

WE HEAR THAT

McKenzie Wins Crafoord Prize

The Royal Swedish Academy of Sciences does not award Nobel Prizes for geosciences, astronomy, mathematics, or biosciences, but it does recognize one of those fields each year with its Crafoord Prize. This year's prize, in geosciences, will be presented in September to **Dan P. McKenzie**, Royal Society Professor of Earth Sciences at the University of Cambridge. The prize is worth \$500 000.

The academy is honoring McKenzie "for fundamental contributions to the understanding of the dynamics of the lithosphere, particularly plate tectonics, sedimentary basin formation



DAN P. MCKENZIE

and mantle melting." During the 1960s, early in his career, McKenzie made key contributions to the authoritative theory of plate tectonics, which, until that time, was frequently viewed with skepticism by scientists.

His research during the next decade focused on the deformation that occurs in the boundary zones between the plates, especially where these boundaries cross continents. According to the academy's announcement, McKenzie's "analysis of source mechanisms of earthquakes has had profound implications [for the assessment of earthquake risk] in such areas as the Eastern Mediterranean."

More recently, McKenzie has collaborated with NASA to study the

gravity fields of Venus and Mars and analyze the geophysical evidence for their internal structure and makeup. Through a comparison of the main characteristics among those two planets and Earth, he has found remarkable differences in their origin and evolution. For example, he has explained how vulcanism melts ice beneath the surface of Mars, and so generates the huge floods that have poured out of some of the large canyons.

McKenzie's present research involves using geochemical measurements to understand how the mantle melts and how molten rock moves from its source to the surface. He has been working with geochemists from Iceland, France, and the US on volcanic rocks from Theistareykir in northeastern Iceland. Even though the source region of these rocks is part of the convecting mantle, it contains substantial isotopic heterogeneities, some of which must date from the time Earth was formed.

German Society Bestows Awards

At its annual meeting last March in Leipzig, the German Physical Society (DPG) presented its medals and prizes for 2002, including the new Hertha Sponer Prize, which recognizes young women's outstanding work in physics. **Karina Morgenstern**, who is doing her *habilitation* at the Free University of Berlin, is the first recipient of this prize. The society honored her work on the dynamics of surface phenomena. Her research focuses on nanostructures and the behavior of molecules on metallic surfaces.

The Max Planck Medal, the society's most important award for theoretical physics, went to **Jürgen Ehlers** for his contributions to the general theory of relativity, to cosmology, and to general-relativistic kinetic theory and hydrodynamics. Ehlers is an emeritus professor of physics at the Max Planck Institute for Gravitational Physics (Albert Einstein Institute) near Potsdam.

J. Peter Toennies received the society's most important award for experimental physics, the Stern-Gerlach Medal, for his contributions to surface and cluster physics, espe-

cially to helium atom scattering from surfaces and to the spectroscopy of molecules in helium nanodroplets. He is an emeritus director and administrative director of the Max Planck Institute for Fluid Dynamics in Göttingen. He also is an emeritus professor of physics at the University of Göttingen and an adjunct professor of physics at the University of Bonn.

Michael Bonitz, a privatdozent (roughly equivalent to an associate professor) at the University of Rostock, received the Gustav Hertz Prize, which is given to outstanding young physicists. Bonitz was recognized for his contributions to the nonequilibrium many-body theory of Coulomb systems in plasmas and semiconductors.

The DPG, jointly with the French Physical Society, gave **Jean-Marie Flaud** the Gentner-Kastler Prize in recognition of his contributions to high-resolution molecular spectroscopy, particularly his work on water vapor and ozone. He is a director of research at CNRS in Orsay, France.

Hanns Ruder, a professor of theoretical astrophysics at the University of Tübingen, garnered the Robert Wichard Pohl Prize for his contributions to computational physics and his dedication to visualizing complex physical phenomena using novel computer techniques.

The Walter Schottky Prize, awarded for outstanding contributions by young researchers in condensed matter physics, went to **Harald Reichert**, a senior scientist at the Max Planck Institute of Metals Research in Stuttgart. He was cited for his discovery of fivefold local symmetry in liquids near solid surfaces.

AAAS Honors Scientific Achievement

The American Association for the Advancement of Science honored scientists and engineers at its annual meeting last February in Boston.

Among the recipients was **Günther Bauer**, head of the semiconductor physics group at the University of Linz in Austria. He received the AAAS Award for International Scientific Cooperation for his "scientific accomplishments in the field of semiconductor physics, his outstanding work in institution-building and collaboration

with numerous scientists across political and national boundaries, and [his] promotion of equal opportunities for women in physics." The award included a cash prize of \$2500.

Ian Stewart, a professor of mathematics at the University of Warwick in the UK, won the AAAS Award for Public Understanding of Science and Technology "for sustained achievement in public understanding of science and technology; his efforts have had an international impact." According to the AAAS, he has "become known for his popular science writing on mathematical themes and for furthering the public understanding of science." Stewart's research interests include the effects of symmetry on dynamics, with applications to pattern formation and chaos theory, in the areas of animal locomotion, fluid dynamics, mathematical biology, electronic circuits, computer vision, and intelligent control of spring coiling machines. The award included a cash prize of \$5000.

The AAAS Lifetime Achievement Award went to **William T. Golden** for "a lifetime of leadership, counsel, and support in the advancement of science." The association noted that "Golden has dedicated his career to advancing science, science policy, and science education. . . . He is most recognized for his work under the Truman administration, when he established the post of Science Adviser to the President, and the related Office of Science and Technology." He is the chairman emeritus of the American Museum of Natural History.

AAS Elects New Vice President

In June, **Pierre Demarque** begins a three-year term as a vice president of the American Astronomical Society. Demarque replaces **J. Craig Wheeler** and joins the society's two other vice presidents, **Joseph A. Burns** (2001–04) and **Robert E. Williams** (2000–03). In addition, **Catherine A. Pilachowski** will begin her two-year term as AAS president in June (see PHYSICS TODAY, May 2001, page 77).

Demarque, who earned his PhD in astronomy from the University of Toronto in 1960, is currently the Munson Professor Emeritus of Natural Philosophy and Astronomy in the astronomy department at Yale University. His research interests include theoretical investigations of stellar structure and evolution, stellar popu-

lation synthesis, and solar and stellar seismology.

In other AAS election results, **Leonard V. Kuhi** (University of Minnesota) was reelected to a three-year term as treasurer, and **Sumner Starrfield** (Arizona State University) was chosen chair of the publications board. **Bruce W. Carney** (University of North Carolina at Chapel Hill), **Christopher Sneden** (University of Texas at Austin), and **Jean H. Swank** (NASA's Goddard Space Flight Center) were elected to three-year terms as AAS councilors. **Margaret M. Hanson** (University of Cincinnati) was elected to a three-year term on the nominating committee. AAS's new representative on the US National Committee of the International Astronomical Union is **Nicholas E. White** (Goddard).

IN BRIEF

Persis Drell and spouse **Jim Welch** both joined SLAC this spring. Drell is the associate director of SLAC's research division and Welch is an accelerator physicist. Both previously worked at Cornell University's laboratory of nuclear studies. She was the deputy director of the lab and he was a senior research associate.

Robert Callender will become the Editor of *Biophysical Journal* on 1 July, succeeding **Peter Moore**, who has been editor since 1997. Callender, a professor of biochemistry at the Albert Einstein College of Medicine of Yeshiva University, located in New York, will serve until 2007.

Earlier this year, **Jacqueline N. Hewitt** became the director of the Center for Space Research at MIT. She succeeds **Claude R. Canizares**, who is now an associate provost at MIT.

Herwig Kogelnik and **Allan Snyder** have jointly won the 2001 Marconi International Fellowship Award, presented in December by the Marconi Foundation. According to the foundation, the pair's "pioneering contributions to optical communications based both on a masterful command of the mathematical basis as well as an extraordinarily powerful physical insight represent a unique and multifaceted achievement." Kogelnik is the adjunct photonics systems research

vice president at Bell Labs, Lucent Technologies. Snyder is the director of the Centre for the Mind, a joint venture of the Australian National University and the University of Sydney. He also holds the Peter Karmel Chair of Science and the Mind at ANU and the 150th Anniversary Chair of Science and the Mind at Sydney. The winners shared the \$100 000 cash prize.

Andrew Millis joined the physics faculty at Columbia University in January. He had been a professor in the Rutgers University physics department and a member of the Center for Materials Theory at Rutgers.

At its annual meeting this November in Somerset, New Jersey, the Eastern Analytical Symposium will present the 2002 EAS awards to seven individuals, two of whom conduct physics-related work. The EAS Award for Achievements in Magnetic Resonance will be given to **Aksel A. Bothner-By**, an emeritus professor in the chemistry department at Carnegie Mellon University. **Jerome J. Workman Jr.**, a senior research fellow at the Kimberly-Clark Corp in Neenah, Wisconsin, will receive the EAS Award for Achievements in Near-Infrared Spectroscopy.

In Munich, Germany, last fall, the Hamburg-based Eduard Rhein Foundation presented its awards for 2001, including one for physics-related work. **David N. Payne** received the Basic Research Award for "the invention of the erbium-doped fiber amplifier (EDFA), which enabled the revolution of the global telecommunication networks during the past decade," according to the citation. Payne is the director of the Optoelectronics Research Centre at the University of Southampton in the UK and also the chairman and director of Southampton Photonics Inc.

Meg Urry has joined the Yale University faculty as a professor of physics and as director of the new Yale Center for Astronomy and Astrophysics. She previously was head of the science program selection office at the Space Telescope Science Institute in Baltimore, Maryland.

Stanislas Leibler is the head of the Laboratory of Living Matter at Rockefeller University in New York City. He previously was a professor of physics and molecular biology at Princeton University.