

WE HEAR THAT

AAPM RECOGNIZES RESEARCH IN MEDICAL PHYSICS

At the annual meeting of the American Association of Physicists in Medicine, held in Calgary in August, Nagalingam Suntharalingam was presented with the William D. Coolidge Award, the association's highest honor. The award is given annually to an AAPM member who has had a distinguished career in medical physics.

In his research Suntharalingam has specialized in the understanding of high-energy photon and electron dosimetry and in the development of computer-augmented methods of delivering radiation treatments. He has also exerted a significant influence on the professional practice of radiation oncology physics. He is a past president of AAPM and a past chairman of the American College of Medical Physics and he has served as a consultant with the National Cancer Institute, the World Health Organization and the International Atomic Energy Agency.

A native of Sri Lanka, Suntharalingam earned his undergraduate degree in physics in 1955 at the University of Ceylon. After coming to the US in 1960, he started graduate work at the University of Wisconsin in 1964, earning an MS in 1966 and a PhD in radiological science in 1967. He then joined the faculty of Jefferson Medical College (now Thomas Jefferson University) in Philadelphia, where he is now a professor and chief of the division of medical physics in the department of radiation oncology and nuclear medicine.

Also recognized at AAPM's meeting were the authors of two outstanding papers published in *Medical Physics*.

The Sylvia Sorkin Greenfield Award went to Christopher J. Henri, D. Louis Collins and Terence M. Peters for their paper "Multimodality Image Integration for Stereotactic Surgical Planning," which was deemed the journal's best paper in



Nagalingam Suntharalingam

1991. The paper describes the use of volumetric rendering of mri data in conjunction with digital subtraction angiography images to yield a three-dimensional image that can then be used to plan an optimal path for making surgical incisions.

Peters is an associate professor in the departments of neurology and neurosurgery, radiology, medical physics and biomedical engineering

at McGill University, as well as codirector of the New Imaging Laboratory at the Montreal Neurological Institute's McConnell Brain Imaging Centre. Henri and Collins are graduate students in biomedical engineering at McGill University who are working under Peters.

The Farrington Daniels Award, which recognizes the best paper in *Medical Physics* on radiation dosimetry, was given to Robert J. Schulz, M. Saiful Huq, Natarajan Venkataramanan and Kazi Motakabbir for their paper "A Comparison of Ionization-Chamber and Water-Calorimeter Dosimetry for High-Energy X Rays." The paper describes how measuring dose by water calorimeter provides results comparable to those obtained by an ionization chamber. According to the authors, the water calorimeter offers a more direct means of measuring dose.

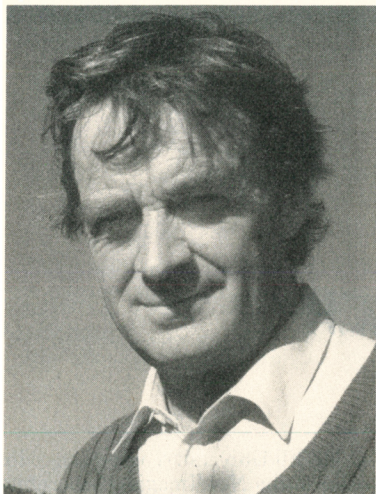
Schulz is now a professor emeritus of therapeutic radiology at Yale. Huq is an assistant professor of radiation oncology at Thomas Jefferson University. Venkataramanan is a medical physicist in the department of radiation therapy at Winthrop Hospital in Mineola, New York. Motakabbir recently completed a postdoctoral fellowship at Yale.

ZUMINO AND WESS ARE WIGNER MEDAL COWINNERS

Julius Wess of the University of Munich and the Max Planck Institute for Physics in Munich and Bruno Zumino of the University of California, Berkeley, were named cowinners of the 1992 Wigner Medal. They received the biennial award at a ceremony in July in Salamanca, Spain. The Group Theory Foundation, the presenters of the honor, cited them for "the development of

the concept of supersymmetry in physics."

In the mid-1970s Wess and Zumino developed a renormalizable quantum field theory based on supersymmetry and involving spinor and scalar fields. Using Noether's theorem, which holds that conserved currents and symmetries go together, and prior work on supercurrents in two-dimensional models, the pair constructed

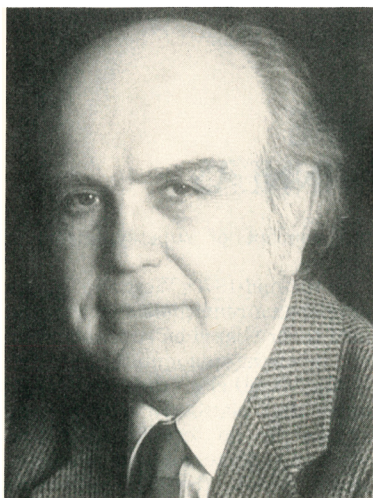


Julius Wess

the four-dimensional model now known as the Wess-Zumino model. They recognized the convergence properties of supersymmetric theories and developed a gauge theory that incorporated supersymmetry. The Wess-Zumino model underlies later theories of particle physics based on supersymmetry.

Wess earned his PhD in 1957 and his *Habilitation* in 1965 from the University of Vienna. From 1956 to 1966 he was an assistant professor at the Institute for Theoretical Physics at the university. After spending the next two years as an associate professor of physics at New York University, Wess became a full professor at the Karlsruhe Technical University, in Karlsruhe, Germany. In 1980-81 he was Albert Einstein Professor at the Institute for Advanced Study in Princeton, New Jersey. In 1990 he left Karlsruhe to become a professor of theoretical physics at the University of Munich and the director of the

Bruno Zumino



Max Planck Institute for Physics in Munich.

Zumino earned his doctorate in mathematical sciences from the University of Rome in 1945. He then held a series of research positions in mathematics and theoretical physics at the University of Rome; the Max Planck Institute for Physics in Göttingen,

Germany; NYU; Stevens Institute of Technology; and the Institute for Advanced Study. He was head of the physics department at NYU from 1961 until 1969, when he joined the CERN theory division. He left CERN in 1981 to become a professor of physics at the University of California, Berkeley.

LEBOWITZ AND PARISI ARE BOLTZMANN MEDALISTS

The commission on statistical physics of the International Union of Pure and Applied Physics has awarded the triennial Boltzmann Medal to Rutgers University's Joel L. Lebowitz and the University of Rome's Giorgio Parisi. They received their gold medals at a ceremony in Berlin during the Statphys 18 conference in August.

Lebowitz was cited for "his many important contributions to equilibrium and nonequilibrium statistical mechanics and for his leadership role in the statistical physics community." In the area of nonequilibrium statistical physics, Lebowitz has worked on the derivation of macroscopic equations from microscopic dynamics, transport process, and phase transitions in stationary nonequilibrium states. In the area of equilibrium statistical mechanics, he has worked on spin systems, including the correlation inequality known as the Lebowitz inequality. With Elliott Lieb, he explored the existence of thermodynamics for nonrelativistic matter composed of electrons and nuclei, and with Oliver Penrose he has studied the rigorous derivation of the van der Waals equation, problems of metastability and kinetics of phase transformations.

In 1956 Lebowitz earned his PhD in physics from Syracuse University, where he was a student of Peter

Bergmann. After a year as a research fellow at Yale University, he served on the physics faculty at the Stevens Institute of Technology from 1957 to 1959. He was a physics professor at Yeshiva University from 1957 to 1977, when he joined the faculty at Rutgers, where he is George William Hill Professor of Mathematics and Physics.

Parisi received the medal for "his fundamental contributions to statistical physics, and particularly for his solution of the mean field theory of spin glasses." Parisi has contributed to theories of phase transitions and of disordered systems, as well as to work on interfaces in disordered media and on the dynamics of growing interfaces. He found the apparently exact solution of the infinite range spin-glass model using a new order parameter. With coworkers Marc Mézard and Miguel Virasoro, Parisi clarified the physical meaning of the approach, and this work led to applications in optimization problems and in neural network theories.

In 1970 Parisi graduated from the University of Rome, where he studied under Nicola Cabibbo. He was a researcher at the National Laboratory of Frascati from 1971 to 1981, when he became a professor of theoretical physics at the University of Rome II, Tor Vergata.

Joel L. Lebowitz (left) and **Giorgio Parisi** celebrate their Boltzmann Medals.

