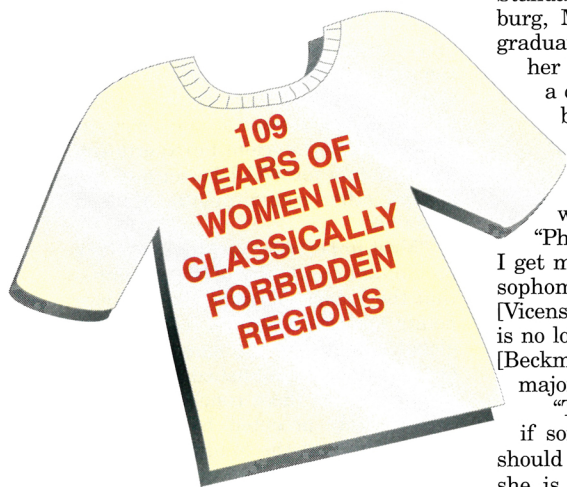




MOTTO on the t-shirt designed by Bryn Mawr's physics department in 1994.

of women in physics and the other natural sciences. Bryn Mawr is also the only US women's college that has a PhD program in physics. It is a small coed program, but physics professor Elizabeth McCormack believes it has a significant impact: "Undergraduates get to take part in sophisticated research and can see early on if they like it," she says. Bryn Mawr physics majors also go on to pursue doctorates in physics at a rate (52%) significantly higher than the average from women's colleges (35%), or the average of women from PhD-granting departments (41%). (These figures, for 1990–94, are from the American Institute of Physics.)

"Students like the sociology of the department," says department chair Peter Beckmann. "It's like a big family," says junior Heather Fleming. Emily Peterson, a 1996 graduate, believes that "the department's biggest strength is that they [the faculty] really care about the students' opinions." Student representatives get to participate in twice-monthly departmental meetings, at which issues such as course curricula, computer software purchases and space allocation are discussed.

The department also offers career counseling. "We have built up a wide network of contacts," says physics professor Alfonso Albano, adding that the department also succeeds in finding nearly all juniors, as well as many sophomores, summer jobs in labs throughout the country. Albano goes on to describe how faculty members actively recruit students: "If we see a student who seems promising, we try to convince her to major in physics." One example is Jennifer Mosher, a 1996 graduate who is working this summer at the National Institute of

Standards and Technology in Gaithersburg, Maryland, and plans to go to graduate school in physics. She had her "heart set on poli sci," and took a course in conceptual (nonmath-based) physics to satisfy a college requirement. "Physics was a gap in my education, and my friends said Neal [Abraham] was a god," explains Mosher. "Physics is harder than poli sci, but I get more out of it." At a dinner for sophomores, "talking with Aurora [Vicens, a visiting faculty member who is no longer at Bryn Mawr] and Peter [Beckmann] convinced me to switch majors," she continues.

"The attitude at Bryn Mawr is, if someone is interested, then she should be able to do physics, even if she is not a genius," says Peterson. But she adds that this attitude might be a mistake: "It may convince some people to major in physics who otherwise would not have considered it, and since other people in the field may not be as supportive as they are at Bryn Mawr, it would always be an uphill battle." Abraham takes a different view: "Why sacrifice interested students on the altar of toughness?" He adds that "rigor is not being traded for a caring and supportive environment."

Beckmann stresses that teaching is a high priority at Bryn Mawr: "There is no bad teaching here." And all of the physics faculty members believe that physics is a good education, "no matter what one decides to do later," as one says. They also encourage each student to pursue her own interests—graduate school, industry, medicine, school teaching, finance or anything else.

In the end, though, it is impossible to pinpoint why physics is so popular at Bryn Mawr. After all, many schools offer similar resources. Ted Ducas, a physics professor at Wellesley College, another women's college that has a strong physics department, may be on the mark when he says, "Sometimes one or more charismatic individuals can make all the difference."

TONI FEDER

Eastman Succeeds Schriesheim as Argonne Director

On 15 July, Dean E. Eastman became director of Argonne National Laboratory. He succeeded Alan Schriesheim, who retired on 1 July, which also happened to mark the date of the lab's founding 50 years earlier.

Eastman, who holds a PhD in elec-



DEAN E. EASTMAN

trical engineering from MIT, had worked at the IBM Corp since 1963. His rise through the ranks in the IBM research division included posts as manager of the photoemission and surface physics group, director of the advanced packaging laboratory and, most recently, vice president of systems technology and science. During the past several years, Eastman led IBM's development reengineering efforts to make its hardware business units more competitive. His research areas have included condensed matter physics, surface science and photoelectron spectroscopy using synchrotron radiation.

Located about 25 miles southwest of Chicago, Argonne is operated by the University of Chicago for the US Department of Energy. During Schriesheim's tenure, the lab's operating budget and staff nearly doubled. But like the rest of the DOE national lab complex, it has undergone close scrutiny in recent years and has also endured some funding cuts. This year, for example, the lab's operating budget dropped by 2%, to \$485 million, and the work force was pared by 6%, to about 4500 people. Even so, Schriesheim says, Argonne's future appears more secure than that of some other DOE labs.

Schriesheim, who now holds the position of director emeritus of Argonne, says he plans to continue working on science policy and technology transfer issues. Prior to joining Argonne in 1983, he worked for many years at Exxon Research and Engineering Co. Among the major projects to be undertaken during his tenure at Argonne was the construction of the Advanced Photon Source, a hard-x-ray synchrotron light source (see PHYSICS TODAY, May 1995, page 59). Experimentation

at the facility began last April, and Secretary of Energy Hazel O'Leary formally dedicated the APS in May. In June the lab also dedicated the fuel conditioning facility at Argonne-West in Idaho, which has been developing new processes for treating spent nuclear fuel.

JEAN KUMAGAI

PNAS Opens Its Doors

The *Proceedings of the National Academy of Sciences* changed its submissions policy at the start of this year, opening its doors to the wider scientific public. One goal is to attract more physics papers to the twice-monthly journal.

Under the old system, there were two possible paths to publication in *PNAS*: Academy members could submit papers directly for publication, and nonmembers could publish only by finding a sponsoring member to communicate their results to the journal.

Both paths are still available, but now there is a third path, open to all: Papers can be submitted to the main office; then the editorial board, rather than the author, selects an appropriate academy member to handle the paper. This member finds experts to referee the paper, and uses their reports to reach a decision on publication; if the paper is published, he or she is listed as the "communicator." All nonmembers' papers are refereed, whereas (as before) members' papers are reviewed more informally.

Nicholas Cozzarelli, a professor of molecular and cell biology at the University of California, Berkeley, who took over as editor in chief of *PNAS* last year, explains that these changes are part of an effort to "improve the journal and make it more representative of all fields of science." *PNAS*'s move seems to be part of a trend—in recent years, for example, *Science* and *Nature* have been striving to attract more papers in the physical sciences.

Established in 1915, *PNAS* was particularly strong in the physical sciences for several decades. Starting in the 1950s, though, it became more and more of a biology journal—last year, 98% of all papers published were in the life sciences, although fewer than half of the academy's members are in these fields. "We want this to be the proceedings of the National Academy of 'Sciences,' not of 'Biology,'" says Cozzarelli. He has taken other steps towards that end, including expanding *PNAS*'s editorial board and ensuring that it has more nonbiologists, and inviting newly elected academy mem-

bers to write inaugural papers, about half of which have so far been in the physical sciences.

The total number of submissions has increased significantly since the new policy was instituted, but it's still too early to tell whether *PNAS* will become a popular publication venue for physicists.

TONI FEDER

There's Still an Energy Crisis, Warns APS

The rise in gasoline prices in the US this past spring, the subsequent political flap over the 4-cents-a-gallon Federal gas tax and the pumping from the strategic petroleum reserve all served as a clear illustration of "society's desire to look the other way on larger, long-term issues such as energy," says David Hafemeister, chair of the American Physical Society's Panel on Public Affairs (POPA). Such shortsightedness can have tragic consequences, he adds. "Sadly, the connection between the deaths of airmen at Dhahran, Saudi Arabia, and our thirst for imported oil is all too real."

In an effort to draw renewed attention to the energy problem, POPA drafted a statement on "Energy: The Forgotten Crisis," which the APS council adopted in May.

The three-paragraph statement is rather blunt: "Our nation's complacency about the energy problem is dangerous. . . . Low-cost oil resources outside the Persian Gulf region are rapidly being depleted. . . . Energy-related urban air pollution has become a worldwide threat to human health. Atmospheric concentrations of carbon dioxide, other greenhouse gases and aerosols are climbing; this will cause changes in temperature, precipitation, sea level and weather patterns that may damage both human and natural systems. . . ."

The statement goes on to urge "continued and diversified investment in energy research and development, as well as policies that promote efficiency and innovation throughout the energy system. . . . Our national security, our environmental well-being and our standard of living are at stake."

To amplify points made in the statement, POPA prepared a background paper that looks at overall trends in energy consumption, compares past and present fossil fuel use and supplies, discusses the environmental impact of energy production and use and reviews energy policy. The background paper is available on the Web at http://aps.org/public_affairs/popa/energy.html. Additional chapters will be added to

the report in the fall.

Two other statements adopted by the APS council in May also deal with energy: One urges against proposed budget cuts at the Department of Energy's Office of Energy Research, and the other calls for sustained support of plasma and fusion research by the US government.

JEAN KUMAGAI

APS Establishes Prize in Honor of Bethe

The American Physical Society has established the Hans A. Bethe Prize in recognition of Bethe's "outstanding and numerous accomplishments in both astrophysics and nuclear physics." The official announcement of the prize came on 2 July, during a small reception at Cornell University for Bethe's 90th birthday; Judy Franz, executive director of APS, made the presentation. "Your name brings very special significance to this prize," Franz told Bethe.

Among Bethe's many noteworthy scientific contributions are his 1947 calculation of the Lamb shift, which led to the development of quantum electrodynamics, and his theory of energy production in stars, which garnered him the Nobel Prize in Physics in 1967. Bethe has worked at Cornell for over 60 years, since emigrating from Germany in 1935 (see *PHYSICS TODAY*, June 1995, page 39).

The Bethe Prize, which includes a \$7500 award, is to be given for work in theory, experiment or observation in astrophysics, nuclear physics or nuclear astrophysics. The annual prize was endowed by members of the APS divisions of nuclear physics and of astrophysics and by other friends of Bethe's. The first prize will be presented in 1998.

IN BRIEF

The American Geophysical Union has published *To Boldly Go: A Practical Career Guide for Scientists* by Peter Fiske, a postdoctoral fellow at Lawrence Livermore National Laboratory. The 192-page book discusses career planning and job hunting, including such topics as resumes, cover letters, job interviews and networking. The book costs \$13.30 for AGU members and \$19.00 for nonmembers. For further information, contact AGU, 2000 Florida Avenue NW, Washington, DC 20009-1277; phone 202-462-6900 or 800-966-2481; e-mail cust_ser@kosmos.agu.org. The book also has a Web site at <http://www.agu.org/careerguide>. ■