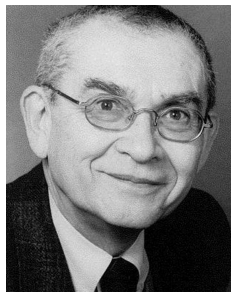


WE HEAR THAT

Manin, Shor Win King Faisal Prize

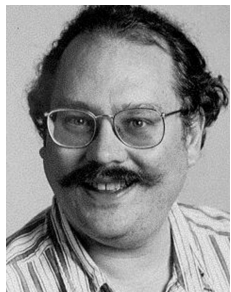
Yuri I. Manin and **Peter W. Shor** are sharing this year's King Faisal International Prize for Science (Mathematics), which comes with a cash award of about \$200 000. The King Faisal Foundation in Riyadh, Saudi Arabia, named the two winners last November.

Manin was cited as "a towering figure in mathematics for the past four decades." According to the foundation, "his work extends from the most abstract field of number theory to the most practical, dealing with the establishment of secure mathematical foundations for present-day physical theories explaining the structure of matter and the universe." He is a director of the Max Planck Institute for Mathematics, located in Bonn, Germany. He is also a researcher at the Steklov Mathematical Institute of the Russian Academy of Sciences and a Board of Trustees Professor at Northwestern University.



MANIN

The foundation characterized Shor, a member of AT&T Labs Research at the AT&T Shannon Laboratory in Florham Park, New Jersey, as "an outstanding scientist in the field of computer science." According to the citation, not only did Shor "point out links between the theory of numbers and that of quantum computers, but he developed intellectual tools to show that quantum computing can tackle exceedingly difficult problems more quickly than contemporary computers." Among these problems,



SHOR

added the foundation, is "resolving a very great integral number into its primary factors, the so-called factoring problem."

The King Faisal International Prize was first awarded in 1979. This

year, in addition to the science prize, the foundation also awarded prizes in the categories of service to Islam, Arabic literature, and medicine.

APS to Present Awards at March Meeting

At its annual March meeting, held this year in Indianapolis, Indiana, the American Physical Society will present 15 prizes and awards for distinguished research or service.

The occasion will be the debut of the George E. Valley Jr Prize, a biannual prize created at the bequest of its namesake to recognize one individual, under age 30, for his or her outstanding scientific contribution to the knowledge of physics. The inaugural recipient will be **David Goldhaber-Gordon**, an assistant professor in the department of physics and in the Geballe Laboratory for Advanced Materials at Stanford University. He is being honored for "the discovery and elucidation of the physics of the Kondo effect in single electron transistors."

APS will give its David Adler Lectureship Award to **Chris G. Van de Walle**, a principal scientist at the Xerox Palo Alto Research Center, for his "incisive theoretical contributions to the understanding of the behavior of hydrogen in semiconductors and heterostructure energy band diagrams and the exceptional exposition of this work in the scientific community."

The LeRoy Apker Award for undergraduate research at a PhD-granting institution will go to **Kathryn Todd** for her senior thesis, "Studies of Double-Layer Two-Dimensional Electron Gases," written at Caltech under the supervision of James Eisenstein. Todd is now a graduate student at Stanford. The Apker Award for undergraduate research at a non-PhD-granting institution will be given to **Robert Wagner**, a senior at Illinois State University, for his studies of intense-laser physics theory done under Rainier Grobe and Charles Su.

The Biological Physics Prize will go to **Carlos Bustamante** for his "pioneering work in single molecule biophysics and the elucidation of the fundamental physics principles underlying the mechanical properties

and forces involved in DNA replication and transcription." Bustamante is an investigator with the Howard Hughes Medical Institute at the departments of physics and of molecular and cellular biology at the University of California, Berkeley.

The Oliver E. Buckley Condensed Matter Prize will honor three researchers for "theoretical and experimental work establishing the composite fermion model for the half-filled Landau level and other quantized Hall systems." The recipients are **Jainendra Jain**, Erwin W. Mueller Professor of Physics at Pennsylvania State University; **Nicholas Read**, a professor of physics and applied physics at Yale University; and **Robert Willett**, a member of the technical staff at Bell Laboratories, Lucent Technologies, in Murray Hill, New Jersey.

Timothy J. Bunning will be awarded the John H. Dillon Medal for his "outstanding accomplishments in developing polymer-based materials for optical applications and for elucidating the physics and chemistry underlying their formation." Bunning is a senior materials research engineer at the Air Force Research Laboratory, located at Wright-Patterson Air Force Base in Ohio.

The Polymer Physics Prize will go to **Thomas Witten**, professor in the department of physics, the James Franck Institute and the College of the University of Chicago. The citation praises his "outstanding theoretical contributions to the understanding of polymers and complex fluids."

James W. Allen and **Thomas Timusk** will share the Frank Isakson Prize for Optical Effects in Solids for their "outstanding contributions to the field of spectroscopy in strongly correlated electron systems leading to elucidation of many-body physics." Allen is a professor of physics at the University of Michigan and Timusk is a professor of physics and astronomy at McMaster University in Canada.

Robert J. Soulen Jr., a research physicist at the Naval Research Laboratory in Washington, DC, will receive the Joseph F. Keithley Award for Advances in Measurement Science. He is being cited for "developing low-temperature noise thermometry to achieve an absolute thermometer, which now defines the year 2000 International Temperature Scale between 1 mK and 1 K to an accuracy

cy of 0.1%, and for other significant contributions to thermometry measurement over a distinguished career."

APS will present its Maria Goeppert-Mayer Award to **Deborah S. Jin**, a JILA fellow, a NIST physicist, and an assistant professor adjunct at the University of Colorado in Boulder. Jin has earned the award for her "innovative realization and exploration of a novel quantum system, the degenerate Fermi atomic gas, and the scientific promise portended by her pioneering work."

Two researchers will share the James C. McGroddy Prize for New Materials. The new materials whose discovery is cited by the 2002 prize are "single-wall carbon nanotubes, which can behave like metals or semiconductors, can conduct electricity better than copper, can transmit heat better than diamond, and rank among the strongest materials known." The recipients are **Sumio Iijima** and **Donald S. Bethune**. Iijima is a professor in the department of materials science and engineering at Meijo University in Nagoya, Japan, and a special research fellow for NEC Corp. Bethune is a research staff member at the IBM Almaden Research Center in San Jose, California.

The Lars Onsager Prize is to be presented to **Anatoly I. Larkin**, William I. and Bianca M. Fine Chair in Theoretical Physics at the University of Minnesota, Twin Cities. He is cited for "elucidating roles of fluctuations and randomness in collective phenomena, including critical behavior of uniaxial ferroelectrics, dependence of critical exponents in four dimensions on symmetry," and the ways in which "impurity pinning of vortices in superconductors destroys lattice order and controls critical currents."

APS will give the George E. Pake Prize to **Paul Horn**, senior vice president of IBM Corp in Yorktown Heights, New York, and director of research there. He is being honored for his "innovative contributions to the understanding of $1/f$ noise, the elucidation of surface phases and phase transitions, and his signal accomplishments in managing IBM Corporation's global research team."

The Earle K. Plyler Prize will be given to **Graham Fleming**, professor of chemistry and codirector of the Institute for Bioengineering, Biotechnology and Quantitative Biomedicine at the University of California, Berkeley, and director of the physical biosciences division at Lawrence Berkeley National Laboratory. Fleming is being cited for his "seminal work on

chemical reaction dynamics in liquids and the dynamics of fundamental biological processes using femtosecond laser spectroscopy."

AAPT Elects New Vice President

Members of the American Association of Physics Teachers recently elected a new vice president for 2002: **James "Jim" H. Nelson**, a K-12 science curriculum specialist for Seminole County public schools in Sanford, Florida. Nelson, who took office last month, will become president-elect in 2003 and president in 2004, succeeding **Charles Holbrow**, who is now AAPT's president-elect.

"AAPT promotes association among those who contribute to the physics educational system," says Nelson. "The shortage of PhD candidates as well as high-school teachers suggests AAPT pay attention to the system as a whole. Although pre-high-school teachers teach science, AAPT members recognize many of the topics as physics." He adds, "As I serve my watch on the executive board,



NELSON

I will encourage AAPT members to support this system. This can be as simple as an AAPT member talking with local students or as far-reaching as AAPT working to provide opportunities for teachers at every level of the system to learn physics."

Nelson earned a BS in physics with a minor in mathematics in 1960 from Lebanon Valley College and an ME in secondary education from Temple University in 1963. In 1968, he also earned an MS in physics from Clarkson University. Between 1961 and 1991, Nelson taught chemistry, computer science, mathematics, and physics at Harriton High School in Rosemont, Pennsylvania. Along with coaching athletics and acting as an adviser for extracurricular activities, he has been an active participant in professional educational associations.

In other AAPT election results, **Charles E. Robertson** (University of Washington, Seattle) and **Deborah Rice** (Gateway Institute of Technology in St. Louis, Missouri) will serve two- and three-year terms, respectively, on the AAPT executive board.

Russel Chosen to Head SoR

The Society of Rheology has announced **William B. Russel** as its new president. Russel, who began a two-year term last October, succeeds **Gerald G. Fuller**.

Russel received both a BA in chemical engineering and an MChE from Rice University in 1969 and a PhD in chemical engineering from Stanford University in 1973. After a postdoctoral year at Cambridge University, he joined the Princeton University faculty in 1974 as an assistant professor, receiving full tenure there in 1979. From 1987 to 1996, he chaired the chemical engineering department and served as director of the Princeton Materials Institute (PMI) between 1996 and 1998. Currently, he is an A. W. Marks '19 Professor at Princeton, a joint appointment of the chemical engineering department and PMI. Russel's research focuses on the phase behavior and rheology of colloidal dispersions with recent application to associative polymers, film formation from latex dispersions, and polyelectrolytes as stabilizers.



RUSSEL

The society's new vice president is **Susan Muller** (University of California, Berkeley). Others taking office are **Jeffrey A. Giacomin** (University of Wisconsin-Madison), who retains his position as secretary of SoR; **Montgomery T. Shaw** (University of Connecticut), who was elected as treasurer of SoR; and **Morton M. Denn** (City College of the City University of New York), who was reelected as editor of the society's *Journal of Rheology*. **Donald Baird** (Virginia Polytechnic Institute and State University), **Lisa Mondy** (Sandia National Laboratories), and **Robert Powell** (University of California, Davis) will also serve two-year terms as members-at-large on the society's executive committee.

IN BRIEF

At its annual meeting in Philadelphia last month, the Archaeological Institute of America, located in Boston, presented the 2002 Pomerance