

*Enclosure B***James R. Killian, Jr., Faculty Achievement Award 2000-2001
Citation for Jerome I. Friedman**

The James R. Killian, Jr., Faculty Achievement Award was established in 1971 "to recognize extraordinary professional accomplishments by full-time members of the MIT faculty." It is the greatest honor the faculty can bestow on one of its members. The recipient is chosen by a faculty committee from candidates nominated by faculty members for outstanding contributions to their fields, to MIT and to society.

The selection committee is pleased to announce that the recipient of the Killian Award for 2000-2001 is Jerome I. Friedman, Institute Professor and Professor of Physics.

Jerry Friedman took three degrees from the University of Chicago, completing his Ph.D. in 1956. After a period at the High Energy Physics Laboratory at Stanford University, he joined the MIT faculty in 1960 and for the next four decades has had a career with us that provides a singular example of achievement in scholarship, service to his chosen field of physics and excellence in teaching. These are the hallmarks of the Killian Award winners.

While at the University of Chicago, he collaborated with Professor Val Telegdi in one of the first experiments to show the lack of mirror symmetry in the fundamental interactions of nature. The international reputation which this work established led him to an appointment at the High Energy Physics Laboratory at Stanford. His experience there including his introduction to electron scattering as a tool to probe the structure of nuclear and sub-nuclear systems and the personal and scientific associations made through his collaboration with Professors Henry Kendall and Richard Taylor were to have a major influence on his career and on the development of the modern picture of the fundamental structure of matter. The three group leaders provided a serendipitous mix of complementary strengths and skills with Friedman the most theoretical and analytic, Kendall the consummate experimentalist, and Taylor the genius at large scale human and technical organization. In a series of experiments at SLAC, from 1967 to 1973, the three physicists used a particle accelerator to direct a beam of high-energy electrons at target protons and neutrons. They found that the manner in which the electrons scattered from the targets indicated that both protons and neutrons are composed of hard, electrically charged point-like particles. It later became clear that these are the particles, called quarks, proposed in 1964 by theoreticians Gell-Mann and Zweig.

This series of experiments advanced our current quark, gluon and lepton picture of elementary particle structure in an analogous way to how the alpha particle scattering experiments of Rutherford pointed the way to the nuclear model of the atom. This work was of seminal importance to particle physics and, in recognition of this fact, Friedman, Kendall, and Taylor were awarded the Panofsky Prize of the American Physical Society in 1989 and the 1990 Nobel Prize in Physics.

Professor Friedman's wisdom is widely recognized in the field, and his deep sense of fairness and humanity have led him to be called on again and again to chair various broad scientific policy and selection panels. For example, he has been Chairman of the University Research Association, the governing body of Fermilab, he is currently serving on the Scientific Policy Committee of CERN, the European Laboratory for Nuclear and Particle Physics and has recently served as the President of the American Physical Society where he has played a key role in building the political and educational base for the national and international support of science.

This same wisdom and humanity is evident in his remarkable record as a teacher of graduate students at MIT and in the responsibilities he has exercised as Head of the Physics Department and Director of the Laboratory for Nuclear Science. His intellectual honesty and clarity of vision in these roles are treasured by his colleagues. Furthermore, the Institute as a whole is very much in his debt for bringing these same abilities to bear, along with a compassionate concern for social justice, in his unceasing efforts to increase the representation of minorities in science and in his service in the interests of women faculty at MIT.

In sum, Jerry Friedman is one of the giants of physics and in his self-effacing manner, one of the gentle giants of MIT. His extraordinary accomplishments make him a worthy recipient of the James R. Killian, Jr., Faculty Achievement Award.

The James R. Killian, Jr., Faculty Achievement Award Selection Committee for 2000-2001

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