Director's Matters

By H. Frederick Dylla, Executive Director & CEO

Classrooms on Capitol Hill

For the last three years, the American Institute of Physics has been able to place two undergraduate science interns on Capitol Hill thanks to the generous financial support of Nobel Laureate John Mather. Mather Policy Internships provide a unique educational experience for physics undergraduates to see the science policy process unfold in person with commensurate benefits to their hosts in Congress. This summer, Congressman Robert Andrews (D-NJ) hosted rising senior Jonathan Morris of the University of Minnesota-Twin Cities, and the House Science, Space and Technology Committee minority office, led by Congresswoman Eddie Bernice Johnson (D-TX), hosted rising junior Allen Sheie of Grove City College. I thank these Members of Congress for their strong support of science and science education and their willingness to host these two energetic interns.

Members of Congress receive many requests to host interns but typically have only three or four desks available. Getting a foot in the door is not an easy feat, yet science garners respect in certain circles. This is the third year that the House Science Committee has hosted one of the Mather interns. In the past, our interns have also been hosted by Congressmen Rush Holt (D-NJ) and Bill Foster (D-IL).

The Mather Policy Interns do not start with defined projects to work on for the summer. Instead, they are given a window of opportunity to embrace whatever may come their way as part of a pool of interns in their host offices. Often, as befits a new intern, the job will start with routine tasks such as answering the phone, opening mail, and filling binders for hearings. Maybe the intern will graduate to writing background documents and taking hearing notes for staff. If successful, an intern may be given more responsibility, which varies from looking up budget lines to check for consistency, to researching entire bills. During his closing presentation, Jonathan Morris related that even simple bills of no more than a few sentences require thorough research to fully understand all the intended consequences and potential unintended consequences. Our interns researched and wrote reports for Congressional staff.
on numerous topics including the benefits of NASA technology transferred to the private sector and the status of open access publishing. Often Congressional staff in the host offices will tap our interns' technical abilities and task them with developing databases, working the "math" on certain issues, or fixing their computers—all in a day in the life of a physics intern.

These internships are made possible because of the interest and financial support of John Mather. John approached AIP in 2010 with a particular observation. He saw opportunities for post-grad students to work on Capitol Hill via the popular AAAS fellowship program, but there was no such program specifically for undergraduate science majors. He felt that it was very important to create opportunities for motivated undergraduates to both witness and help develop science policy early in their careers. His vision evolved with AIP in the formation of the Mather Public Policy Intern Program, supported by the John and Jane Mather Foundation for Science and the Arts. The Mather interns are part of the successful Society of Physics Students summer internship program, which has placed physics undergraduates at AIP, our Member Societies, and national laboratories in and around Washington, DC, for the last 12 years. See the story below, "SPS interns: Celebrating a job well done."

Our Congress has just recessed for their traditional end-of-summer break after another year characterized by many as dominated by excessive partisan debate and near gridlock. Perhaps the energy and enthusiasm of our interns can help temper the debate and provide needed perspective on analytic solutions to our tangled political problems.

**Publishing Matters**

**AIP Publishing visits Zurich for semiconductors conference**

AIP Publishing representatives attended the 31st International Conference on the Physics of Semiconductors (ICPS 2012), held in Zurich, Switzerland, July 29–August 3. The conference took place at ETH–The Swiss Federal Institute of Technology. Selected plenary and invited speakers will have their contributions published in a special section of the *Journal of Applied Physics* (JAP). The general conference proceedings of ICPS will be published in the *AIP Conference Proceedings* series. JAP and *AIP Conference Proceedings* were both represented at a booth in the conference hall. JAP Editor P. James Viccaro attended the conference, along with Journal Manager David Baker and Marketing Manager Mary Griffin. The AIP representatives worked to encourage submissions to JAP and to develop conference proceedings leads. Conference attendees enjoyed a reception on opening night, as well as an excursion day on August 1, which was National Day in Switzerland. The day culminated in a conference dinner held at Schützenhaus Albisgüetli, one of the nicest convention centers in Zurich.

**Physics Resources Matters**

**SPS interns: Celebrating a job well done**

Last Tuesday, the 2012 Society of Physics Students
(SPS) interns wrapped up their summer with a series of engaging presentations about their time in Washington, DC. There are many summer research opportunities for undergraduate physics students, but the SPS program is unique in offering positions in research, outreach, and science policy. The benefits of this were apparent during the presentations, as the interns shared stories and highlighted lessons learned from their varied experiences.

During the presentations, interns Meredith Woy and Melissa Hoffman presented some of the activities they designed for the 2012 SOCK (Science Outreach Catalyst Kit), a resource to help SPS chapters start local science outreach programs. While Meredith and Melissa spent their days exploring the best ways to help SPS chapters around the country teach students about the invisible fields of gravity and magnetism, intern Ryan Barley spent most of his summer in the Niels Bohr Library reading books and listening to interviews about the famous scientist Ernest Rutherford, in preparation for a new History Center web exhibit. Ryan’s summer roommate, Thomas Smit, worked in a lab at the National Institute for Standards and Technology (NIST), creating a program to process and analyze the huge amount of data that will be produced by a new NIST effort to simultaneously test the reliability of thousands of electronic devices.

A total of nine students were chosen from across the nation to participate in the 2012 internship program. Five worked at the American Center for Physics, two at NIST, and two on Capitol Hill. To read about their summer experiences and see their final presentations, visit the SPS website.

Member Society Spotlight

APS involvement with critical minerals

The American Physical Society has initiated and facilitated many discussions lately on Capitol Hill on the issue of critical minerals policy, which is being debated in the Senate Committee on Energy and Natural Resources. The APS Panel on Public Affairs published a report in conjunction with the Materials Research Society entitled Energy Critical Elements: Securing Materials for Emerging Technologies, which was used by the office of Senator Mark Udall (D-CO) to author his bill, the Critical Minerals and Materials Promotion Act. Ranking Member Lisa Murkowski (R-AK) also authored a bill on critical minerals, the Critical Minerals Policy Act. APS staff led conversations about the Murkowski bill, addressing many issues, including those related to mining the US mineral supply.

APS fostered discussions on a bipartisan compromise between both bills, an amendment offered by
Chairman Jeff Bingaman (D-NM) and Ranking Member Murkowski. In those discussions, APS emphasized the need for a balance in the critical minerals supply chain between mining the US mineral supply versus importing minerals from China. Also highlighted were environmental concerns associated with mineral mining and the need for recycling critical mineral resources. The compromise bill supports providing quantitative and qualitative assessments of undiscovered critical minerals while addressing issues associated with mineral exploration. APS strongly emphasized the need for additional research on critical minerals issues.

APS, along with the Materials Research Society and the Magnetic Materials Association, drafted a letter of support for the bipartisan amendment and gathered endorsements from scientific societies, manufacturing organizations, and industry. The letter cosigners, which include AIP and the American Geophysical Union, collectively represent more than 450,000 scientists and engineers. The letter was sent on July 23 to Chairman Bingaman and Ranking Member Murkowski. An FYI on this letter can be read here.

**Coming Up**

Through Wednesday, August 29
- ACP annual school supplies drive

Monday, August 20
- *Journal of Chemical Physics* reception at the American Chemical Society meeting (Philadelphia, PA)

Thursday, August 30
- ACP brown-bag lunch talk, 12–1 pm (College Park, MD)
  "What Nuclear History Can Tell Us About the Future of Scientific Secrecy," given by Alex Wellerstein, associate historian, Center for History of Physics