

WE HEAR THAT

AAS Divisions Honor Van Allen and Others

Each year several divisions of the American Astronomical Society recognize individuals who have made noteworthy achievements within their respective fields. The following divisional prizes were presented during 1994.

At its annual meeting in Bethesda, Maryland, in early November, the society's division for planetary sciences awarded the Gerard P. Kuiper Prize to **James Van Allen**, a professor of physics at the University of Iowa. Van Allen was recognized for "his many contributions to the field of planetary science, both through his investigations of planetary magnetospheres and through his advocacy of planetary exploration."

Karen J. Meech, an associate astronomer at the University of Hawaii, received the division's Harold C. Urey Prize. She was cited for "her outstanding observational studies of comets," including an extensive survey of very distant comets that revealed that "comets are active at much larger heliocentric distances than previously thought." Also honored at the meeting was **Joseph A. Burns**, who received the Harold Masursky Award for "his many activities on behalf of planetary science," including serving as editor of the journal *Icarus*. Burns is the Irving Porter Church Professor of Engineering and a professor of astronomy at Cornell.

The 1994 recipient of the AAS division on dynamical astronomy's Dirk Brouwer Award is **Christopher Hunter** of the mathematics department at Florida State University. He was cited for having had a "major impact on our understanding of galactic dynamics and the dynamical behavior of stellar systems."

In addition to the divisional prizes, AAS awarded two Henri Chretien International Research Grants during 1994. The first went to **Pierre Bergeron** of the University of Montreal, who with colleagues has undertaken an extensive photometric and spectroscopic survey of more than 100 cool white dwarf stars. The second grant went to **Scott Horner** of Penn State, who has been using asteroseismology—a technique for probing the interiors of stars—to better understand stellar structure and evolution.

Press Tops List of AAAS Awardees

During its annual meeting in Atlanta this month the American Association for the Advancement of Science will present awards in a variety of fields. Among the recipients is **Frank Press**, Cecil and Ida Green Senior Fellow at the Carnegie Institution of Washington, DC. Press will receive the 1994 AAAS Philip Hauge Abelson Prize for "the outstanding impact his scientific work has had on the development of modern geophysics and for the influence of his personal leadership in national science planning and administration."

Theodore Postol, professor of science, technology and national security policy at MIT, will receive the 1994 AAAS Hilliard Roderick Prize in Science, Arms Control and International Security. The citation states that Postol "has produced important technical analyses related to a number of controversial issues, including strategic and tactical missile defenses and potential civilian casualties from nuclear counterforce attack."

The 1994 AAAS Mentor Award will go to **Joseph S. Francisco**, professor of chemistry and science at Wayne State University, Detroit, Michigan, for "his remarkable dedication to mentoring PhD students in chemistry and chemical engineering."

The 1993–94 AAAS Newcomb Cleveland Prize for the best article or report in *Science* will go to the authors of two papers: **Michael R. Crommie**, **Chris P. Lutz** and **Donald M. Eigler**, all of the IBM Almaden Research Center in San Jose, California, for their article "Confinement of Electrons to Quantum Coralls on a Metal Surface"; and **Jerome Faist**, **Federico Capasso**, **Deborah L. Sivco**, **Carlo Sirtori**, **Albert L. Hutchinson** and **Alfred Y. Cho**, all of AT&T Bell Laboratories in Murray Hill, New Jersey, for their report "Quantum Cascade Laser."

OBITUARIES

Arkady Aronov

Arkady Aronov, professor of physics at the Weizmann Institute of Sciences in Israel, head of the theory department at the A. F. Ioffe

Physico-Technical Institute in Saint Petersburg, Russia, and one of the brightest theoretical condensed matter physicists of his generation, died of a heart attack on 13 November in Rehovot, Israel.

Arkady was born in Leningrad on 26 July 1939 and obtained his first diploma in electronic engineering at the Leningrad Electro-Technical Institute in 1962. With the help of Grigory Pikus, Arkady entered the graduate school associated with the Semiconductor Institute of the Academy of Sciences of the USSR in 1963.

The first papers by Aronov and Pikus discussed the optics of semiconductors in crossed electric and magnetic fields. The practical consequence of the theory they developed was an optical method for measuring the effective masses of electrons and holes. Based on this work and studies of interband tunneling, Arkady earned his PhD in physics in 1966.

After earning his PhD, Arkady worked at the Semiconductor Institute, which later merged with the Ioffe Institute. Arkady worked at the B. P. Konstantinov Institute for Nuclear Physics from 1976 to 1990 and then returned to the Ioffe Institute as head of the theory department. In May 1994 Arkady accepted a professorship at the Weizmann Institute. He had recently been named a member of the associated staff at the International Centre for Theoretical Physics in Trieste, Italy.

From the beginning Arkady viewed theoretical physics as an interconnected subject, and throughout his career he achieved important results in very different areas of condensed matter theory.

Aronov and Alexey Ioselevich constructed a semiclassical theory of optics in semiconductors in a strong electric field that took into account a broad set of exciton effects. Arkady also contributed to the theory of tunnel luminescence and to the theory of inelastic light scattering in a crystal without an inversion center. Together with Gennady Bir and Pikus, Arkady in 1975 suggested a new mechanism for electron spin relaxation due to interaction with itinerant holes. This theory pointed out the important role of the interplay between disorder and interactions in quantum systems. One more paper written in 1976 predicted Fermi-liquid-type spin waves in a spin-polarized Boltzmann