

# AASTCS 5: Radio Exploration of Planetary Habitability

## 7 – 12 May, 2017

<b>Sunday 7 May, 2017</b>		
3:00 pm – 7:00 pm	Registration <i>Tuscany Foyer</i>	
6:00 pm – 7:30 pm	Welcome Reception <i>Miramonte Green</i>	
<b>Monday 8 May, 2017</b>		
8:00 am – 12:00 pm	Registration <i>Tuscany Foyer</i>	
<b>Stellar Activity and Star-Planet Interaction I <i>Tuscany I</i></b> Chair: F. Adams		
8:25 am – 8:30 am	Welcome from Alex Wolszczan	
8:30 am – 9:00 am	M. Guedel	<b>100.01</b> Exoplanetary Habitability: Radiation, Particles, Plasmas, and Magnetic Fields ( <i>Invited</i> )
9:00 am – 9:30 am	D. Shulyak	<b>100.02</b> Magnetic properties of low mass stars: new discoveries and future prospects ( <i>Invited</i> )
9:30 am – 10:00 am	N. Featherstone	<b>100.03</b> Stellar $R_0$ ( <i>Invited</i> )
10:00 am – 10:30 am	Coffee Break	
10:30 am – 11:00 am	R. Yadav	<b>100.04</b> Modelling the dynamo in fully convective M-stars ( <i>Invited</i> )
11:00 am – 11:20 am	M. Browning	<b>100.05</b> Constraints on magnetism, buoyancy, and dissipation in convective stars and planets

11:20 am – 11:40 am	P. Driscoll	<b>100.06</b> Extrapolating from the geodynamo to exodynamos
11:40 am – 12:30 pm	Discussion	
12:30 pm – 2:00 pm	Lunch Break	
2:00 pm – 5:00 pm	Registration <i>Tuscany Foyer</i>	
<b>Stellar Activity and Star-Planet Interaction II <i>Tuscany I</i></b> Chair: M. Browning		
2:00 pm – 2:30 pm	A. Aarnio	<b>101.01</b> The Sun as a star: empirical estimates of stellar coronal mass ejection rates and properties ( <i>Invited</i> )
2:30 pm – 3:00 pm	E. Newton	<b>101.02</b> Age, rotation, and activity in M dwarfs and the implications for planet-hosting stars ( <i>Invited</i> )
3:00 pm - 3:30 pm	M. Crosley	<b>101.03</b> Transient Mass Loss in Active Stars and Observation Methods ( <i>Invited</i> )
3:30 pm – 4:00 pm	Coffee Break	
4:00 pm – 4:30 pm	B. Wood	<b>101.04</b> Observational Constraints on Stellar Winds from the Hubble Space Telescope ( <i>Invited</i> )
4:30 pm – 5:00 pm	V. Airapetian	<b>101.05</b> Space Weather Affected Habitability Zones Around Active Stars ( <i>Invited</i> )
5:00 pm – 5:30 pm	C. Garraffo	<b>101.06</b> Space Weather Characterization of Exoplanets ( <i>Invited</i> )
5:30 pm – 6:00 pm	Discussion	

## Tuesday 9 May, 2017

8:00 am –  
12:00 pm

Registration *Tuscany Foyer*

### Stellar Activity and Star-Planet Interaction III *Tuscany I*

Chair: R. Osten

8:30 am –  
9:00 am

E. Shkolnik

**200.01** A Review and Preview of Magnetic Star-Planet Interactions  
(*Invited*)

9:00 am –  
9:30 am

M. Jardine

**200.02** Exoplanet environments and radio signatures (*Invited*)

9:30 am –  
10:00 am

S. Berdyugina

**200.03** Detecting magnetic fields on brown dwarfs and exoplanets  
(*Invited*)

10:00 am –  
10:30 am

Coffee Break

10:30 am –  
11:00 am

R. Mutel

**200.04** Prospects for planet detection using pulsed radio emission from  
UCD's (*Invited*)

11:00 am –  
11:20 am

P. Brandt

**200.05** Lessons from our Own Solar System: Generation Mechanisms of  
Radio Emissions from Earth, Saturn and Jupiter and Atmospheric Loss from  
Magnetized versus non-magnetized planets

11:20 am –  
11:40 am

J. Llama

**200.06** Simulating Electron Cyclotron Maser Emission for Low Mass Stars

11:40 am –  
12:30 pm

Discussion

12:30 pm –  
2:00 pm

Lunch Break

2:00 pm –  
5:00 pm

Registration *Tuscany Foyer*

**Stellar Activity and Star-Planet Interaction IV *Tuscany I***

Chair: M. Jardine

2:00 pm – 2:30 pm	O. Cohen	<b>201.01</b> Planetary Consequences of Sub-Alfvenic Space Environment in Close-in Planets ( <i>Invited</i> )
2:30 pm – 2:50 pm	F. Adams	<b>201.02</b> Magnetically Controlled Flows in Planetary Outflows and Star/Planet Interactions
2:50 pm - 3:10 pm	J. Linsky	<b>201.03</b> What Can TRAPPIST-1 Tell Us About Radiation From M-Dwarf Chromospheres And Coronae
3:10 pm – 3:30 pm	M. Knapp	<b>201.04</b> The effect of tidal heating on core dynamos in the TRAPPIST-1 system

**Poster Session *Tuscany Foyer***

Chair: J. Lazio

3:30 pm – 4:00 pm	<p><b>202.01</b> W. Diaz-Merced: We too may find new planets</p> <p><b>202.02</b> J. Ling: Searching for Radio Emission from Young Stars and Exoplanets with the VLA Low-Frequency Sky Survey Redux</p> <p><b>202.03</b> P. Dalba: Occultations of Astrophysical Radio Sources as Probes of (Exo)Planetary Environments</p> <p><b>202.04</b> P. Zarka: Radio emission from the Ganymede-Jupiter interaction and consequence for radio emissions from exoplanets</p> <p><b>202.05</b> W. Howard: EvryFlare: Flare rates and intensities for every <math>10 &lt; g' &lt; 15</math> solar-type and red dwarf star in the Southern sky</p> <p><b>202.06</b> T. Kuiper: A Wire Grid Paraboloid for Large Low Frequency Telescopes</p> <p><b>202.07</b> N. Thyagarajan: Enabling Future Large Searches for Exoplanet Auroral Emission with the EPIC Correlator Architecture</p> <p><b>202.08</b> S. Agarwal: EXOPLANETARY DETECTION BY MULTIFRACTAL SPECTRAL ANALYSIS</p> <p><b>202.09</b> Y. Yamashiki: Development of Exoplanet database "ExoKyoto" aiming for inter-comparison with different criteria of Habitable zones</p> <p><b>202.10</b> T. Clarke: Surveying the Sky at Low Frequencies with the Commensal VLITE System</p> <p><b>202.11</b> S. Moschou: Expanding CME-flare relations to other stellar systems</p>
4:00 pm – 5:00 pm	Discussion

## Wednesday 10 May, 2017

8:00 am–  
12:00 pm

Registration *Tuscany Foyer*

### Observations of Stars, Brown Dwarfs, and Exoplanets I *Tuscany I*

Chair: G. Hallinan

8:30 am –  
9:00 am

K. France

**300.01** Ultraviolet Observations of Star-planet Interactions – Current Status and Future Directions (*Invited*)

9:00 am –  
9:20 am

J. Pineda

**300.02** Simultaneous Radio and UV Observations of Brown Dwarfs: Looking for the UV Counterpart to Auroral Radio Emission

9:20 am –  
9:40 am

J. Enriquez

**300.03** The Breakthrough Listen Initiative and the Future of the Search for Intelligent Life

9:40 am –  
10:00 am

G. Harp

**300.04** SETI Observations of Low Mass Stars at the SETI Institute

10:00 am –  
11:00 am

Coffee Break

11:00 am –  
12:00 pm

Discussion

### Afternoon Free

6:00 pm –  
8:00 pm

Banquet *Mediterranean Lawn*

## Thursday 11 May, 2017

8:00 am–  
2:00 pm

Registration *Tuscany Foyer*

### Observations of Stars, Brown Dwarfs, and Exoplanets II *Tuscany I*

Chair: J. Lazio

8:30 am –  
9:00 am

C. Lynch

**400.01** Chasing Low Frequency Radio Bursts from Magnetically Active Stars  
(*Invited*)

9:00 am –  
9:20 am

R. Osten

**400.02** Radio Optical Multiwavelength Stellar Flares and Constraints on the  
Electron Population from a Joint Analysis

9:20 am –  
9:40 am

Y. Notsu

**400.03** Statistical studies of superflares on G-, K-, M- type stars from Kepler  
data

9:40 am –  
10:00 am

J. Villadsen

**400.04** Wideband radio dynamic spectroscopy and astrometry of magnetic  
storms on active M dwarfs

10:00 am –  
10:30 am

Coffee Break

10:30 am –  
10:50 am

A. Wolszczan

**400.05** Arecibo Observations of Low-Mass Stars, Brown Dwarfs, and  
Exoplanets

10:50 am –  
11:10 am

M. Kao

**400.06** Constraining Fully Convective Magnetic Dynamos using Brown Dwarf  
Auroral Radio Emission

11:10 am –  
12:00 pm

Discussion

12:00 pm –  
2:00 pm

Lunch Break

### Observations of Stars, Brown Dwarfs, and Exoplanets III *Tuscany I*

Chair: J. Forbrich

2:00 pm – 2:20 pm	G. Hallinan	<b>401.01</b> The OVRO-LWA: An Extrasolar Space Weather Monitoring Station
2:20 pm – 2:40 pm	M. Anderson	<b>401.02</b> Monitoring nearly 4000 nearby stellar systems with the OVRO-LWA in search of radio exoplanets
2:40 pm – 3:00 pm	J. Turner	<b>401.03</b> The Search for Radio Emission from Exoplanets Using LOFAR Low-Frequency Beamformed Observations: Preliminary Results on the 55 Cnc System
3:00 pm – 3:30 pm	Coffee Break	
3:30 pm - 3:50 pm	P. Williams	<b>401.04</b> Surveying for Exoplanetary Auroral Radio Emission with HERA
3:50 pm - 4:10 pm	J. Lazio	<b>401.05</b> Planetary Magnetic Fields: Planetary Interiors and Habitability W. M. Keck Institute for Space Studies Report
4:10 pm – 5:00 pm	Discussion	

## Friday 12 May, 2017

### Observations of Stars, Brown Dwarfs, and Exoplanets IV *Tuscany I*

Chair: P. Williams

8:30 am – 9:00 am	G. Bower	<b>500.01</b> Radio Observations of V830 Tau ( <i>Invited</i> )
9:00 am – 9:20 am	A. Burgasser	<b>500.02</b> Radio Cycles in the Lowest Mass Stars
9:20 am - 9:40 am	C. Heiles	<b>500.03</b> Are We Observing Coronal Mass Ejections in OH/IR AGB Stars?
9:40 am – 10:00 am	J. Forbrich	<b>500.04</b> The Orion Radio All-Stars: extreme YSO radio and X-ray variability
10:00 am – 10:20 am	R. Estreka for A. Valio	<b>500.05</b> Kepler-96 flares and their impact on the transiting planet
10:20 am – 11:00 am	Coffee Break	
11:00 am – 12:00 pm	Discussion	
12:00 pm – 12:30 pm	M. Guedel	Conference Summary