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## Director's Matters

By H. Frederick Dylla, Executive Director & CEO



### Cautious optimism for science funding

When Congress returns to Washington this week there will be less than three weeks until the start of the next fiscal year. Congress and the Administration have decided that the best way to avoid a shutdown of the federal government on October 1 is to pass a six-month funding bill that will largely maintain departmental and agency budgets at current levels. With the current political environment in Washington, this is probably the best outcome we could hope for, as it will give agency and department managers a greater degree of confidence in their planning. The details of this bill are still being settled, and it will have to pass both the House and Senate before it gets sent to the president for his signature. "Cautious optimism" seems appropriate. See AIP's [FYI# 107 on this topic](#) for more details.

Far more uncertain is what Congress and President Obama will do to avoid an automatic, across-the-board reduction in federal budgets during the first week of January. Estimated to be around 8–9%, this "sequestration" is required by a budget law that was passed by both the House and Senate and which was signed by the president last year. Intended to force policymakers to arrive at a plan to reduce the federal deficit, this mechanism, which no one contemplated would actually be used, is now a very real possibility. No one knows how this will turn out.

AIP and its Member Societies have urged Congress and the Administration to strike a deal that will avoid this sequestration. As discussed in [FYI #110](#), one of these letters stated:

*As leaders of professional societies representing more than 135,000 physical scientists and educators in universities, companies, hospitals, and national laboratories, we are writing to urge you to resume consideration of a comprehensive deficit reduction plan. A successful strategy must not only set our nation on a long-term course of fiscal responsibility, but also promote strong economic growth by sustaining the science and technology activities that have long kept America innovative and competitive in the global marketplace.*

AIP signed this letter that was drafted and signed by the American Physical Society, as well as The Optical Society, AVS: Science & Technology of Materials Interfaces and Processing, American Association of Physicists in Medicine, American Association of Physics Teachers, and the American Crystallographic Association. AAPT, the American Astronomical Society, and the American Geophysical Union endorsed a similar letter.

## Publishing Matters

### AIP attends International Congress on Mathematical Physics

Representatives from AIP Publishing traveled across the Atlantic to the International Congress on Mathematical Physics ([ICMP12](#)), held in Aalborg, Denmark, August 6–11. ICMP convenes only once every three years and attracts a large percentage of the mathematical physics community, who are eager to hear about new research and reunite with colleagues. Publisher Mark Cassar and Managing Editor Melissa Patterson staffed the AIP Publishing table at the conference. They chatted with attendees and collected names

to enter in a drawing for an iPad. Researchers who stopped by spoke highly of the *Journal of Mathematical Physics* (JMP) and praised the quality of the scientific content, as well as the ease and timeliness of publication. Many said they would publish or consider publishing in JMP in the future. There was also a JMP Editorial Board meeting held during the conference on a restored Danish icebreaking ship called Elbjörn, originally used from 1954 to 1996 to keep the Danish waters ice free.



The JMP Editorial Board meets for dinner aboard a historic Danish icebreaking ship. Attendees, from the bottom left (EB members unless otherwise noted): Flora Koukiou, Jan Philip Solovej, Melissa Patterson (managing editor, AIP), Reinhard Werner, Michael Wolf, Rafael Benguria (associate editor), Pavel Exner, Bruno Nachtergaele (editor, JMP), Mark Cassar (publisher, AIP), and Robert Seiringer.

## Physics Resources Matters

### ICPS provides SPS Outstanding Students with an international experience

The International Conference of Physics Students (ICPS) is a lively annual meeting planned and hosted by the [International Association of Physics Students](#) (IAPS), an association run by students for students and recent graduates who are interested in physics. The Society of Physics Students (SPS) represents the United States as a National Committee member of IAPS.



2012 SPS Outstanding Student awardees Chris Frye (left) and Rachel Ward.

awardees were Rachel Ward, Utah State University, for her research on the effects of gravity waves on polar mesospheric clouds (PMCs); and Chris Frye, University of Central Florida, for his research "Identifying Collisions in the Compact Muon Solenoid at the LHC."

Keeping with tradition, SPS sent the recipients of its prestigious [Outstanding Student Award for Undergraduate Research](#) to the 2012

ICPS, which took place in Utrecht, Netherlands. The



The 2012 ICPS began with a welcome lecture in a local cathedral by Dr. Jan Terlouw, who studied physics and mathematics in Utrecht, Netherlands, worked as a physicist for more than a decade, and then became a politician and an author of children's books.

In addition to travel expenses to attend the ICPS, both awardees received a \$500 honorarium and a \$500 prize for their SPS chapter. To see their research abstracts and a feature article by Chris Frye, please visit the [SPS website](#).

AIP's history programs are turning 50!

Join us on September 24, 2012 to commemorate the 50th anniversary of AIP's rich programs to preserve the history of physics.

A reception starts at 6:00 pm, followed by a program of invited speakers: Gerald Holton (professor emeritus, Harvard University), Peter Galison (professor, Harvard University), Spencer Weart (former director, Center for History of Physics), and Roger Stuewer (professor emeritus, University of Minnesota).

For more information and to RSVP (by September 14), visit [www.aip.org/history/events/anniversary/](http://www.aip.org/history/events/anniversary/).

## Member Society Spotlight

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Brotherly love of physics



The University of Pennsylvania played host to the AAPT 2012 Summer Meeting. You can read about [meeting highlights](#) on the AAPT website, and all the [plenary talks](#) have been captured for online viewing via USTREAM.

Crystal clear in Boston

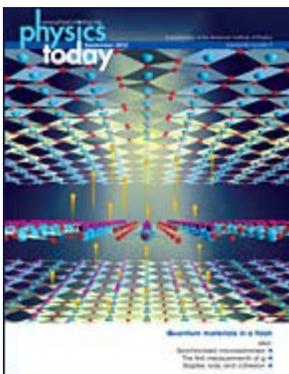
AIP's Media Services office helped shine more light on the exciting research presented at the [2012 ACA Annual Meeting](#), which took place July 28–August 1 in Boston, MA. The highlighted talks this year included:

- **Femtosecond Lasers Used to Study Biological Molecules:** By outrunning a laser's path of destruction, an international research team has created 3-D images of fragile but biologically important molecules inside protein nanocrystals. [Learn more.](#)
- **Gene Bank Uncovers Roots of Evolutionary Tree:** A team of researchers, led by a professor at the State University of New York at Buffalo and including area high school students, has developed a novel method to search the vast archives of known gene sequences to identify and compare similar proteins across the many kingdoms of life. [Learn more.](#)
- **Proteins Perform under Pressure:** A Japanese research team has been investigating how deep-sea bacteria adapt to high-pressure conditions such as those found in the Mariana Trench. [Learn more.](#)
- **Clues to Antibiotic-Resistant Bacteria:** A research team at the University of North Carolina at Chapel Hill may have found a way to prevent "superbugs" from genetically propagating drug resistance that doesn't demand deployment of a next-generation medical therapy. [Learn more.](#)



This marks the second time that AIP has helped to promote research at the ACA meeting. For more information, see the [meeting round-up](#) page on the ACA website, or [visit ACA on Facebook](#).

## Off the Press



*Physics Today*, September 2012

Cover: Between the planes of a high-temperature copper oxide superconductor, illustrated here, charge transport can occur through two separate mechanisms: the incoherent hopping of quasiparticles and the superconducting tunneling of Cooper pairs (yellow spheres). An ultrafast mid-IR light pulse can turn on that Cooper-pair tunneling and thereby drive the material into a superconducting phase in a matter of picoseconds.

## Coming Up

September 11–12

- Individual TIAA-CREF counseling sessions (College Park)

Wednesday, September 12

- Staff birthday breakfasts (Melville, NY and College Park, MD)

Wednesday, September 19

- Annual Inside Science TV (ISTV) Underwriters' Meeting (College Park, MD)

Monday, September 24

- AIP Executive Committee meeting (College Park, MD)
- 50th Anniversary of AIP's History Programs (College Park, MD)

September 25–27

- *Physics Today* sales meeting (Montauk, NY)

Thursday, September 27

- Employee picnic (Melville, NY)