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APS Works for the Physics Community

by Irish Lettieri

The 36 physicists who founded the American Physical Society (APS) in 1899 defined its mission as advancing and diffusing the knowledge of physics. More than a century later, the Society's core activities remain the traditional ones of publishing journals and organizing meetings. But over the years, its leaders have recognized that the health of the physics profession depends on more than just the straightforward dissemination of information. The welfare of physics in the United States is entwined with the federal budget process, the quality of science education, the health of physics in other countries, and maintaining communication and cooperation among the far-flung family of physicists in academia, government laboratories, and private industry.

APS works hard to serve its 43,000 members. As a registered lobbying organization, the Society monitors the annual budget cycle of the federal government, and it makes the case for science funding with Congress and with the administration. In addition, APS helps the physics community to serve the nation by bringing scientific expertise to issues of national and international importance.

The most recent example is the APS study *Boost-Phase Intercept Systems for National Missile Defense*, which addressed the technical issues involved in building and deploying a system intended to intercept enemy missiles soon after launch while the rocket engines are still burning. The report, released last July, concluded that the approach would not be effective, a finding that gained national attention. For example:

"Scientists Raise Doubts About Missile Defense" (*Washington Post*, July 16, 2003)

"Timing is Fatal Flaw for Missile Defense" (*New Scientist*, July 15, 2003)

"Report Says Early Strikes Can't Shoot Down Missiles" (*Science*, July 18, 2003)

"Report Prompts Questions About Airborne Laser" (*Defense Week*, July 28, 2003)

Physics education is another area of intense APS activity. Currently, the Society is collaborating with the American Institute of Physics and the American Association of Physics Teachers in an effort dubbed PhysTEC, which is funded by the National Science Foundation and the U.S. Department of Education. The initiative's main goal is to involve physics departments in improving the college training of future K-12 teachers. "Teachers need a firm foundation to understand science and to teach it well," says Fredrick M. Stein, APS Director of Education and Outreach, explaining why involving physicists in the science preparation of future teachers is so important. PhysTEC began with six participating universities around the country, and a seventh has recently been added.

In promoting the health of the physics profession, the Society maintains active programs in career and professional development, and it seeks to enlarge the number of women and minorities who make physics a career. One APS unit, the Forum on Industrial and Applied Physics, specifically addresses the needs of physicists in industry. Another,

the Forum on Graduate Student Affairs (FGSA), embraces issues of concern to graduate students. Last year, FGSA helped organize a meeting with its counterpart organizations in Canada and Mexico titled "Student Vision for Physics in the 21st Century." The multidisciplinary meeting, held Oct. 24-26 in Merida, Mexico, drew 116 participants.

APS also seeks to interest the general public in physics. It works to get stories about research into the popular media and maintains an award-winning Web site, PhysicsCentral.com, which describes the latest research, profiles physicists, and explains how physics works in the everyday world. PhysicsCentral benefits from the wisdom of Louis A. Bloomfield, professor of physics at the University of Virginia, who answers questions submitted to his "Dear Lou" column. A recent exam-

ple was, "If you fell into a swimming pool made of Jello, would you be able to swim to the other side?" Before you are tempted to try it, check out his answer at www.PhysicsCentral.com.

Currently, APS is gearing up for the World Year of Physics 2005, a year-long celebration of the centennial of Albert Einstein's "miraculous year" of 1905. In that year, he produced three groundbreaking papers that

set the course for much of physics in the 20th century. The publications showed that light must sometimes behave like a stream of particles; provided an experimental test for the theory of heat; and invoked the principle of relativity to solve the connection between electromagnetic theory and ordinary motion. APS will coordinate commemorative activities in the physics community nationwide, and it will launch several projects of its own. Plans for the president of APS to appear either on the



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Tonight Show or on the *Late Show with David Letterman* in 2005 have not yet been confirmed. They are, however, one of the top 10 things that APS would like to see happen to make the World Year of Physics really memorable.

Since 9/11, students and scientists from other countries have experienced difficulties obtaining visas to enter the United States, and APS staff has made it a high priority to help them cope with their problems. Moreover, the APS Council has passed a strong statement on the issue, saying in part that “rules and procedures must protect the nation against terrorism. They must also promote continuing international sci-

APS MEMBER BENEFITS

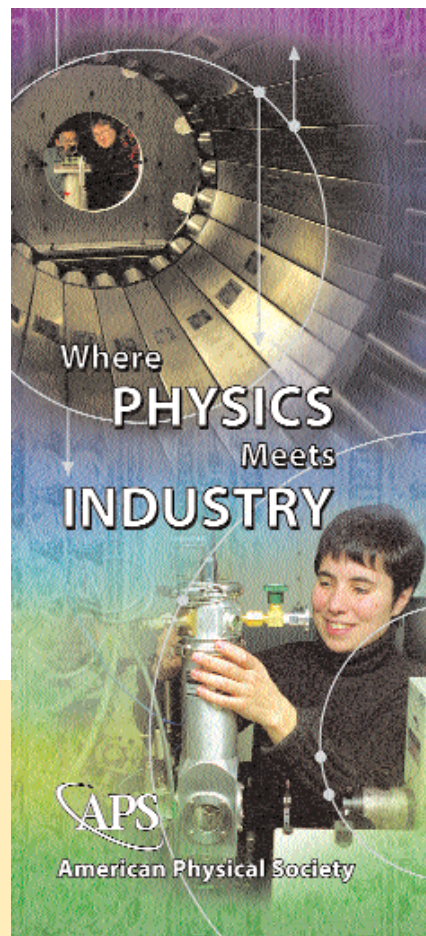
APS members receive special subscription rates to the society’s journals, which include *Physical Review*, *Physical Review Letters*, and *Reviews of Modern Physics*. These often-cited journals are truly international publications, with more than

60% of their submissions coming from abroad. Every article published in an APS journal is available electronically on a subscriber’s desktop. In 2004, APS is offering an article-bundling pack as a subscription benefit to members. The pack option allows members to access up to 20 articles from *Physical Review*, 2000 to the present, for an annual fee of \$50. The pack is a discounted alternative to single-article sales, and it will especially benefit those whose interests cross more than one component of *Physical Review*.


Another membership benefit is reduced registration rates at APS meetings, among which is the annual March meeting—the world’s largest meeting devoted to physics—which focuses on condensed-matter physics and related subjects. In addition, the April meeting features particle physics, nuclear physics, and astrophysics; and APS sponsors about 20 more-specialized meetings each year.

entific and technological cooperation and ensure the flow of people and knowledge needed to guarantee economic strength and national security.”

Members of APS receive two monthly publications that keep them up on the latest research news and goings-on in the Society and the broader physics community. *Physics Today* publishes articles by physicists about their research and other topics of interest, and it covers breaking news in its Search and Discovery section. *APS News* features a lively mix of news, opinion, and information, including, for example, the acclaimed series “Physical Review Letters’ Top 10,” which recounted the most-cited papers since



the journal’s inception in 1958. Several times a year, *APS News* runs articles focusing on physics and industry as part of its series Physics and Technology Forefronts.

As APS pursues its goals, its efforts can be strengthened only by increased representation in its membership from all segments of the physics community. For more information on APS activities or membership in the Society, visit www.aps.org or call a membership representative at 301-209-3280. 

B I O G R A P H Y

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