution(s):* 1. Clemson University

## 450 Supernovae Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

- 450.01 SN Hunt 248: a super-Eddington outburst from a massive cool hypergiant**  
**Author(s):** Jon Mauerhan<sup>4</sup>, Schuyler D. Van Dyk<sup>1</sup>, Melissa Lynn Graham<sup>4</sup>, WeiKang Zheng<sup>4</sup>, Kelsey I. Clubb<sup>4</sup>, Alexei V. Filippenko<sup>4</sup>, Stefano Valenti<sup>2</sup>, Peter Brown<sup>3</sup>, Nathan Smith<sup>5</sup>, Dale Andrew Howell<sup>2</sup>, Iair Arcavi<sup>2</sup>  
*Institution(s):* <sup>1</sup> IPAC, <sup>2</sup> LCOGT, <sup>3</sup> Texas A&M, <sup>4</sup> UC Berkeley, <sup>5</sup> University of Arizona
- 450.02 High-resolution Studies of Charge Exchange in Supernova Remnants with Magellan, XMM-Newton, and Micro-X**  
**Author(s):** Sarah N. Heine<sup>1</sup>, Enectali Figueroa-Feliciano<sup>1</sup>, Daniel Castro<sup>1</sup>  
*Institution(s):* <sup>1</sup> Massachusetts Institute of Technology
- 450.03 High velocity features in Type Ia supernovae via interaction with circumstellar shell**  
**Author(s):** Brian W. Mulligan<sup>1</sup>, J. Craig Wheeler<sup>1</sup>  
*Institution(s):* <sup>1</sup> University of Texas at Austin

## 450.04 Polarized Light of SN 2014J

**Author(s):** Amber L. Porter<sup>1</sup>, Mark D. Leising<sup>1</sup>, Peter Milne<sup>2</sup>, Grant Williams<sup>2</sup>, Paul S. Smith<sup>2</sup>, Nathan Smith<sup>2</sup>

*Institution(s):* <sup>1</sup> Clemson University, <sup>2</sup> University of Arizona

## 451 The ISM and Its Denizens Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

### 451.01 A Search for Short-Term Variability in Diffuse Interstellar Bands

**Author(s):** Alex Storrs<sup>1</sup>, Stephanie McCubbin<sup>1</sup>

*Institution(s):* <sup>1</sup> Towson Univ.

### 451.02 Hydrogen Fluoride in the Local Universe

**Author(s):** Raquel R. Monje<sup>1</sup>, Dariusz C. Lis<sup>1</sup>, Thomas G. Phillips<sup>1</sup>

*Institution(s):* <sup>1</sup> California Institute of Technology

### 451.03 What the Kinematics of Molecular Clouds Signify About Their Formation

**Author(s):** Nia Imara<sup>1</sup>, Leo Blitz<sup>2</sup>

*Institution(s):* <sup>1</sup> Harvard-Smithsonian Center for Astrophysics, <sup>2</sup> UC Berkeley

### 451.04 Carbon phases versus hydrogen phases: neutral gas in nearby galaxies

**Author(s):** Alison Faye Crocker<sup>1</sup>, Eric Pellegrini<sup>2</sup>, John-David T. Smith<sup>2</sup>

*Institution(s):* <sup>1</sup> Reed College, <sup>2</sup> University of Toledo

Contributing team(s): Beyond the Peak Team

### 451.05 The environmental dependence of far-infrared dust emissivity variations in M31

**Author(s):** Hedy Arab<sup>1</sup>, Karl D. Gordon<sup>1</sup>

*Institution(s):* <sup>1</sup> Space Telescope Science Institute

Contributing team(s): PHAT team

### 451.06 TWILIGHT: A Cellular Framework for Three-Dimensional Radiative Transfer

**Author(s):** David Khatami<sup>2</sup>, Barry Madore<sup>1</sup>

*Institution(s):* <sup>1</sup> Carnegie Observatories, <sup>2</sup> Pomona College

### 451.07 Probing the Role of Carbon in the Interstellar Ultraviolet Extinction

**Author(s):** Ajay Mishra<sup>1</sup>, Aigen Li<sup>1</sup>

*Institution(s):* <sup>1</sup> University of Missouri-Columbia

### 451.08 Directly detecting exozodiacal dust and disk variability

**Author(s):** Nicholas J. Scott<sup>1</sup>

*Institution(s):* <sup>1</sup> Georgia State University/ The CHARA Array

### 451.09 Herschel Galactic plane survey of ionized gas traced by [NII]

**Author(s):** Umut Yildiz<sup>1</sup>, Paul Goldsmith<sup>1</sup>, Jorge Pineda<sup>1</sup>, William Langer<sup>1</sup>

*Institution(s):* <sup>1</sup> Jet Propulsion Laboratory

# THURSDAY, 8 JANUARY 2015

## 451.10 Herschel/PACS photometry of transiting-planet host stars with candidate warm debris disks

**Author(s):** David R. Ardila<sup>5</sup>, Bruno Merin<sup>2</sup>, Alvaro Ribas<sup>1</sup>, Herve Bouy<sup>1</sup>, Geoffrey Bryden<sup>3</sup>, Karl R. Stapelfeldt<sup>4</sup>, Deborah Padgett<sup>4</sup>

*Institution(s):* <sup>1</sup> Centro de Astrobiologia, <sup>2</sup> Herschel Science Centre / European Space Agency, <sup>3</sup> Jet Propulsion Laboratory, <sup>4</sup> NASA/Goddard Space Flight Center, <sup>5</sup> The Aerospace Corporation

## 452 The Milky Way Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

### 452.01 A Green Bank Telescope 21cm survey of HI clouds in the Milky Way's nuclear wind

**Author(s):** Sara Denbo<sup>1</sup>, Ryan Endsley<sup>3</sup>, Felix J. Lockman<sup>2</sup>, Alyson Ford<sup>2</sup>

*Institution(s):* <sup>1</sup> Michigan State University, <sup>2</sup> National Radio Astronomy Observatory, <sup>3</sup> Washington University in St. Louis

### 452.02 A Python Pipeline for the Mercury N-body Code With First-Order GR Effects

**Author(s):** Christopher AM Wieland<sup>1</sup>, Ann-Marie Madigan<sup>1</sup>

*Institution(s):* <sup>1</sup> University of California at Berkeley

## 453 The Sun and Solar System Thursday Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

### 453.01 Study of Photospheric Magnetic and Coronal Data in Solar Active Regions

**Author(s):** Jordan A Guerra<sup>2</sup>, Antti A Pulkkinen<sup>1</sup>, Vadim Uritsky<sup>2</sup>

*Institution(s):* <sup>1</sup> NASA GSFC, <sup>2</sup> The Catholic University of America

### 453.02 To the origin problem of the Moon

**Author(s):** Evgeny Naimi<sup>1</sup>

*Institution(s):* <sup>1</sup> National University of Science and Technology "MISIS"

### 453.03 Observation of new trans-Neptunian Objects in the Dark Energy Survey Supernova Fields

**Author(s):** Ross Jennings<sup>1</sup>, Zhilu Zhang<sup>1</sup>, David W. Gerdes<sup>2</sup>

*Institution(s):* <sup>1</sup> Carleton College, <sup>2</sup> University of Michigan  
Contributing team(s): Dark Energy Survey Collaboration

### 453.04 Comparative Imaging and Analysis of the Auroral Morphology of Ganymede

**Author(s):** Lucia A Perez<sup>1</sup>

*Institution(s):* <sup>1</sup> Wellesley College

### 453.05 A Diversity of Dust Properties in Oort Cloud Comets

**Author(s):** Michael S. Kelley<sup>5</sup>, Charles E. Woodward<sup>6</sup>, David Emerson Harker<sup>4</sup>, Diane H. Wooden<sup>1</sup>, Michael L. Sitko<sup>2</sup>, Ray W. Russell<sup>3</sup>, Daryl L. Kim<sup>3</sup>

*Institution(s):* <sup>1</sup> NASA Ames Research Center, <sup>2</sup> Space Science Institute, <sup>3</sup> The Aerospace Corporation, <sup>4</sup> UC, San Diego, <sup>5</sup> Univ. of Maryland, <sup>6</sup> Univ. of Minnesota

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This image was produced with a RCOS half meter telescope, an Apogee Alta U16M camera and Astrodon E-Series filters. Exposure times: 720 minutes Luminance, 270 minutes Red, 270 minutes Green, 270 minutes Blue and 420 minutes h-alpha (all 1X1).

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