The John Adam Fleming Medal was presented to **Donald M. Hunten**, the Regents Professor of Planetary Sciences at the University of Arizona. Hunten's contributions "are evident everywhere in the record of terrestrial and planetary aeronomy," the medal citation stated, noting in particular his development of the theory of diffusion-limited escape and the subsequent analysis of escape of hydrogen from the planets.

Ignacio Rodriguez-Iturbe, the R. P. Gregory Professor of Civil Engineering at Texas A&M University, garnered the Robert E. Horton Medal, given for outstanding work in hydrology. According to the medal citation, Rodriguez-Iturbe "has led the revolution in fluvial geomorphology from the late 1980s to the present by developing a whole new theory of river basin organization and evolution."

The Harry H. Hess Medal was presented to **David J. Stevenson**, the George Van Osdol Professor of Planetary Science at Caltech. The medal citation praised Stevenson's development of "ongoing models of the planets, satellites and dwarf stars [and] his exceptional ability to assimilate the work of others and to use it to achieve new depths of understanding."

The Walter Sullivan Award for Excellence in Science Journalism went to **Kevin Krajick**, a freelance science writer, for his article on recent investigations into gas hydrates, vast deposits of which lie beneath the seafloor. Entitled "The Crystal Fuel," the article appeared in the May 1997 issue of *Natural History*.

Anderson, Dziewonski Receive Crafoord Prize

Although the Royal Swedish Academy of Sciences does not award Nobel Prizes for astronomy, biosciences, geophysics or mathematics, the academy does recognize those fields with its handsomely endowed Crafoord Prize. The 1998 Crafoord Prize, worth $500 000, will be presented to geophysicists **Don L. Anderson** and **Adam Dziewonski** in a ceremony this September. Anderson is the Eleanor and John R. McMillan Professor of Geophysics at Caltech and Dziewonski is the Frank B. Baird Jr Professor of Science in Harvard University's department of Earth and planetary sciences.

DON L. ANDERSON

ADAM DZIEWONSKI

The academy is honoring Anderson and Dziewonski for "their fundamental contributions to our knowledge of the structures and processes in the interior of the Earth." The two researchers have worked both together and separately to study earthquakes. They have used seismological studies to develop models of the organization of the Earth and the dynamics of its processes. According to the citation, Anderson and his group have studied changes in Earth's composition arising because of the pressure deep in the planet's mantle; they have shown that changes in the composition of the mantle may explain the occurrence of tensions in Earth's crust that can lead to earthquakes. Anderson and his coworkers have also used seismic data to study convection currents in the mantle and, more recently, they have used geochemical and chemical-isotope methods to look at the geophysical development of Earth and other planets.

Dziewonski has used the speed and nature of seismic waves to learn more about the temperatures and mineral densities within Earth. The academy credits Dziewonski and his coworkers with developing global seismic tomography, a technique corresponding to computed tomography in medicine. In earlier work, according to the academy's citation, by studying the 1964 Alaska earthquake, Dziewonski and his colleagues formed a picture of the planet's interior, with its solid inner core and a fluid outer core consisting chiefly of iron. Outside the core are the mantle and the crust, composed chiefly of silicates. Recently, Dziewonski and his colleagues observed that the inner core is rotating 2–3 degrees per year faster than the mantle and crust. (See PHYSICS TODAY, September 1996, page 17.)

Academy of Sciences Adds to Its Ranks

At its annual meeting in April, the National Academy of Sciences elected 60 new members and 15 foreign associates from 10 countries. The total number of academy members now stands at 1798 and its foreign associates number 310. Among the newly named members are

David E. Aspnes, a professor of physics at North Carolina State University at Raleigh

Bruce J. Berne, a professor of chemistry at Columbia University

A. Welford Castleman, the Evan Pugh Professor in the chemistry department at Pennsylvania State University

William L. Chameides, a Regents' Professor in the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology

Ingrid Daubechies, a professor of mathematics and the director of the program in applied and computational mathematics at Princeton University

Norval E. Fortson, a physics professor at the University of Washington

Donald A. Gurnett, the Carver/Van Allen Professor of Physics at the University of Iowa

John M. Hayes, a senior scientist in the department of geology and geophysics at the Woods Hole Oceanographic Institution in Woods Hole, Massachusetts

Roman Jackiw, the Jerrold Zacharias Professor and the chair of the physics department at the Center for Theoretical Physics at MIT

Thomas H. Jordan, the Robert Shrock Professor and head of the department of Earth and planetary sciences at MIT

Robert P. Kirshner, a professor of astronomy and chair of the astronomy department at Harvard University

Miles V. Klein, a professor of physics and director of the Science and Technology Center for Superconductivity at the University of Illinois at Urbana-Champaign

James M. Moran, a professor and senior radio astronomer at the Harvard–Smithsonian Center for Astrophysics in Cambridge, Massachusetts

William R. Schowalter, the dean of the College of Engineering at the University of Illinois at Urbana-Champaign

Lu Jeu Sham, a professor of physics at the University of California, San Diego

Paul J. Steinhardt, the Mary Amanda Wood Professor of Physics at the University of Pennsylvania

Melvin E. Stern, a distinguished research professor in the department of oceanography at Florida State University

Michael S. Witherell, a professor of physics at the University of California, Santa Barbara

Andrew C. Yao, the William and Edna Macaleer Professor of Engineering and Applied Science in the department of computer science at Princeton University