art optical technology affordable, bringing extremely sophisticated optics into the consumer marketplace, and for his expertise and willingness to participate in all aspects of engineering from technology and product development to manufacturing." Plummer is an engineering fellow and director of optical engineering at Polaroid Corp.

The Ellis R. Lippincott Award goes to **Robin M. Hochstrasser**, the Donner Professor of Science at the University of Pennsylvania. OSA is citing Hochstrasser for "his seminal contributions to the development of modern ultrafast infrared and visible laser techniques and their application to the study of condensed phase dynamics, including molecular energy transfer, structural change and chemical reactions."

The Edwin H. Land Medal goes to **Efi Arazi**, who is being recognized for "new and original computer-controlled data processing procedures and equipment in the fields of image motion stabilization, textile design and manufacture and in the field of prepress operations of the printing industry." Arazi is the chief executive officer of Imedia Corp, a developer of digital television technology in San Francisco.

This year's recipient of the Adolph Lomb Medal, given for contributions to optics before the age of 30, is **Ekmel Ozbay**, who is being cited by OSA for "the development and application of innovative fabrication techniques for photonic bandgap structures, leading to the creation of the smallest photonic crystals with electromagnetic bandgaps at the highest achieved frequency bands." Ozbay is an assistant professor of physics at Iowa State University.

Jumpei Tsujiuchi is the C. E. K. Mees Medal recipient for "his numerous outstanding and significant contributions to optics, mainly in optical metrology, holography and optical information processing and for his continuous and timeless pursuit of international cooperation." Tsujiuchi is an emeritus professor of applied optics at the Tokyo Institute of Technology.

The recipient of the William F. Meggers Award is **Takeshi Oka**, who is being cited for "his contributions to experimental and theoretical high resolution molecular spectroscopy. As one example, his work on H_3^+ has revolutionized the field of infrared spectroscopy of molecular ions, but the breadth and quality of his work is such that all aspects of his distinguished career spanning 40 years have had a significant impact in the fields of chemistry, physics and astrophysics." Oka is the Robert A. Millikan Distinguished Service Professor at the University of Chicago.

The David Richardson Medal is being given to **Brian Welham** for "having provided technical leadership in pioneering the development and commercialization of aspheric lens technology. His efforts have led to methods of mass manufacture and assembly of hybrid glass plastic lens systems that have made possible the growth of the projection television industry." Welham is senior vice president of optics technology at US Precision Lens in Cincinnati, Ohio.

The John Tyndall Award, given jointly by OSA and IEEE/LEOS, is going to **Ivan P. Kaminow** for "his contributions to lightwave device technology involving high-speed modulation, integrated optics, semiconductor lasers, polarization effects in fiber and WDM components, and to optical WDM networks." Kaminow spent 42 years with Bell Laboratories, most recently as head of the broadband networks research department, before retiring in January 1996.

Peter Moulton is to accept the R. W. Wood Prize for "the invention of the Ti:sapphire near-infrared laser, which enabled a new era in tunable solid-state lasers and made possible all-solid-state ultrashort sources." Moulton is senior vice president for corporate development at Schwartz Electro-Optics in Concord, Massachusetts.

60 Elected to the Ranks of the NAS

April is the time for election of new members at the National Academy of Sciences, and the academy selected 60 this year. With their addition, the active membership of the academy now stands at 1733. In addition, the academy chose 15 foreign associates to bring the total number of foreign associates to 309.

The new members include

Michael Aizenman, a professor of mathematics and physics at Princeton University.

Neil Ashcroft, associate director of the Cornell High Energy Synchrotron Source and the Horace B. White Professor of Physics at Cornell University.

Tanya M. Atwater, a professor of geological sciences at the University of California, Santa Barbara.

Neta A. Bahcall, a professor of astrophysical sciences at Princeton University.

Charles H. Bennett, an IBM fellow at IBM's T. J. Watson Research Center in Yorktown Heights, New York.

Sylvia T. Ceyer, the John C. Sheehan Professor of Chemistry at the Massachusetts Institute of Technology.

Daniel S. Chemla, director of the materials sciences division at Lawrence Berkeley National Laboratory and a professor of physics at the University of California, Berkeley.

Robert F. Curl, the Robert C. and Olga K. Wiess Professor of Natural Science in the department of chemistry at Rice University.

Anthony J. DeMaria, chairman and chief executive officer of DeMaria Electro-Optics Systems in Bloomfield, Connecticut.

Donald M. Engelman, a professor of molecular biophysics and biochemistry at Yale University.

George Gloeckler, a professor in the department of physics and astronomy at the University of Maryland at College Park.

John C. Mather, a project scientist and cosmic background explorer at NASA's Goddard Space Flight Center in Greenbelt, Maryland.

Peter B. Moore, a professor of chemistry, molecular biophysics and biochemistry at Yale University.

William D. Phillips, a physicist and NIST Fellow at the National Institute of Standards and Technology in Gaithersburg, Maryland.

Kenneth N. Raymond, department chair and a professor in the department of chemistry at the University of California, Berkeley.

John Schwarz, the Harold Brown Professor of Theoretical Physics at Caltech.

Dieter G. Soll, a professor of molecular biophysics and biochemistry in Yale University's School of Medicine.

John C. Tully, a professor of chemistry at Yale University.

Michael S. Turner, a professor in the department of astronomy and astrophysics and in the department of physics at the University of Chicago and Scientist II at the Fermi National Accelerator Laboratory in Batavia, Illinois.

Anthony J. Tyson, a distinguished member of the technical staff at Lucent Technologies, Bell Laboratories, in Murray Hill, New Jersey.

John M. Wallace, a professor of atmospheric sciences and director of the Joint Institute for the Study of the Atmosphere and Ocean at the University of Washington.

Edward B. Watson, department chair and professor in the department of earth and environmental sciences at Rensselaer Polytechnic Institute.

The newly elected foreign associates include

Bert R. J. Bolin, chair of the Intergovernmental Panel on Climate Change and emeritus professor of meteorology at Stockholm University.

Alain Connes, a professor at the Institut des Hautes Etudes Scientifiques and a professor at the College

of France, Paris.

Johann Deisenhofer from Germany, an investigator at the Howard Hughes Medical Institute and a regental professor and professor of biochemistry at the University of Texas Southwestern Medical Center in Dallas.

John F. Dewey, a professor of geology at the University of Oxford in the UK.

Joshua Jortner, the Heinemann Professor of Physical Chemistry at Tel-Aviv University in Israel.

Anthony J. Leggett from the UK, who is a MacArthur Professor and a professor of physics at the University of Illinois at Urbana-Champaign.

IN BRIEF

The US Air Force has honored **Robert Q. Fugate** with the Decoration for Exceptional Civilian Service. Fugate is a physicist at the Air Force Phillips Laboratory's Starfire Optical Range. The citation states that Fugate, "as a pioneer in the field of laser beacon adaptive optics . . . developed and demonstrated advanced technologies essential for the development of short-wavelength laser weapons."

At its meeting in February, Great Britain's Royal Astronomical Society elected to honor several researchers in 1997. The society chose **Donald Osterbrock**, a professor emeritus of astronomy and astrophysics at the University of California, Santa Cruz, and astronomer emeritus at UC Observatories/Lick Observatory, and **Donald T. Farley**, a professor of electrical engineering at Cornell University, to receive Gold Medals, and **Cathy G. C. Constable** of the Scripps Institution of Oceanography at the University of California, San Diego, as the recipient of the Price Medal.

When **Vera Rubin** received the Gold Medal of the Royal Astronomical Society last November, she was only the second woman to receive the award, the first being Caroline Herschel in 1828. At the same time, **Kenneth M. Creer** of the University of Edinburgh received the other 1996 Gold Medal, and **Alan Guth** of MIT garnered the 1996 Eddington Medal.

The four recipients of the 1997 Edward Teller Medal were announced in April at the 13th International Conference on Laser Interactions and Related Plasma Phenomena in Monterey, California. Those honored were **Michael H. Key**, a senior scientist at Lawrence Livermore National Laboratory; **Jurgen Meyer-ter-Vehn,** head of the la-