

## BALDESCHWIELER GETS NATIONAL MEDAL OF SCIENCE

John Baldeschwieler, Johnson Professor and Professor of Chemistry, Emeritus, is one of 12 recipients of this year's National Medal of Science. The medal is presented annually at the White House by the president to scientific leaders who have changed, or set new directions, in research and science policy.

Baldeschwieler was cited for his work on molecular assemblies for use in the delivery of pharmaceuticals, for his work on scientific instrumentation, and particularly for his development of ion cyclotron resonance spectroscopy, which identifies ionized molecules by their characteristic orbital frequencies in a strong magnetic field. He also pioneered the use of nuclear magnetic resonance spectroscopy, including double resonance spectroscopy, the nuclear Overhauser effect, and perturbed angular correlation spectroscopy in chemical systems. His recent work concentrates on the use of phospholipid vesicles in cancer diagnosis and therapy, the development of scanning tunneling and atomic force microscopy for the study of molecules on surfaces, and



John Baldeschwieler

on the creation of new methods for producing combinatorial arrays of oligonucleotides.

Baldeschwieler joined the Caltech faculty in 1973, after several years at Harvard and Stanford. He was a member of the President's Science Advisory Committee from 1969 to 1972, serving as vice chairman from 1970 to 1972. He served as deputy director of the Office of Science and Technology from 1971 to 1973. A native of New Jersey, he earned his doctorate at Berkeley in 1959. He is a fellow of the National Academy of Sciences, the American Academy of Arts and Sciences, and the American Philosophical Society. □—RT

## HONORS & AWARDS

Frances Arnold, Dickinson Professor of Chemical Engineering and Biochemistry, has been selected by the American Institute of Chemical Engineers to receive its 2000 Professional Progress Award for Outstanding Progress in Chemical Engineering, sponsored by Air Products and Chemicals, Inc.

President David Baltimore will present the science-book award at the *Los Angeles Times* Book Festival, on April 27.

Assistant Professor of Planetary Astronomy Michael Brown has been selected to receive the Presidential Early Career Award for Scientists and Engineers, which is "the highest honor bestowed by the U.S. government on outstanding scientists and engineers beginning their independent careers."

Peter Dervan, Bren Professor of Chemistry, has been selected to receive the Tetrahedron Prize for his "creativity in developing a new field of bioorganic chemistry."

Michael Hoffmann, Irvine Professor of Environmental Science and executive officer for environmental engineering science, has been selected to receive the American Chemical Society Award for Creative Advances in Environmental Science and Technology, sponsored by Air Products and Chemicals, Inc.

Professor of Aeronautics and Applied Mechanics Wolfgang Knauss was presented the 2000 Lazan Award of the Society for Experimental Mechanics at the society's 2000 Spring Conference, last June. The award recognizes his "outstanding original technical contributions to experimental mechanics."

Associate Professor of Biology and Computation

and Neural Systems Gilles Laurent has received a 2000 McKnight Investigator Award from the McKnight Endowment Fund for Neuroscience. The award "is given to stimulate research in neuroscience as it pertains to memory and, ultimately, to a clearer understanding of diseases affecting memory." Laurent will receive \$50,000 per year for three years for his work on memory in olfactory network dynamics.

Professor of History James Lee has been named by the Social Science History Association a cowinner of the 2000 Allan Sharlin Memorial Award for his book *One Quarter of Humanity: Malthusian Mythology and Chinese Realities, 1700-2000*, coauthored with Assistant Professor of Sociology Wang Feng, of UC Irvine. "The book is recognized as breaking new ground in Chinese demographic history and will be a benchmark in the growing field of Asian demographic history."

Associate Professor of Mathematics Rahul Pandharipande has been chosen a 2000 Packard Fellow.

Alexander Varshavsky, Smits Professor of Cell Biology, has received the 2000 Albert Lasker Award in Basic Medical Research "for his groundbreaking work on the ubiquitin system that targets proteins for destruction." He shares the award with Avran Hershko and Aaron Ciechanover of the Technion—Israel Institute of Technology. The Lasker Awards are given each year by the Albert and Mary Lasker Foundation for basic and clinical medical research.

Mark Wise, McCone Professor of High Energy Physics, has been chosen to receive the American Physical Society's Sakurai Prize, in the field of theoretical particle physics.

Ahmed Zewail, Nobel laureate in chemistry and Pauling Professor of Chemical

Physics and professor of physics, was appointed to the Pontifical Academy of Sciences on November 13 at the Vatican, where he met Pope John Paul II and was presented with the academy's insignia. The academy's roots go back to 1603—the first exclusively scientific academy in the world—and it is a non-sectarian, multiracial body of 80 scientists “who have made outstanding contributions in their fields.” The academy, which includes Caltech president David Baltimore (appointed in 1978), advises the Pope on scientific advances and their moral, ethical, and environmental implications. □

## RIDE, LEE BECOME TRUSTEES, ROSEN ELECTED CHAIR

Astronaut Sally Ride and Global Crossing cofounder David Lee (PhD '74) have been named Caltech trustees, and Ben Rosen (BS '54) was voted the new chair of the board. Gordon Moore (PhD '54) will continue as chair through December 31, 2000, and Rosen will continue to serve as vice chair through the end of the year.

Ride is the Hibben Professor of Physics at UC San Diego. Best known as the first American woman in space, Ride flew aboard the space shuttle *Challenger* in 1983 and was an astronaut on two additional shuttle crews. Her research interests center on the theory of nonlinear beam-wave interactions,

primarily connected with free-electron lasers and related nonlinear systems. She also conducts research at the California Space Institute. She is a strong supporter of science and math education for young women, and has written three children's books about space. She has received numerous awards, including the Jefferson Award for Public Service and the National Spaceflight Medal. She holds a PhD in physics from Stanford.

Lee cofounded the transcontinental telecommunications firm Global Crossing in March 1997. Recently, he left Global Crossing, where he continues to serve on the board, to cofound and

become managing general partner of Clarity Partners, a venture capital firm. Lee has established centers for Advanced Networking at Caltech and at the National Chiao Tung University in Taiwan. He serves on the board of overseers at the Keck School of Medicine at USC and also serves on the board of New Focus, Inc. Lee is a graduate of McGill University and holds a PhD in physics with a minor in economics from Caltech. He is also a certified public accountant.

Incoming chair Ben Rosen is chairman of the board of the Compaq Computer Corporation and has served as a Caltech trustee since 1986.

□—JP



Professor Ahmed Zewail met Pope John Paul II in St. Peter's Basilica. The Pope spent more than two hours with the new academicians, speaking Italian in his formal address during the ceremony and later speaking English to Zewail one on one.

As part of the effort to assemble a National Millennium Time Capsule, the White House Millennium Council “asked former presidential and congressional medal winners as well as students from every state and territory of our country to tell us what they thought represented America at the end of the 20th Century or what their hopes are for the future.” Among the respondents was Hans Liepmann, von Kármán Professor of Aeronautics, Emeritus, who won the National Medal of Science in 1986. Liepmann, who was born in Germany and emigrated to the U.S. in 1939 at von Kármán's invitation to join Caltech's Guggenheim Aeronautical Laboratory, and who became a naturalized citizen in 1945, had this to say: “I most certainly would like to preserve the qualities that struck me at the time as so different from the narrowness and pettiness of the Europe where I came from. The natural friendliness and openness combined with a natural pragmatic approach to life of the Americans I met on my long train ride to California made a deep and lasting impression on me. To codify these virtues in enforceable laws is unfortunately usually counterproductive and hence I hope for the survival of a sufficient number of role models to pass them on.” He called the transistor's invention and the double helix's discovery the achievements of the century, and concluded: “For the future I hope for a stabilized or even reduced world population ... [our] only hope to preserve humanity with dignity and in permanent possession of a beautiful planet!”

Liepmann's letter will be on display at the National Archives in Washington, D.C., from December 1 until the presidential inauguration in January. □



Professor of Biology, Emeritus, Ray Owen has been selected as the Medawar Laureate for the year 2000 by the Transplantation Society. The prize, awarded annually since 1990, is named for Nobel Laureate Sir Peter Medawar, "the father of transplantation biology," and honors outstanding contributions to the field. Organ transplants are so routine today that, except in rare cases, they aren't in any way newsworthy, but it was Owen's discovery of the phenomenon of immune tolerance in the 1940s that made it clear that they were even possible. He transplanted hematopoietic stem cells—blood-cell precursors—between sets of twin cattle, and used genetic analyses and blood typing to show that there was no immune response to the foreign antigens belonging to the twin's cells. He then suggested that suppressing the immune system—with x-ray treatments, for example—would allow transplants to incompatible recipients, and in the 1950s he participated in the first experiments in human organ transplantation.

## MEIRON NAMED CZAR OF BITS AND BYTES

In recognition of how deeply dependent we are on computer networks these days, it was announced—by e-mail, of course—that Daniel Meiron, professor of applied mathematics, has been appointed associate provost for information and information technology as of November 1. This half-time job puts him in charge of Caltech's Information Technology Services and the Computing Advisory Committee.

Said Vice President and Provost and Professor of Theoretical Physics Steve Koonin (BS '72) in the e-mail, "Dan brings to the task a deep knowledge of computing and computing technology, as well as experience as both executive officer for applied math and director of Caltech's ASCI effort," which

he will use to look at how information flows through the campus and what technology is needed to manage it.

Among his specific duties will be overseeing our computing infrastructure, including the wired and (eventual) wireless campus network, e-mail delivery, computer security, software site licensing, and whatever the next generations of technology bring; helping to improve the quality, efficiency, and responsiveness of Caltech's electronic business systems; collaborating with Caltech's libraries to support access to their online resources and planning for the e-library of the future; and promoting the coordination and rationalization of Caltech's various electronic information resources. □