

WE HEAR THAT

Educators Honored by AAPT

The 124th meeting of the American Association of Physics Teachers, held in Philadelphia in January included an awards ceremony at which the following individuals were honored for their contributions to physics education.



HESTENES

AAPT presented the Oersted Medal, the society's most prestigious award, to **David Hestenes**, a professor of physics and astronomy at Arizona State University. AAPT recognized Hestenes for his "contributions

both to physics education research and to the training of teachers of introductory physics." In accepting the award, Hestenes gave a talk entitled "Reforming the Mathematical Language of Physics."

Jordan Goodman, who chairs the physics department at the University of Maryland, College Park, received AAPT's Richtmyer Memorial Lecture Award. His award talk was entitled "Neutrinos, Dark Matter, and the Cosmological Constant: The Dark Side of the Universe."

Distinguished Service Citations were presented to **Joseph Drenchko** (Syracuse University), **John Fitzgibbons** (Syracuse University), **Harry Knowles** (Metrologic Instruments Inc), **David Ohlde** (Pratt Community College in Kansas), and **William Ploughe** (emeritus professor at Ohio State University).

Young International Scientists Garner New Award

In January, the Alexander von Humboldt Foundation in Bonn, Germany, presented its first Sofja Kovalevskaja Award to 29 researchers from outside Germany. According to the foundation, the award is "aimed at exceptionally well-qualified, up and coming, foreign scientists . . . generally aged up to 35 years." Each of the winners received up to 1.2 million euros (about \$1 million) to conduct their research projects at

German institutions of their choice for three years. Of the recipients, the following 18 work in physics-related fields.

Tiziana Boffa Ballaran will be investigating the nature of local distortions that arise in a crystal when atoms with one size and charge are replaced by atoms with different size and charge. She is pursuing this work while visiting the University of Bayreuth.

Stéphane Charlot plans to examine the formation and evolution of galaxies, in particular by interpreting galaxy spectra in large-scale observation projects. He will be at the Max Planck Institute for Astrophysics in Garching and at the University of Munich.

At the Dresden University of Technology, **Volker Deckert** will be using near-field optical techniques to obtain data on the composition of materials with very high spatial resolution.

Michael Feiginov will be conducting research on the physics of semiconductor nanostructures at terahertz frequencies and on the characterization methods of biological cells at those frequencies. He is conducting this work at the Darmstadt University of Technology and at the Chemnitz University of Technology.

At the Free University of Berlin, **Stefan Hecht** will be using state-of-the-art tools to spatially arrange single synthetic molecules and to specifically induce local chemical reactivity, thereby creating nanosized patterns.

Daniel Hofstetter will be working at the University of Ulm on the development and characterization of quantum cascade lasers in the near-to mid-infrared wavelength range.

At the University of Frankfurt and the Research Center Jülich, **Judith H. Klein-Seetharaman** will be examining membrane receptor proteins in relation to their involvement in the many vital cellular processes.

While visiting the University of Karlsruhe, **Yuriy Makhlin** plans to develop quantum computers based on superconducting nanoelectronics.

At the Max Planck Institute of Mathematics in Bonn, **Matilde Marcolli** intends to develop gauge theory, noncommutative geometry, and number theory with applications to mirror-symmetry, string theory, and the fractional quantum Hall effect.

Using a variety of optical spectroscopic techniques, **Kawon Oum**

plans to do kinetic studies of large organic radicals in supercritical media to learn about the solvent effects on kinetics in those media. She is conducting this research at the University of Göttingen.

Maxim Polyakov is undertaking a project at the University of Bochum to gain a deeper insight into the quark and gluon structure of nucleons.

While visiting the University of Düsseldorf, **Alexander Pukhov** will be investigating laser-plasma physics at relativistic intensities with applications to fusion targets and new sources of shortwave and nuclear radiation.

Luis Santos will be studying different phenomena related to dilute ultracold atomic gases, in particular Bose-Einstein condensation. He is carrying out this work at the University of Hannover.

Working with the material chemistry group at the Aachen University of Technology (RWTH), **Jochen Schneider** will be researching the effects of impurities on the structure, evolution, and properties of thin films.

In an effort to determine how memories are created, **Greg Stuart** intends to address the cellular mechanisms that underlie changes in the strength of connections between nerve cells. He is performing this research at the University of Freiburg.

The uniformity, simplicity, and versatility of potential fundamental and applied aspects of nanoengineered core-shell structures will be examined by **Gleb Sukhorukov** at the Max Planck Institute of Colloids and Surfaces in Potsdam.

Grigori Vajenine will be researching the preparation and characterization of new metal nitrides using nonisothermal nitrogen plasma. He is conducting this work at the Max Planck Institute for Solid-State Research in Stuttgart.

At the University of Kaiserslautern, **Zhong Zhang** plans to investigate the long-term behavior of short-fiber, particle-reinforced polymer composites at different environmental temperatures.

Franklin Medals to Be Awarded

This month at a ceremony in Philadelphia, the Franklin Institute is bestowing the Franklin Medals and Bower Awards for 2002 on eight

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.

"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."



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