

researchers for their achievements in science and technology. Six of the laureates do physics-related work.

The Benjamin Franklin Medal in Chemistry is going to **Norman L. Allinger**, who directs the Computational Center for Molecular Structure and Design at the University of Georgia in Athens. He is being honored for his "pioneering work in computational chemistry [and] his seminal contributions to the development of molecular mechanics series of force fields, their widespread application to the fundamental understanding of molecular structure and energetics, and their implementation as a significant tool to practicing chemists."

Alexandra Navrotsky, Edward Roessler Chair in Mathematical and Physical Sciences and Interdisciplinary Professor of Ceramic, Earth, and Environmental Materials Chemistry at the University of California, Davis, will be receiving the Benjamin Franklin Medal in Earth Science. The institute is acknowledging her "wide spectrum of accomplishments in crystal chemistry that have importantly contributed to the fields of bonding energies, ceramic and materials research, chemical equilibria, geology, mantle petrology, and thermodynamics." The citation adds that her findings "have established, convincingly, the identity of materials at hundreds of kilometers of depth in the Earth that otherwise are inaccessible to direct observation."

The Benjamin Franklin Medal in Engineering is being presented to **Shuji Nakamura**, a professor in the materials department at the University of California, Santa Barbara. He is being cited for his "fundamental contributions to the optoelectronic technology of gallium nitride, which culminated in the development of violet/blue laser diodes and the implementation of high brightness light emitting diodes. These devices improve today's technology and have the potential of revolutionizing the lighting industry."

Sumio Iijima is being given the Benjamin Franklin Medal in Physics for his "discovery and elucidation of the atomic structure and helical character of multi-wall and single-wall carbon nanotubes, which have had an enormous impact on the rapidly growing condensed matter and materials science field of nanoscale science and electronics." Iijima is a special research fellow with the NEC Corp in Tsukuba, Japan, and a professor in the department of materials science and engineering at Meijo University

in Nagoya, Japan.

The Bower Award and Prize for Achievement in Science, which comes with a \$250 000 cash prize, is being presented to **John W. Cahn**, a senior fellow at NIST in Gaithersburg, Maryland. He is being honored for his "profound contributions to the understanding of the thermodynamics and kinetics of phase transformations. His lifelong dedication to understanding materials has inspired generations of scientists and engineers to develop new materials based on his groundbreaking theories."

Gordon E. Moore will receive the Bower Award for Business Leadership for his "pioneering role and continuing contributions to the semiconductor industry and for his generous commitment to community service. Moore's technical and entrepreneurial leadership . . . has been characterized by continuous innovation that [has] resulted in enhanced microprocessor speed, miniaturization, and reduced cost, which have transformed the modern world." Moore is the chairman emeritus and cofounder of the Intel Corp, located in Santa Clara, California.

OSA Presents Awards for Engineering Excellence

At its annual meeting last October, the Optical Society of America recognized the following four individuals for their achievements in optical engineering.

Henry A. Blauvelt, chief technology officer at cQuint Communications in Monrovia, California, received an Engineering Excellence Award for his "outstanding, innovative contributions in the development of linear technology for fiber-optic transmission systems, with major impact on the implementation of high-performance broadband communication, specifically for cable television distribution," according to the citation.

Michael A. Klug, chief technology officer at Zebra Imaging in Austin, Texas, also garnered an Engineering Excellence Award. OSA cited Klug for his work in the field of holographic stereography, and noted that his work "has contributed to the convergence of art and computing to make holography a realistic medium for advertising and display."

Another Engineering Excellence Award was presented to **David G.**

Mehuys for the "development and commercialization of fiber-optic and semiconductor laser subsystems, including the first commercially available Raman-enhanced EDFAs [erbium-doped fiber amplifier] and the first extremely high-power Raman sources incorporating double-clad fiber technology." Mehuys is a general manager at JDS Uniphase in San Jose, California.

Dale E. Morton also won an Engineering Excellence Award. He was acknowledged for his "major contributions over 30 years to thin film optical coating design, deposition process development, and the manufacture of high-density moisture stable films for telecommunication [wavelength division multiplexing] and other critical applications." Morton is the process R&D manager at Denton Vacuum in Moorestown, New Jersey.

AGU President-Elect for 2002 is Orcutt

On 1 July, **John A. Orcutt** will become president-elect of the American Geophysical Union. He will become president in 2004, succeeding **Robert E. Dickinson**.

Orcutt received his BS in mathematics and physics from the US Naval Academy in 1966 and his MSc in physics from the University of Liverpool, where he studied as a Fulbright Scholar, in 1968. He earned his PhD in Earth sciences from the University of California, San Diego, in 1976 and is currently a professor of geophysics at UCSD and director of the Cecil H. and Ida M. Green Institute of Geophysics and Planetary Physics in La Jolla, California. His research interests include the application of seismology to understand crustal and mantle structure and to monitor nuclear test ban treaties.



ORCUTT

"During the next four years, [AGU's] transition from author-prepared to fully electronic journals will be a critical one," says Orcutt. "I shall do what I can for the AGU to succeed given the importance of publications to the AGU," he adds. "I am concerned that increasingly conservative copyright law will have an enormous negative impact on scientific research."

I hope to foster informed involvement by members throughout the AGU."

Also taking office on 1 July will be **Terry Tullis** (Brown University) for a two-year term as general secretary and **Anny Cazenave** (Laboratoire d'Etudes en Géophysique et Océanographie Spatiales) for a two-year term as the union's international secretary.

IN BRIEF

James Gillies became the new editor of the *CERN Courier* beginning with the January/February issue. A staff science writer at CERN since

1995, he succeeds **Gordon Fraser**, who oversaw the magazine starting in September 1979 and officially became its editor in 1986.

In February, **Cees Dekker**, a professor of molecular biophysics at the Delft University of Technology in the Netherlands, received the 2002 Julius Springer Prize for Applied Physics, which is awarded by the editors of *Applied Physics*. Dekker was recognized for "the discovery of the electronic properties of carbon nanotubes and for pioneering work on their application in single-molecule electronic devices." He received a cash prize of \$5000.

OBITUARIES

Victor Iosifovich Belinicher

Victor Iosifovich Belinicher, a prominent Russian theoretical physicist, was among the passengers on the airplane traveling from Tel Aviv, Israel, to Novosibirsk, Russia, that was accidentally hit by a Ukrainian antiaircraft missile fired during military exercises on 4 October 2001. This senseless tragedy ended the life of a highly respected member of the scientific community, a colleague, a friend, and a teacher.

Born on 7 November 1945 in Sverdlovsk, Russia, Belinicher was one of the first students who graduated from the newly established Novosibirsk University in the Akademgorodok Scientific Center in Novosibirsk. In 1971, he received his PhD in physics and mathematics, under the supervision of Dmitrii Shirkov, for work on the Lagrangian formalism for particles of arbitrary spin. He earned his DSc degree in 1982 on the theory of the photogalvanic effect.

In 1973, Belinicher joined the Institute of Automation and Electrometry of the Russian Academy of Sciences (RAS) as a research scientist. He particularly enjoyed the atmosphere of intense scientific interaction and intellectual challenge at Akademgorodok. He studied a variety of problems in condensed matter physics, semiconductor physics, and the physics of nonlinear phenomena. One of his most important contributions was a comprehensive theory of the photogalvanic effect in crystals that lack inversion symmetry. The systematic microscopic theory worked out by



VICTOR IOSIFOVICH BELINICHER

Belinicher and his colleagues addressed the most important mechanisms producing the effect, ultimately connecting the effect's origin to the absence of a detailed balance condition in media that lack a center of symmetry. A review article by Belinicher and Boris I. Sturman published in 1980 in *Soviet Physics Uspekhi* on the photogalvanic effect remains one of the most cited works in the field.

While at the institute, Belinicher began a long-lasting collaboration with one of us (L'vov). In 1984, they developed a new diagrammatic technique—which generalized the Keldysh formalism to the case of spin operators—for nonequilibrium processes in magnetism. In subsequent work in 1987, they formulated the scale-invariant theory of hydrody-

namic turbulence. An earlier approach, advanced in the 1960s by Henry Wyld, suffered from divergences in each order of perturbation theory, and known regularizations were limited to the first order. Belinicher and L'vov found a transformation, now named after them, which removes divergences from all orders. This notable work created a basis for further intensive studies of hydrodynamic turbulence by means of modern methods of theoretical physics.

Belinicher joined the RAS's Institute of Semiconductor Physics in 1988 as a leading research scientist. His interests turned toward the newly discovered high- T_c superconductors and to the general problem of strong electronic correlations associated with those materials. Belinicher worked intensely to develop a model that would describe the essential electronic properties of high- T_c materials. The contributions he made, together with his graduate students and colleagues, to the understanding of the physics of the Hubbard model, spin liquids, and spin-polaron mechanisms of superconductivity significantly influenced progress in those areas. In recent years, he devoted much of his time to the derivation of a consistent field theory of the two-dimensional antiferromagnet and to yet another strongly correlated problem—Coulomb blockade in a system of quantum dots. Undoubtedly, Belinicher's contributions to physics will continue to serve as a basis for new findings, and his work will become part of textbooks for future generations of physicists.

Belinicher also lectured and mentored many students at Novosibirsk University, where he was appointed as a professor of physics in 1995. He taught both undergraduate and advanced theoretical courses.

In the 1990s, Belinicher was a visiting professor at several institutions in Europe and Israel, particularly at the University of Coimbra in Portugal, and the Weizmann Institute of Science in Rehovot, Israel, where he contributed invaluable to many studies. His outgoing, cooperative character together with an extraordinary dedication to physics brought him many friends and professional colleagues from all around the world.

Belinicher was an intense and persistent man who believed deeply in maintaining the quality of his research. For him, science was the absolute priority in his life. He approached nonscientific problems