Research, discovery, and communication

Twenty years ago, no one had observed a planet outside of our solar system. Nowadays, exoplanets are so routinely observed that astronomers estimate that 70% of stars host at least one planet. That was one exciting bit of news announced at the 221st American Astronomical Society Meeting, held January 6-10 in Long Beach, CA. Exoplanets predominated in the conference’s plenaries and press conferences, but program offerings also included commentary by 2011 Nobel Prize winner Saul Perlmutter on the discovery of dark energy and our current understanding of galaxies. From our comfortable home in the Milky Way to the extremes, astronomers have observed with the Hubble Deep Field instrument and other tools of the trade. AIP took the opportunity afforded by the AAS winter meeting to honor two influential members of the physical sciences community. The first award, the joint AIP/AAS Dannie Heineman Prize for Astrophysics, was presented to Chryssa Kouveliotou, “for her extensive accomplishments and discoveries in the areas of gamma ray bursts and their afterglows, soft gamma repeaters, and magnetars.”

Kouveliotou, an astrophysicist at NASA’s Marshall Space Flight Center in Huntsville, AL, has made many important contributions to the fields of astronomy and astrophysics that are highlighted in her award citation and the award’s press release. It is important to note that the Heineman selection committee also noted Dr. Kouveliotou’s abilities to forge effective research collaboration across the astronomy community.

AIP also honored Richard Panek for excellence in science communication. For nearly 45 years, AIP has partnered with its Member Societies, including AAS, to present the Science Communication Awards, which recognize excellence in writing in physics, astrophysics, and allied science fields. In his book, “The 4% Universe: Dark Matter, Dark Energy, and the Race to Discover the Rest of Reality,” Panek gives...
A very engaging and careful examination of the race to explain why only 4% of our universe consists of so-called “normal matter.” He narrates the quest to find the “dark” matter and the even more bizarre unknown dark energy. His work creates intimate portraits of the scientists involved in studying these cosmic questions that have redefined science and overturned our complacent view of the cosmos that was held for the latter half of the 20th century. Meeting reporters and talented writers, including Physics Today’s Steve Blau, convened for a special press reception organized by AIP to recognize Panek’s success in bringing these intriguing and important topics to a broader audience.

The Society of Physics Students (SPS) hosted an SPS Evening of Undergraduate Science. Students (and those no longer students) were entertained by Caltech Astronomer Mike Brown’s story of his discovery of a Pluto-like body in our solar system and his role in seeking to reclassify Pluto as an object unlike the eight planets. This work generated a lot of ill will among the public, yet he pressed for truth. Brown’s story connects to both of our prize winners: he described the importance of doing good science (i.e., classifying objects of observation correctly) and communicating with the public to inform their correct understanding of science.

An important part of AIP’s and our Member Society’s mission is to recognize those who make significant contributions to science and those who strive to bring accurate and complex topics to a broader audience. We were pleased that AAS offered the perfect midwinter venue in California to honor and learn from such influential people.

**Publishing Matters**

John Linton appointed new marketing director

AIP Publishing has a new director of marketing. John Linton comes to AIP with more than 13 years of marketing experience, most recently with ACS...
Publications and previously with Hewlett Packard. Linton started with ACS Publications as a senior marketing manager, responsible for marketing seven applied chemistry journals to researchers and librarians. In this role, he was tasked with building usage, soliciting submissions, and creating institutional sales material for this suite of journals. He then served as ACS’s senior channel marketing manager. As the primary interface between the marketing and sales teams, he created collateral and campaigns designed to help the sales team successfully execute renewals and increase sales. Linton launched a three-year “Why I Read/Why I Publish” branding campaign for ACS Publications, led the successful marketing launch of ACS Applied Materials & Interfaces, and created marketing campaigns based on turn-away data for products like the ACS Symposium Series. Join us in welcoming John to AIP!

Chaos makes connections in Colorado

AIP journal manager Jennifer Simmerer recently attended Dynamics Days 2013, an international conference on chaos and nonlinear dynamics hosted by the Applied Mathematics Department at the University of Colorado at Boulder. This small conference covered a wide array of topics, from understanding earthquakes by studying friction at microscopic scales to modeling the loopy networks that transport water in leaves. Chaos Editors Leon Glass and Lou Pecora gave talks at the meeting, and Chaos Editor Liz Bradley was one of the conference organizers.

Simmerer reports that a particularly high percentage of the invited speakers agreed to meet with her. Most of their discussions centered on the challenges for interdisciplinary scientists trying to publish in physics journals. “It’s an open question, how to serve intersectional authors, but one on which the author community wants our guidance,” Simmerer says. Many of the authors had published in Physics of Fluids and Chaos and said they appreciated both the review experience and speed of publication for these two journals.

Physics Resources Matters

Overall, fewer physics departments in the US, but more faculty members
AIP's Statistical Research Center conducts the Academic Workforce Survey every two years, contacting each department in the US that offers at least a bachelor's degree in physics. From the most recent survey, conducted in 2012, SRC staff find that:

- Between 2000 and 2012, the total number of degree-granting departments fell to 746 (-3%), while the number of full-time equivalent (FTE) faculty members grew to 9,350 (+12%).

- At the PhD-granting level, the number of departments grew by about 3% between 2000 and 2012 (from 186 to 192). Over this same time, the number of FTE faculty members grew faster, increasing from 5,000 in 2000 to 5,620 in 2012 (+12%).

- Even though the number of bachelor's-granting departments fell by about 4% (from 513 in 2000 to 493 in 2012), the number of FTE faculty members in these departments grew by almost 13% (from 2,600 to 2,930).

### Total Full-Time Equivalent (FTE) Faculty Members in Physics Departments in the US

<table>
<thead>
<tr>
<th>Highest Degree Awarded</th>
<th>2000 (Number of departments in parentheses)</th>
<th>2012 (Number of departments in parentheses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD</td>
<td>5,000 (186)</td>
<td>5,620 (192)</td>
</tr>
<tr>
<td>Master's</td>
<td>775 (67)</td>
<td>800 (61)</td>
</tr>
<tr>
<td>Bachelor's</td>
<td>2,600 (513)</td>
<td>2,930 (493)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>8,200 (766)</strong></td>
<td><strong>9,350 (746)</strong></td>
</tr>
</tbody>
</table>

The year in the table refers to the spring semester. For example, 2000 represents the 1999-2000 academic year.

http://www.aip.org/statistics

### Coming Up

**Wednesday, January 30**

- ACP Super Bowl kickoff luncheon, 12:00-1:00 p.m. (College Park)

**Wednesday, February 6**

- January WOW drawing (Melville)

**February 6-8**

- PSP Annual Conference (Washington, DC)

**Wednesday, February 13**
- Staff birthday breakfasts (Melville and College Park)

February 14-18

- AAAS Annual Meeting (Boston, MA)