

WE HEAR THAT

ICTP Dirac Medal Goes to Field Theorists

Frequent collaborators **Peter Goddard** and **David Ian Olive** have shared the rewards of their work by jointly receiving the 1997 Paul Adrien Maurice Dirac Medal of the International Centre for Theoretical Physics. Goddard is the master of St. John's College and a professor of theoretical physics at the University of Cambridge, and Olive is a professor of physics at the University of Wales Swansea.

In announcing the selection of these British theorists on 8 August (Dirac's birthday), ICTP quoted the selection committee: "Goddard and Olive have contributed many crucial insights that shaped our emerging understanding of four-dimensional field theory." In particular, the committee continued, "Goddard's work on quantization of the relativistic string (with J. Goldstone, C. Rebbi and C. Thorn) showed definitively that dual resonance models should be understood as string theories. Olive's work on spacetime supersymmetry of the spinning string theory (with F. Gliozzi and J. Scherk) made possible the whole idea of superstrings."

ICTP also mentioned the theorists' "key ideas about the use of current algebra in string theory" and their contributions to the "second superstring revolution" of the last few years [which has been] equally dependent on pioneering insights about magnetic mo-

nopoles made in 1977 by Goddard, Olive and J. Nuyts, and further extended by Olive and C. Montonen."

Prizes and Awards Given at APS Divison Meetings

The annual meetings of three divisions of the American Physical Society will be the setting for the presentation of several APS prizes and awards.

At the division of laser science meeting this month, **Erich P. Ippen** and **Charles V. Shank** will receive the Arthur L. Schawlow Prize in Laser Science. The two are being cited for "their pioneering work in developing femtosecond sources and for their leadership in applying these sources in broad areas of science." Ippen is the Elihu Thompson Professor of Electrical Engineering and a professor of physics at MIT. Shank is the director of Lawrence Berkeley National Laboratory.

At the annual meeting of the division of plasma physics in November, the James Clerk Maxwell Prize will be presented to **Charles F. Kennel** for "his fundamental contributions to the basic plasma physics of collisionless shocks, magnetic reconnection and quasilinear theory, and to plasma astrophysics—including [studies of] the Van Allen radiation belt and the Crab Nebula." Kennel is executive vice chancellor of the University of California, Los Angeles.

Also at the plasma physics meeting, **Fred M. Levinton** will receive the

Award for Excellence in Plasma Physics Research for "his conception and development of the Motional Stark Effect diagnostic technique for measuring the local magnetic field inside a plasma, providing information critical to understanding magnetic plasma confinement." Levinton is principal scientist and cofounder of Fusion Physics & Technology Inc, based in Torrance, California.

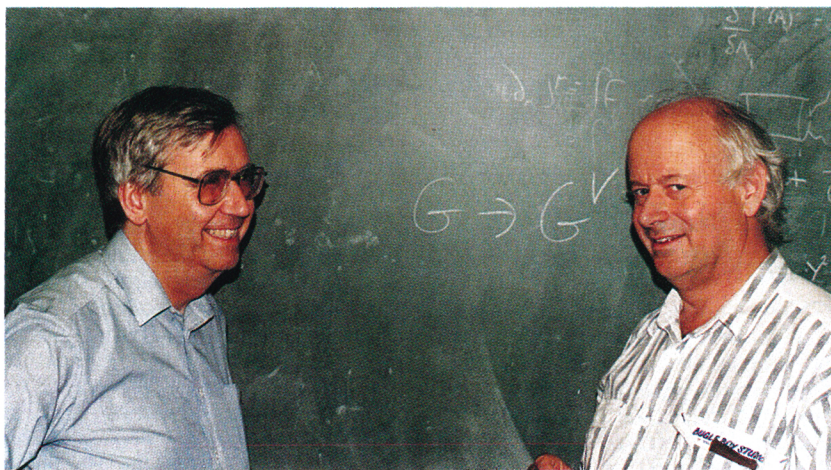
The Outstanding Doctoral Thesis in Plasma Physics Award (formerly the Simon Ramo Award) will go to **Stefano Coda** for his "development and application of phase-contrast imaging techniques to measurements of turbulence in high-temperature plasmas, including critical comparisons to theory and the discovery of radial modes in the plasma edge." Coda received his PhD earlier this year from MIT, where his thesis adviser was Miklos Porkolab, and he now works at the Swiss Federal Institute of Technology, Lausanne.

Two individuals will be honored during the division of fluid dynamics meeting in November. The Fluid Dynamics Prize will be presented to **Louis N. Howard**, professor emeritus at Florida State University. APS is citing Howard for his "seminal theoretical concepts in the theory of turbulence, stability [and] rotating and stratified fluid flows, and other fluid dynamical problems, including [the] upper bounding theory of statistically stationary turbulence, semicircle theorems for the stability of geophysical flows, the spin-up problem and reaction-diffusion and double-diffusion problems."

Marvin E. Goldstein will accept the Otto Laporte Award in recognition of "his seminal theoretical elucidation of the roles of receptivity and nonlinearity in the transition to turbulence of shear flows, for his discovery that capillary force can be the source of absolute instability in a liquid jet, for his lasting contribution to aeroacoustics and rapid distortion theory and for his exemplary roles in the fluid dynamics community." Goldstein is chief scientist at NASA's Lewis Research Center in Cleveland.

Fuller and Metzner Honored by SoR

Gerald G. Fuller, chairman of the chemical engineering department at Stanford University, will receive the



PETER GODDARD AND DAVID IAN OLIVE

1997 Bingham Medal at the annual meeting of the Society of Rheology, to be held this month in Ohio. According to the citation that accompanies the medal, Fuller is being honored for, among other things, his pioneering development of experimental techniques in optical rheometry and his studies of the physics of complex fluids, which sparked these techniques. Fuller and his research group at Stanford have "furthered our understanding [of] the conformation of flexible polymers in flow, alignment of rod-like polymers in flow, the structure of liquid crystal defect texture and the dynamics of miscible polymer blends," the citation stated.

The 1997 *Journal of Rheology* Publication Award will go to **Inge Vinckier**, **Paula Moldenaers** and **Jan Mewis** of the chemical engineering department at the Catholic University of Louvain in Belgium for their paper entitled "Relationship between Rheology and Morphology of Model Blends in Steady Shear Flow."

At the SoR meeting in Texas last February, **Arthur B. Metzner**, the H. Fletcher Brown Professor of Chemical Engineering Emeritus at the University of Delaware, received the Distinguished Service Award, which has only been given three other times. A former Bingham Medal recipient, Metzner was honored for his editorship of the *Journal of Rheology* and his leadership in SoR.

European Society Honors Geophysicists

At its 22nd general assembly in Vienna last April, the European Geophysical Society bestowed honorary membership on three researchers and gave awards and medals to seven others.

Two of EGS's new honorary members are **Paul J. Crutzen**, director of the atmospheric chemistry division of the Max Planck Institute for Chemistry in Mainz, Germany, and **Donald R. Nielsen**, who is an emeritus professor of soil and water science at the University of California, Davis. EGS also bestowed honorary membership on **Hubert H. Lamb**, who had retired from the Meteorological Office of the UK's Ministry of Defence, just a few months before his death on 28 June.

EGS gave Badge Awards for service to the society to **Antonello Provenzale** and **Richard A. Harrison**. Provenzale, who works at the National Research Council of Italy's Institute of Cosmo-Geophysics in Torino, was cited for his promotion of nonlinear processes in geophysics within EGS, and

Harrison, a scientific officer of the astrophysics division of the Rutherford Appleton Laboratory in the UK, was commended for his service as vice president of the solar-terrestrial sciences section and for his general contributions to EGS.

EGS presented the Louis Néel Medal to **Reinhard Boehler**, head of the high-pressure group at the Max Planck Institute for Chemistry in Mainz. He was praised for "his crucial studies of the phases and properties of materials at pressures and temperatures simulating conditions in the Earth's lower mantle and core."

Vlastislav Cervený received the Beno Gutenberg Medal "in recognition of his outstanding theoretical contributions to the field of seismology and seismic prospecting." Cervený is a professor at the Institute of Geophysics at Charles University in Prague in the Czech Republic.

Friedrich Schott was given the Fridtjof Nansen Medal for "his numerous and outstanding contributions to the study of the large-scale circulation of the oceans and for his process-oriented work which has significantly enlarged our knowledge of deep ocean convection." Schott is a professor at the Institute for Marine Research at the University of Kiel in Germany.

The Vilhelm Bjerknes Medal was given to **Brian J. Hoskins**, who is the head of the department of meteorology at the University of Reading in the UK. His citation noted his "outstanding contributions to the understanding of the dynamics of atmospheric fronts and extratropical cyclones." It also noted "his fundamental work in dynamic meteorology."

The Young Scientists' Publication Award went to **Wolf-Gerrit Früh** for his paper on "low order models of wave interactions in the transition to baroclinic chaos," which appeared in *Non-linear Processes in Geophysics*. Früh is in the departments of physics and astronomy at both the University of Glasgow and the University of Edinburgh in Scotland.

OBITUARIES

Chien-Shiung Wu

Chien-Shiung Wu died in New York City on 16 February 1997 at the age of 84, following a stroke. A leading experimental physicist in beta decay and allied fields, she leaves an admirable record of accomplishment, as well as many devoted friends, colleagues and students.

Wu was born in Liuhu, a small town

IN BRIEF

At the annual meeting of the American Association of Physicists in Medicine in July, **Paul Medin** of the University of California, Los Angeles, School of Medicine won the 1997 John R. Cameron Young Investigators Award. The other Young Investigators Award recipients were **Hui Helen Liu** of the Mayo Clinic and Foundation in Rochester, Minnesota, and **Ehsan Samei** of the Henry Ford Health System in Detroit and the University of Michigan in Ann Arbor.

Stanford S. Penner is the 1997 recipient of the Edward Teller Award for the Defense of Freedom, presented by the Doctors for Disaster Preparedness at their annual meeting in June. The award was for his work on hypersonic reentry, space propulsion and missile defense. Penner is an emeritus professor of engineering physics at the University of California, San Diego.

The American Institute of Aeronautics and Astronautics Foundation has given its 1997 Gordon C. Oates Air Breathing Propulsion Graduate Award to **Donald Freund**, a graduate student in aerospace engineering at the University of Cincinnati, for an experiment to simulate the effects of flying a supersonic jet aircraft into rapid, severe changes in the atmosphere.

Later this month, the Welch Foundation will present the Robert A. Welch Award in Chemistry, worth \$300 000, to **Ahmed Zewail**, the Linus Pauling Professor of Chemistry and a professor of physics at Caltech. Norman Hackerman, chairman of the foundation's Scientific Advisory Board, said, "Not only has Dr. Zewail greatly expanded our understanding of chemical reactions, but the fundamental nature of his work can be seen in biologists' and physicists' adoption of femtochemistry techniques."

near Shanghai. At that time in China, girls received their education at home, if at all. (The Chinese characters for Chien-Shiung translate to "strong hero" or "healthy male.") Her father, Wu Zhong-Yi, who opened one of the earliest schools admitting girls in China, encouraged her to go to Shanghai for a class taught by Hu Shi, a leading Chinese scholar who introduced the practice of writing Chinese