

has run congressional campaigns and worked on Capitol Hill, sounds like what he is, a political organizer, several of the scientists involved in the organization are also sounding political.

"I believe in what this new organization plans to do," said Lane, currently at Rice University in Houston, Texas. "It's long term, not just one election. In science we're long past the time when we can assume that policymakers will give science a higher priority than anything else, so we have to continue to show them why it should have a high priority. We need to be much more active [in the political realm] and much more visible. We have to make sure the candidates recognize the issues and respect the integrity of science."

In addition to posting a mission statement and a national agenda on its website, SEA organizers have developed a "bill of rights" for scientists and engineers. It calls for scientists to have the right to openly and freely discuss and publish any unclassified research "without fear of intimidation or adverse personnel action," and states that "the federal government shall never intentionally publish false or misleading scientific information nor post such material on federal websites."

The bill of rights says that appointments to federal scientific advisory committees "shall be based on . . . scientific qualifications, not political affiliation or ideology." It also says the federal government "shall not support any science education program that includes instruction in concepts that are derived from ideology and not science."

Nearly all of the points in the SEA bill of rights reflect concerns about abuses of science that have arisen during the Bush administration. "There is rather broad frustration with the administration's attitude toward science," Richter said. "The administration has an 'adopt what you like, ignore what you don't like, and suppress the rest' attitude toward science."

Presidential science adviser John Marburger has repeatedly and emphatically denied any abuse of science by the Bush administration (see *PHYSICS TODAY*, May 2004, page 29), but many scientists are unconvinced. Indeed, Lane called the abuse of science in the current administration "unprecedented."

But regardless of who is in the White House or controlling Congress, he said, "We want to be sure that they know what science is and that it hasn't been manipulated or confused to point to the wrong answer."

Lane said that most of the people currently involved with SEA are "probably Democrats," and that he expects the organization to be attacked as "liberal" by politicians and others who don't like the positions SEA takes. "Everybody is entitled to his or her opinion," he said. "What we will do is explain what our organization is about and that we are supporting sound science."

Jim Dawson

APS undergoes changing of the guard

Amid efforts by the American Physical Society to determine how best to handle the changing nature of scientific publishing, its largest enterprise, two of its three operating officers are stepping down from their longtime posts.

Retiring editor-in-chief Martin Blume will be succeeded next March by Gene Sprouse, while Thomas McIlrath was replaced as treasurer on 1 October by Joseph Serene. Both Blume and McIlrath had served at their posts for 10 years.

APS executive officer Judith Franz, the society's other coequal officer, said the retirements, though announced si-



multaneously, are unrelated. Blume and McIlrath were hired at around the same time and were employed under renewable five-year contracts.

Sprouse and Serene are beginning their new positions as APS moves ahead with Free to Read, its open access program announced in September. Although the society is launching the new initiative at the same time it is undergoing a change in command, Franz predicted a smooth transition for the new officers and said they'll bring a fresh perspective to the society's leadership. "When you gain new people, you gain new ideas," she said.

Serene came to his APS post after retiring from a 13-year stint at Georgetown University, where he was a tenured physics professor. He chaired the physics department from 1993 to 1998. Sprouse is a tenured physics professor at Stony Brook University, where he chaired the physics department from 1990 to 1996.

Serene and Sprouse said they could not predict how Free to Read will unfold or how it will affect APS publishing revenues. Under the program, payment by any person or organization of a one-time fee for a particular APS journal article makes the article available online to all readers at no cost. The society is charging \$975 for articles in *Physical Review A-E* and \$1300 for letters in *Physical Review Letters*. Articles in *Reviews of Modern Physics* will be considered on a case-by-case basis.

APS introduced its first open access journal, *Physical Review Special Topics: Accelerators and Beams*, in 1998, and a second, *Physical Review Special Topics: Physics Education Research*, last year.

"It's very hard to see how it's going to play out," Serene said of the society's newest publishing initiative. "We want to become involved [in open access] without threatening the future of our journals."

"We support the move to more open access to our content," Sprouse agreed. "But we must find a sustainable way to fund [our] operation."

Serene predicted that another challenge for APS will be responding to the changing international physics community and a concurrent increase in non-US manuscript submissions.

"It's been good for us—we're getting more," he said of the submissions. "The bad news is, we have to referee and edit more, and that increases our costs. But we're in the business of supporting the growth and diffusion of physics, so the more physics that's coming our way, the better."

Karen H. Kaplan

Who earns degrees in physics and astronomy?

A recent report by the American Institute of Physics tracks US physics and astronomy enrollments and degrees at all levels and looks at the representation of women, minorities, and non-US citizens.

Physics bachelor's degree production continues to climb, with the nearly 5000 awarded in 2004 returning to levels last seen in the early 1990s. The proportion awarded to women reached

23% in 2001 and has since plateaued. At the PhD level, 16% of new degree recipients in 2004 were women, down from an all-time high of 18% the previous year. In astronomy, women made up 38% of bachelor's and 29% of PhD recipients in the class of 2004. Among science and engineering fields, physics still has one of the lowest representations of women.

Six percent of physics bachelor's recipients in 2004 were awarded to non-US citizens. Among the degrees awarded to US citizens, whites earned 4041, Asian Americans earned 198, African Americans earned 176, Hispanics earned 157, and other minorities earned 106. Fifty-two percent of the new African American physics bachelors received their degrees from fewer than 5% of the degree-granting departments, of which all but two—Harvard University and Chicago State University—are historically black colleges and universities. The top producer was Xavier University in New Orleans; it's not yet clear how well it and the other campuses hit last year by Hurricane Katrina will rebound (see the story on page 28).

About 15% of physics bachelor's re-

cipients eventually earn a physics or astronomy PhD. That is six times the rate for bachelor's recipients across all fields, according to the report. The report's projections, which are based on recent enrollments and go through 2010, are for steady growth in physics PhD production.

But in 2004 the number of entering graduate students in physics fell by 4%, the first decline in six years. That drop includes a 2% rise in the number of US citizens and an 11% decrease (to 43% of the total) in the number of noncitizens newly enrolled. The 185 doctoral-granting physics departments averaged about six PhDs per year each in the three years ending with the class of 2004. MIT led the pack (granting an average of 34 PhDs), followed by the University of Texas at Austin, Stony Brook University, and the University of California, Berkeley, with 30 each.

These and other data are presented in the *Enrollments and Degrees Report, 2004*, which is available free of charge at <http://www.aip.org/statistics/trends/gradtrends.html> or from AIP, Statistical Research Center, One Physics Ellipse, College Park, MD 20740; e-mail stats@aip.org; phone 301-209-3070.

Toni Feder