

# AMERICAN ASTRONOMICAL SOCIETY 2015 ANNUAL REPORT



## AAS MISSION AND VISION STATEMENT

The mission of the American Astronomical Society is to enhance and share humanity's scientific understanding of the universe.

1. **The Society, through its publications, disseminates and archives the results of astronomical research.** The Society also communicates and explains our understanding of the universe to the public.
2. **The Society facilitates and strengthens the interactions among members through professional meetings and other means.** The Society supports member divisions representing specialized research and astronomical interests.
3. **The Society represents the goals of its community of members to the nation and the world.** The Society also works with other scientific and educational societies to promote the advancement of science.
4. **The Society, through its members, trains, mentors and supports the next generation of astronomers.** The Society supports and promotes increased participation of historically underrepresented groups in astronomy.
5. **The Society assists its members to develop their skills in the fields of education and public outreach at all levels.** The Society promotes broad interest in astronomy, which enhances science literacy and leads many to careers in science and engineering.

# 2015 ANNUAL REPORT - CONTENTS

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Established in 1899, the American Astronomical Society (AAS) is the major organization of professional astronomers in North America. The membership also includes physicists, mathematicians, geologists, engineers and others whose research interests lie within the broad spectrum of subjects now comprising contemporary astronomy.

# PRESIDENT'S MESSAGE: C. Megan Urry



This past year showed in multiple ways how the American Astronomical Society helps its members thrive within the profession and how its mission has evolved over the past few decades. 2015 was a year of upheaval. Highly visible incidents around race and gender generated much discussion among astronomers. The Black Lives

Matter movement reminded us of the risks faced by some and not others. Sexual harassment scandals in astronomy and other disciplines reminded us that women and men still experience the professional sphere differently. A primary AAS goal is to ensure a professional workplace in which everyone thrives—but it's difficult to thrive if you are worried about being discriminated against or worse.

The publicity around sexual harassment prompted some to ask, “What’s wrong with astronomy?” The answer is that there is actually a lot right with astronomy. That people are willing to come forward with their stories is a sign that they feel safe to do so. Under the AAS anti-harassment policy [[aas.org/policies/anti-harassment-policy](https://aas.org/policies/anti-harassment-policy)] at meetings, the number of complaints is slowly rising, reflecting a wider awareness and a changing culture. Officers of the AAS [[aas.org/posts/news/2016/07/executive-office](https://aas.org/posts/news/2016/07/executive-office)] have worked diligently to address harassment.

There is inevitably a tension between support of complainants and due process for the respondent, and between transparency and confidentiality. The Astronomy Allies program, started by two AAS members and run independently of the AAS, supports people who experience harassment at astronomy meetings. This support is unconditional — the Allies’ role is not to investigate but to make sure the complainant is able to cope. Meanwhile, the AAS hired an experienced Human Resources consultant to investigate complaints filed under our anti-harassment policy (and eventually, they will fill the same role with respect to our revised Code of Ethics policy). The investigation is confidential to the greatest extent possible, and outcomes are communicated only to the parties involved. Collectively, these parallel tracks provide unequivocal support for those who need it and at the same time a fair process for anyone accused, without prior assumptions.

Because the behavior of astronomers was a key issue in 2015, the AAS formed a task force to take a fresh look at the

AAS Code of Ethics. In place since 2010, the Code outlined standards and expectations for professional behavior but was vague in places and more importantly, lacked any process for dealing with violations. The Task Force on the AAS Code of Ethics began its work in late 2015 and, after incorporating substantial community input, will finalize the revised Code in 2016.

The AAS has long worked toward greater equity and inclusion, thanks in large part to its “diversity committees” — in chronological order, the Committee on the Status of Women in Astronomy (CSWA), the Committee on the Status of Minorities in Astronomy (CSMA), the Sexual-orientation and Gender Minorities in Astronomy committee (SGMA, newly promoted from the WGLE working group in 2015), and the new Working Group on Accessibility and Disability (WGAD), which came together at the end of 2015. Volunteer members set the committees’ agendas, bring issues forward to Council, promote best practices, and help make astronomy a welcoming profession for all. They were instrumental in organizing the Inclusive Astronomy meeting in June 2015, which was supported by the AAS and attended by its leadership. This innovative meeting reminded us of the many ways in which people can feel excluded, as well as of the intrinsic and often unacknowledged privilege of those in the majority. Unconscious prejudices are natural — they generally arise out of upbringing rather than conscious malice — but they must be overcome, starting with bringing them into the light. The AAS will not rest until LGBTIQA\* astronomers, those with disabilities, first-in-family college-educated or PhD-educated astronomers, people of color, veterans, women, religious minorities, or any other minority groups, and especially those with multiple intersections of difference, feel as welcome in astronomy as everyone else.

In October 2015 we held the first ever summit meeting of the AAS diversity committees, in conjunction with the annual AAS Executive Committee and Divisional meetings at the AAS Executive Office in Washington, DC. The purpose was to set priorities for the coming year and to explore how the committees and AAS Council can work together to achieve them. For example, committee members discussed their wish to broaden the CSWA site-visit program to include SGMA, CSMA, WGAD, as invited by departments. Participants thought the Summit was very useful so we plan to repeat the exercise in 2016. Council liaisons are also vital to keeping the committees and the Council moving forward cooperatively.

Issues of inclusion were not always seen as part of the professional sphere. But today’s AAS plays a key role in making astronomy open and inclusive, ideally independent of any social category. Here are two examples from 2015. First, with

leadership from the CSMA, we issued a detailed statement on the use of the Graduate Record Exam in graduate admissions, pointing out the potentially discriminatory consequences of using a fixed cutoff score. Second, AAS meetings staff, in consultation with interested members of the community, have worked to make our meetings ever more accessible. We still have some distance to go yet, but it's a good start.

The Council formed a Rapid Response Task Force to think about whether we should have a fast channel for addressing problems of great interest to AAS members — for example, a social media response to breaking news. There was no clear answer. There is clearly interest in having the Society speak quickly and reassuringly in difficult conditions. Sometimes this seems possible to do, other times less so, particularly when the issue is complex. The Council did feel strongly that it should make official statements that are lasting and that help create change within astronomy, addressing current events as needed and as a beginning rather than an end.

The Council revised the AAS bylaws to have gender-neutral language. A couple of decades ago, recognizing that women in astronomy did not feel represented by the pronoun “he,” the AAS had changed its bylaws to replace “he” with “he or she.” Today we recognize that gender is not a simple binary state but a continuum. Accordingly, we replaced the pronouns “he or she” with the plural “they” where needed, or with the noun in question (as in: “The President will do X when the President wishes”).

In order to include more voices in AAS governance, the President created an Early Career Advisory Board of member volunteers, consisting of students, postdocs, teachers, and new graduates doing astronomy or working in other sectors. The idea was for the President to have frequent conversations with some of our most active younger members about issues of concern. It has proved a valuable channel for communication and education (both ways). Also, the AAS Council changed bylaws to allow junior members to serve on AAS committees. (This change will become permanent following additional steps in the process of changing the bylaws.) Some other ways the AAS now supports early career astronomers include providing childcare at meetings and grants to defray the related costs of travel, providing career development seminars, and providing information about both academic and industry careers.

At the other end of the spectrum, the recently created “40+E” group (40 years as an AAS member and/or emeritus astronomers) has been wildly successful judging by the numbers of people who attend the 40+E reception and the high din of conversation in the room.



The Journals Task Force finished its report and began the work of actually changing how our journals operate, simplifying the submission of manuscripts and streamlining many other processes, and enhancing content. This is a major project, with big budget implications for the Society. As a non-profit, our goal is to provide the highest impact journals, at low cost to scientists and libraries. We believe the innovations proposed by the Journals Task Force will help keep AAS Journals in the lead of astrophysics publishing.

These are changes — some small, some large — that make a difference in the professional lives of astronomers. As a self-organized, self-governed professional society, the AAS welcomes those who want change and encourages them to bring their issues and ideas to the relevant committee and to the Council.

As our Strategic Plan [[aas.org/about/strategic\\_plan](http://aas.org/about/strategic_plan)] makes clear, the AAS supports professional activities across a broad spectrum, including meetings, journals, education, employment, standards of behavior, and equity and inclusion. A new Strategic Plan developed in August 2015 includes specific goals for how to fulfill this mission over the next few years. Working together, AAS members, volunteers, and leaders make the Society work, the profession welcoming, and the workplace better. We help one another do the best possible science.

# EXECUTIVE OFFICER'S MESSAGE: Kevin B. Marvel



The Society really moved the ball forward on multiple fronts in 2015. Our mission remains challenging and the guiding light for all that we do. The Council has approved or initiated many projects to help position us for the future, while making us more relevant for our discipline today. It remains humbling and rewarding to serve the Society as its Executive Officer and to work with the excellent AAS staff and our elected leaders; not just our Council, but also our engaged committee members and Division leadership. The Society continues to accomplish more each year, making authoring this column for our annual report a growing challenge; a challenge I am glad I must face!

Scholarly publishing remains our primary activity. The Society acquired the *Astronomical Journal* and *Astrophysical Journal* family, we did not establish them ourselves. Many authors and members do not know that we have not always owned and operated these important and historic journals. However, ever since we have owned them, we have operated them very responsibly and sought to preserve their quality, impact, and value to the astronomical community. This has only been possible with dedicated editors at all levels, engaged staff and publishing partners, and engaged volunteer leaders carefully overseeing their operation. The position of Publications Board chair, most recently held by Anne Cowley and now held by Tim Bastian, is an important position and the longest single term of service of any of our elected positions. The length of term is intentional as it gives the chair a reasonable length of time to oversee the journals and develop a level of expertise in doing so, including a year as chair elect in addition to required prior service to our publishing effort.

The Journals Task Force Recommendations continue to be implemented over time. We have now consolidated the editorial structure into subject-based corridors, consolidated back-office support centrally in Tucson, Arizona, and we are

continuing to move ahead on multiple projects motivated by the Task Force Recommendations such as the Unified Astronomy Thesaurus, publishing data effectively in our journals, and new enhancements to the Astronomy Image Explorer.

2015 was the first year that AAS Nova, our freely available highlights journal, began operation and it has already won an award, the 2016 Drum Online Media award for best new Health/Education News site. This is a tremendous honor and recognition for our editor, Susanna Kohler, our editors, and our publishing partner IOP, who helped us significantly get the site up and running. Check out AAS Nova at: [aasnova.org](http://aasnova.org). We continue to move forward in publishing with our eBooks program and are investigating other innovative ways to meet our mission to enhance and share humanity's scientific understanding of the universe in the realm of publishing. Stay tuned for 2016 and 2017 and we continue to innovate in this important area of our activities.

In 2015 we met in Seattle in January and had a very successful meeting. We skipped our normal summer meeting to fully support the IAU 29th General Assembly in August in Honolulu, Hawaii. This meeting was also a success, with well over 2,500 attendees, 4,207 abstracts, and a wide range of sessions and events. Many attendees said it was the best run IAU General Assembly they had ever attended, which was deeply rewarding praise for our whole team. Our Divisions meet on a regular basis and 2015 saw the DPS meet in DC, HEAD met in Chicago, SPD met in Indianapolis in partnership with the AGU for the inaugural Triennial Earth-Sun Summit, DDA met in Pasadena, and both the HAD and LAD met with the Society at its regular meetings. As you can imagine, helping organize this many meetings takes a lot of work and the AAS is lucky to have a great team working to organize all of these important scientific conferences.



In 2015 much of Washington's focus was redirected toward the impending Presidential election in 2016. Even so, our public policy activities continued and had positive impact. In addition to an active group of volunteers guiding our efforts and making direct contacts with policy makers on the Society's behalf, our in-house team of Deputy Director

Joel Parriott and John Bahcall Public Policy Fellow Heather Bloemhard kept our membership informed about policy actions and served as our representatives to numerous coalitions and to policy makers themselves. The ongoing tight funding for scientific research does not seem to be abating. As our community begins to prepare for the next Decadal Survey we need to remain focused on the future and not be depressed by the funding available to us in the present. All of science is in a similar situation. With a new administration and a strengthening economy, opportunity may be just around the corner. We must be ready to act cohesively to ensure the widest possible success and therefore full community engagement in the process is key. The Society will support these efforts once they get moving and we encourage everyone to participate.



*Inclusive Astronomy 2015. Courtesy Vanderbilt University and IA 2015.*

2015 saw the inaugural Inclusive Astronomy meeting held by a group of forward thinking members of our community in Nashville, Tennessee. Our past and current Presidents and Executive and Deputy Executive Officers attended. As a whole, the AAS leadership believe that an inclusive discipline is a higher impact discipline and a better discipline. We were all energized and challenged by the dynamic community that Inclusive Astronomy I helped galvanize. The AAS Council has now endorsed the recommendations that the meeting generated and will actively work to move the whole community forward to meet these necessary recommendations. President Urry describes in her column the first-ever AAS Diversity and Inclusion summit, which she initiated in the fall of 2015 and our new President will organize a similar summit with the help and guidance of key committee leadership.

The Society believes that it must not only promote and disseminate the results of scientific research through its

journals and its meetings, but that through its programs, services and other activities it must enhance and improve our discipline itself. Councils past and present take this duty on seriously and will continue to do so. As one example, the Society, in partnership with the National Radio Astronomy Observatory, will sponsor the fourth Women in Astronomy Conference in 2017 and the committees needed to develop the program for that meeting are being formed as I write this column in the summer of 2016. Meetings that focus on important and challenging community issues, such as diversity and inclusion, are deeply important and, recognizing the importance of them to us all, the Society will work with interested community members to organize such meetings roughly every two years, allowing different areas of focus over time. In doing so, we will seek institutional partners, like NRAO, funding from appropriate sources, and provide logistical and other support as necessary. We will commit to this because such meetings are important, they need to occur spread out a bit in time to maintain their value and impact and we want everyone in the field to have the opportunity to attend. A cadence like that for WIA, of roughly 5-6 years between meetings seems to be about right, allowing institutions and departments to implement recommendations that such meetings produce and to then assess their impact, and implementation. We

will work through our committees to identify focus areas for such meetings over time and rely on them to reach out to the wider community to develop the programs for such meetings. In the meantime, we look forward to moving ahead on the recommendations of Inclusive Astronomy I and hope that we can make quick progress on most of them, while encouraging our community to broadly embrace all such recommendations over time.

I remain deeply engaged in the invigorating work as the Executive Officer of the AAS. I continue to obtain training, coaching, and guidance from best practice experts in the field of non-profit and for-profit management, I deeply value my network of leaders inside and outside of astronomy upon whom I have come to rely for wise guidance and contrary opinions, and I am thrilled that I can help a science that I first came to love as a young child in this role. I welcome any and all input and look forward to seeing you at a future AAS meeting or other event. Keep looking up!

# FINANCIAL REPORT

The Annual Audit for 2015 was completed by Tate & Tryon. As with past years, the audit report received an unqualified opinion. In 2015, there was an overall decrease in net assets of \$2,092,557 dollars; resulting in a total assets of \$16,924,852 as of 31 December 2015.

The American Astronomical Society is a non-profit organization. In 2015, we compiled our operational budgets with deficits to draw down our reserve funds. The decrease in 2015 is attributed to the budgeted deficits and the performance of the investment portfolio. The entire portfolio's value decreased by \$434,918, the journals program (including the indirect overhead) experienced a deficit of \$965,871 and the journal development expenses were \$436,460.

The AAS General Fund produced an annual surplus of \$92,111; exclusive of the beginning balance. We budgeted a surplus of \$30,246. The increase is due to the indirect cost allocation from the 2015 IAU meeting. Additionally, we transferred \$100,000 to the General Fund Operating Reserve Fund. As of 31 December 2015, our operating reserve was \$2,047,743 or 36.9 percent of the annual operating expenses.

Overall, the journals performed better than anticipated. We budgeted an overall loss of \$1,085,310; the actual deficit was \$965,871. In 2014, IOPP, our publishing partner, increased the staff in the DC office to perform more copyediting functions

which is augmented by the new vendor contract. In 2015, this change resulted in an overall reduction in the origination costs of \$248,940 across all the titles.

AAS bylaws, Article VIII.3, mandate that each Journal maintain a reserve fund equal to or above the level of one-half of the annual operating expenses. In addition to the journal reserve funds, we have a segregated journal archive reserve fund to ensure the long-term maintenance of the electronic journals. As of 31 December 2015, the journal reserve fund balances reached \$9,031,843 representing 136.4% of the 2015 expenses.

In 2015, the AAS hosted the IAU meeting in Honolulu. The meeting was a scientific success; 2,581 registrants participated in the meeting. Financially, we were able to cover our expenses and recover AAS staff time and an indirect cost allocation for the Society.

Through financial support from NSF, we funded the following programs.

- Funded 169 individuals under the International Travel Grant in the amount of \$200,679.
- Funded programmers to support and improve the World Wide Telescope in the amount of \$121,388.
- Funded registration fees for 12 students to attend the TESS meeting in the amount of \$3,295.

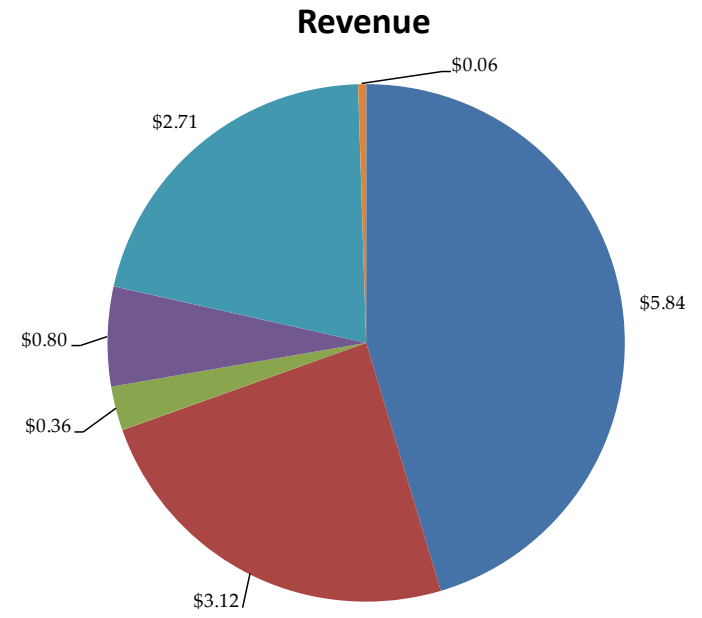
**Figure 1. AAS Balance Sheet**

| <b>Assets</b>                           | <b>2015</b>         | <b>2014</b>         |
|---|---------------------|---------------------|
| Cash and Cash Equivalents               | 774,748             | 1,456,143           |
| Accounts Receivable                     | 240,082             | 421,889             |
| Prepaid Expenses                        | 644,063             | 784,037             |
| Investments                             | 19,194,100          | 19,929,018          |
| Deposits                                | 70,463              | 70,463              |
| Assets Held for Deferred Compensation   | 71,683              | 42,598              |
| Property and Equipment                  | 385,929             | 396,432             |
| <b>Totals Assets</b>                    | <b>\$21,381,068</b> | <b>\$23,100,580</b> |
| <b>Liabilities and Net Assets</b>       |                     |                     |
| Accounts Payable and Accrued Expenses   | 1,132,416           | 586,639             |
| Deferred Revenue                        | 3,252,117           | 3,453,934           |
| Deferred Compensation                   | 71,683              | 42,598              |
| <b>Total Liabilities</b>                | <b>\$4,456,216</b>  | <b>\$4,083,171</b>  |
| <b>Net Assets</b>                       |                     |                     |
| Unrestricted                            | 14,499,631          | 16,496,515          |
| Temporarily Restricted                  | 1,859,833           | 1,955,806           |
| Permanently Restricted                  | 565,388             | 565,088             |
| <b>Total Net Assets</b>                 | <b>\$16,924,852</b> | <b>\$19,017,409</b> |
| <b>Total Liabilities and Net Assets</b> | <b>\$21,381,068</b> | <b>\$23,100,580</b> |

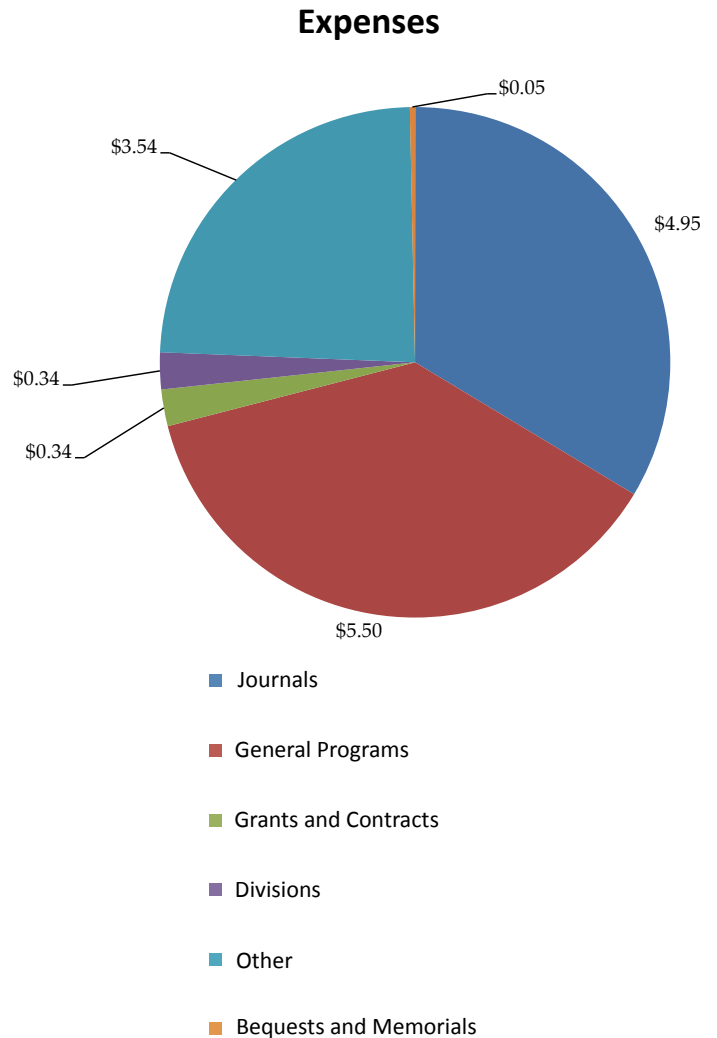


| <b>Figure 2. AAS Statement of Activities</b> |                     |                     |
|--|---------------------|---------------------|
| <b>Unrestricted Activities</b>               | <b>2015</b>         | <b>2014</b>         |
| <b>Revenues</b>                              |                     |                     |
| Journals                                     | 5,834,481           | 7,291,926           |
| General Programs                             | 3,116,978           | 3,329,371           |
| Grants and Contracts                         | 345,348             | 93,145              |
| Divisions                                    | 791,711             | 769,204             |
| Other  | 2,705,635           | 166,164             |
| Bequests and Memorials                       | 2,948               | 30,747              |
| AstronomyCom, Inc.                           | 22,900              | 36,118              |
| Net Assets Released from Restrictions        | 60,681              | 67,599              |
| <b>Total Unrestricted Income</b>             | <b>\$12,880,682</b> | <b>\$11,784,274</b> |
| <b>Expenses</b>                              |                     |                     |
| Journals                                     | 4,948,577           | 4,995,283           |
| General Programs                             | 5,496,973           | 5,690,971           |
| Grants and Contracts                         | 340,801             | 93,145              |
| Divisions                                    | 343,430             | 269,173             |
| Other  | 3,538,085           | 530,428             |
| Bequests and Memorials                       | 48,745              | 41,684              |
| AstronomyCom, Inc.                           | 160,955             | 164,022             |
| <b>Total Expenses</b>                        | <b>\$14,877,566</b> | <b>\$11,784,706</b> |
| Change in Unrestricted Net Assets            | (\$1,996,884)       | (\$432)             |
| <b>Temporary Restricted Net Assets</b>       |                     |                     |
| Divisions                                    | (4,998)             | 24,925              |
| Bequests and Memorials                       | (20,398)            | 70,952              |
| Contributions and Other                      | (9,896)             | 37,097              |
| Net Assets Released from Restrictions        | (60,681)            | (67,599)            |
| Change in Temporarily Restricted Net Assets  | (\$95,973)          | \$65,375            |
| <b>Permanently Restricted Net Assets</b>     |                     |                     |
| Contributions and Other                      | 300                 | 50                  |
| Change in Permanently Restricted Net Assets  | \$300               | \$50                |
| Change in Net Assets                         | (\$2,092,557)       | \$64,993            |
| <b>Net Assets Beginning of Year</b>          | <b>19,017,409</b>   | <b>18,952,416</b>   |
| <b>Net Assets End of Year</b>                | <b>\$16,924,852</b> | <b>\$19,017,409</b> |

**Figure 3. Annual Revenues and Expenses (in millions of dollars)**



\*Bequest and Memorials includes Assets Released from Restrictions



# MEMBERSHIP

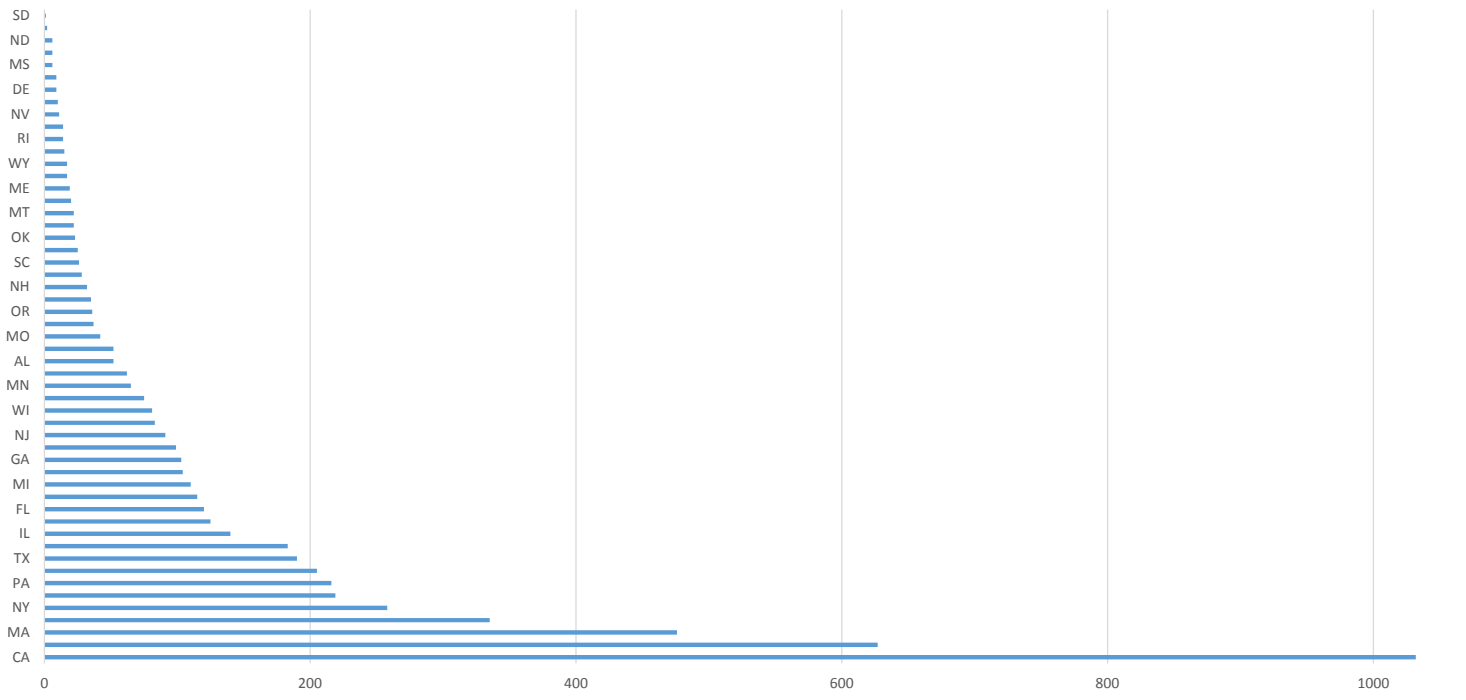
With more than 5,700 members in the US and more than 800 outside, the AAS membership is geographically diverse, with many members from countries beyond North America. The AAS is proud to draw members from countries all around the world as astronomy is clearly a global endeavor that knows no borders...after all, *one sky connects us all*.

Of course, we know that by growing our membership internationally through, for example, our International Affiliate membership class, we can expand the diversity of our membership to better represent the global astronomical enterprise. Already, many of our services know no boundaries, such as the AAS Job Register, AAS Wall Calendar, and AAS Membership Directory, and we

work actively to ensure a focus in these publications beyond just North America. The directory, for example, is recognized as the most comprehensive and accurate listing of international astronomy institutions, and we are working with the International Astronomical Union to ensure that our list and theirs are consistent, accurate, and complete.

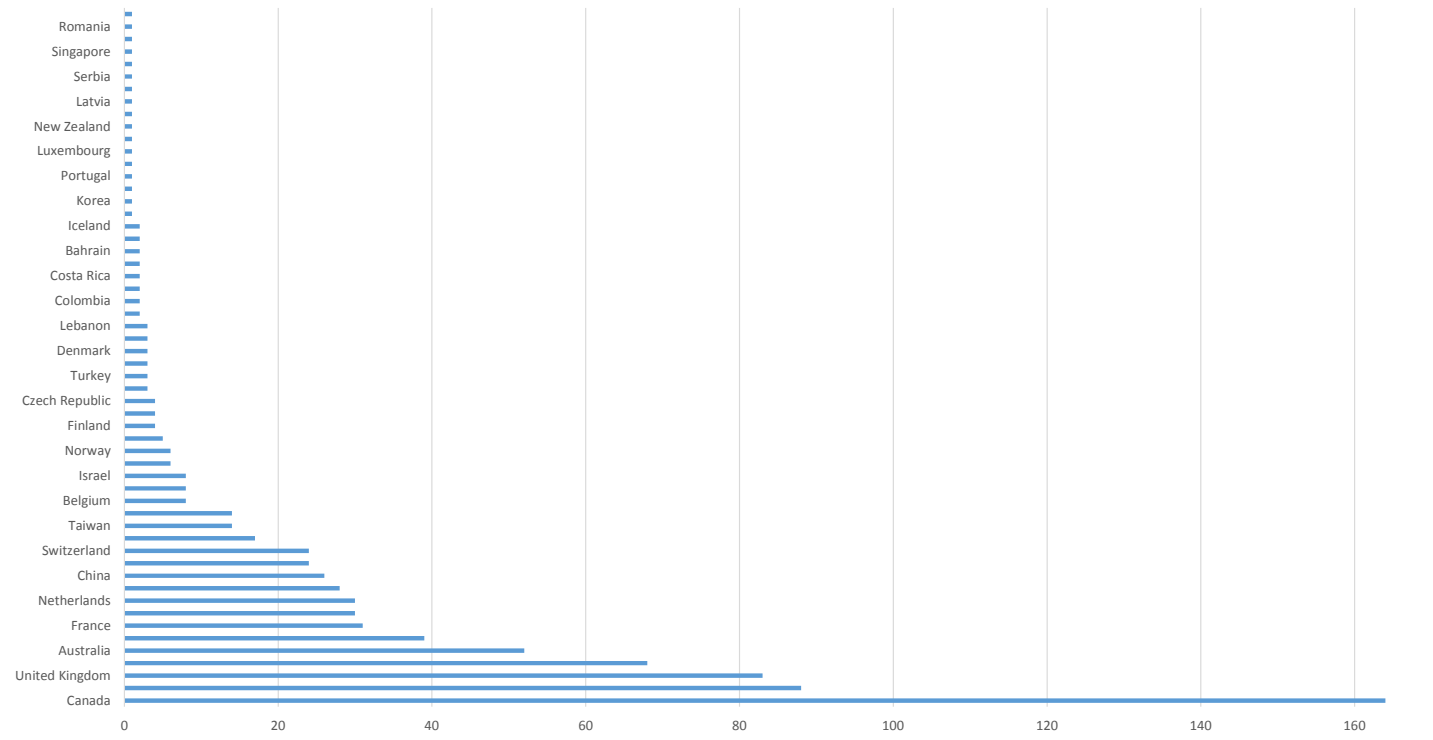
Our journals draw authors from all around the world, and even our meetings are showing steadily increasing participation from astronomers working outside North America. We need this diversity to achieve our core mission, to enhance and share humanity's scientific understanding of the universe.

## US Members by State - Total 5,722



|    |      |    |     |    |    |    |    |    |    |    |    |
|----|------|----|-----|----|----|----|----|----|----|----|----|
| CA | 1032 | NM | 183 | NJ | 91 | KY | 37 | MT | 22 | NE | 10 |
| MD | 627  | IL | 140 | IN | 83 | OR | 36 | PR | 20 | DE | 9  |
| MA | 476  | WA | 125 | WI | 81 | UT | 35 | ME | 19 | AR | 9  |
| AZ | 335  | FL | 120 | CT | 75 | NH | 32 | KS | 17 | MS | 6  |
| NY | 258  | DC | 115 | MN | 65 | IA | 28 | WY | 17 | AK | 6  |
| VA | 219  | MI | 110 | TN | 62 | SC | 26 | ID | 15 | ND | 6  |
| PA | 216  | HI | 104 | AL | 52 | WV | 25 | RI | 14 | VI | 2  |
| CO | 205  | GA | 103 | NC | 52 | OK | 23 | VT | 14 | SD | 1  |
| TX | 190  | OH | 99  | MO | 42 | LA | 22 | NV | 11 | VI | 1  |

## Non-US Members by Country - Total 836



|                   |     |
|-------------------|-----|
| Canada            | 164 |
| Germany           | 88  |
| United Kingdom    | 83  |
| Japan             | 68  |
| Australia         | 52  |
| Republic of Korea | 39  |
| France            | 31  |
| Chile             | 30  |
| Netherlands       | 30  |
| Italy             | 28  |
| China             | 26  |
| Spain             | 24  |
| Switzerland       | 24  |
| Mexico            | 17  |
| Taiwan            | 14  |
| Sweden            | 14  |

|                         |   |
|-------------------------|---|
| Belgium                 | 8 |
| Brazil                  | 8 |
| Israel                  | 8 |
| South Africa            | 6 |
| Norway                  | 6 |
| Greece                  | 5 |
| Finland                 | 4 |
| India                   | 4 |
| Czech Republic          | 4 |
| Holy See (Vatican City) | 3 |
| Turkey                  | 3 |
| Poland                  | 3 |
| Denmark                 | 3 |
| Russian Federation      | 3 |
| Lebanon                 | 3 |

|                      |   |
|----------------------|---|
| Austria              | 2 |
| Colombia             | 2 |
| United Arab Emirates | 2 |
| Costa Rica           | 2 |
| Ireland              | 2 |
| Bahrain              | 2 |
| Hong Kong            | 2 |
| Iceland              | 2 |
| Egypt                | 1 |
| Korea                | 1 |
| Argentina            | 1 |
| Portugal             | 1 |
| Kuwait               | 1 |
| Luxembourg           | 1 |
| Estonia              | 1 |

|                     |   |
|---------------------|---|
| New Zealand         | 1 |
| Philippines         | 1 |
| Latvia              | 1 |
| Trinidad and Tobago | 1 |
| Serbia              | 1 |
| Cyprus              | 1 |
| Singapore           | 1 |
| Venezuela           | 1 |
| Romania             | 1 |
| Georgia             | 1 |
| Uruguay             | 1 |
| Venezuela           | 1 |

In 2013 we upgraded our membership database software, which improved our reporting accuracy. The numbers accurately reflect the geographic distribution of our membership.

# CHARITABLE DONORS

We are grateful for all charitable contributions to the Society and are pleased to provide special recognition of our donors.

## **Hypernova (\$5,000 or more)**

Johnny Powell

## **Quasar (\$1,000-\$4,999)**

Anonymous (1)  
Eric E. Becklin  
Edward K. Conklin  
Reginald J. Dufour  
William K. Hartmann  
Arlo U. Landolt  
Jeremiah Ostriker  
John Peoples, Jr.  
Daniel Wolf Savin  
William C. Wells

## **Supernova (\$500-\$999)**

Edward Anders  
Sylvia M. Baggett  
Bruce Balick  
David F. Bartlett  
Nancy S. Brickhouse  
Jack Burns  
Russell W. Carroll  
R. Paul Drake  
Jo Ann Eder  
Esther M. Hu  
John P. Johnston  
Laura E. Kay  
John C. Powell  
Frederic A. Rasio  
Henry G. Roe  
Farid Salama  
Anneila I. Sargent  
Peter Stockman  
Barbara & Bruce Twarog  
Lee Anne M. Willson  
Robert E. Wilson

## **Nova (\$250-\$499)**

Anonymous (2)  
Michael F. A'Hearn  
Katherine A. Alatalo  
Jeffrey Bennett  
Carol Born  
Gina Brissenden  
G. Stanley Brown  
*In Honor of Beatrice Tinsley*  
Spencer L. Buckner  
Bruce Elmegreen  
Debra M. Elmegreen  
James Nathan Fry  
Neil Gehrels  
Richard F. Green  
Amanda Hendrix

David E. Hogg  
Kenneth J. Johnston  
Stephen W. Kahler  
Richard B. Larson  
Chopo Ma  
Philip Massey  
Alice K. B. Monet  
Joseph L. Montani  
James M. Moran, Jr.  
Robert W. O'Connell  
John O'Meara  
Terry D. Oswalt  
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C. J. Waddington  
Frederick M. Walter  
Thomas R. Williams  
Robert F. Wing  
J. M. Wrobel  
Richard W. Zurek

## **Supergiant (\$100-\$249)**

Anonymous (3)  
Thomas B. Ake, III  
M. Marsha Allen  
David C. Applebaum  
J. T. Armstrong  
Thomas R. Ayres  
Kevin H. Baines  
James F. Bell, III  
George Fritz Benedict  
Joel N. Bregman  
William T. Bridgman  
James Burke  
Michael Cahill  
Paul A. Catacosinos  
Bella Chao Chiu  
Barry G. Clark  
Geoffrey C. Clayton  
Brenda G. Corbin  
Thomas E. Corbin  
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David H. DeVorkin  
William Van Dyke Dixon  
Joyce Dorsey  
Bruce T. Draine  
Steven Robert Federman  
Holland Ford  
William J. Forrest

Dorothy A. Fraquelli  
Edward H. Geyer  
Jeremy Goodman  
Jonathan E. Grindlay  
Theodore R. Gull  
Shadia R. Habbal  
Richard J. Harms  
Martin Harwit  
James E. Hesser  
Charles Higgins  
Philip E. Hodge  
Jon Todd Hoeksema  
Dana Hurley  
Kazunori Ishibashi  
Jon Michael Jenkins  
Harrison P. Jones  
Richard R. Joyce  
Vesa T. Junkkarinen  
Richard L. Kelley  
Athol J. Kemball  
John G. Kirk  
Patricia Knezek  
Russell M. Kulsrud  
Alan M. Levine  
Marvin M. Litvak  
James C. Lochner  
Felix J. Lockman  
Renu Malhotra  
Stephen P. Maran  
Kevin B. Marvel  
Michael McAfee  
Ivy Merriot  
Stewart Moses  
Dara J. Norman  
Ronald S. Polidan  
John C. Raymond  
Edward J. Rhodes, Jr.  
Jane R. Rigby  
Jeffrey D. Rosendhal  
Charles Ryter  
Didier Saumon  
Malcolm P. Savedoff  
Kristen Sellgren  
Amy A. Simon-Miller  
Randall K. Smith  
Gordon K. Squires  
Sumner Starrfield  
Peter A. Sturrock  
Woodruff T. Sullivan, III  
Vigdor L. Teplitz  
Roger K. Ulrich  
Richard Wagener  
Glenn Michael Wahlgren  
Rene A.M. Walterbos  
James G. Williams  
Steven P. Willner  
P. Frank Winkler  
Louise G. Young

## **Giant (Up to \$99)**

Anonymous (7)  
Edward A. Ajhar  
Louis John Allamandola  
Keith A. Arnaud  
Fran Bagenal  
John D. R. Bahng  
W. Daniel Bell  
Lance A. M. Benner  
Edgar A. Bering, III  
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Judith Braffman-Miller  
Debra Brenner  
Linda R. Brown  
Michael W. Busch  
John I. Castor  
Ke-Jung Chen  
Hong-Yee Chiu  
Apostolos Christou  
Edward B. Churchwell  
Regina J. Cody  
Jack Condon  
Jason C. Cook  
Patrick Crane  
Ian J. M. Crossfield  
Joseph K. Daugherty  
Katherine Deck  
Edward J. Devinyne, Jr.  
C. Richard DeVore  
Helene R. Dickel  
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Mark Dickinson  
Martin Elvis  
Joshua P. Emery  
Thomas R. English, III  
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Yanga R. Fernandez  
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Henry F. Fliegel  
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Andrew James Friedson  
V. Gaizauskas  
Peter M. Garnavich  
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Randy Gladstone  
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Candace L. Gray  
Jennifer A. Grier  
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Chelen H. Johnson  
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Marc Kassis  
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J. J. Kavelaars  
Michael S. W. Keesey  
Stephen L. Keil  
Thomas Kelsall  
Stephen M. Kent  
Yong Hak Kim  
R. C. Kirkpatrick  
Arieh Konigl  
Donald Korycansky  
Kathleen E. Kraemer  
Yoshio Kubo  
Steven H. Langer  
Shane L. Larson  
Larry Lesyna  
Mark C. Lewis  
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# PUBLISHING

The AAS Publishing team started out 2015 with three AAS staff members: Julie Steffen, Director; Greg Schwarz, Journals Data Scientist; and August (Gus) Muench, Journals Data Scientist. By June 2015, there were two more: Susanna Kohler, AAS Nova Editor, and Janice Sexton, AAS Editorial Operations Manager, as well as AAS Editor in Chief Ethan Vishniac. As recommended by the 2014 AAS Journals Futures Task Force, Steffen and Sexton opened the consolidated AAS Editorial Office in the National Optical Astronomy Observatory building at 950 N. Cherry Ave. in Tucson, Arizona, and hired two Editorial Assistants, Alexandra Aguilar and Melissa Mills, in the summer of 2015. *The Astronomical Journal (AJ)* Editorial Office at the University of Wisconsin, Madison, closed at the end of 2015 with the retirement of *AJ* Editor Jay Gallagher. *The Astrophysical Journal Letters (ApJL)* Editorial Office continued as before with *ApJL* Editor Fred Rasio at Northwestern University throughout 2015.

AAS Nova was one of the first new services launched by AAS Publishing and its partner, Institute of Physics, in 2015. Intended to provide professionally written and openly accessible articles highlighting the research published in AAS journals, it debuted for the global community just before the IAU Assembly in Honolulu in August 2015. AAS Publishing organized the main author referee workshop held at the IAU which included editors and staff from AAS journals, MNRAS, and A&A. The AAS developed topic

corridors that closely align with the latest IAU divisions for the consolidated editorial team that would begin serving both the *Astrophysical Journal (ApJ)* and the *Astronomical Journal (AJ)* in 2016: Cosmology and Galaxies; Stars and Stellar Physics; Interstellar Matter and the Local Universe; The Solar System, Exoplanets, and Astrobiology; High Energy Phenomena and Fundamental Physics; The Sun and the Heliosphere; and Instrumentation, Software, Laboratory Astrophysics, and Data.

A new joint AAS/IOP eBooks Series in Astronomy was formally introduced at the January 2015 AAS meeting in Seattle; its AAS Editorial Board was established shortly thereafter ([aas.org/posts/news/2016/07/aas-iop-ebooks-welcomes-material-submissions](http://aas.org/posts/news/2016/07/aas-iop-ebooks-welcomes-material-submissions)). The Arthur P. Sloan Foundation awarded AAS Publishing a grant to co-host a workshop with GitHub in April 2015 to explore how to improve discoverability and citation of astronomical software. A workshop was organized and co-hosted by AAS Publishing in July 2015 with the University of Arizona School of Information to gauge local interest in creating a community repository for research data that otherwise has no home.

In 2015 the *Astronomical Journal (AJ)* and the *Astrophysical Journal, Letters, and Supplement (ApJ, ApJL, ApJS)* published a total of 4,407 research articles.



# PUBLIC POLICY

The AAS conducts a wide range of public policy activities on behalf of the membership and US astronomy. The Committee on Astronomy and Public Policy (CAPP), whose members are appointed by the President of the AAS, is charged with guiding the Society's policy activities in close collaboration with the policy staff in the Executive Office. Together, CAPP, the Director of Public Policy, and the John Bahcall Public Policy Fellow closely monitor science policy developments important to the astronomical community and engage with policymakers at federal agencies, the White House, and Congress through advocacy initiatives.

The Director of Public Policy and John Bahcall Public Policy Fellow monitor policy issues on a day-to-day basis and work closely with the CAPP on communicating issues to both policymakers and the astronomical community. The most direct communication to the membership occurs during multiple plenary and concurrent policy sessions during AAS and Division meetings.

In 2015 the AAS Council issued a CAPP-initiated policy resolution regarding the President's Budget Request for FY 2016.

The AAS sponsored a "State of the Universe" congressional briefing, along with the chair and ranking member of the House Science, Space, and Technology Committee on 5 February 2015. AAS President Meg Urry delivered the keynote address highlighting many of the exciting discoveries of the past year. The panelists, Dr. Jessica Kirkpatrick, Dr. Dara Norman, and Dr. Makenzie Lystrup, delivered remarks that demonstrated how training and research in astronomy lead directly to major contribution to our nation's prosperity. Both Chairman Lamar Smith and Ranking Member Eddie Bernice Johnson shared their perspectives on the excitement of space and basic science research overall, as well as the importance of everyone having the opportunity to pursue their curiosity and study science, technology, engineering, and math (STEM).

The AAS is a member of several multi-society coalitions in Washington, DC, that work on science and science-education policy. These include the Coalition for National Science Funding (CNSF), the Task Force on American Innovation, the Energy Sciences Coalition, the Coalition for Aerospace and Science, the Science-Engineering-Technology Working Group (SETWG), the STEM Education Coalition, the Physical Sciences Education Policy Coalition, and a coalition of scholarly publications. The AAS is also a member of the Intersociety Working Group and authors a chapter every



*CVD participants (left to right): Ashley Tucker, Joanna Bridge, Sarah Burkhart, Nicole Sanchez, Addie Dove, Michael Rutkowski, Christopher Moore, Regina Barber DeGraaff, Josh Shiode (team lead, former AAS Bahcall Fellow), Carrie Black (team lead), John O'Meara (team lead, CAPP member), Heather Bloemhard, Shea Hess Webber, Justin Cantrell, Deborah Scherrer, Adam Kobelski, Stuart McMuldloch.*

year on the outlook for astronomy funding published in the AAAS Report on Research and Development.

SETWG consists of members from various scientific and technical professional societies as well as universities and industry. The group sponsors an annual Congressional Visits Day each spring. This event brings together research scientists and engineers from all over the country to learn how federal funding for science works and to lobby their elected Representatives and Senators for research and development funding. The three-day event was held on 16-18 March 2015 in Washington, DC. This event introduces AAS members to the federal budget process and science policy formulation, and shows them the basics of meeting with Congressional offices. Sixteen AAS members volunteered their time to visit 52 congressional offices of 15 different states and the White House complex. Feedback from the participants was very positive.

CNSF is an alliance of over 140 professional organizations, universities, and businesses who all support national investment in the National Science Foundation. The group organizes an annual exhibition to feature the science, mathematics, engineering, and education projects supported by the NSF. The AAS participated as an exhibitor in the 2015 CNSF exhibition, "Investments in STEM Research and Education: Fueling American Innovation."

# AAS & DIVISION MEETINGS



The 225th AAS meeting took place 4-8 January 2015 at the Washington State Convention Center in Seattle, Washington. Gathering with the AAS, as usual for our winter meeting, were the Society's Historical Astronomy Division (HAD) and High Energy Astrophysics Division (HEAD). Also as usual, the Seattle meeting offered a rich assortment of prize and invited talks by some of our most distinguished colleagues. We kicked off on Monday morning with the Kavli Foundation Lecture by Daniel Baker (University of Colorado, Boulder), who reviewed recent progress toward understanding the Earth-girdling Van Allen radiation belts. Emily Levesque (also UC-Boulder) gave the Cannon Award lecture on her innovative work using gamma-ray bursts to explore fundamental questions of stellar astrophysics and cosmology. Sagan Fellow Katja Poppenhaeger (Harvard-Smithsonian Center for Astrophysics) explored the high-energy environment of exoplanets. Douglas Finkbeiner (Harvard-Smithsonian Center for Astrophysics), Tracy Slatyer (MIT), and Meng Su (MIT) jointly presented the HEAD Rossi Prize lecture on their discovery, in gamma rays, of the "Fermi bubbles" and on subsequent studies of these unanticipated galactic structures at other wavelengths.

Piero Madau (University of California, Santa Cruz), recipient of the Dannie Heineman Prize for Astrophysics, awarded jointly with the American Institute of Physics, described highlights of his research on the era of first light in the universe, the ionization and heating of the intergalactic medium, and the formation and evolution of galaxies. Fiona Harrison (Caltech) presented results from NASA's ongoing Nuclear Spectroscopic Telescope Array (NuSTAR) mission, the first to capture images of the hard-X-ray sky. By special arrangement with the Royal Astronomical Society

(RAS) in the United Kingdom, Carlos Frenk (University of Durham) gave his RAS Gold Medal lecture on the status of the cold dark matter paradigm in light of recent computer simulations and redshift surveys. And four years after the first recipient of the Lancelot Berkeley Prize gave the final plenary presentation at the last Seattle meeting, David Weinberg (Ohio State University) wrapped up the 225th meeting's science program with his Lancelot Berkeley Prize lecture on the Sloan Digital Sky Survey's remarkable contributions to astrophysics.

The HAD meeting got under way Sunday afternoon with two sessions: "Astronomy and the First World War" and "Ideas of Evolution Inside and Outside of Astronomy During the Long 19th Century." HAD sessions continued on Monday, with a special session entitled "Preserving the Material Legacy of the American Observatory Movement." HEAD convened two special sessions that day as well, taking stock of the past, present, and future of general relativity on the occasion of its centennial. Other special sessions included "Astronomy Across Africa," "Results from the SDSS-III/APOGEE Survey II," and "Science with the 3D-HST Survey." There were also a wide variety of contributed oral and poster presentations, bringing the total number of plenaries, short orals, and posters to somewhere north of 1,000.

There was no regular summer AAS meeting in 2015. Instead, for the first two weeks of August, the AAS hosted the XXIX General Assembly (GA) of the International Astronomical Union (IAU) in Honolulu, with critical support from the University of Hawaii's Institute for Astronomy. It was the first GA in Hawaii, the first in the United States since 1998, and one of the biggest in the union's history. GA participants





addressed key topics in contemporary astronomy and assessed the latest scientific progress in a number of specialized areas. The science program featured seven multiday Symposia, 22 multisession Focus Meetings, nine IAU Division meetings, dozens of IAU Commission meetings, and first-ever daily general poster sessions. It was a huge success, and the AAS did the US astronomical community proud.

The 227th AAS meeting was held 4-8 January 2016 in Kissimmee, Florida, near Orlando and only an hour's drive from Cape Canaveral and the historic Space Coast. To avoid clashing with the New Year's Day holiday weekend, the meeting took place Monday-Friday rather than the usual Sunday-Thursday. Once again, HAD and HEAD joined the parent Society for the winter meeting. HAD hosted one special session: "A Celebration of the Centenary of Einstein's General Relativity." HEAD convened two: "High Energy Astrophysical Neutrinos" and "The Origin of the First Supermassive Black Holes."

The recipient of HAD's 2016 LeRoy E. Doggett Prize for Historical Astronomy, Albert Van Helden (Rice Univ. & Univ. of Utrecht), had to cancel his trip to Florida at the last minute, so Owen Gingerich (Harvard-Smithsonian Center for Astrophysics) stepped in to present Van Helden's prize lecture "New Information About Old Telescopes," featuring surprising findings about the optical quality of some of the earliest astronomical instruments. The winner of HEAD's Bruno Rossi Prize, Fiona Harrison (Caltech), gave her prize lecture, "A New View of the High Energy Universe with NuSTAR," in person.

The Kissimmee meeting offered a wide variety of additional prize and invited talks, beginning with the Kavli Foundation Lecture by Alan Stern (Southwest Research Institute) on the latest results from the New Horizons encounter with Pluto and its moons. Numerous AAS prize winners gave plenary lectures throughout the week, including Annie Jump Cannon Award recipient Smadar Naoz (Univ. of California, Los Angeles), whose talk was entitled "On the Dynamics of Planets, Stars, and Black Holes: New Insights from Triples." The joint winners of the Dannie Heineman Prize, Marc Kamionkowski (Johns Hopkins Univ.) and David N. Spergel (Princeton Univ.), presented "From '~' to Precision Science: Cosmology from 1995 to 2025." Giovanni Fazio (Harvard-Smithsonian Center for Astrophysics), who was honored for lifetime achievement, gave the Henry Norris Russell Lecture, "Viewing the Universe with Infrared Eyes: The Spitzer Space Telescope."

We had two Helen B. Warner Prize lectures in Florida: "The Past, Present, and Future of Statistical Cosmology" by 2014 winner Christopher Hirata (Ohio State Univ.) and "Origins of Structure in Planetary Systems" by 2015 honoree Ruth Murray-Clay (Univ. of California, Santa Barbara). Two plenaries focused on public policy: one by France Córdova, director of the National Science Foundation (NSF), and another, "Science to Action: Thoughts on Convincing a Skeptical Public," by William H. Press (Univ. of Texas at Austin). Closing out the science program on Friday afternoon was Jan Tauber (European Space Agency), recipient of the Lancelot M. Berkeley Prize, who spoke on the latest results from the Planck mission.

The 47th annual meeting of the AAS Division for Planetary Sciences (DPS) took place 8-13 November 2015 at the Gaylord National Resort & Convention Center in National Harbor, Maryland, just outside Washington, DC. The meeting featured exceptional science, with presentations of the initial results from the New Horizons visit to Pluto and of MESSENGER's final orbits around Mercury, as well as new findings from ongoing missions at Comet 67P/Churyumov-Gerasimenko, dwarf planet Ceres, and planets Mars and Saturn. More than 600 talks and posters communicated new results obtained not only within our own solar system but also on extrasolar planetary systems from both ground- and space-based studies.

In addition to gathering with the AAS in January 2015 and 2016, HEAD convened a special meeting, "High-Energy Large- and Medium-Class Space Missions in the 2020s," in Chicago, Illinois, in late June 2015. The AAS Solar Physics Division (SPD) and the American Geophysical Union (AGU) cosponsored the Triennial Earth-Sun Summit in Indianapolis, Indiana, in April, and the Division on Dynamical Astronomy (DDA) convened their annual meeting in May at Caltech in Pasadena, California. Our still-relatively-new Laboratory Astrophysics Division (LAD) joined forces with IAU Commission 14, Atomic & Molecular Data, to bring together providers and users of laboratory and astronomical data for a Focus Meeting at the IAU General Assembly in Honolulu in August.

## DIVISIONS, COMMITTEES & WORKING GROUPS



The AAS is a diverse group of members passionate about their discipline. What the AAS can accomplish is greatly enhanced by our Divisions, Committees, and Working Groups. Each has a role to play, but all are enabled by the dedicated enthusiasm of volunteer leaders and participants.

The AAS Divisions cover all major areas of astronomical endeavor. Our six topical Divisions are the Division for Planetary Sciences (DPS), High Energy Astrophysics Division (HEAD), Solar Physics Division (SPD), Division on Dynamical Astronomy (DDA), Historical Astronomy Division (HAD), and Laboratory Astrophysics Division (LAD). Each has its own governing committee, whose volunteer leaders guide the strategic direction of each Division and partner with the AAS Council to enhance our field. All AAS members may join any, and as many, Divisions as they choose; each Division has its

own membership dues and bylaws. Several Divisions have affiliate memberships, which allow scientists who would not otherwise be, or do not qualify to be, full members of the AAS to participate in Society and Division activities.

The AAS Committees help implement many of the strategic goals of the AAS Council. A full list is available on the AAS website, but some of the most important include our diversity committees — Committee on the Status of Women in Astronomy (CSWA), Committee on the Status of Minorities in Astronomy (CSMA), and Committee for Sexual-Orientation & Gender Minorities in Astronomy (SGMA) — as well as the Committee on Public Policy, Publications Board, and Employment Committee. Some committees require election, while most rely simply on interested individuals to volunteer for service. Each AAS prize and award has its own selection committee, and there are a range of administrative committees that look after the operation of the Society in a variety of ways. Individuals interested in volunteering for committee service should contact the AAS Secretary.

Working Groups are formed by the AAS Council to look after specific issues in our field. Among those formed recently are the Working Group on Astroinformatics and Astrostatistics (WGAA), Working Group on Time Domain Astronomy (WGTDA), and Working Group on Accessibility and Disability (WGAD). Sometimes Working Groups stay active for a long time, like the Working Group on Astronomical Software, while occasionally they "graduate" to a full-fledged Division, as outlined in our bylaws.

# MEDIA RELATIONS

The role of the AAS Press Office is to ensure media attention to newsworthy scientific results that are presented at Society meetings, presented by AAS members or other astronomy researchers at scientific conferences worldwide, published in peer-reviewed journals (including our own *Astrophysical Journal* and *Astronomical Journal*), or announced in press releases from recognized astronomy-related institutions. An ancillary role is to ensure media recognition for recipients of major astronomical prizes and honors, especially those awarded by the Society or its Divisions. These responsibilities fall to the AAS Press Officer, Dr. Richard Tresch Fienberg, who organizes press conferences at AAS meetings, handles media inquiries and requests for expert referrals, and manages the AAS press-release-distribution service, which forwards astronomy-related releases from public-information officers to journalists all over the world and working in all forms of print, broadcast, and electronic media. He also distributes headlines and links to online press releases via the Twitter account @AAS\_Press and manages the Astronomy in the News section of the AAS website. Rick is a member of the AAS Executive Office staff, though he works from home near Boston. Assisting as volunteers are Deputy Press Officers Dr. Larry Marschall (retired from Gettysburg College) and Dr. Inge Heyer (Loyola University Maryland).

In preparation for AAS meetings, the Press Officer solicits press, photo, and video releases; arranges press conferences, photo opportunities, press tours, and seminars for science writers; and prepares media advisories and a press kit. During meetings, press conferences are webcast live for journalists unable to attend in person. Working with the American Association for the Advancement of Science's EurekAlert service, complimentary access to the electronic editions of the *Astrophysical Journal* and the *Astronomical Journal* is provided to accredited reporters who are not employed as astronomers.

Another of the Press Officer's responsibilities is to arrange for photography at AAS meetings. For many years we

relied on volunteers, but from 2012 to 2015 we used the professional services of Jason Images, which dramatically increased the quality of our meeting photography. In 2016 we switched vendors to Corporate Event Images, which has further enhanced the quality of our meeting photography and sped up the process of posting the photos online.

We've been forwarding press releases to the news media by email for three decades. The AAS press list is actually two lists: one for reporters eligible to receive embargoed releases, and one for public-information officers (PIOs) who, according to rules established by *Science* and *Nature*, are ineligible to receive embargoed releases. Releases go to more than 2,200 email addresses, with about 1,800 of them on the press list and 400 on the PIO list. On average, we forward about  $100 \pm 20$  press releases each month. We receive dozens more, but we don't forward releases if we don't think they'll be of interest to our list members (as is the case, for example, with NASA releases about contract extensions and university releases about small grants to individual investigators). The @AAS\_Press Twitter account has about 3,700 followers, but not all of those are journalists or PIOs. Many are astronomers (including AAS members) or astronomy enthusiasts among the general public.

The AAS Press Office began working more closely with AAS Publishing in 2015 in connection with AAS Nova. Launched in August 2015 in collaboration with our journal-publishing partner, IOP Publishing, the AAS Nova website provides a curation service to the astronomical community, highlighting breakthroughs and discoveries that busy researchers might otherwise overlook, especially outside their immediate area of expertise. The site's editor, Dr. Susanna Kohler, writes a biweekly "tip sheet" alerting journalists to potentially newsworthy papers featured on AAS Nova; it is distributed via the AAS press list.

The 225th AAS meeting in Seattle, Washington, in January 2015 attracted 90 press registrants. Another 38 reporters requested the press-conference-webcast password. On-site press registrants were a mix of approximately two-thirds reporters and one-third public-information officers. The AAS Press Officer organized seven press conferences and one seminar for science writers at the winter meeting. There are no corresponding numbers to report for the summer meeting in 2015 because in lieu of the usual June conference, the AAS hosted the XXIX General Assembly (GA) of the International Astronomical Union (IAU) in Honolulu, Hawaii, in August. Numerous reporters attended, and several press conferences were held, but the press program at the GA was managed by the IAU Press Office, not the AAS Press Office.



L-R: Rick Fienberg, Larry Marschall, Inge Heyer

# EDUCATION & OUTREACH

Through its education and outreach programs, the AAS nourishes a scientific outlook in society to help increase public support for scientific research, improve science education at all levels, attract young people to careers in science and technology, and make evident the connections between science, technology, and prosperity. The highest priorities of the AAS in these areas are to promote and support training the next generation of astronomers to become successful scientific researchers and educators, and to encourage and support high-quality research on the teaching and learning of astronomy.

Except as noted below, AAS education programs are administered by the AAS Executive Office, primarily by Gina Brissenden, Education & Outreach Coordinator (+1 202-328-2010 x122, [gina.brissenden@aaas.org](mailto:gina.brissenden@aaas.org)). General questions should be addressed to [education@aaas.org](mailto:education@aaas.org). See [aaas.org/education](http://aaas.org/education) for more information about the items listed below as well as other AAS education programs.

**Astronomy Education Board:** charged with oversight of the education activities of the AAS by providing advice to the Council, the Executive Officer, the Education Officer, and the Education & Outreach Coordinator. The AEB examines the full range of education activities in which the society and its members are involved, reviews the context in which investments in science education are being made by federal and state agencies, recommends optimal mechanisms for developing an effective education strategy for the astronomical community, and recommends appropriate roles for the AAS in exercising leadership in education, and suggests and implements education-related AAS activities consistent with the mission, goals, and strategic plan of the Society. The current AEB Chair is Charles Liu, the AAS Education Officer (2015-2018), [educationofficer@aaas.org](mailto:educationofficer@aaas.org).

**Education Sessions at AAS Meetings:** Oral and poster sessions on various aspects of astronomy education are regular features of AAS meetings. Special sessions and workshops are often organized by AAS members involved in astronomy-related education research, curriculum development, and outreach. Additionally, there are often pre- and within-meeting family and middle/high-school student astronomy events planned both by members of the AAS and AAS staff. The majority of workshops occur on the weekends before regular AAS meetings, but some do occur within the meeting itself, as well as at some AAS Division meetings.

**The AAS Harlow Shapley Visiting Lectureship Series:** The AAS coordinates a program of two-day visits to colleges and



universities by professional astronomers who wish to share the excitement of modern astrophysics with students, faculty, and the public. Participation is open to two-year colleges and four-year undergraduate institutions throughout the United States, Canada, and Mexico, especially ones without their own astronomy programs. Shapley Lecturers contribute to the host institution's academic program and intellectual environment in many ways. They give at least one presentation that's free and open to the public: The Harlow Shapley Lecture. They may also guest-teach a class in physics or astronomy; give a research colloquium or seminar presentation; interact with students informally about graduate school and careers; discuss teaching and curriculum with faculty, deans, and administrators; and visit local primary and secondary schools.

The goal of the Harlow Shapley Visiting Lectureship is to support not only the part of the AAS mission statement that commits the Society to training, mentoring, and supporting the next generation of astronomers, but also the part that commits the AAS to promoting increased participation of historically underrepresented groups in astronomy.

Toward this end, the AAS waives for community colleges and Minority Serving Institution (MSI), such as Historically Black Colleges or Universities, Hispanic Serving Institution, Tribal College and Universities, etc., the institutional stipend paid to the AAS in support of the Shapley program. Additionally, the AAS arranges a special Shapley Visiting Lectureship at an MSI that is located geographically near an upcoming AAS meeting or AAS Division meeting, which results in one faculty member from that institution and five of their students receiving free one-day registration to attend that nearby AAS/AAS Division meeting. Additionally, we recently recruited new Shapley Lecturers who are particularly interested in partnering with MSIs for their Shapley Visiting

Lectureships and who are willing to do some of the reaching out to these MSIs to broker the relationship. Since these efforts have been put into place, there has been an increase in the number of Shapley Visiting Lectureships that are hosted by MSIs.

The AAS Astronomy Ambassadors Program: The AAS Astronomy Ambassadors program comprises a professional development workshop and a community of practice designed to help improve early-career astronomers' ability to communicate effectively with students and the public. It provides mentoring and training experiences for astronomers, from advanced undergraduates to beginning faculty, and provides access to resources and a network of contacts within the astronomy EPO community.

By learning how to implement effective education and outreach strategies, AAS Astronomy Ambassadors become better teachers, better presenters at meetings, and better representatives of our science to the public and to the government. And because early-career astronomers are a more diverse group than those who currently do the majority of outreach, they help the astronomical community present a more multicultural and gender-balanced face to the public, enabling members of underserved groups to see themselves as scientists. Ambassadors are provided with a large, growing library of outreach activities and materials that are suitable for a range of venues and audiences. Many of the resources in this library were developed by organizations such as the Astronomical Society of the Pacific, the Pacific Science Center, and the Center for Astronomy Education for other outreach programs, though some resources have been created specifically for this program.

The first AAS Astronomy Ambassadors workshop was held at the 221st meeting of the AAS in Long Beach, CA, in January 2013 and served 30 young astronomers chosen from more than 75 applicants. Incorporating feedback from workshop participants and lessons learned from the reports they've submitted after conducting their own outreach events, a second annual workshop for a new cohort of 30 Ambassadors was successfully held in January 2014 at the 223rd AAS meeting in Washington, DC. In October 2014, the AAS co-sponsored the third Ambassadors workshop with the AAS Division for Planetary Sciences (DPS), which was held in conjunction with 46th DPS meeting in Tucson, Arizona, for a cohort of 28. The fourth annual workshop was held in January 2015 at the 225th AAS meeting in Seattle, Washington, for a cohort of 28 Ambassadors. The AAS Council approved continuing this program in 2016, with another workshop held at the 227th AAS meeting in Kissimmee, Florida, for a cohort of 28.

The AAS Student Education Outreach Program: In June 2012 at the 220th meeting of the AAS in Anchorage, AK, the AAS launched the AAS Student Education Outreach Program. Students and their chaperones (teachers and/or parents) are invited to drop in at AAS meetings on a pre-arranged morning to hear a special presentation from an astronomer and then to tour the Exhibit Hall, where numerous exhibitors conduct age-appropriate interactive demonstrations and other educational activities. This program has proven to be very popular, typically including 150-250 local middle-school through community college students from underserved minority populations, STEM programs, and homeschool groups. Through a generous contribution from long-standing sponsor Associated Universities, Inc., the AAS is able to supply transportation and additional resources to provide this program free of charge.

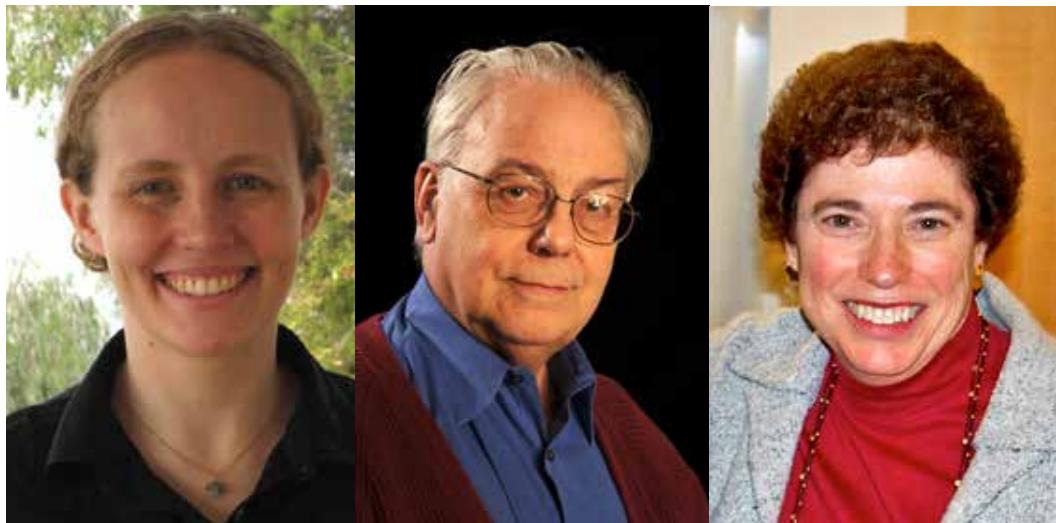
At the 221st AAS meeting in Long Beach, California, in January 2013, approximately 300 students from six schools and various homeschool programs heard a talk by Bobak "Mohawk Guy" Ferdowsi and engaged in hands-on science activities led by 23 exhibitors and volunteer outreach groups. At the 222nd AAS meeting in Indianapolis, IN, in June 2013, approximately 200 students from two schools and various homeschool programs heard from Gail Zasowski and participated in hands-on activities led by 14 exhibitors and volunteer outreach groups. More recently in January 2015, 130 students at the 225th AAS meeting in Seattle, WA, heard from astrobiologist Aomawa Shields, who was also a 2015 AAS Duxsey Prize Winner, then participated in hands-on activities with 19 exhibitors. Then in January 2016, 325 students at the 226th AAS meeting in Kissimmee, Florida, heard from Univ. of Arizona undergraduate Allison McGraw, then participated in hands-on activities with 22 exhibitors.

Other education programs within the AAS include coordinating the Rodger Duxsey Travel Prize, which provides graduate students or postdocs within one year of receiving or receipt of their PhD with a monetary prize to enable the oral presentation of their dissertation research at a winter AAS meeting. The AAS also coordinates the the Chambliss Student Astronomy Achievement Awards, which recognize exemplary research by undergraduate and graduate students who present posters at AAS meetings. Finally, the Education and Outreach Coordinator also serves as the AAS liaison to other scientific societies' education programs. As a result of such collaboration with the American Institute of Physics (AIP), participation by the Society of Physics Students (SPS) is now a regular feature of winter AAS meetings; SPS exhibits at the undergraduate reception and holds a special evening poster session at which a well-known astronomer gives a career-oriented "pep talk" to the attending students.

# 2015 PRIZE WINNERS



L-R: Giovanni Fazio, Heather A. Knutson, Marc Kamionkowski, David N. Spergel



L-R: Ruth Murray-Clay, David Morrison, Claire Max

**Giovanni Fazio**, *Henry Norris Russell Lectureship*  
“For his pioneering work on gamma-ray and infrared instrumentation, which has advanced our understanding in many areas of astronomy, ranging from near-Earth objects to high-redshift galaxies.”

**Heather A. Knutson**, *Newton Lacy Pierce Prize*  
“For her transformational work in the characterization of exoplanet atmospheres.”

**Marc Kamionkowski & David N. Spergel**,  
*AAS/AIP Dannie Heineman Prize*  
“For their outstanding contributions to the investigation of the fluctuations of the cosmic microwave background, which have led to major breakthroughs in our understanding of the universe.”

**Ruth Murray-Clay**, *Helen B. Warner Prize*  
“For her substantial contributions to numerous areas of astrophysics.”

**Smadar Naoz**, *Annie Jump Cannon Award*  
“For her pathbreaking contributions in cosmology and planetary dynamics.”

**David Morrison**, *Education Prize*  
“For a lifetime of outstanding contributions to the understanding of astronomy by college students and the public and to the debunking of astronomical pseudoscience through his textbooks, popular books, slide sets, websites, articles, public talks, and work with the media.”

**Claire E. Max**, *Joseph Weber Award for Instrumentation*  
“For co-inventing sodium-laser-guide-star adaptive optics and for shepherding adaptive optics, which takes the ‘twinkle’ out of starlight, from its roots in classified space surveillance to its prominence today as an essential technology on large telescopes.”

# MEMBER DEATHS

The Society was saddened during 2015 to learn of the passing of the members listed here. The Society, through its Historical Astronomy Division, strives to publish an obituary for each AAS member after we are informed of the member's death. Obituaries are published and available online through the AAS web pages. They are also provided to Astrophysics Data System. A complete index is available at [had.aas.org/obits.html](http://had.aas.org/obits.html).

Claudia J. Alexander  
Raul Baragiola  
Nancy C. Blemly  
Robert C. Bless  
Norman W. Broten  
Arlin P. S. Crotts  
Alexander Dalgarno  
Günther Elste

William C. Erickson  
Doc Harold Irving Ewen  
J. Richard Hansen  
Daniel E. Harris  
B. Ray Hawke  
James Houck  
Robert P. Kraft  
Sumant Krishnaswamy

Thomas E. Margrave  
John Michael Marlborough  
F. Curtis Michel  
Stephen S. Murray  
Stanton J. Peale  
James P. Rodman  
Hyron Spinrad  
Roger J. Thomas

Charles H. Townes  
Lloyd V. Wallace  
Peter A. Wehinger

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**Executive Officer** Kevin B. Marvel

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Todd J. Henry, RECONS/Georgia State University  
Steven D. Kawaler, Iowa State Univ.

### 2013-2016

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Dara J. Norman, NOAO  
Dawn M. Gelino, Caltech

### 2014-2017

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Buell T. Jannuzi, Steward Obs.  
Stephen Unwin, JPL

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Gina Brissenden, Education & Outreach Coordinator  
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Kathy Cox, Meetings Abstract Administrator  
Lynn Ervin, Registrar & Meetings Coordinator  
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Lisa Idem, Assistant Director of Meeting Services  
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Greg Schwarz, Journals Specialist  
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