

tural discoveries of the ribosomal machinery of peptide-bond formation and the light-driven primary processes in photosynthesis," according to the award citation. Feher's work has applications to biophysics and biochemistry, while Yonath has made notable achievements in protein crystallography.

The Wolf Foundation, based in Herzliya Pituach, Israel, will present the awards in May during a Jerusalem ceremony. Each prize carries a \$100 000 purse.

Lawrence award winners are selected

Eight winners of the US Department of Energy's Ernest Orlando Lawrence Award have been named. They were honored during a March ceremony in Washington, DC, for exceptional contributions to R&D that support DOE and its mission to advance the US's national, economic, and energy security. The award in each of the seven categories carries a gold medal and a \$50 000 purse.

Paul Alivisatos and **Moungi Bawendi** jointly received the award in the materials research category "for chemical synthesis and characterization of functional semiconducting nanocrystals, also known as quantum dots." Alivisatos is the Larry and Diane Bock Professor of Nanotechnology at the University of California, Berkeley, where he also is a chemistry and materials science professor; he is the associate laboratory director for physical sciences at Lawrence Berkeley National Laboratory. Bawendi is a chemistry professor at MIT.

Malcolm J. Andrews took the honor in the national security category "for pioneering contributions in the area of fluid instabilities and turbulent mixing, with expertise spanning the realms of theory, numerical simulation, and experiment." Andrews is a national security fellow at Los Alamos National Laboratory (LANL) and a mechanical engineering professor at Texas A&M University, College Station.

Receiving the award in the life sciences category was **Arup K. Chakraborty**, cited "for his groundbreaking theoretical work leading to an understanding of the dynamics and function of the immunological synapse." Chakraborty is the Robert T. Haslam Professor of Chemical Engineering and a professor of chemistry and of biological engineering, all at MIT. His work integrates elements of

the physical sciences, engineering, and the life sciences, and he and his group also research cell membrane biophysics and biopolymers.

A chemist in the high explosive science and technology division at LANL, **My Hang V. Huynh** received the honor in the chemistry category "for her seminal contributions in the design of new materials using coordination chemistry, including green primary explosives that contain no lead, no mercury, and no perchlorate, and for the creation of a new class of polyazido compounds with no carbon-carbon bonds that transcend the carbon-carbon bond paradigm and can be used to prepare novel ultra-pure nanomaterials, such as carbon nanospheres and high-nitrogen carbon nitrides." Huynh's research was instrumental in the formation of new metal complexes that are considered ideal precursors for preparing metallic nanofoams.

Marc Kamionkowski, the Robinson Professor of Theoretical Physics and Astrophysics at Caltech, won in the physics category "for his theoretical analyses demonstrating that precise observations of the cosmic microwave background can lead to deep understanding of the origin and evolution of the universe, thereby motivating a series of increasingly precise cosmological experiments."

Receiving the award in the environmental science and technology category was **John Zachara**, a laboratory fellow in the chemical and materials science division of the fundamental science directorate at Pacific Northwest National Laboratory. Zachara was cited "for his seminal and continuing scientific contributions to understanding geochemical and microbiologic factors that are critical to the fate and transport of metals and radionuclides in the environment."

Steven Zinkle was honored in the nuclear technology category "for significant contributions to the scientific basis for understanding the effects of radiation on the properties of materials, and for applying this understanding to the establishment of performance limits of materials in radiation environments." Zinkle heads the materials science and technology division at Oak Ridge National Laboratory.

New members, associates are elected to NAE

Honoring contributions to engineering research and new technology, the Na-

tional Academy of Engineering has elected 64 new members and 9 foreign associates, bringing its total US membership to 2217 and its foreign associates to 188. The new members and associates will be inducted this October during the academy's 42nd annual meeting in Washington, DC. Of the new members, 24 are involved in physics-related work:

Asad Ali Abidi, professor in the electrical engineering department at UCLA

Nicolaos G. Alexopoulos, dean of engineering at the University of California, Irvine

Peter Michael Asbeck, professor of electrical and computer engineering at UC San Diego

William R. Brody, president of the Johns Hopkins University in Baltimore, Maryland

Edwin A. Chandross, consultant at Materials Chemistry LLC in Murray Hill, New Jersey

Stephen Y. Chou, Joseph C. Elgin Professor of Engineering and an electrical engineering professor at Princeton University

Harold Gene Craighead, Charles W. Lake Jr Professor of Engineering at Cornell University

John J. Dorning, Whitney Stone Professor of Nuclear Science and Engineering, professor of engineering physics, and professor of applied mathematics at the University of Virginia in Charlottesville

Robert M. Gray, Lucent Technologies Professor in Communications and Networking at Stanford University

Karl A. Gschneidner Jr, Anson Marston Distinguished Professor in the department of materials science and engineering at Iowa State University in Ames

Paul M. Horn, senior vice president of research at IBM in Yorktown Heights, New York

Larry J. Hornbeck, TI Fellow, Texas Instruments Inc in Plano, Texas

Stuart Dodge Jessup, senior research scientist in the Carderock division of the Naval Surface Warfare Center in West Bethesda, Maryland

Timothy Laurence Killeen, director of the National Center for Atmospheric Research in Boulder, Colorado

Stelios K. Kyriakides, Temple Foundation Endowed Professor in the department of aerospace engineering and engineering mechanics at the University of Texas at Austin

David B. Marshall, principal scientist at Rockwell Scientific Co in Thousand Oaks, California