

took the initiative to identify the concerns of nonacademic physicists and is now moving energetically to address them.

Last year CAP surveyed the nonacademic physicists belonging to any of the ten member societies of the American Institute of Physics. A four-page questionnaire was sent to 1847 PhD physicists in industry, national laboratories and government; 62% responded, of whom half were in industry, 30% at national laboratories and 20% in government. Joseph Heremans of the General Motors Research Laboratory, who served as a member of CAP from 1991–93, was instrumental in designing the questionnaire and launching the process, said Ourmazd; Roman Czujko and Raymond Chu of AIP's education and employment statistics division analyzed the results and summarized them in a short internal report for CAP.

In their report Czujko and Chu concentrated first on APS meeting attendance by nonacademic physicists. Over the last five years, 70% of current APS members who work in national laboratories and 59% of those who work in government have attended at least one APS meeting. But of those who work in industry, only 39% have attended an APS meeting in the last five years; most of these say they are engaged in either basic or long-range applied research. The majority of those who did not attend are involved in short-range applied research, design or engineering. Overall, two-thirds gave "content not relevant" as the reason for not attending more conferences sponsored by APS. Ourmazd thinks that part of the explanation for this pattern of attendance may lie in the fact that industrial and applied physicists do not tend to identify strongly with a single scientific discipline; hence they do not identify strongly with individual APS divisions.

The survey found that the same general distinction between long-range and short-range research holds with respect to APS publications: Long-range researchers are satisfied, short-rangers are not.

The survey also examined a less tangible but nonetheless real consideration, the desire for professional identification and professional recognition. In this regard, write Czujko and Chu, "a significant portion of current members who work outside of academe believe that APS does not serve their needs."

In spite of these negative statistics with respect to individual issues, respondents giving APS an overall positive rating outnumbered those giving a negative rating by a ratio of five to one! One can understand, then, why Ourmazd characterizes the nonacademic physicists as

showing "strong loyalty" to APS. With the formation of FIAP, APS is returning that loyalty.

—DENIS F. CIOFFI

SPROUL IS 1995 PRESIDENT-ELECT OF AVS

The American Vacuum Society has chosen a new president-elect: William D. Sproul of Northwestern University. Sproul succeeds John H. Weaver of the University of Minnesota, who is president for 1995. The new officers' terms begin on 1 January.

Sproul is manager of the vapor deposition group at Northwestern University's industrial research laboratory in Evanston, Illinois. An alumnus of Brown University, he received a bachelor's degree there in 1966, a master's degree in 1968 and, after serving four years in the US Navy, a PhD in materials science engineering in 1975. Before joining Northwestern in 1987, he worked at American Can and Borg-Warner. Sproul's work involves the sputtering of hard compounds—such as carbon nitride and polycrystalline superlattices—which eventually may be used to coat and protect gears, bearings and other common engineered components. He also heads an industrial consortium that aims to make such superhard coatings commercially available within the next several years. Within AVS Sproul has served on the board of directors and as chair of the vacuum metalurgy division.

Three new directors were also elected: Leonard J. Brillson of the Xerox Webster Research Center, in Webster, New York; Paula J. Grunthaner of the Jet Propulsion Lab,

in Pasadena, California; and Gary W. Rubloff of North Carolina State University, in Raleigh. The two newly elected AVS trustees are John Coburn of the University of California, Berkeley, and Max G. Lagally of the University of Wisconsin, Madison. N. Rey Whetten, the technical director of AVS, and William D. Westwood of Bell Northern Research in Ottawa, were reelected treasurer and secretary-clerk, respectively.

PALIWAL WINS AAPM ELECTION

On 1 January Bhudatt R. Paliwal of the University of Wisconsin, Madison, will become president-elect of the American Association of Physicists in Medicine. He succeeds Guy Simmons, who is president for 1995.

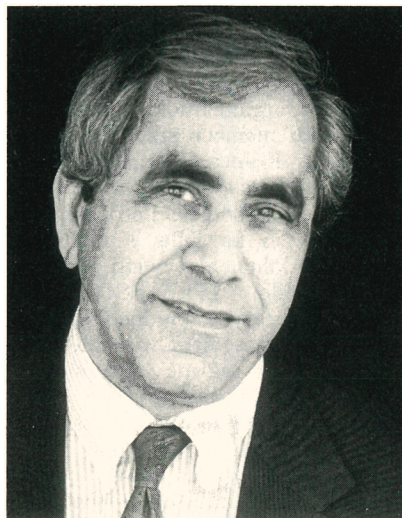
Paliwal is a professor in the departments of medical physics and human oncology at Wisconsin and director of radiation oncology physics at the university's hospital. Before immigrating to the US he received a BSc and an MSc from the International Center of Education in Pondicherry, India. He received his PhD in biomedical physics in 1973 from the University of Texas, Houston. Paliwal's specialty is radiation oncology dosimetry, including treatment planning, special procedures, and computer and imaging applications.

In his candidate's statement Paliwal stressed the "need to take a proactive stance to maintain our teaching and research base and to secure our professional status and high standards of care" in the face of health care reform.

In other election results Charles W. Coffey II of Vanderbilt Medical



William D. Sproul



Bhudatt R. Paliwal

Center was reelected secretary and James B. Smathers of the University of California, Los Angeles, was reelected treasurer. Four new board members were also elected: Geoffrey S. Ibbott of the University of Kentucky Medical Center, J. Thomas Payne of Abbott-Northwestern Hospital in Minneapolis, Stephen R. Thomas of the University of Cincinnati and Jon H. Trueblood of the Medical College of Georgia.

FENDER WILL LEAD OPTICAL SOCIETY IN 1997

On 1 January Janet S. Fender of the Air Force's Phillips Laboratory will become vice president of the Optical Society of America. After serving a one-year term, Fender will become president-elect in 1996 and then president in 1997. The president of OSA for 1995 is Tingye Li of AT&T Bell Laboratories in Holmdel, New Jersey.

After receiving a BS from the University of Oklahoma in 1974, Fender entered graduate school at the University of Arizona, where she earned an MS in 1978 and a PhD in optical sciences in 1981. She then joined the Air Force Weapons Laboratory—now Phillips Laboratory—located at Kirtland Air Force Base, New Mexico. She is currently technical director of the lab's advanced imaging division.

A proponent of dual-use technologies—that is, technologies having both military and civilian applications—Fender is involved in a United Nations-sponsored project to maintain peace in space and a program to allow the Air Force's 3.67-meter adaptive optics telescope on Mount Haleakala, Hawaii, to be used for nonmilitary observations (see Laird Thompson's article on page 24). Her current research interests include optical surveillance and advanced imaging technologies, and she holds several US patents for inventions in multiple-aperture optics.

"OSA's success depends on active member participation," Fender said in her candidate's statement. "To this end, the society must continue to provide leadership opportunities to a broader membership." Fender is co-chair of the OSA committee for women and minorities in optics; she has also served on the OSA board of directors and executive committee.

In other OSA election results, three new members were chosen for the board of directors: Thomas M. Baer of Biometric Imaging Inc, in Mountain View, California; Milton



Janet S. Fender

Chang of New Focus Inc, also in Mountain View; and Laura Weller-Brophy of the 3M Company, in Saint Paul, Minnesota.

AIP CORPORATE ASSOCIATES MEET IN NEW JERSEY

The American Institute of Physics held its annual meeting of Corporate Associates on 24 and 25 October at AT&T Bell Laboratories in Murray Hill, New Jersey. About 175 people from industry, government and academia gathered to hear and see presentations at several sessions, including one on "science and global communication," the explicit theme of the meeting.

Within this overall context many different types of work were discussed, including high-performance computing, imaging a functioning brain, photonics in telecommunications, the search for dark matter, and expectations for multimedia. AT&T showed a video commercial in which it envisions an interconnected world where instant electronic communication is available at all times and at all locations. Some in the audience worried about finding minutes of quiet concentration in a future of constant interruption; everyone worried about cost.

Participants also toured laboratories, where researchers exhibited work in—to name but a few of AT&T's projects—x-ray mirrors, fiber lasers, speech processing technology and high-definition TV.

A panel session about "the roles of physicists in industry" began with a general discussion of industrial research and applications, but pointed questions from the audience quickly focused the topic to the tight job market

for physicists. Panelist John Rowell, of Conductus Inc, spoke of his company's need for physicists trained at the master's level but possessing a mix of skills and knowledge not found in graduates of typical university programs. Harry Lustig, treasurer of the American Physical Society, later summed up the desired attributes when he remarked that "employers seem to want creative, problem-solving physicists with broad, deep backgrounds in physics and knowledge of economics, government and law, who are flexible enough to work on various projects, be team players and have personal goals aligned with the company's." Did anyone ever say it would be easy?

—DENIS F. CIOFFI

THORNE REPEATS AS WINNER OF AIP WRITING AWARD

Twenty-five years after he was the first awardee, Kip S. Thorne became the fifth two-time winner of the science writing award in physics and astronomy given to a scientist by the American Institute of Physics for writing intended for the general public. In *Black Holes and Time Warps: Einstein's Outrageous Legacy* (Norton, New York, 1994), Thorne describes the history of research on wormholes, singularities, gravitational waves, time machines and, of course, black holes. (See PHYSICS TODAY, November, page 85, for a review.) For 30 years Thorne and his students have been among the world's leading researchers on these topics.

Thorne received his BS from the California Institute of Technology in 1962 and his PhD from Princeton University in 1965, both in physics. He returned to Caltech as an associate professor in 1967 and has been there since, becoming a professor of theoretical physics in 1970 and the Feynman Professor in 1991. He is now chief theorist for the Laser Interferometer Gravitational Wave Observatory.

In addition to the engraved Windsor chair that accompanies the award, Thorne received his certificate of congratulations and \$3000 prize in a ceremony at the Newark Museum of Art, in New Jersey, as part of the AIP Corporate Associates meeting (see previous story). The book's publisher, W. W. Norton, received a certificate of salutation.

Thorne has also been chosen to receive the Phi Beta Kappa Award in Science for *Black Holes and Time Warps*. This prize, worth \$2500, is offered for "outstanding contributions by scientists to the literature of science." ■