Ne'eman receives Wigner Medal for work in group theory

The 1982 Wigner Medal was presented at the 18th Solvay Conference to Yuval Ne'eman, a particle theorist at Tel Aviv University and the University of Texas, Austin, as well as Israel's new Minister of Science and Development. (See story on page 51.)

The Wigner Medal is an international award presented biennially by the Group Theory and Fundamental Physics Foundation to recognize "outstanding contributions to the understanding of physics through group theory." Recipients are selected by an international committee and have included Eugene Wigner, for whom the award was named, Valentine Bargmann and Israel Moissevich Gel'fand. Ne'eman was cited for "his contributions toward understanding particle physics through unitary group symmetries."

Yuval Ne'eman accepting the Wigner Medal at the Solvay Conference in Austin. Behind him are Arno Bohm, Lawrence C. Biederharn, Eugene Wigner, John A. Wheeler and John Dollard.

While working toward his PhD at Imperial College in London under Abdus Salam, Ne'eman made his discovery of an SU(3) unitary symmetry relating hadrons of different "flavors" (as they are now known), in 1961. Simultaneously and independently, Murray Gell-Mann discovered the same symmetry among groups of hadrons. Noting that all reactions allowed by isospin and strangeness conservation actually occurred, Ne'eman concluded that a simple rank 2 Lie group was required; by systematically testing, he eliminated all but SU(3). Although the fundamental representation of an SU(3) group has three elements, no groups of three are observed among the hadrons; instead one sees two groups of eight (one including the nucleon, another the pion), so that the group became known as "the eight-fold way." There is also a decuplet, for which nine particles were known in 1961; the later discovery of the tenth, the Ω^-, was seen as clear confirmation of SU(3). The fundamental triplet of the group later gave rise to the notion of quarks.

His later theoretical work contributed to the understanding and further development of the quark model. He is now interested in relativistic astrophysics and gravitational theory, particularly supergravity.

Ne'eman is currently professor of physics and co-director of the Center for Particle Theory at the University of Texas, Austin, and both holds the Wolfson Chair Extraordinary in the School of Physics and Astronomy and directs the Sackler Institute of Advanced Studies, both at Tel Aviv University. Simultaneously he is Israel's Minister of Science and Development, a newly created Cabinet position.

Heineman Prize in Mathematical Physics to Martin Kruskal

The American Physical Society presented the Dannie Heineman Prize in Mathematical Physics for 1983 to Martin D. Kruskal of Princeton University. At the same session of the joint meeting of the APS and the American Association of Physics Teachers, the 1983 Oersted Medal recognizing excellence in physics teaching was given to John Archibald Wheeler of the University of Texas, Austin; Edward A. Frieman, of Scientific Applications, Inc., in La Jolla, California, gave the AAPT Richtmeyer Memorial Lecture entitled "Fusion—from strange attractors to energy policy."

The Heineman Prize, which includes a cash award of $5000, is endowed by the Heineman Foundation for Research, Education, Charitable and Scientific Purposes, Inc., and is administered jointly by the APS and the American Institute of Physics. The prize recognizes outstanding publication in the field of mathematical physics. Kruskal was cited for "his important contributions to general relativity, plasma physics and especially to the theory of some special nonlinear differential equations useful in many areas of physics."

Kruskal's understanding and ability in mathematics have contributed to knowledge in many areas of physics. His contributions have stemmed from interests that include general relativity, controlled fusion and the behavior of plasmas, magnetohydrodynamics, asymptotic phenomena, logic, and minimal surfaces.

After obtaining his PhD in mathematics from New York University in 1952, Kruskal joined the staff of Princeton University as a research scientist. He began his career at Princeton as part of Project Matterhorn; he became associate head of the theoretical division of the Plasma Physics Laboratory

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in 1956 and senior research associate of the lab in 1959. In 1961 he became a professor of astrophysical sciences, and since 1968 he has simultaneously been serving as chairman of the program in applied mathematics.

Wheeler, formerly of Princeton University, is currently the Jane and Roland Blumberg Professor of Physics and Director of the Center for Theoretical Physics at the University of Texas, Austin. His interests range from general relativity to particle physics and the mathematics of semiclassical analyses of physical processes.

Frieman, now with Scientific Applications, Inc., has been associated with Princeton University and the Plasma Physics Laboratory there since 1952. His interests include theoretical plasma physics, hydromagnetics, hydrodynamic stability and astrophysics.

in brief

The **Otto Hahn Prize for 1982** was presented to **Walter Greiner**, Director of the Institute for Theoretical Physics at the University of Frankfurt, for outstanding contributions which follow in the steps of the work of Otto Hahn. The prize, which is given every two years by the city of Frankfurt, includes a cash award of 30 000 marks.

Kenneth W. Ford became executive vice president of the University of Maryland system; Ford had been President of New Mexico Institute of Mining and Technology since 1975. He succeeded Albin Kuhn who retired from the University of Maryland after 42 years of service, including 25 as executive vice president and chancellor.

David W. Kraft has joined the University of Bridgeport as professor of mathematics and Acting Chairman of the Department of Mathematics. Kraft was formerly the deputy executive secretary of the American Physical Society.