

of Massachusetts, has been named to receive the Tom W. Bonner Prize in Nuclear Physics. He is being praised for his "leadership in pioneering measurements of the electromagnetic properties of nuclei and nucleons at short distance scales that addressed the fundamental connection of nuclear physics to quantum chromodynamics and motivated new experimental programs."

The recipient of the W. H. K. Panofsky Prize in Experimental Particle Physics will be **Martin Breidenbach**, a professor of physics at the Stanford Linear Accelerator Center. According to the award citation, Breidenbach is being honored for his "many contributions to  $e^+e^-$  physics, especially with the SLD detector at the Stanford Linear Collider," and for his involvement in all aspects of the project that led to "important advances both in the measurement of electroweak parameters and in accelerator technology."

The Joseph A. Burton Forum Award will be given to **Steven Fetter**, an associate professor in the school of public affairs at the University of Maryland, College Park. Fetter is being recognized for "developing the technical basis for diverse new initiatives in nuclear arms control and non-proliferation policy and for communicating the relevant scientific results and their context effectively to policy makers and the public."

The Dannie Heineman Prize for Mathematical Physics will go to **Sidney R. Coleman**, Donner Professor of Science at Harvard University. Coleman is being recognized for his "incisive contributions to the development and understanding of modern theories of elementary particles." The prize citation notes in particular his "contributions to symmetry breaking and the roles played by internal and space-time symmetries as well as the structure of solutions to an important model in quantum field theory."

The Aneesur Rahman Prize for Computational Physics will go to **Michael J. Creutz** for "first demonstrating that properties of QCD could be computed numerically on the lattice through Monte Carlo methods, and for numerous contributions to the field thereafter." Creutz is a senior physicist at Brookhaven National Laboratory.

**Jeremiah D. Sullivan**, a professor of physics at the University of Illinois at Urbana-Champaign, will garner the Leo Szilard Award. Sullivan is being recognized for his "leadership in addressing technically complex and

often controversial national security issues, such as anti-ballistic missiles, stockpile stewardship, and a comprehensive test ban" and for "setting a high standard for applying the rigorous methods of physics to the challenging problems of integrating advanced technology with sound policy in a democratic society."

**Maury Tigner**, the H. A. Bethe Professor of Physics Emeritus at Cornell University, has been selected to receive the Robert R. Wilson Prize for his "notable contributions to the accelerator field as an inventor, designer, builder, and leader, including early pioneering developments in superconducting radio frequency systems, inspiration and intellectual leadership for the construction of CESR, and leadership of the SSC Central Design Group."

The J. J. Sakurai Prize for Theoretical Particle Physics will go to **Curtis G. Callan Jr.** Chairman of the physics department at Princeton University, Callan is being recognized for his "classic formulation of the renormalization group" and for his contributions to "instanton physics and to the theory of monopoles and strings."

The Edward A. Bouchet Award will be presented to **Philip W. Phillips**, an associate professor of physics at the University of Illinois at Urbana-Champaign. Phillips will be honored for "opening new vistas in the study of disordered and strongly correlated condensed matter physics, including the random dimer model and the size dependence of the Kondo effect."

**Donald T. Jacobs** will garner the Prize to a Faculty Member for Research in an Undergraduate Institution for his "research contributions to critical phenomena in binary fluids, and for his sustained excellence and enthusiasm in promoting undergraduate research, both within and beyond his laboratory." Jacobs is the Victor J. Andrew Professor of Physics at the College of Wooster in Wooster, Ohio.

The Outstanding Doctoral Thesis Research in Beam Physics Award will be given to **Mei Bai**. She is being recognized for her "work in the theory, experimental demonstration, and clear explanation of a method using an RF dipole for overcoming intrinsic spin resonances in polarized proton acceleration." Bai is currently a research associate at Brookhaven National Laboratory.

The 1999 Leroy Apker Award for research at a PhD-granting institution will be given to **Govind Krishnaswami** for his "achievements as an undergraduate student at the University of Rochester and particularly his

research entitled 'A Model of Interacting Partons for Hadronic Structure Functions.'" Krishnaswami is currently continuing his research at the University of Rochester.

The 1999 Leroy Apker Award for research at a non-PhD-granting institution will go to **Brian Gerke** for his "achievements as an undergraduate student at Williams College and particularly his research entitled 'Ultrafast Photoisomerization Dynamics: A Tight-Binding Model Applied to Small Alkenes.'" Gerke is currently in England studying astrophysics at the University of Cambridge on a two-year fellowship.

## AGU Medals Awarded at Fall Meeting

During the 1999 fall meeting of the American Geophysical Union, held in San Francisco in December, seven individuals received recognition for their contributions to geophysics.

The Charles A. Whitten Medal went to **Richard I. Walcott**, an emeritus professor of geology at Victoria University of Wellington in New Zealand. The Whitten Medal is given for outstanding achievement in research on the form and dynamics of Earth and the other planets. The medal citation praised Walcott's "great contributions to our understanding of tectonics" and noted that his research is helping to bring geodesy "back to its rightful place at the center of geophysics."

The Maurice Ewing Medal, given jointly by AGU and the US Navy for contributions to marine geophysics, went to **Arnold L. Gordon**. Gordon, a professor of oceanography and a member of the research staff at Columbia University's Lamont-Doherty Earth Observatory, was honored for his "nearly forty years of outstanding scientific contributions," which have spanned scales and oceans "from the meter scale to the global thermohaline circulation; from the hot tropical regions to the cold polar environments," and for his "tireless and exhaustive service to the oceanographic community."

**Wilfried H. Brutsaert** received the Robert E. Horton Medal, which is given for outstanding contributions to the geophysical aspects of hydrology. Brutsaert, a professor of civil and environmental engineering at Cornell University, was honored for such achievements as his "original and incisive contributions in the descrip-

tion of the transport of vapor through the Earth-atmosphere boundary layer" and "being at the forefront of establishing programs that make the best use of both ground-based and remote platform measurements to quantify evapotranspiration."

The John Adam Fleming Medal was presented to **Paul H. Roberts**. According to the citation, Roberts has made "extraordinary contributions to geophysics, especially to the dynamo theory." His significant contributions to the literature were also praised. Roberts is a professor of mathematics and a professor of geophysical sciences at UCLA.

**Jeroen Tromp**, one of three recipients of a James B. Macelwane Medal, which is given for significant contributions to the geophysical sciences by a young scientist, was honored for his research on topics ranging from the structure of Earth's inner core to surface wave propagation to a uniformly valid body wave theory. The citation also praised him for being "a superb theoretician as well as an expert data analyst." Tromp is a professor of geophysics in the earth and planetary sciences department at Harvard University.

**Rainer Hollerbach** garnered the second Macelwane Medal for his work on the generation of the geomagnetic field by dynamo action. Hollerbach, a reader (associate professor) in the mathematics department at the University of Glasgow in Scotland, was cited for his collaborative research that "demonstrated the importance of the electrical conductivity of [Earth's] inner core on the dynamo operating in the outer core" as well as his other contributions to geomagnetism.

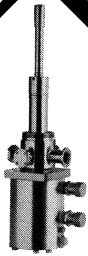
The third Macelwane Medal went to **Kenneth A. Farley**, a professor of geochemistry at Caltech. Farley was recognized for his work on the imprint of interplanetary dust on accumulating deep-sea sediments based on excess helium-3 measurements. The citation noted that he has "enlivened the discussion of the variability in cosmic dust flux over time, climate, and sedimentary processes in the deep ocean," and it also mentioned his other contributions to geochemistry.

## Five Engineering Excellence Awards Given by OSA

The Optical Society of America has presented its Engineering Excellence Awards for 1999 to the five following individuals.

**Denis Barbier** was honored,

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