

"important contributions to fundamental mathematics" in probability theory, nonlinear partial differential equations, spectral theory, and dynamical systems. His work has centered on reinterpreting descriptive models of large-scale physical behavior within a statistical mechanics context. Early in his career, he focused on describing—in quantum mechanical terms—the stability of matter in complex (many-body) systems. He redirected his research to explain the macroscopic properties of fluids based on the microscopic behavior of their constituent particles—the hydrodynamic limit. He developed the concept of "relative entropy" to derive descriptive formulas of fluid behavior from basic principles of statistical mechanics.

## AAS Presents Awards in New York

During the 196th meeting of the American Astronomical Society held in Rochester in June, several individuals were recognized for their contributions to astronomy and astrophysics.

The Henry Norris Russell Lectureship, AAS's highest honor, went this year to **Donald Lynden-Bell**, professor of astrophysics at the University of Cambridge. According to the award citation, Lynden-Bell "taught us how to understand the rich properties of disks around planets, stars, black holes, and galaxies" and demonstrated what scientists may learn from studying the motions of gas clouds around the Milky Way, galaxies within the local group, and the nearby universe through the thermal background radiation. Lynden-Bell also "communicated to us all the pleasure and importance of considering the fundamental basis for our subject within the sciences of heat, matter, and gravitation."

**Frank Shu** received the 2000 Danie Heineman Prize for Astrophysics, given jointly by AAS and the American Institute of Physics. He was recognized for "shaping our current understanding of star formation, for his research on an unusually large array of topics, including the origin of spiral structure in galaxies, stellar dynamics, the evolution of close binary stars, planetary rings, and composition of meteorites, and for his contributions as an educator and leader of the astronomical community." Shu is University Professor in the astronomy department at the University of California, Berkeley.

The Beatrice M. Tinsley Prize for

2000 was presented to **Charles Alcock** for his work as principal investigator on the project to search for massive compact halo objects (MACHOs). According to AAS, "the search for dark matter in the galactic halo through gravitational micro-lensing by the MACHO project team was one of the most challenging astronomical projects ever undertaken." The project "was successfully developed and led by Charles Alcock in the face of considerable skepticism about the feasibility of carrying out such a massive survey." The MACHO project not only provided data in the search for dark matter, but has raised questions about the stellar mass function and has contributed insights into the study of variable stars. Alcock is director of the Institute of Geophysics and Planetary Physics at Lawrence Livermore National Laboratory.

**Harold McNamara**, professor of astronomy at Brigham Young University in Provo, Utah, garnered the 2000 George Van Biesbroeck Prize. AAS acknowledged McNamara as "the effective editor of the *Publications of the Astronomical Society of the Pacific* in 1969–91, during which time that journal grew by more than a factor of three. In 1988 he started the *ASP Conference Series* that now numbers about 200 volumes. That series has provided good quality, rapid, and inexpensive astronomical publications."

The 2000 Helen B. Warner Prize was awarded to **Wayne Hu**. He was honored for clarifying our understanding of how fluctuations in the microwave background radiation are formed under a range of cosmological assumptions and for demonstrating how observations of galaxies from large surveys can lead to complementary information covering more recent epochs. "Through his deep understanding of the fundamental physics and his skill in communication, Dr. Hu's work is having a strong influence on our understanding of cosmology." Hu will be assistant professor of astronomy and astrophysics at the University of Chicago in September.

**Kirpal Nandra** received the Newton Lacy Pierce Prize for 2000 in recognition of his use of data from an assortment of x-ray satellites to identify reflection spectra and broadened iron lines from accretion disks in active galactic nuclei. "His leadership and careful analyses are having a major impact on our growing understanding of the properties of massive black holes and on how gas accretes onto them." Nandra works at NASA's Goddard Space Flight Center as research scientist for the Universities

Space Research Association's Cooperative Program in Space Science.

## IN BRIEF

**David J. Gross**, director of the Institute for Theoretical Physics at the University of California, Santa Barbara, and **Harry B. Gray**, professor of chemistry and director of the Beckman Institute at Caltech, each received the Harvey Prize in Science and Technology, awarded in June by the Technion–Israel Institute of Technology in Haifa, Israel. Gross was recognized for "his many contributions to all aspects of elementary particle physics and, in particular, the discovery of the 'Asymptotic Freedom' property of the strong interactions among the most elementary constituents of matter." Gray's award was for his "pioneering contributions to inorganic and bioinorganic chemistry... especially his studies of reaction mechanisms and the nature of the chemical bond in transition metal complexes and of the long-range electron transfer in proteins."

**James C. White II** has been named executive director of the Astronomical Society of the Pacific. He has been editor of the society's magazine *Mercury* and *The Universe in the Classroom*, its teachers' newsletter, and was associate professor of astronomy at Middle Tennessee State University, Murfreesboro. White began his new post in July.

**France Cordova**, professor of physics and vice chancellor for research at the University of California, Santa Barbara, has been selected as a 2000 laureate by the Kilby Awards Foundation. The foundation's mission is "to identify, celebrate and provide heroic role models for future generations."

Tel Aviv University in May awarded the Sackler Prize in Physical Sciences to **Juan Maldacena** and **Michael Douglas**. Maldacena, professor of physics at Harvard University, and Douglas, professor of physics at Rutgers University, are sharing the \$36 000 prize. The pair was recognized for "their crucial contributions to theoretical high-energy physics through their work on string theory."

**James Lake**, director of strategic nuclear business development at the Idaho National Engineering and Environmental Laboratory, has been named president of the 11 000-member American Nuclear Society (ANS). A member of ANS since 1967, he began his yearlong term in June.