

WE HEAR THAT

Franklin Institute Bestows Medals

Each spring, in a ceremony in Philadelphia, the Franklin Institute, founded to continue the legacy of one of America's first scientists, recognizes both scientists and technologists of the current generation. This year, the highest science prize, the \$250 000 Bower Award and Prize in Science was presented to **Martin Rees**, the UK's astronomer royal and the Royal Society Professor at the University of Cambridge's Institute of Astronomy. Rees was selected for his "significant contributions and research on cosmic evolution, black holes and galaxies." The prize announcement goes on to elaborate: "Rees was also the first to propose the fantastic—and now widely accepted—theory that the engines driving the high-energy, deep-space quasars seen by the Hubble Space Telescope are actually enormous black holes."

At the same ceremony, **Ahmed Zewail** received the Benjamin Franklin Medal in Chemistry for "discovering a new way to study chemical reactions that uses extremely short pulses of laser light to create stop-action images of individual atoms as they react." Zewail is the Linus Pauling Professor of Chemistry and Physics at Caltech.

Benjamin Franklin Medals in Engineering went to two researchers—**Emmanuel Desurvire** and **David N. Payne**—for their "contributions to the revolution in extremely high-speed fiber optic communications." Specifically, they were honored for the joint invention of the erbium-doped fiber amplifier. Desurvire is at Alcatel Alsthom Research in Marcoussis, France, and Payne is a professor at the University of Southampton in the UK.

Horst L. Stormer, **Daniel C. Tsui** and **Robert B. Laughlin** received Benjamin Franklin Medals in Physics, the first two for discovering the fractional quantum Hall effect and the latter for developing a theoretical explanation of it. Stormer, until the last few months a laboratory director at Bell Laboratories, Lucent Technolo-

gies, is now a professor of physics and applied physics at Columbia University. Tsui is a professor of electrical engineering at Princeton University, and Laughlin is a professor of applied physics at Stanford University.

Flannery, Datz and Crim Honored by APS

At the annual meeting of the American Physical Society's division of atomic, molecular and optical physics, held in May in Santa Fe, three individuals were honored for their research contributions.

M. Raymond Flannery, a regents' professor of physics at Georgia Institute of Technology, accepted the Will Allis Prize. Flannery was cited for "advancing the understanding of recombination processes, in particular for developing a microscopic theory of three-body ionic recombination; and for his novel applications of classical and quantum mechanical methods to the dynamics of atomic, molecular and ionic systems."

The Davisson-Germer Prize went to **Sheldon Datz**, a Lockheed-Martin Senior Corporate Fellow at Oak Ridge National Laboratory, in recognition of "his broad contributions that have provided new understanding of the dynamics of atomic interactions with ions, electrons and photons at energies ranging from a fraction of a millielectron volt to many trillion electron volts."

Also at the DAMOP meeting, **F. Fleming Crim** accepted the Earle K. Plyler Prize. (See PHYSICS TODAY, February, page 49).

Optical Society of America Announces Awards for 1998

The Optical Society of America has announced this year's recipients of its awards. Most of the awards will be presented at the group's annual meeting in October.

Arthur Ashkin is receiving OSA's highest award, the Frederic Ives Medal/Jarus W. Quinn Endowment, for "his pioneering work on the manipulation of particles with light, including the invention of the 'optical tweezers' trap and his studies of radiation forces on atoms and for important contributions to nonlinear optics." Ashkin worked at what was then AT&T Bell

Laboratories for 40 years, until his retirement as a member of the technical staff in 1992.

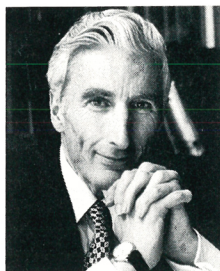
The Allen Prize recipient is **Huailin Chen**, a research scientist in the wind lidar group at NASA's Goddard Space Flight Center. Chen has been chosen for "his novel design and implementation of an ultranarrow Faraday filter, which permits continuous, high-quality, daytime measurements of mesopause atmospheric temperatures by suppressing the detected sky background by a factor of 6000."

Peter Zoller is getting the Max Born Award for "his outstanding and leading theoretical contributions to quantum optics, especially in the fields of quantum computation, quantum communications and networking, and Bose-Einstein condensation." Zoller is a professor of theoretical physics and head of the Institute for Theoretical Physics at Innsbruck University in Austria.

This year, the Joseph Fraunhofer Award/Robert M. Burley Prize is going to **James Robert Leger**, a professor of electrical and computer engineering at the University of Minnesota. OSA cites Leger for having "pioneered the use of diffractive optical elements in laser resonator design and the coherent addition of beams from arrays of lasers including laser diodes... [and] stimulated new directions in the use of diffractive optics for beam combination and shaping that are finding widespread applications in many fields of optics."

The winner of the Nick Holonyak Jr Award is **M. George Craford**, the R&D manager of the optoelectronics division at Hewlett-Packard. Craford was recognized for "his pioneering contributions and leadership in the research and development of visible-wavelength light-emitting-diode (LED) materials and devices, including the first yellow LED and the high-brightness, transparent-substrate, red-orange-yellow InAlGaP LED that exceeds in performance the incandescent lamp."

Takeshi Oka, the Robert A. Millikan Distinguished Service Professor at the Enrico Fermi Institute in Chicago, is the recipient of the Ellis R. Lippin-



MARTIN REES



ARTHUR ASHKIN

cott Award. Oka has been chosen for "his pioneering development of vibrational spectroscopy of molecular ions and the application of this work to the observation of ions in interstellar space and planetary atmospheres."

The William F. Meggers Award is going to **William C. Stwalley** for "his important contributions to the theory of long-range molecular states, the spectroscopy of alkali-dimer and alkali-halide diatomic molecules, and the theory of the stability of spin-polarized hydrogen." Stwalley, head of the physics department and professor of physics and chemistry at the University of Connecticut, is also being recognized for "his leadership and teaching in the field of laser science and a lifetime of professional services to the scientific community."

OSA has chosen **David R. Williams** to receive its Edgar D. Tillyer Award in honor of his "investigations into the psychophysics and topics of vision that have been uniquely innovative, imaginatively conceived and impeccably executed, and have greatly advanced our understanding of the factors limiting visual resolution." Williams is the William G. Allyn Professor of Medical Optics at the University of Rochester and director of the Center for Visual Science there.

At the Conference on Lasers and Electro-Optics, held last month in San Francisco, **Marlan O. Scully** received the Charles Hard Townes Award for "his role in laying the theoretical foundation for laser science, free-electron lasers and lasers without inversion." Scully is the Burgess Distinguished Professor of Physics, director of the Center for Theoretical Physics and director of the Institute of Quantum Studies at Texas A&M University. He is also a foreign scientific member of Germany's Max Planck Institute for Quantum Optics.

The John Tyndall Award is going to **Kenichi Iga** for his "pioneering contributions in the development of surface-emitting lasers and planar microlens arrays for parallel optoelectronics." Iga holds the Teiichi Yamazaki Chair at Tokyo Institute of Technology and is the director of the Precision and Intelligence Laboratory there.

The recipient of the Esther Hoffman Beller Award is **Amnon Yariv**, the Thomas G. Myers Professor of Electrical Engineering and Eileen Summerfield Professor of Applied Physics at Caltech. Yariv is receiving the award for "educating a significant number of current leaders in optics/optoelectronics, and for authoring seminal textbooks, thus enabling [the] early and now-ubiquitous adoption of optics into undergraduate and graduate curricula."

Paul L. Kelley, a professor of electrical engineering and director of the Electro-Optics Technology Center at Tufts University, is getting the Distinguished Service Award. OSA is citing Kelley for "three decades of service to the optical community. He has been a major contributor to a transformation in the dissemination of technical information, in the organization of meetings on optical science and technology, and in OSA itself. His wisdom, consideration and intellectual integrity are esteemed by all."

The Adolph Lomb Medal, which recognizes contributions to optics before the age of 30, is going to **Benjamin J. Eggleton** for "the first observations of nonlinear optical-pulse propagation in photonic bandgap materials, including solitons and modulational instabilities in Bragg gratings, as well as optical switching in long-period fiber gratings." Eggleton works in the department of optical physics at Bell Laboratories, the R&D arm of Lucent Technologies in Murray Hill, New Jersey.

Keith T. Knox, **Robert H. Johnston** and **Roger L. Easton Jr.** are this year's recipients of the Archie Mahan Prize for their article "Imaging the Dead Sea Scrolls," published in *Optics and Photonics News* in August 1997. Knox is a principal scientist at the Xerox Corp's Digital Imaging Technology Center in Rochester, New York. Johnston is dean and professor emeritus at the Rochester Institute of Technology. Easton is on the faculty of Rochester's Chester F. Carlson Center for Imaging Science.

OSA is awarding its David Richardson Medal to **Yoshiharu Namba** in recognition of "his significant contributions to the development of novel but practical techniques, specifically float polishing and ultraprecision grinding, for producing supersmooth surfaces on optical materials." Namba is a professor of mechanical engineering at Chubu University in Japan.

The R. W. Wood Prize is going to **Robert L. Byer** and **Martin Fejer** for "seminal contributions to quasi-phase matching and its application to nonlinear optics." Byer is director of the Center for Nonlinear Optical Materials and of the Hansen Experimental Research Laboratory at Stanford University. Fejer is an associate professor of applied physics at Stanford and associate director of the Center for Nonlinear Optical Materials.

Howard R. Schlossberg is garnering the OSA Leadership/New Focus Prize for "providing outstanding services to the optical community and OSA as a program manager of AFOSR [the Air Force Office of Scientific Research] by exercising a unique vision in advo-

cating and supporting pioneering research and graduate education in the field of optics." Schlossberg is program manager for basic research in lasers and optics in AFOSR's physics and electronics directorate.

Awards Given at 'Physics without Borders' Meeting

At the "Physics without Borders" session of the American Physical Society's March meeting, two physicists were honored for their research. **Nai-Chang Yeh**, a professor of physics at Caltech, received the 1998 Outstanding Young Researcher Award from the Overseas Chinese Physics Association. Yeh was cited for "her series of experiments that elucidated the effect of static disorder on the thermodynamics and dynamics of vortex phase transitions in type-II superconductors, and on the physics of ferromagnetic perovskite oxide materials."

Piljin Yi garnered the Association of Korean Physicists in America's Outstanding Young Researcher Award for "his outstanding achievements in theoretical high-energy physics of superstrings and quantum gravity." Yi is a postdoctoral associate at Cornell University's Newman Laboratory of Nuclear Studies.

German Physical Society Gives Annual Awards

At its March 1998 meeting in Regensburg, the German Physical Society presented seven medals and prizes.

The Max Planck Medal went to **Raymond Stora**, director of the laboratory for elementary particle physics in Annecy-le-Vieux, France, for "his many and varied contributions to quantum field theory, in particular to the formulation of the local gauge principle and the clarification of its topological aspects."

The society gave its Stern-Gerlach Medal to **Herbert Walther**, a professor at the Technical University of Munich and at the Max Planck Institute for Quantum Optics in Garching. Walther was cited for "his pioneering contributions to quantum optics. His micromaser experiments helped create the field of cavity quantum electrodynamics and thus led to a deeper understanding of electromagnetic radiative interaction with atoms."

Martin Holthaus of the Philipps University of Marburg received the