

In his personal statement before the election, Eberly said, "The guiding themes of OSA are discovery and development in science and technology, and we're proud of the high standards we set for our journals and meetings." He continued, "I strongly support OSA's initiatives that assist educators motivated to share with their students the thrill of exploration in optics. The same motivation engages all OSA members who share their knowledge beyond the classroom." Eberly concluded his remarks by saying, "Good past stewardship of impressive resources in funds, personnel and reputation now superbly position OSA for long-term growth in membership and allow us to contemplate with confidence future initiatives in service to the membership in education, meetings, publishing and public policy."

Also inducted in January were the society's new directors at large, who replace three outgoing members on the board. **Christopher Dainty** is Science Foundation of Ireland Professor of Experimental Physics at the National University of Ireland, Galway. **Peter Delfyett** is University Trustee Chair Professor of Optics, Electrical and Computer Engineering, and Physics at the Center for Research and Education in Optics and Lasers, Florida Photonics Center for Excellence, at the University of Central Florida in Orlando. **Donna Strickland** is an associate professor in the department of physics at the University of Waterloo in Canada.

In Brief

On 1 January, **Norman Chonacky** replaced **Francis Sullivan** as the editor of *Computing in Science & Engineering* magazine, a copublication of the American Institute of Physics and the IEEE Computer Society. Chonacky was recently appointed to a research fellowship at the Center for United Nations Studies in the department of political science at Yale University. Sullivan now directs the IDA Center for Computing Sciences in Bowie, Maryland.

The Materials Research Society bestowed three MRS Medals last December during its fall meeting in Boston. **Jacob Israelachvili**, professor in three departments—chemical engineering, materials science, and biomolecular science and engineering—at the University of California, Santa Barbara, was cited for his "work on adhesion and friction, which has

revolutionized the understanding of molecular mechanisms responsible for these technologically vital phenomena." **Toh-Ming Lu**, the Ray Palmer Baker Distinguished Professor of Physics at Rensselaer Polytechnic Institute in Troy, New York, and **Sunil K. Sinha**, LANSCE Professor of Physics at the University of California, San Diego, were honored together for "seminal contributions to understanding mechanisms of thin-film surface and interface morphology evolution and establishing the foundations of diffraction and scattering methods for its quantitative analysis."

Thom H. Dunning Jr became the third director of the NSF-funded National Center for Supercomputing Applications, located on the Urbana-Champaign campus of the University of Illinois. Prior to joining NCSA in January, Dunning was director of the Joint Institute for Computational Sciences, a joint endeavor of the University of Tennessee and Oak Ridge National Laboratory.

The Gerhard Herzberg Canada Gold Medal for Science and Engineering for 2004 was presented to **John P. Smol** on 6 December by the Natural Sciences and Engineering Research Council of Canada. The annual presentation ceremony for NSERC's highest honor, named for the late Canadian Nobel laureate, was held at the National Gallery of Canada in Ottawa. Smol will receive Can\$1 million (about \$780 000) from NSERC over the next five years to fund his research on the reconstruction of past environments. He is a professor in the biology department, Canada Research Chair in Environmental Change, and codirector of the Paleoecological Environmental Assessment and Research Laboratory, all at Queen's University in Kingston, Ontario.

James B. Garvin, most recently chief scientist for NASA's Mars and lunar exploration programs, was appointed chief scientist of the entire agency last October. He succeeds veteran astronaut **John M. Grunsfeld**, who has returned to NASA's Johnson Space Flight Center in Houston, Texas, to train for a long-duration flight aboard the *International Space Station*.

Richard Price has joined the physics department in the department of physics and astronomy at the University of Texas at Brownsville after 33 years as a physics professor at the University of Utah.

New low pricing

4K ARS Displex Pneumatic Drive Cryocoolers

.8w @ 4.2K DE-210S

.25w @ 4.2K DE-204S

.1w @ 4.2K DE-202S

Research & OEM
Cryostats

Optical & Non Optical
True LHV (10^{-11} torr)

Low Vibration Interface
(5 nanometers)



Advanced Research
Systems, Inc.

Tel 610 967 2120

Fax 610 967 2395

e-mail: ars@arscryo.com

The Academy of Science of South Africa bestowed its highest honor, the Gold Medal for Science-for-Society, on **Brian Warner** at a ceremony last fall. Warner was cited for providing “science of benefit to the public.” He is a distinguished professor of natural philosophy in the faculty of science at the University of Cape Town and heads the university’s astronomy department.

John Loughhead was appointed executive director of the UK En-

ergy Research Centre, located on the campus of Imperial College London. A former vice president of technology for Alstom in its Paris head office, he started at UKERC last November.

On 6 December, **Susan Hockfield** became the 16th president of MIT. She was previously provost and a professor of neurobiology at Yale University.

Roger Raab received the De Beers Gold Medal, the highest honor

given by the South African Institute of Physics, at the institute’s annual conference held last July in Bloemfontein, South Africa. Raab, professor emeritus of physics at the University of KwaZulu-Natal in Pietermaritzburg, has “made a truly impressive contribution to his research field of theoretical and experimental molecular physics,” according to the citation. “One of his crowning achievements,” the citation says, “has been to complete the development of multiple theory.”

Obituaries

Thomas Gold

Thomas Gold, professor emeritus of astronomy at Cornell University, died on 22 June 2004, in Ithaca, New York, of complications from a heart attack. One of the great cosmic thinkers in the past six decades, he questioned with confidence and without hesitation many fundamental physics assumptions. He was an “ideas” man of enormous breadth who many times succeeded in finding the right solutions to prominent problems, such as the nature of pulsars and the mechanism of hearing.

Tommy was born in Vienna, Austria, on 22 May 1920. When he was 13, he moved with his family to Berlin, Germany. His family subsequently fled Hitler’s Germany for London because Tommy’s father was of Jewish heritage. Tommy attended a boarding school in Zuoz, Switzerland, and, in 1938, went to Cambridge University as a mechanical engineering student. But when Britain declared war on Germany in 1939, his Austrian citizenship landed him in an enemy alien camp in Canada. He was soon returned to England and was appointed to the British Admiralty Signals Establishment, where, for the rest of the war, he designed radar detection systems, partly in collaboration with Hermann Bondi and Fred Hoyle. He received his BA in mechanical engineering in 1942.

Shortly after the war, while a graduate student at Cambridge, Tommy created a model of a positive feedback mechanism in the inner ear to explain the theory of hearing. Other scientists disregarded that work for many decades, but modern theories of hearing incorporate much of it. Gold, Bondi, and Hoyle developed the controversial cosmological theory called the steady state theory, in which the universe maintains a constant appearance, despite its expansion, by



Thomas Gold

creating new matter. The theory had no adjustable constants and was beautiful, even though observations have since disproved it.

Tommy accepted a professorship at Harvard University in 1957. He then moved to Cornell in 1959 to build a modern department of astronomy from an almost nonexistent one. He fostered interdisciplinary research as the founder and first director of Cornell’s Center for Radiophysics and Space Research. During his 20 years in that post, the Arecibo Observatory was built in Puerto Rico and is operated by Cornell. Although the observatory was initially designed by Bill Gordon, a Cornell engineering professor, for ionospheric backscatter, Tommy guided its use for radio astronomy.

His fertile mind led him into many fascinating areas of research, such as the alignment of galactic dust, the instability of Earth’s axis of rotation, the dusty lunar surface, the Sun’s cosmic rays, and plasmas and magnetic fields in the solar system. Other areas that caught his interest were the origin of

solar flares, the nature of time, molecules and masers in the interstellar medium, rotating neutron stars and the nature of pulsars, terrestrial sources of hydrocarbons, and the deep Earth biosphere. Starting in 1961, he discussed the formation and abundance of interstellar molecular hydrogen and pointed out its dynamical importance very close to the Galactic Plane. He was a central figure with NASA during the Apollo Moon missions but disagreed with the agency on several topics and voiced his opposition to the excessive use of humans in space. As early as 1955, he had pointed out that the lunar surface could not be pristine rock. He estimated the thickness of Moon dust; it was a slight overestimate but a good antidote to those who had ignored a loose surface entirely.

In 1969, Cambridge awarded Tommy a DSc in recognition of his record of research and publication. He was appointed the John L. Wetherill Professor of Astronomy at Cornell in 1971 and spent the rest of his career at the university until his retirement in 1986.

Perhaps Tommy’s greatest contribution came when pulsars were discovered and he explained them as rotating neutron stars, an explanation that has proven correct. However, some of his ideas that have not yet been accepted are still stimulating and thought provoking. One example is his work on the Arrow of Time in terrestrial phenomena, which he claimed is controlled by the direction of the expansion of the universe. Another is his conjecture of very slow accretion onto some cold protostars, which might produce cold white dwarf stars without any hydrogen burning. A more recent idea was that fuel in the form of methane and other hydrocarbons originates deep within Earth as remnants of material included in the planet’s formation. He wrote two books on this subject: *Power from the Earth* (Orion, 1987) and *The Deep Hot Biosphere* (Copernicus, 1999).