Demographics Survey of 2024 US AAS Members
Summary Results

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Contents

OVERVIEW – Who Was Surveyed

This survey is the fifth and most recent in a series of sample surveys of AAS members. The first four were conducted in 2013, 2016, 2018 and 2021 respectively. For this iteration, AIP sent a prenotice on December 4th, 2024, followed by the first wave of requests on December 12th, 2024. There were five requests sent, with the last sent on February 3rd, 2025. The fifth survey added a variety of questions, including ones about two-year colleges and salary satisfaction.

The sample consisted of 3,553 AAS members in the United States. We were able to successfully contact 3,437 AAS members. Unsuccessful attempts to contact may be the result of a number of conditions, including invalid email addresses, unsubscribe requests from individuals, or full inboxes. Members who lived outside of the U.S. were not included in the survey. We received 1,720 responses for a response rate of 50%. The table below shows where the responses came from, and how it compares to the sample and overall contact list we worked from.

Note: This survey was delivered in Fall/Winter 2024-25. Many questions were asked about respondents situations "As of November 1, 2024", and as such, many respondents situations may have changed in Spring 2025.

Membership Types						
Membership Type	**All N**	**All %**	**Sample N**	**Sample %**	**Resp N**	**Resp %**
Full	4088	58%	2046	58%	1092	64%
Student (graduate or undergraduate, includes high school)	2012	28%	994	28%	370	21%
Emeritus	726	10%	373	10%	181	11%
Educator affiliate	207	3%	107	3%	65	4%
Alumni Affiliates	53	1%	33	1%	12	1%
Total (Contacted)	7085		*3553 (3437)*		1720	

HIGHLIGHTS

- Most US-based AAS members have PhDs, and most of these are from the US. Astronomy/astrophysics or physics are the most common fields of study. (**Tables 1, 3, and 4**)
- A lower proportion of AAS members who are women report having a PhD than men. (**Table 2**)
- Three-quarters of US AAS members were employed in full-time positions as of November 1, 2024. (**Table** 7)
- More than half (54%) of employed US AAS members were employed at a 4-year college or university. (**Table 9**)

- The majority of AAS members working at 4-year colleges or universities were in tenured positions. (**Table 11**)
- Half of US AAS members in postdoctoral positions hoped to be employed at a 4-year college or university in the future. (**Table 13**)
- Teaching was the most commonly reported main activity at work for AAS members employed at 4-year colleges or universities. AAS members in other sectors most often reported management or administration (**Table 16)** as their main activity.
- Nearly half of AAS members funding came from colleges or universities. (**Table 19**)
- In this survey, there was a gender difference in the salary regression (**Table 21**). The significant predictors of salary include:
    - employment sector, with all sectors showing an increase over academe,
    - having worked as a postdoc (increase over those without postdocs),
    - time since PhD, with an increase for each year and,
    - being a man.
- Most US AAS members would encourage someone else to pursue an astronomy career. (**Table 22**)s
- The majority of AAS members are men, however for those born after 1991 the gender gap is much smaller. (**Table 23**)
- For US AAS members:
    - 68% report having no disability (**Table 27**)
    - 79% self-identify as white (**Table 29**)
    - 75% self-identify as straight (**Table 30**)
- A third of AAS members currently in graduate school indicated that their degree progress was slowed due to COVID-19. (**Table 32**)
- Most (61%) US AAS members with PhDs reported living in an area with a "high" or "very high" cost of living. (**Table 37**)
- The majority of AAS members were satisfied with their salaries and the tasks and work associated with their job. (**Tables 38 and 40**)
- 6% of AAS members attended a two-year or community college. (**Table 42**)
- The vast majority (93%) of AAS members received their undergraduate degree in five years or less. (**Table 46**)
- About a fifth of AAS members changed their degree field during their undergraduate studies. (**Table 47**)
- Half of US AAS members who received their PhD in the last ten years had applied for a job outside of the US. (**Table 48**)
- Almost four-fifths of AAS members reported that their university or place of employment had DEI initiatives as of November 1, 2024. (**Table 50**)

RESULTS

US AAS MEMBERS – Educational Experience and Employment Status

Table 1 – Highest Degree Earned

Highest Degree Earned by US AAS Members, 2024		
	%	**N**
PhD	73%	1227
Master's	14%	229
Bachelor's	9%	157
No college	3%	51
Other	1%	17
Total		*1683*

- 309 respondents (18%) indicated that they were primarily a student (full- or part-time)
  - 71% with a highest degree of bachelors were currently students
  - 61% with a highest degree of masters were currently students
  - 98% of respondents with a highest degree of "no college" were students
- 94% of respondents who were currently students plan to obtain a PhD
- There were statistically significant differences in highest degree earned by gender
  - Men were more likely to have earned a PhD, while women were more likely to have earned a master's degree

Figure 1 – Highest Degree Earned

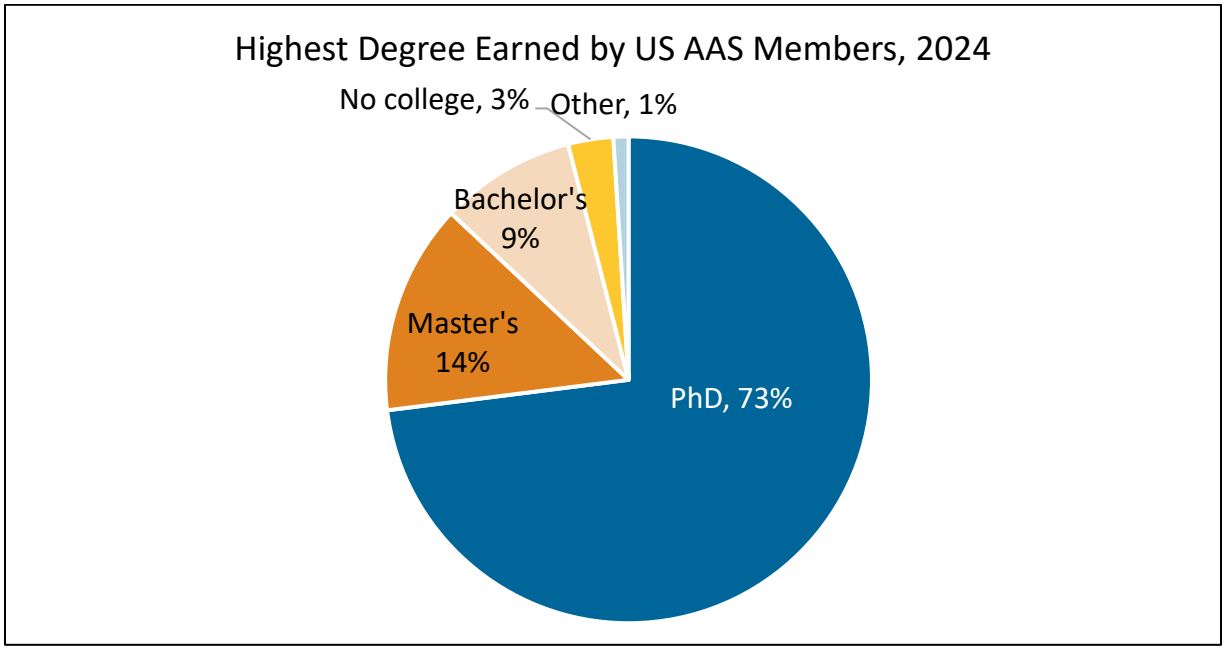


Table 2 – Highest Degree Earned by Gender

Highest Degree Earned by US AAS Members by Gender, 2024		
	Men	**Women**
PhD	80%	67%
Master's	10%	17%
Bachelor's	7%	11%
No college	2%	4%
Other	1%	1%
Total	*997*	*524*

- 2% of respondents preferred not to share their gender.
- 3% of respondents indicated that their gender was not man or woman.

Figure 2 – Highest Degree Earned by Gender

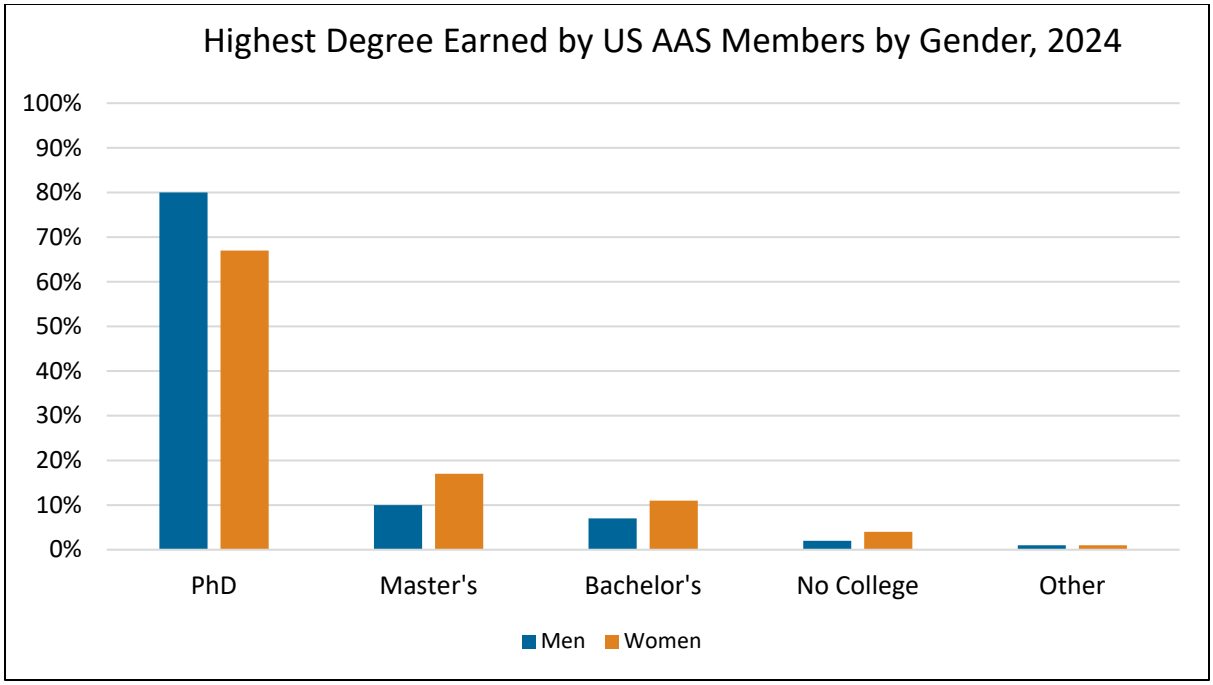


Table 2b – Highest Degree Earned by Birth Year

Highest Degree Earned by US AAS Members by Birth Year, 2024		
	Born Before 1991	**Born 1991 & After**
PhD	90%	35%
Master's	7%	28%
Bachelor's	2%	26%
No college	1%	9%
Other	<1%	2%
Total	*1128*	*424*

Table 3 – Year of Degree

Year of Degree of US AAS Members with PhDs, 2024			
Year of PhD	**25th percentile**	**Median**	**75th percentile**
Overall	1988	2001	2014
Women	1997	2009	2018
Men	1983	1997	2009

- The median year that AAS members with doctorates earned their degrees was 2001.
- The median year of degree for women is more recent than the median year of degree for men.
- A quarter of respondents with PhDs earned their degrees in or after 2014.

Figure 3 – Year of Degree

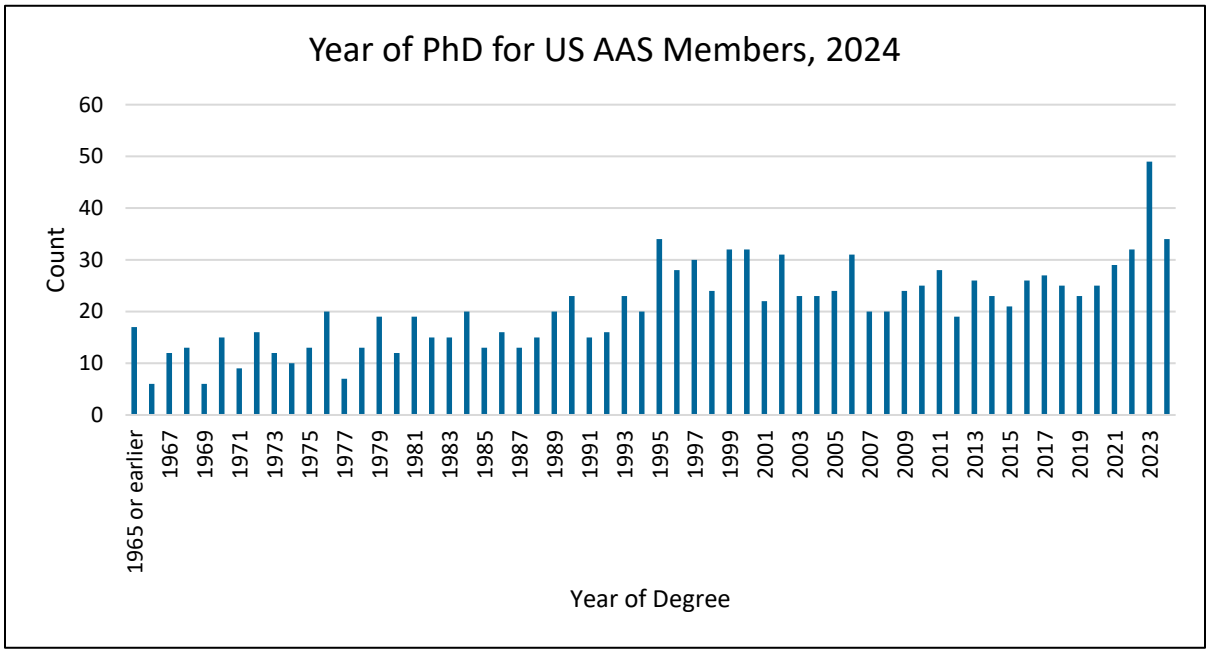
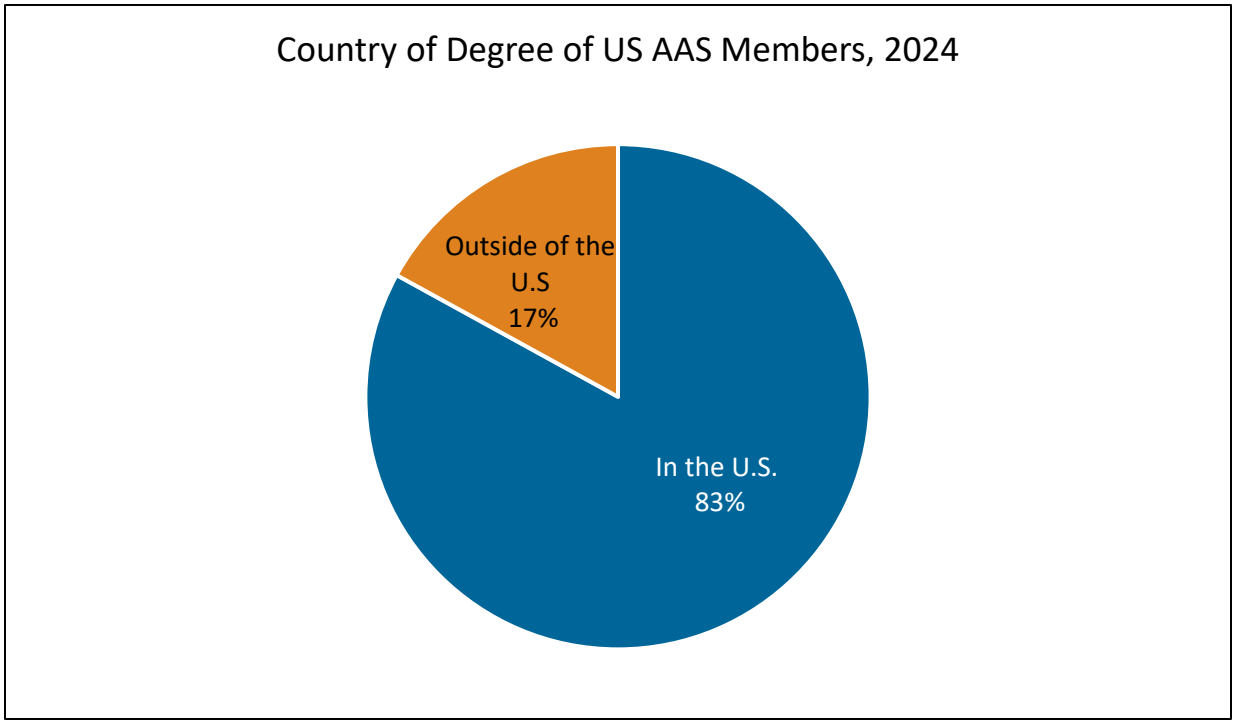


Table 4 – Country of Degree

Country of Degree of US AAS Members with PhDs, 2024		
	%	**N**
In the U.S.	83%	1042
Outside of the U.S.	17%	214
Total		*1256*

Figure 4 – Country of Degree



- The vast majority of AAS members with PhDs earned their doctorate in the US.

Table 5 – Field of Degree

Field of Highest Degree of US AAS Members, 2024		
Field	**%**	**N**
Astronomy or astrophysics	69%	1126
Physics	32%	532
Planetary science	3%	43
Engineering	2%	26
Math	1%	20
Something else	8%	130
Total*		*1645*

*The sum of percentages exceeds 100 because respondents were asked to check all that apply.

- The vast majority of AAS member respondents earned their highest degrees in astronomy, astrophysics, or physics.
- The most commonly reported type of engineering was aerospace.
- Almost all write ins were in a STEM or education field.

Table 6 – Field of Degree over Time

Field of Degree over time of US AAS Members, 2013 - 2024					
Field	**2013**	**2016**	**2018**	**2021**	**2024**
Astronomy or astrophysics	71%	69%	67%	68%	69%
Physics	31%	32%	35%	34%	32%
Planetary science	2%	2%	2%	2%	3%
Engineering	2%	2%	3%	2%	2%
Math	1%	1%	2%	2%	1%
Something else	3%	5%	6%	6%	8%
Total*	***1564***	***1738***	***2020***	***1808***	***1645***

*The sum of percentages exceeds 100 because respondents were asked to check all that apply.

- Astronomy or astrophysics remains the most common degree field for AAS members, and has consistently stayed around 70% of the membership for a decade.

Table 7 – Employment Status

Employment Status of US AAS Members*, 2024		
	%	**N**
Employed, full-time	75%	1057
Employed, part-time	8%	111
Not employed	17%	241
Total		*1409*

*As of November 1, 2024.

- 90% of those who were not employed were retired. The remaining 10% were split evenly between those seeking employment (5%) and those who were not (5%).
- More women were in full-time positions than men (83% vs 70%).
    - This difference is similar to the difference in men who were not working (23%) and women who were not working (9%).

Figure 5 – Employment Status

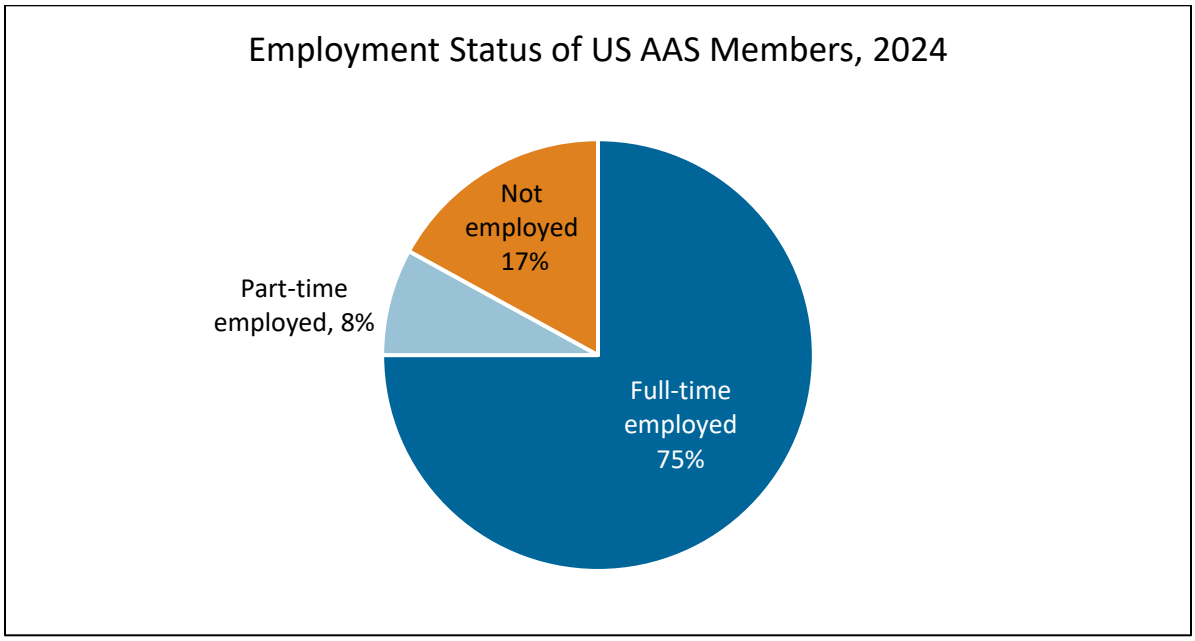


Table 8 - Employment Type

Employment Type of US AAS Members*, 2024		
Position type	**%**	**N**
Potentially permanent	81%	947
Temporary	19%	222
Total		*1169*

*As of November 1, 2024

- The majority of respondents in temporary positions (57%) were currently in postdoctoral positions.
- Other temporary positions included visiting and adjunct professors, research assistants, and other contracted positions.
- There were no statistically significant differences in employment type by gender.

Figure 6 – Employment Type

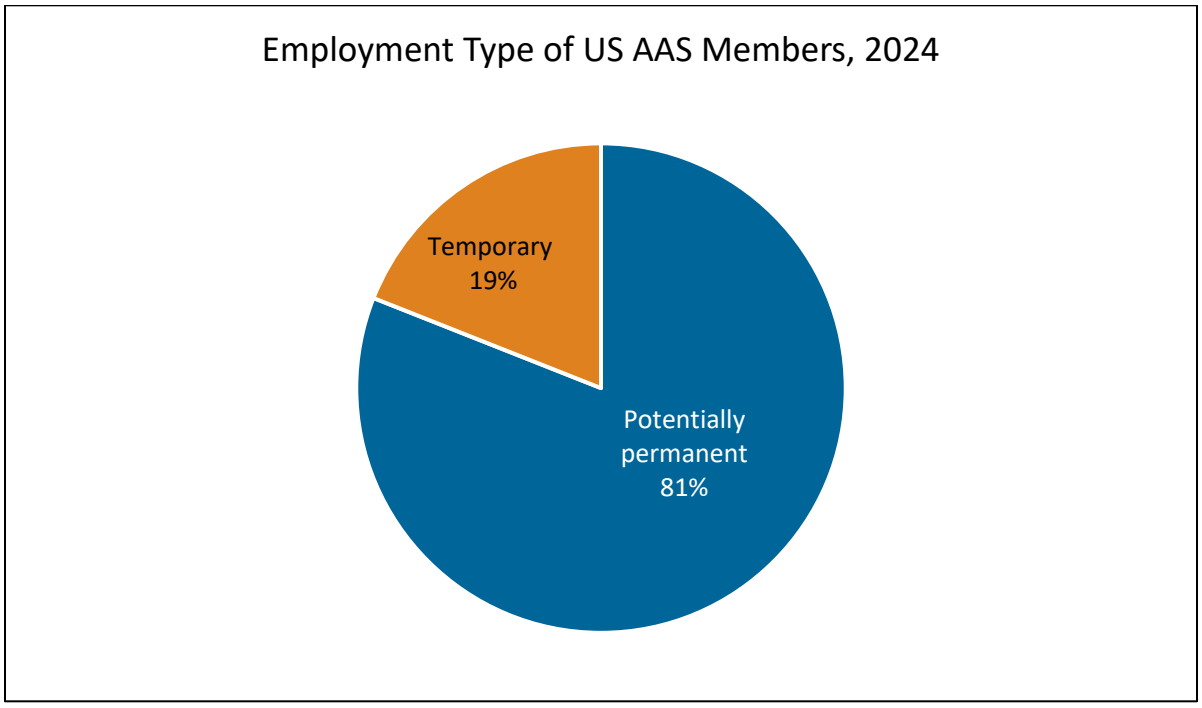


Table 9 - Current Employer

Current Employer of US AAS Members with PhDs*, 2024		
Employer or Sector	**%**	**N**
University or Four-year college	54%	451
Govt. lab or Research facility	16%	131
Research institute	9%	75
Observatory	7%	61
Industry	4%	32
Other govt.	3%	25
Two-year college	3%	23
Planetarium or Museum	1%	6
Secondary school	<1%	<5
Self-employed	<1%	<5
Other	3%	24
Total		844

Includes full-time employed respondents with PhDs excluding current postdocs.

*As of November 1, 2024

- AAS members are largely concentrated in universities and four-year colleges, which employed over half (54%) of respondents with PhDs.
- The most common write-in for 'other' were nonprofit organizations.

Figure 7 – Current Employer

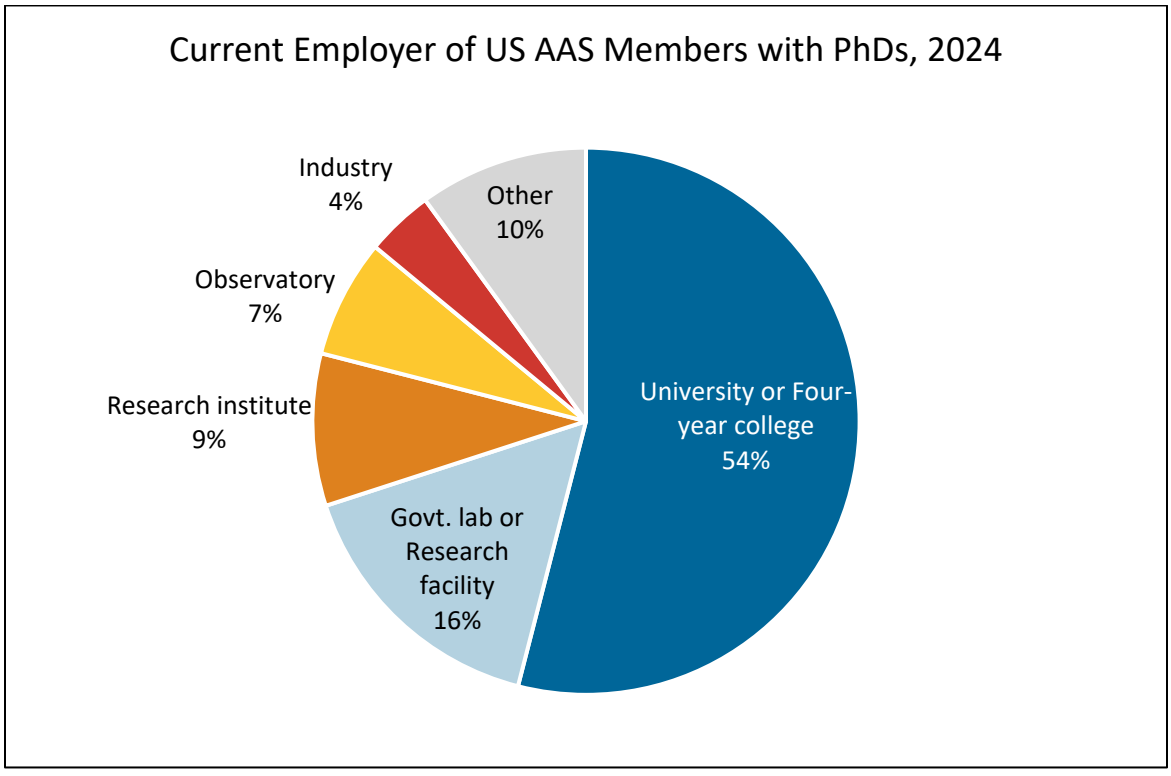


Table 9a - Current Employer by Gender

Current Employer of US AAS Members with PhDs* by Gender, 2024		
Employer or Sector	**Men**	**Women**
University or Four-year college	54%	52%
Govt. lab or Research facility	17%	13%
Research institute	9%	10%
Observatory	8%	7%
Industry	5%	2%
Other govt.	3%	3%
Two-year college	2%	3%
Planetarium or Museum	1%	1%
Secondary school	<1%	1%
Self-employed	<1%	<1%
Other	2%	5%

Includes full-time employed respondents with PhDs excluding current postdocs.

*As of November 1, 2024

Table 10 - Current Employer over Time

Employer of US AAS Members with PhDs Over Time, 2013 to 2024					
Employer or Sector	**2013**	**2016**	**2018**	**2021**	**2024**
University or Four-year college	58%	55%	54%	57%	54%
Govt. lab or Research facility	14%	16%	14%	14%	16%
Research institute	8%	8%	10%	8%	9%
Observatory	9%	9%	9%	8%	7%
Industry	4%	3%	4%	4%	4%
Other govt.	2%	2%	2%	3%	3%
Two-year college	1%	1%	2%	2%	3%
Self-employed	1%	1%	1%	1%	<1%
Planetarium or Museum	1%	1%	1%	<1%	1%
Secondary school	-	-	-	1%	<1%
Other	2%	3%	3%	2%	3%
Total	873	940	948	855	844

Table 11 – Academic Status

Academic Status of US AAS Members Working in Universities, 2024		
Status	**%**	**N**
Tenured	59%	271
Tenure-track	14%	63
Long term (but not tenured)	17%	80
Soft money	8%	39
Other	2%	9

The data represent respondents employed full-time at universities and 4-year colleges, excluding postdocs.

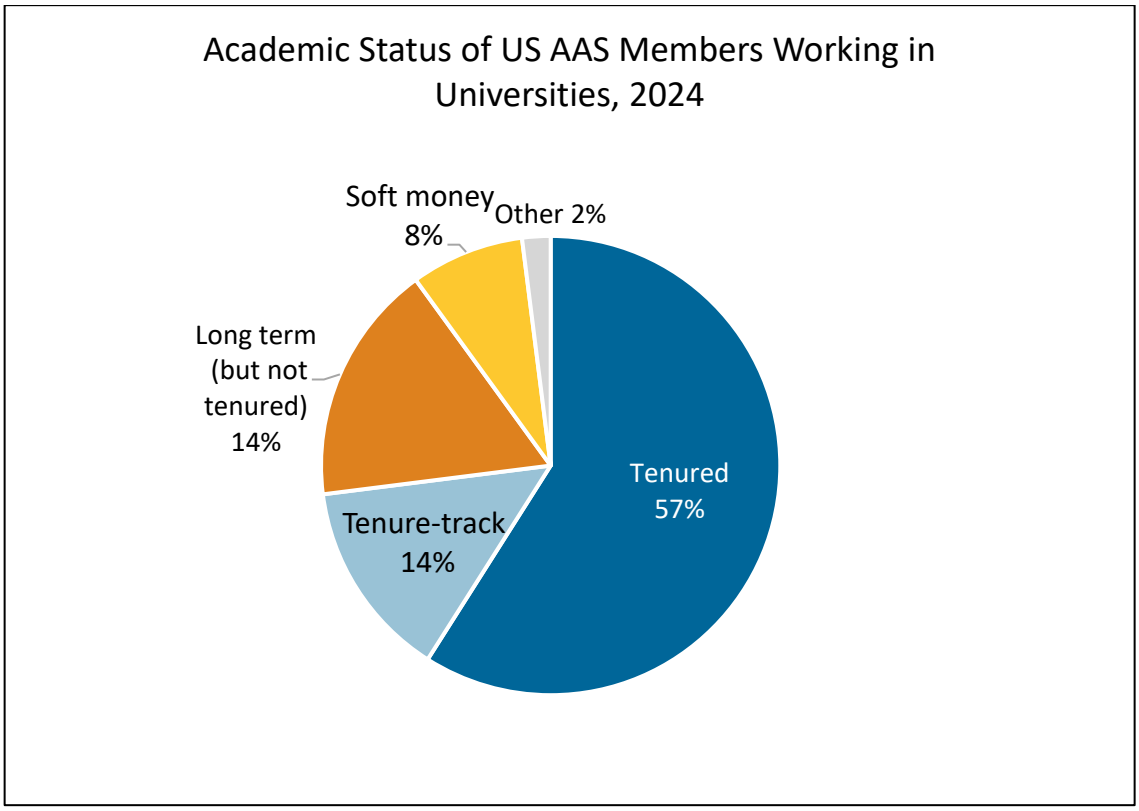
- Almost three-fifths of AAS members working at universities were tenured.
- 14% were on a tenure-track, while 17% were in long term, but not tenured positions.
- Almost everyone in the "other" category was in some form of temporary position.

Table 11a – Academic Status by Gender

Academic Status of US AAS Members Working in Universities by Gender, 2024		
Status	**Men**	**Women**
Tenured	61%	56%
Tenure-track*	9%	22%
Long term (but not tenured)	18%	15%
Soft money	10%	5%
Other	2%	2%

The data represent respondents employed full-time at universities and 4-year colleges, excluding postdocs.
*indicates a statistically significant difference by gender

Figure 8 – Academic Status



EMPLOYMENT – Postdocs and Careers

Table 12 – Postdoctoral Experience

Postdoctoral Experience by Groups of US AAS Member, 2024		
Group	**Took Postdoc %**	**Median Duration (years)**
Current postdocs	-	2*
Employed, with PhD	81%	4
Retired, with PhD	65%	3

*Current postdocs' duration is ongoing.

- The 128 members who are currently working in postdoctoral positions had a median degree year of 2022. Over half (60%) of these respondents had been in a postdoctoral position for 2 years or less.
- Current postdocs had a median salary of $73,000.
- Of respondents who earned doctorates and were currently employed, 81% had taken a postdoc position at some point. The median number of years of cumulative postdoc experience for this group was 4 years.

- Retired members had a median degree year of 1976. 65% of retired members who had earned PhDs took a postdoc. Retired members' median duration of postdoc experience was 3 years.

Table 12a – Postdoctoral Experience by Gender

Postdoctoral Experience by Groups of US AAS Member, 2024				
Group	**Took Postdoc %**		**Median Duration (years)**	
	Men	**Women**	**Men**	**Women**
Current postdocs	-	-	2*	2*
Employed, with PhD	82%	79%	4	4
Retired, with PhD	66%	57%	3	3

*Current postdocs' duration is ongoing.

Table 13 – Desired Employer of Postdocs

Desired Employer of US AAS Member Postdocs, 2024		
Desired Employer or Sector	**%**	**N**
University or 4-year college	50%	63
Research Institute	25%	32
Govt. Lab or research facility	14%	17
Observatory	4%	5
Industry	2%	<5
Other	5%	6
Total		126

Table 14 – Current Employer of Former Postdocs

Current Employer of US AAS Members who took Postdocs, 2024		
Employer or Sector	**%**	**N**
University or 4-year college	56%	418
Govt. Lab or research facility	16%	120
Research institute	9%	64
Observatory	7%	53
Industry	3%	20
Other govt.	3%	21
2-year college	2%	14
Planetarium or museum	1%	5
Self-employed	<1%	<5
Secondary school	<1%	<5
Other	3%	19
Total		*740*

Excludes current postdocs.

- Postdocs desired future employment (**Table 13**) and actual employment of AAS members (**Table 14**) mirrored each other in many cases.
    - Jobs at universities or 4-year colleges remained the most desired (50%) and the most common (56%).
    - Postdocs were hoping to work at research institutes at a higher rate (25%) than the current level of employed AAS members who are (9%).

Table 15 – Postdoc Experience by Employer

Postdoc Experience by Employer Type of US AAS Members, 2024		
Employer or Sector	**Took a postdoc %**	**N**
University or 4-year college	81%	418
Govt. Lab or research facility	80%	120
Non-Govt. Research Institute	73%	64
Observatory	66%	53
Industry	44%	20
Total		740

Excludes current postdocs. Employer categories with N < 20 are excluded from the table but included in the totals.

- 80% of AAS members working at a government lab or research facility had taken a postdoc.

- The proportion was similar (81%) for those employed at a university or 4-year college.

➢ Less than half of those employed in industry had taken a postdoc.

Figure 9 – Postdoc Experience

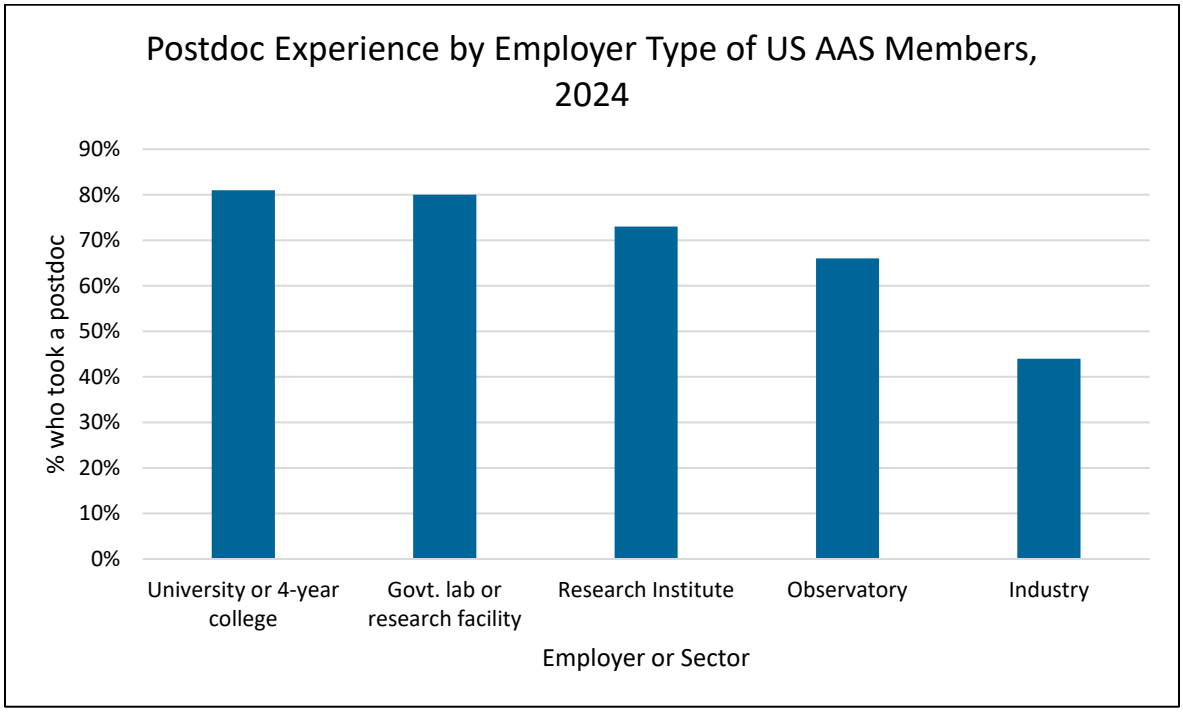


Table 16 - Main Activity in Current Job

Main Activity in Current Job Of US AAS Members, 2024				
	University, 4-year college		**All other sectors**	
Activity	**%**	**N**	**%**	**N**
Teaching	31%	187	9%	50
Devising, conducting observations	14%	85	14%	76
Theory, N-body simulations	14%	86	7%	38
Instrumentation, telescope design	5%	31	6%	31
Data visualization, mining	9%	52	6%	32
Education or public outreach	3%	15	7%	39
Management, administration	13%	77	26%	143
Multiple activities	3%	16	1%	8
Data analysis	1%	9	4%	19
Laboratory astrophysics	1%	<5	1%	6
Other research	1%	9	2%	10
Software, IT	1%	5	3%	16
Other	4%	23	14%	75
Total		*599*		*545*

Includes current postdocs; totals may not sum to 100% due to rounding

- Software, IT, data analysis, and other research were added based on their frequency in the write-in responses of those who originally selected “Other”.
- Teaching was the most frequently reported main activity for those in universities and 4-year colleges. On the other hand, management or administration were cited as the main work activity by those in other sectors.

Table 17 - Time Allocation in Current Job

Time Allocation in Current Job of US AAS Members, 2024				
Activity	**University, 4-yr College**		**All Other Sectors**	
	% Doing	Avg. % of Time Spent	% Doing	Avg. % of Time Spent
Research (includes writing proposals, articles and books, and attending colloquia)	93%	40%	71%	41%
Teaching (class, lab time, and prep, office hours, other student contact related to teach or advising)	74%	39%	25%	39%
Service activities (TAC, proposal reviews, advisor committees)	78%	13%	52%	13%
Education & public outreach	43%	10%	41%	18%
Management	49%	24%	52%	37%
Observatory/mission support/instrument commission	23%	24%	38%	40%
Other	6%	27%	18%	58%
Total	*603*		*537*	

Includes current postdocs. The sum of the average percent of time spent column does not add up to 100%, because it reports the average amount of time spent in an activity only for those who report doing the activity and not for the entire sample.

- Almost all (93%) AAS members employed at universities or four-year colleges reported doing research.
- Members employed at universities or four-year colleges were much more likely to be teaching than those in other sectors (74% vs 25%).
    - They also reported performing service activities at a higher rate than those in other sectors (78% vs 52%).
- AAS members in other sectors more often reported observatory/mission support/instrument commission as their main activity.
- Management and education and public outreach were performed at similar rates regardless of sector.

Table 18 – Primary Areas of Interest

Primary Areas of Interest of US AAS Members, 2016 to 2024								
	2016		**2018**		**2021**		**2024**	
	%	**N**	**%**	**N**	**%**	**N**	**%**	**N**
Star formation & evolution	31%	541	30%	595	33%	545	31%	478
Galaxy formation & evolution	23%	394	23%	458	25%	408	24%	367
Exoplanets	21%	365	22%	437	20%	334	21%	319
Solar systems, planetary science	23%	392	21%	407	22%	359	20%	316
Astronomy education	20%	338	20%	396	21%	346	24%	376
Supernovae, GRBs, high-energy phenomena	17%	301	20%	385	18%	293	17%	270
Cosmology	17%	299	19%	363	18%	291	19%	287
Galactic structure and stellar pop.	18%	307	18%	359	17%	281	16%	252
Active galactic nuclei	16%	281	18%	346	17%	277	16%	245
Interstellar medium	18%	318	18%	344	19%	305	15%	230
Clusters of galaxies, large-scale structure	12%	210	12%	243	11%	185	11%	165
Astrobiology	9%	158	10%	188	9%	143	9%	140
Heliophysics	9%	149	9%	166	9%	152	10%	150
Other	18%	319	19%	362	17%	283	19%	289
Total		*1730*		*1952*		*1643*		*1551*

The sum of percentages exceeds 100 because respondents were asked to check all that apply.

- Respondents selected a median of 2 primary areas of interests.
- As has been true for the last decade, the most reported area of interest was star formation & evolution.

Table 18b – Primary Areas of Interest by Gender

Primary Areas of Interest of US AAS Members with PhDs by Gender, 2024				
	Men		**Women**	
	%	**N**	**%**	**N**
Star formation & evolution	30%	239	32%	111
Galaxy formation & evolution	21%	169	25%	88
Interstellar medium	18%	143	14%	47
Exoplanets	19%	147	21%	71
Cosmology**	21%	165	10%	34
Solar systems, planetary science	19%	152	21%	71
Supernovae, GRBs, high-energy phenomena**	20%	159	11%	38
Active galactic nuclei	17%	131	13%	45
Galactic structure and stellar pop.	16%	123	16%	54
Astronomy education	18%	145	22%	76
Clusters of galaxies, large-scale structure**	12%	93	7%	25
Heliophysics	10%	81	10%	34
Astrobiology	7%	53	11%	37
Other	20%	157	17%	58
Total N		*792*		*347*

The sum of percentages exceeds 100 because respondents were asked to check all that apply.
** indicates that difference by gender is statistically significant.

- Men were more likely to report interest in “cosmology”, “supernovae, GRBS, high energy phenomena”, and “clusters of galaxies, large-scale structure”.

Figure 10 – Primary Areas of Interest by Gender

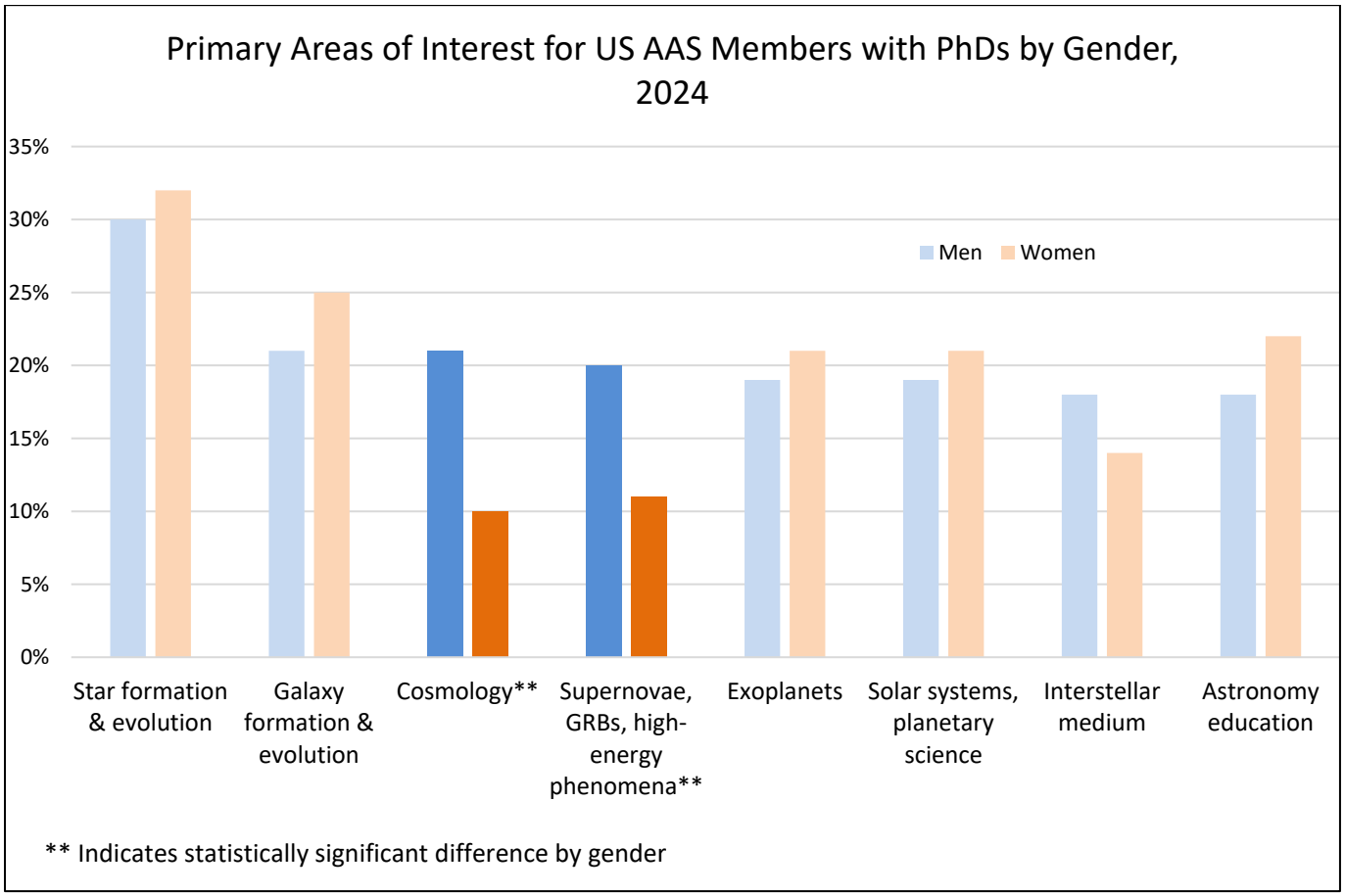


Table 19 – Funding Sources for Salaries

Funding Sources for Salaries of US AAS Members, 2024		
	% Receiving Funding	**Average % of Total Funding**
College/University	47%	87
NASA	36%	72
NSF	19%	48
DOE	4%	69
DOD	4%	70
Foundation/Grant/Donors	4%	70
Private Employer/Clients	2%	76
Foreign Funding	<1%	*
Other Government	<1%	*
Smithsonian	1%	90
AAS	<1%	*
Other	10%	79
Total N		*1116*

For those receiving funding from a particular source, the second column shows what % of their funding comes from that source. For example, 36% said they had NASA funding, and for those people, the average % of their funding that came from NASA was 72%.

*Too few responses to provide a reliable average.

- There were no statistically significant differences to funding sources to salary based on date of response.

Table 20 – Funding Sources for Salaries over Time

Funding Sources for Salaries of US AAS Members 2018-2024						
	2018		**2021**		**2024***	
	% Receiving Funding	**Average % of Total Funding**	**% Receiving Funding**	**Average % of Total Funding**	**% Receiving Funding**	**Average % of Total Funding**
College/University	44%	90%	48%	86%	47%	87%
NASA	39%	74%	31%	72%	36%	72%
NSF	16%	57%	18%	47%	19%	48%
DOE	4%	70%	4%	68%	4%	69%
DOD	4%	71%	3%	71%	4%	70%
Foundation/Grant/Donors	3%	74%	3%	69%	4%	70%
Other	12%	83%	14%	81%	14%	79%
Total N		*1410*		*1159*		*1116*

*As of November 1, 2024.

- After dropping slightly between 2018 and 2021, the proportion of US AAS members receiving funding from NASA rebounded in 2024.

Table 21 – Variables Impacting Salaries

Variables Impacting Base Salaries of US AAS Members with PhDs, 2024		
Variable	**Average Additional $**	**Level of Significance**
Working at a Government Lab	$23,741	***
Working in Industry	$37,033	***
Having taken a postdoc	$8,445	**
Each additional year since earning PhD	$921	***
Is a man	$6,915	**

***p-value < .01

**p-value < .05

Data include respondents who have earned PhDs and are full-time employed excluding postdocs. N=675

- Regression analysis on the base salaries (not including bonuses, overtime, or additional compensation for summertime teaching or research) of full-time employed AAS members estimates the average increase in salary due to a given variable compared to average salaries in the absence of that variable. The variables dealing with employer type are compared to the salaries of those employed at universities or 4-year colleges. We controlled for employer type, postdoc experience, and years since PhD. Exploratory analysis was conducted for various other controls. They were not a part of the final regression as they were not statistically significant indicators.
- The regression equation constant (or intercept) was about $90,000. This represents the theoretical average salary in the absence of all variables (i.e. the average salary of all respondents working at universities with zero years of experience since earning their PhDs who did not take postdocs).
- For illustrative purposes, we can use this model to predict the average salary of AAS members who earned their PhDs 10 years ago, took postdocs, and work at a government lab:
  90,246 + 10 years x 921 + 8,445 (postdoc) + 23,741 (gov't lab) + 6,915 (man) = $138,557
  - It is worth noting that this represents the average salary of a group of AAS members; salaries for individuals within the group will vary above and below this average.
  - Low numbers of respondents in specific sectors such as industry can lead to volatility in the regression model, such as specific sectors showing an out-sized impact on average salary. All variables used in creating this regression had at least 23 data points available.
- There was strong statistical evidence ($\alpha < .01$) of the effect of working at a government lab or in industry, and the effect due to the number of years since respondents earned their highest degrees.
  - There was also statistical evidence ($\alpha < .05$) of the effect of being a man or taking a postdoc.
- We have always included gender in our salary regression model. In 2013 and 2015, it was statistically significant. In 2018 and 2021, it was not statistically significant. It is statistically

significant this year. This variation over time suggests the difference by gender may continue to be statistically significant.

- The median salary for AAS members employed at university and four-year colleges was $120,000. However, those who received their degrees before 2000 had a median salary of over $154,000, while those who received their degrees after 2000 had a median salary of $106,000.
- Current postdocs had a median salary of $73,000.
- Industry positions had the highest median salaries at $200,000, followed by government labs at $180,000.

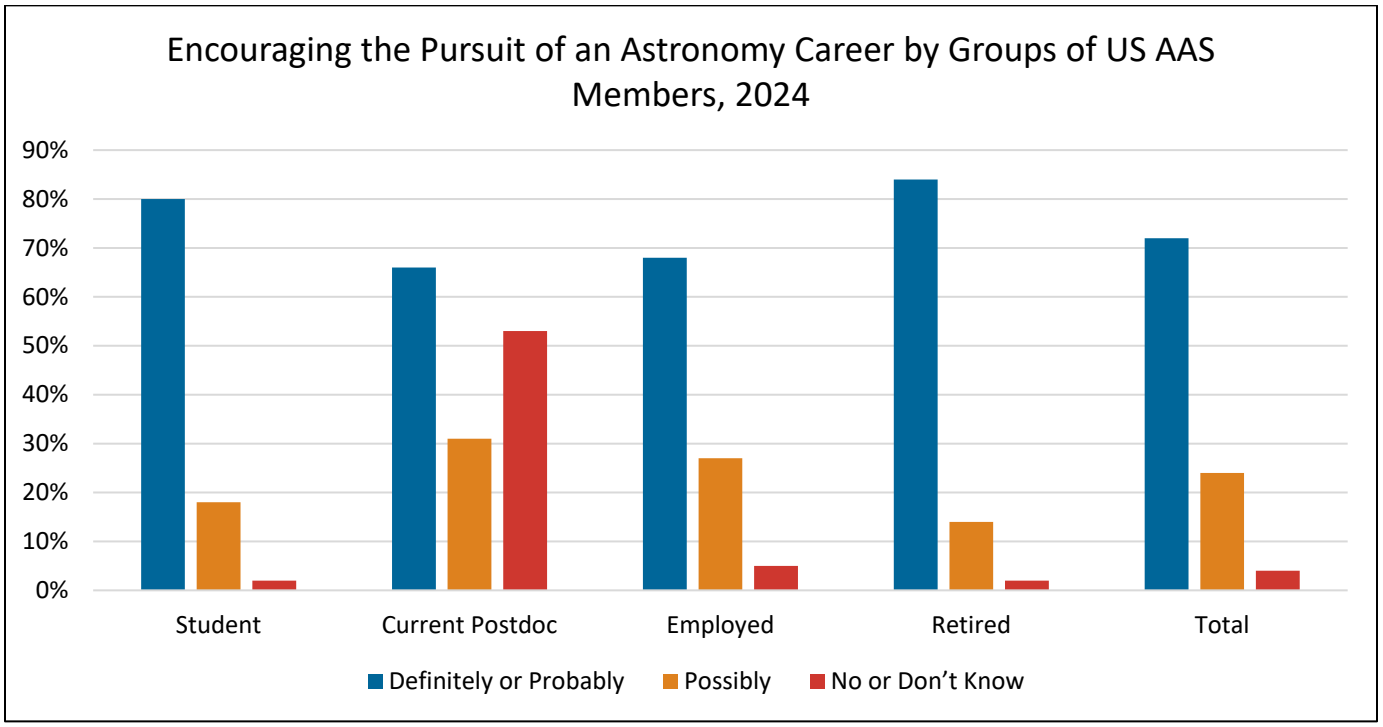
Table 22 – Encouraging the Pursuit of an Astronomy Career

Encouraging the Pursuit of an Astronomy Career By Groups of US AAS Members, 2024					
	Student %	**Current Postdoc %**	**Employed %**	**Retired %**	**Total %**
Definitely or Probably	80%	66%	68%	84%	72%
Possibly	18%	31%	27%	14%	24%
No or Don't Know	2%	3%	5%	2%	4%
Total	*230*	*120*	*1005*	*219*	*1567*

Employed includes only full-time employed.

- The proportion of AAS members in postdocs or employed positions who would encourage pursuing a career in astronomy was lower than those who were currently students or retired
  - 42% of employed respondents (excluding postdocs) had looked for a job in the past two years.

Figure 11 – Encouraging the Pursuit of an Astronomy Career



AAS MEMBERS – Demographics and Family

Several demographics tables are split out by both age group and gender. Because some outcomes differ by age, respondents are split into two groups: those born prior to 1991 (73% of respondents) and those born in 1991 or after (27% of respondents). Prior reports used similar age cut offs (2021: 1988, 2018: 1985) for their versions of the following tables.

Table 23 – Gender

Gender of US AAS Members by Age Group, 2024			
	Born before 1991 %	**Born 1991 or after %**	**Total %**
Men	68%	47%	62%
Women	29%	44%	33%
Another Identity	1%	8%	3%
Prefer not to respond	2%	1%	2%
Total	*1128*	*424*	*1552*

- A larger proportion of AAS members born after 1991 identified as women than among those born before 1991.
    - The percentage of women should be interpreted with caution since women are historically more likely to respond to surveys than men are.
- 1% of AAS members born before 1991 identify as non-binary, while 8% of those born in 1991 or later do.
- 3% of respondents identified as transgender.

Figure 12 – Gender by Age Group

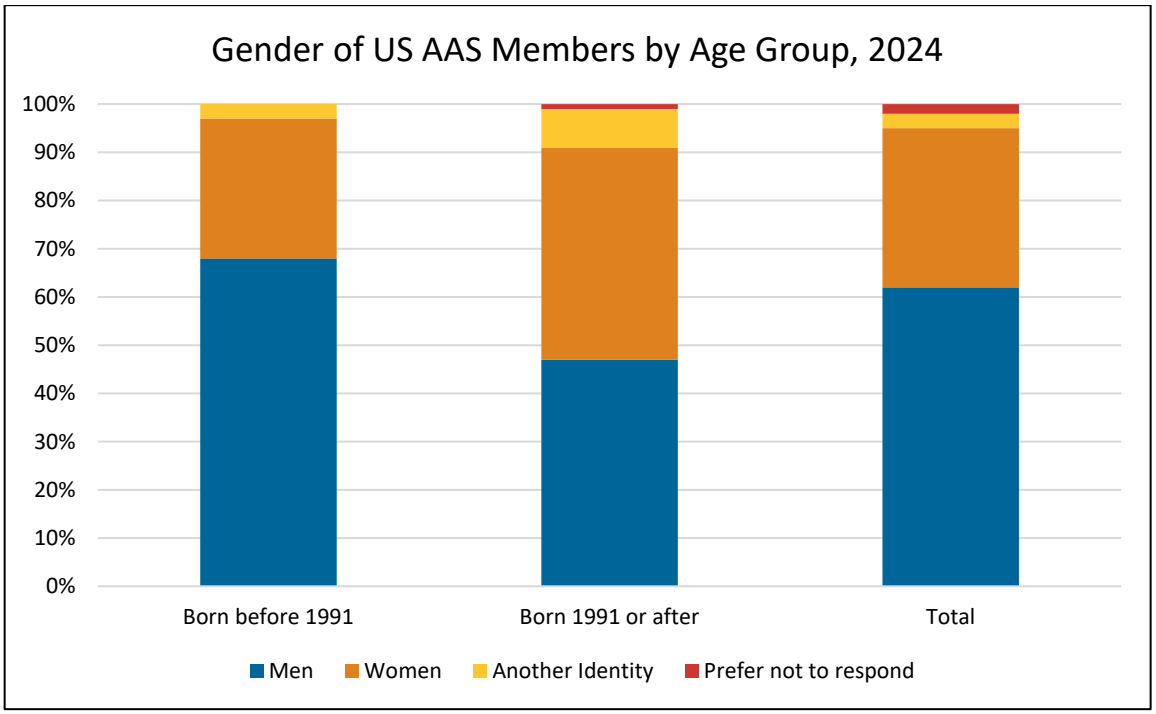


Table 23a—Gender Over Time

Gender of US AAS Members over time, 2013 - 2024					
	2013	**2016**	**2018**	**2021**	**2024**
Men	73%	72%	67%	66%	62%
Women	25%	26%	31%	31%	33%
Another Identity	-	-	1%	2%	3%
Prefer not to respond	1%	1%	2%	1%	2%
Total	*1512*	*1683*	*1902*	*1656*	*1552*

- The rate of AAS members who identify as women has continued to slowly increase over time.

Figure 13 – Gender Over Time

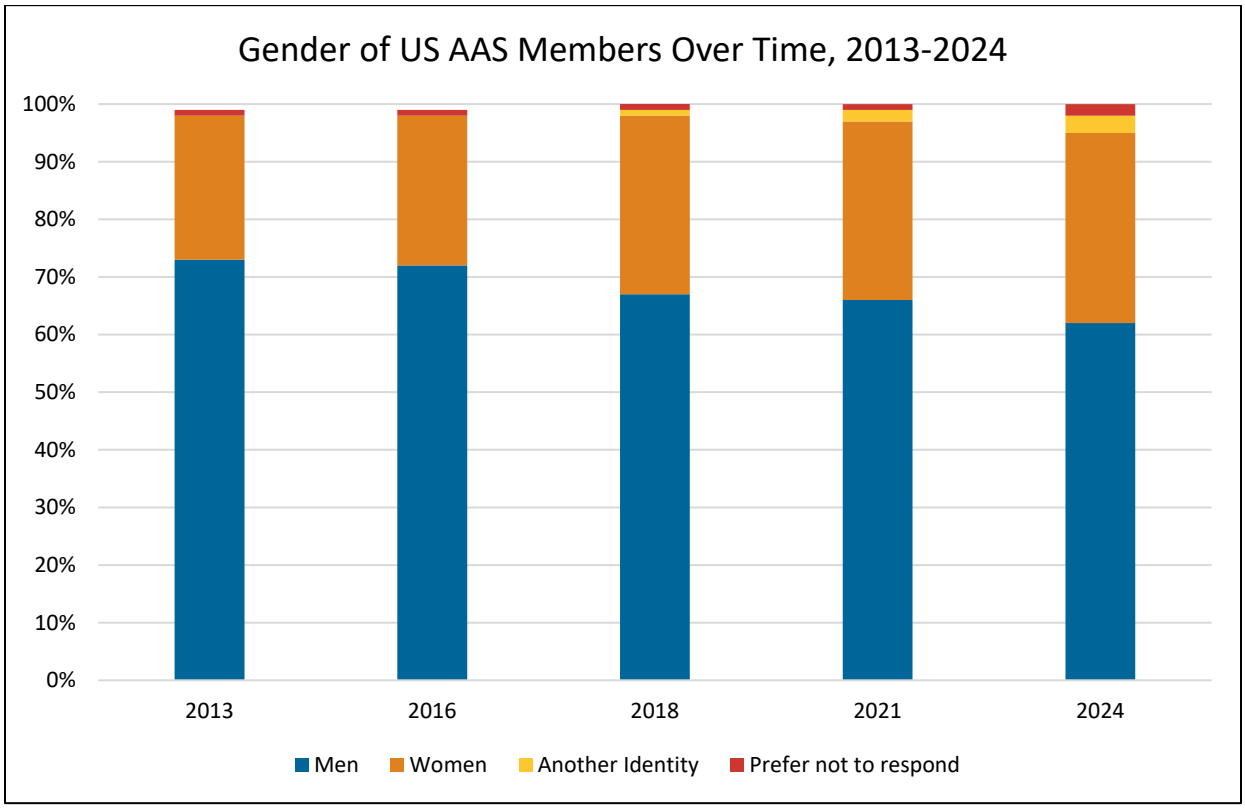


Table 24 – Marriage or Partnership Status

Marriage or Partnership Status of US AAS Members by Gender and Age Group, 2024			
Has been married or in a similar relationship	**Born before 1991 %**	**Born 1991 or after %**	**Total %**
Men	91%	32%	79%
Women	85%	33%	66%
Total	*1093*	*385*	*1478*

- Respondents born in or after 1991 had been or were married or in similar relationships at nearly identical proportions, regardless of gender.
- Overall, men were more likely to be or have been in a marriage or other similar relationship.

Figure 14 – Marriage or Partnership Status

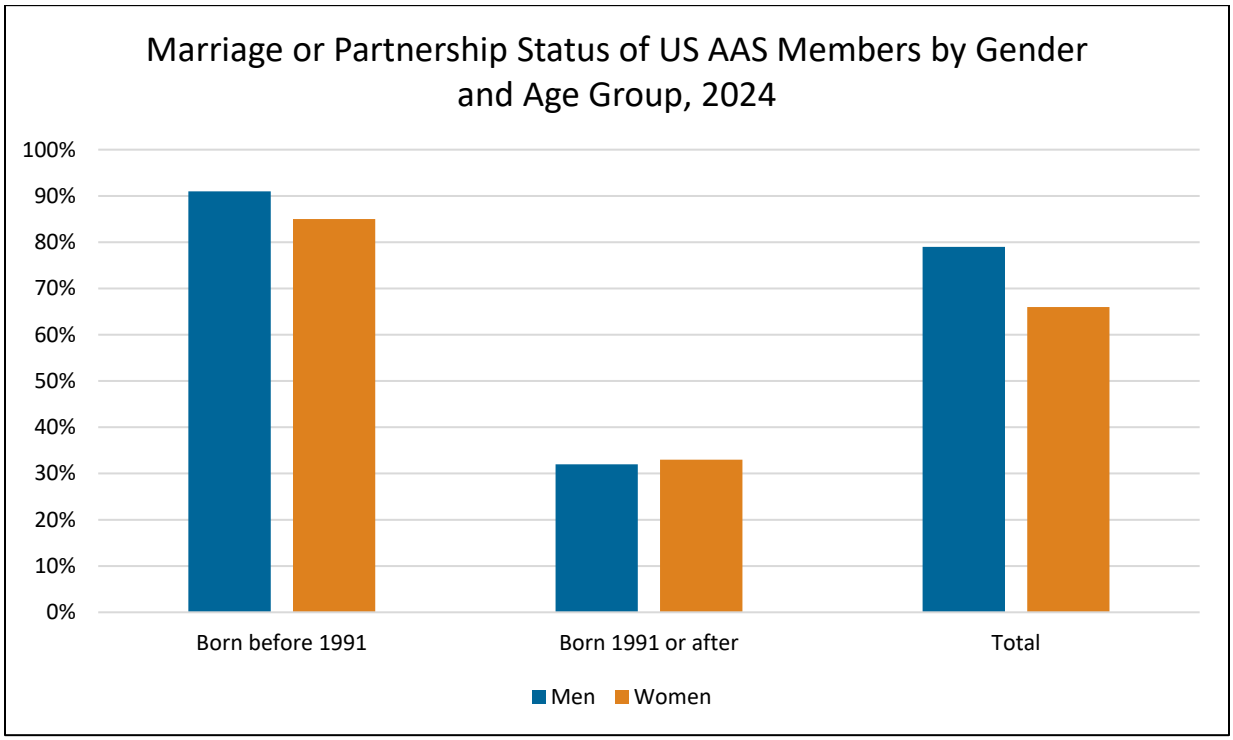


Table 25 – Members with Children

US AAS Members with Children by Gender and Age Group, 2024			
Has children	**Born before 1991 %**	**Born 1991 or after %**	**Total %**
Men	66%	6%	54%
Women	49%	4%	33%
Total	*1090*	*385*	*1475*

- AAS members who identified as men were more likely to report having children.
- AAS members born in 1991 or later were much less likely to report currently having children.
  - Respondents were not asked about future plans for children.

Figure 15 – Members with Children

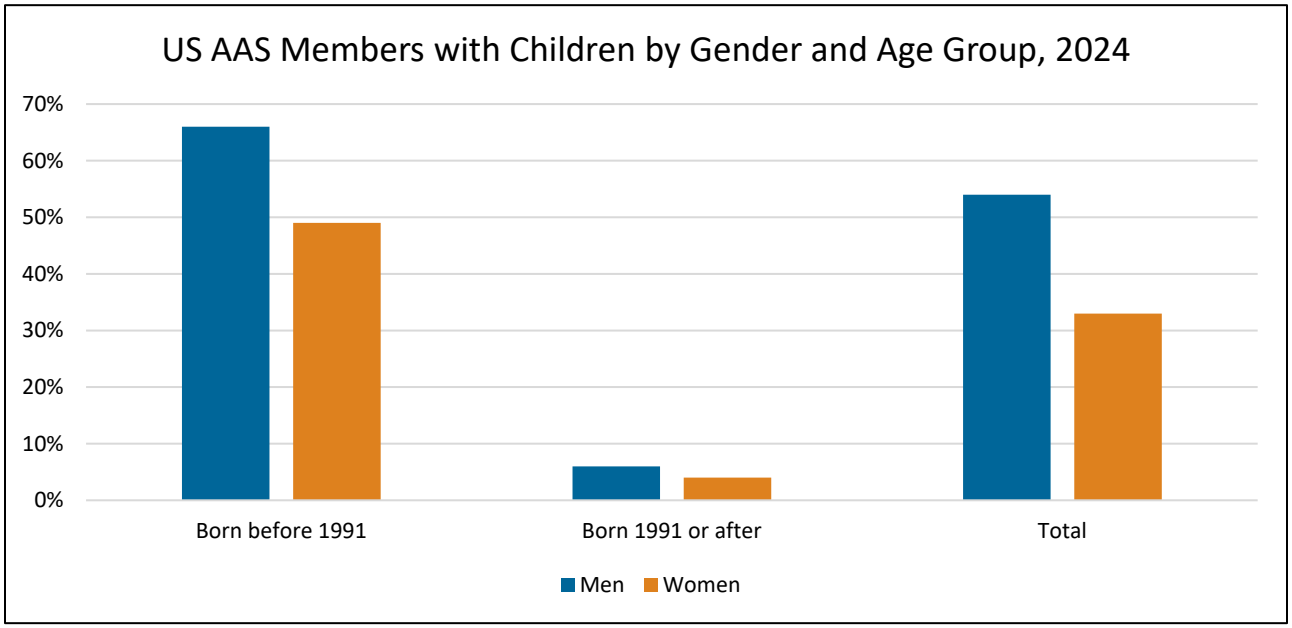


Table 26 - Relocated for a Spouse or Partner

Relocated for a Spouse or Partner US AAS Members, 2021			
	Women %	**Men %**	**Total %**
	Born before 1991		
Yes	30%	16%	20%
No	60%	76%	72%
N/A	10%	8%	8%
	Born 1991 or after		
Yes	14%	12%	13%
No	61%	55%	57%
N/A	25%	33%	29%

- AAS members who are women and in the older age cohort more often reported relocating for a spouse or partner.
- In another question, 51% of AAS members identifying as women indicated that they felt they had limited their career options due to a spouse or partner at some point. Only 39% of men indicated the same.

Figure 16 – Relocated for a Spouse or Partner

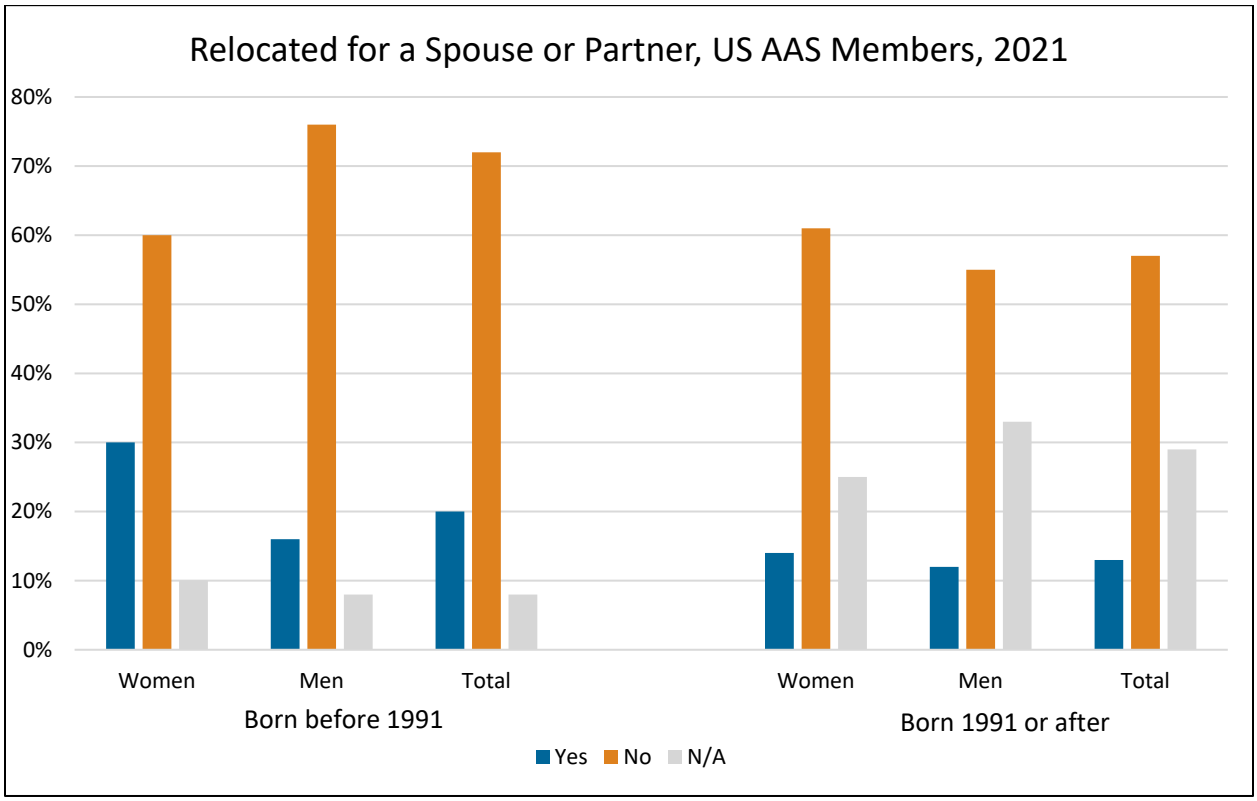


Table 27 – Disabilities

Disabilities Among US AAS Members, 2024		
Disability	**%**	**N**
I have a mental illness	9%	143
I have an autoimmune or pain disorder, or other chronic condition	6%	101
I am deaf or hard-of-hearing	4%	65
I have disabling allergies, asthma, or other environment sensitivities	3%	41
I am neuroatypical	8%	122
I have difficulty seeing even when wearing glasses	2%	24
I have serious difficulty standing, walking, or climbing stairs	2%	32
I have a cognitive or learning disability	2%	32
Other disability	3%	44
None of the above	68%	1071
Prefer not to respond	7%	111

Sum of percentages exceeds 100 because respondents were asked to check all that apply.

- More than two-thirds of respondents did not report a disability.
- "I have a mental illness" was the most selected response choice in 2018, 2021, and 2024.

- In 2024, this was followed closely by “I am neuroatypical”.

Table 28 – Accessibility Aids

Accessibility Aids Used by US AAS Members, 2024		
Disability	**%**	**N**
Hearing aids, headphones, and other audio devices	6%	96
Dietary accommodation related to health or disability	4%	62
Environmental adjustments	6%	90
Quiet spaces	6%	93
Closed-captioning	6%	88
Mobility aids	1%	23
Note takers	1%	8
Service animal	<1%	<5
Screen readers	<1%	<5
Speech transcription	1%	16
Sign language interpreter	<1%	<5
Braille	<1%	<5
Other accessibility aid	<1%	<5
None of the above	78%	1213
Prefer not to respond	3%	54

Sum of percentages exceeds 100 because respondents were asked to check all that apply.

- 78% respondents did not use an accessibility aid, in 2021 this number was 86%.
  - 7% of AAS members had requested accessibility options at school or work.
- For the 2024 survey, “Sign language interpreter” replaced “Sign language (American or other)” on the questionnaire.

Table 29 – Ethnicity

Race or Ethnicity of US AAS Members, 2024		
Ethnicity	**%**	**N**
White	79%	1263
Asian or Asian American	10%	162
Hispanic or Latino	6%	97
Black or African American	2%	37
American Indian or Alaska Native	1%	15
Native Hawaiian or other Pacific Islander	<1%	<5
Other	2%	36
Prefer not to respond	4%	71

Sum of percentages exceeds 100 because respondents were asked to check all that apply.

- These proportions are largely unchanged since 2021.
- 5% of respondents selected multiple race or ethnicities.

Table 30 - Sexual Orientation

Sexual Orientation of US AAS Members, 2024		
Orientation	**%**	**N**
Heterosexual or straight	75%	1192
Gay or lesbian	4%	69
Bisexual	9%	136
Other	4%	63
Prefer not to respond	8%	120

- The percent of AAS members who identify as heterosexual or straight dropped from 83% in 2021 to 75% in 2024.

AAS MEMBERS - Effects of COVID

For the 2021 survey, AAS added several questions concerning outcomes of the COVID-19 pandemic. Several questions that were felt to be no longer pertinent were removed for the 2024 iteration. The questions that remained dealt with issues that the pandemic may have caused that would persist up until 2024. We understand that there are numerous other concerns that continue to this day regarding the COVID disease across all jobs and occupations.

Students

Table 31 – Post-Degree Plans Change Due to COVID-19

Did Your Post-Degree Plans Change as a Result of the COVID-19 Pandemic?				
	2021		**2024**	
	Undergraduate %	**Graduate %**	**Undergraduate %**	**Graduate %**
Yes	20%	14%	7%	13%
No	79%	82%	87%	84%
N/A	1%	4%	6%	3%

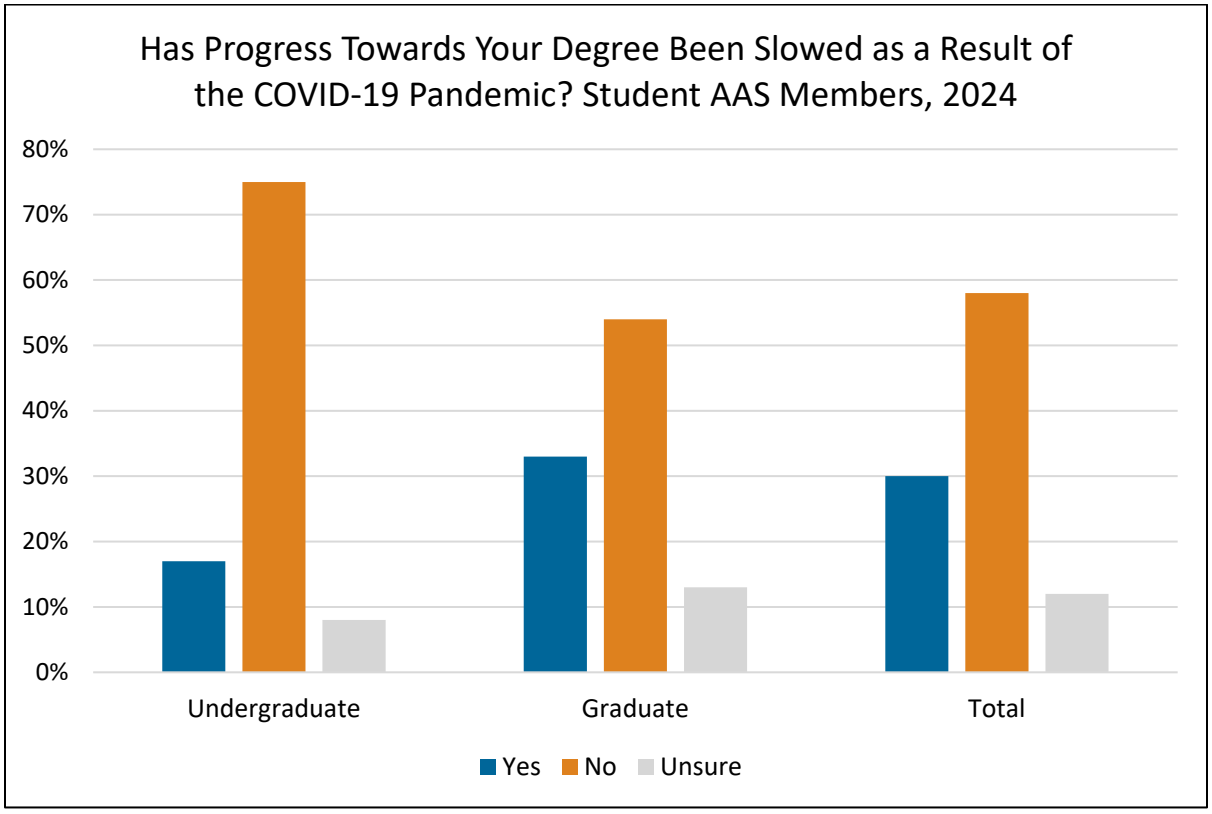
- The proportion of AAS members who were students and felt the COVID-19 pandemic impacted their post-degree plans has decreased since 2021.

Table 32 – Degree Progress Slowed Due to COVID-19

Has Progress Towards Your Degree Been Slowed as a Result of the COVID-19 Pandemic?						
	2021			2024		
	Undergraduate %	Graduate %	Total %	Undergraduate %	Graduate %	Total %
Yes	30%	40%	38%	17%	33%	30%
No	64%	41%	46%	75%	54%	58%
Unsure	6%	19%	16%	8%	13%	12%

- Though the number of respondents indicating that their degree progress was slowed as a result of the pandemic has shrunk, 30% of students in 2024 still indicated that their education was impacted.
    - A high proportion of graduate students were still feeling the impact in 2024; whereas the proportion of undergraduate students feeling the impact had decreased. This is likely due to graduate degrees generally taking longer to complete than undergraduate degrees.

Figure 17 – Degree Progress Slowed Due to COVID-19



APPENDIX A: Challenges facing the field of astronomy

Respondents were asked "What do you view as the most significant challenge the field of astronomy is facing in the areas of employment and/or career development?" The vast majority (n=1,281) of respondents provided an answer to this question.

- More than a quarter (27%) of write-in responses mentioned "funding" in some capacity as the main challenge to astronomy. Comments referenced people leaving the field to pursue better funded ones. There were also concerns about low pay, combined with high expectations on employees such as having to move across the country for work. Several comments discussed how stagnant funding was especially concerning due to increasing costs and large numbers of astronomy positions existing in high cost of living areas. Salary amounts were mentioned consistently.
- Several respondents mentioned existential threats from large private companies to academia. There were also comments about issues of anti-science views and policy impacting the field.
- Respondents noted there was a disconnect between the number of degrees being granted and the number of positions available. Several cited uncapped undergraduate program enrollments as a cause of this issue, although others mentioned that academia is often sold as the only career path and that alternatives need to be promoted more. A general lack of available positions was mentioned often.
- A number of comments harped on issues of bias and diversity, citing that they felt that astronomers who are women, younger, non-white, or not American were not afforded equal opportunities to their counterparts. This issue was exacerbated by the lack of postdoctoral positions leaving many young astronomers in limbo following their doctoral program. Gate-keeping was mentioned numerous times.
- Diversity initiatives were mentioned several times, with comments for both not enough existing and too many existing.

APPENDIX B: Graduate School Training and Cost of Living Tables

These tables were included at the request of the AAS Employment Committee and the Beyond Astronomy Academe (BAA) Task Force.

Table 33 – Training Offered in Graduate Programs for Graduate Students

Training Offered in Graduate Programs (Graduate Students), 2024				
	Nothing Offered	**An occasional talk seminar or short workshop session**	**Long or multi session workshops, regular seminar series**	**For credit courses, certification programs**
Technical Topics with Broader Applications (e.g. big data, modeling complex systems, climate change)	13%	71%	20%	34%
People Management (e.g. leadership, mentorship)	37%	56%	12%	11%
Project Management	65%	30%	6%	6%
Science Writing or Science Communication	18%	52%	25%	33%
Science Policy	52%	37%	9%	12%
Preparing for Employment in the Private Sector	38%	62%	8%	4%
Opportunities to Meet Astronomers or Physicists who Work Outside Academia	23%	72%	14%	3%
Pedagogy, Course Development, Teaching and Mentoring Best Practices	24%	53%	23%	30%

Rows add to more than 100% because respondents were asked to select all that apply.

- Graduate students reported training in project management and science policy the least often.
- Graduate students most often reported training in technical topics such as big data and modeling complex systems.
- Graduate students indicated that their departments more often provided resources at "an occasional talk seminar or workshop sessions" rather than at "long or multi-session workshops, regular seminar series" or "for credit courses, certification programs" indicating a potential lack of consistently being able to practice or hone these skills.

Table 34 – Training Offered in Graduate Programs for Postdocs

Training Offered in Graduate Programs (Postdocs), 2024				
	Nothing Offered	**An occasional talk seminar or short workshop session**	**Long or multi session workshops, regular seminar series**	**For credit courses, certification programs**
Technical Topics with Broader Applications (e.g. big data, modeling complex systems, climate change)	21%	72%	21%	28%
People Management (e.g. leadership, mentorship)	39%	59%	13%	5%
Project Management	72%	27%	5%	3%
Science Writing or Science Communication	24%	63%	14%	15%
Science Policy	66%	32%	2%	8%
Preparing for Employment in the Private Sector	42%	58%	10%	2%
Opportunities to Meet Astronomers or Physicists who Work Outside Academia	23%	76%	6%	0%
Pedagogy, Course Development, Teaching and Mentoring Best Practices	31%	45%	21%	29%

Rows add to more than 100% because respondents were asked to select all that apply.

- The training that current postdocs received as graduate students did not differ drastically from what current graduate students reported receiving.

Table 35 – Encouragement for Graduate Students to Work Outside of Academia

Graduate Students Who Were Encouraged to Pursue Careers Outside of Academia by Others, 2024			
	Discouraged	**Neither**	**Encouraged**
My Advisor	8%	42%	50%
Other Faculty Member	7%	44%	49%
Department Information or Policies	14%	47%	39%
My Institution	9%	48%	43%
Broader Astronomy Community	18%	25%	57%

- The largest proportion of respondents felt encouraged by the broader astronomy community to pursue careers outside of astronomy, but it was also the largest proportion who felt discouraged as well.

Table 36 - Access to Career Center on Campus for Undergraduates

Undergraduates Who Have Access to a Career Center on Campus, 2024	
	%
Yes	88%
No	2%
Unsure	10%

- The vast majority of undergraduates had access to a career center on campus, however the proportion who were unsure increased slightly from 2021 (6%) to 2024 (10%).

Table 37 – Cost of Living for Respondents

Cost of Living for AAS Members with PhDs, 2024		
	%	**N**
Very Low	1%	10
Low	12%	122
Average	24%	244
High	27%	285
Very High	34%	355
Unsure	2%	18

- About three-fifths (61%) of working AAS members with PhDs reported living in areas with a “high” or “very high” cost of living.

Table 38 – Salary Satisfaction

Salary Satisfaction for AAS Members with PhDs, 2024		
	%	**N**
Very Dissatisfied	6%	59
Dissatisfied	20%	210
Neither Satisfied nor Dissatisfied	19%	196
Satisfied	38%	396
Very Satisfied	16%	165
Unsure	1%	6

- The majority (54%) of working AAS members with PhDs were "satisfied" or "very satisfied' with their salaries.

Table 39 – Inadequate Salary Outcomes

Has an Inadequate Salary for Your Needs Ever Caused you to do any of the Following? AAS Members with PhDs, 2024	
	%
Leave academia	9%
Change geographical location	14%
Turn down a job	15%
Change lifestyle to accommodate salary constraints	42%
None of the Above	80%

Rows add to more than 100% because respondents were asked to select all that apply.

- The most commonly reported adjustment to an inadequate salary respondents reported was "change lifestyle to accommodate salary constraints", which was selected almost three times more than any other option.
    - Respondents were not asked to provide further information on specific changes they made.
    - The 2021 version of the survey used slightly different options and therefore is not comparable to the 2024 version.

Table 40 – Satisfaction with Tasks and Work Associated with Job

Satisfaction with Tasks and Work Associated with Job for AAS Members with PhDs, 2024		
	%	**N**
Very Dissatisfied	2%	22
Dissatisfied	8%	85
Neither Satisfied nor Dissatisfied	12%	127
Satisfied	48%	494
Very Satisfied	29%	300
Unsure	<1%	<5

- More than three-quarters (77%) of employed AAS members with PhDs were "satisfied" or "very satisfied" with the tasks and work associated with their job.

Table 41 – Do you Believe your Salary is Constraining or Delaying Life Choices?

Do you Believe your Salary is Constraining or Delaying Life Choices? AAS Members with PhDs, 2024		
	%	**N**
Yes, a great deal	13%	133
Sometimes	41%	427
Not at all	44%	449
Not applicable	2%	21

- The majority of respondents (54%) believed that salary was constraining or delaying life choices in some capacity.

APPENDIX C: Two-Year and Community Colleges

Several questions about experiences with two-year and community colleges were added to the survey in 2024.

Table 42 – Current or Past Two-Year or Community College Attendance

Attending or have Attended a Two-Year or Community College, AAS Members 2024		
	%	**N**
Yes	7%	108
No	93%	1469

- The vast majority (93%) of AAS members did not attend a two-year college.
- Those who attended a two-year college were more often above the birth year cut off (born after 1991), than those who did not attend a two-year college, 35% vs 27%.

Table 42a – Current or Past Two-Year or Community College Attendance by Highest Degree Earned

Attending or Have Attended a Two-Year or Community College by Highest Degree Earned, AAS Members 2024			
Highest Degree Earned	**Yes**	**No**	**N**
Current Student	17%	83%	47
Bachelor's	17%	83%	137
Master's	11%	89%	207
PhD	4%	96%	1209
Other	36%	64%	14
Total	7%	93%	1614

- AAS members with bachelor's or master's degrees more often reported having attended a two-year or community college than those with a PhD.

Table 42b – Highest Degree Earned by Two-Year or Community College Attendees

Highest Degree Earned by Two-Year or Community College Attendees, AAS Members 2024		
Highest Degree Earned	**Yes**	**No**
Current Student	7%	3%
Bachelor's	21%	8%
Master's	22%	12%
PhD	45%	77%
Other	5%	<1%

Table 42c – Two-Year or Community College Attendance by Gender

Two-Year or Community College Attendance by Gender, AAS Members 2024		
	Yes	**No**
Men	6%	94%
Women	8%	92%

Table 43 – Did you Receive Course Advice During your Time at a Two-Year or Community College?

Did you Receive Course Advice During your Time at a Two-Year or Community College? AAS Members 2024		
	%	**N**
Yes	69%	74
No	31%	33

- More than two-thirds of AAS members who attended a two-year or community college reported receiving advice on when and what courses to take during their time there.

Table 43a – Source of Course Advice

Source of Course Advice, AAS Members 2024		
	%	**N**
Guidance counsellor	67%	50
Physics or Astronomy faculty	41%	31
Other faculty (non-physics or astronomy)	33%	25
Fellow students	28%	21
Other	8%	6

Columns add to more than 100% because respondents were asked to select all that apply.

Table 44 – How did you Navigate Course Selection at your Two-Year or Community College?

Navigating Course Selection at a Two-Year or Community College, AAS Members 2024		
	%	**N**
A person helped me	37%	40
I developed my own plan	65%	70
I followed a pre-planned track	31%	34
I did not follow a plan	5%	5
Other	3%	<5

Columns add to more than 100% because respondents were asked to select all that apply.

Table 45 – Retaking Courses Upon Transfer to a Four-Year Institution

Did you have to Retake any Courses when Transferring to a Four-year Institution? AAS Members 2024		
	%	**N**
Yes	20%	21
No	71%	76
I did not transfer to a four-year institution	9%	10

- Courses that respondents reported having to retake included general or introductory physics and calculus courses.
    - Multiple respondents indicated that a substantial number of their credits were not transferable.

Table 46 – Time to Undergraduate Degree

Time to Undergraduate Degree, AAS Members 2024		
	%	**N**
2.5 years or less	1%	9
3 years	6%	97
3.5 years	2%	36
4 years	68%	1063
4.5 years	4%	69
5 years	12%	184
5.5 years	1%	17
6 years	3%	51
6.5 years or more	3%	44

Time to degree includes any time spent at a two-year or community college.

- The vast majority (93%) of AAS members received their undergraduate degree in five years or less.
- The median number of years for respondents starting at a two-year or community college to receive their undergraduate degree was 5, compared to 4 for those who did not.

Table 47 – Did you Switch Majors During your Time as an Undergraduate?

Did you Switch Majors During your Time as an Undergraduate? AAS Members 2024		
	%	**N**
Yes	21%	331
No	79%	1282

- The median time to undergraduate degree for those who changed majors and those who did not was the same (4 years).

Table 47a – Classification at Time of Major Switch

Classification at Time of Major Switch, AAS Members 2024		
	%	**N**
Freshman	19%	63
Sophomore	48%	159
Junior	28%	92
Senior	5%	17

APPENDIX D: Jobs Outside the US

New questions concerning applying to jobs outside of the US were added to the survey in 2024. These questions were targeted at AAS members with PhDs who had received their doctorate within the last ten years. For more information on year of degree, see **Table 3 – Year of Degree.**

Table 48 – Applied for Jobs Outside the US

Applied for Jobs Outside the US, AAS Members with PhDs in the last 10 Years 2024		
	%	**N**
Yes	50%	157
No	49%	152
Unsure	1%	<5

- Half of AAS members with a PhD within the last 10 years had applied to a position outside of the US.

Table 49 – Encountered Difficulties When Applying for Jobs Outside the US

Encountered Difficulties When Applying for Jobs Outside the US, AAS Members with PhDs in the last 10 Years 2024		
	%	**N**
Yes	11%	18
No	89%	142

- The vast majority (89%) of AAS members applying to jobs outside of the US did not encounter any issues.
    - Of the 18 respondents who indicated that they encountered issues with applications, only 2 indicated that they were visa related.
        - The reported difficulties were delays in starting the position.