PHYSICS TEACHERS HONOR WEINREICH AND FULLER

At its August meeting in Orono, Maine, the American Association of Physics Teachers honored Gabriel Weinreich of the University of Michigan and Robert G. Fuller of the University of Nebraska, Lincoln. During a ceremonial session, Weinreich, who was chosen to give the Klopsteg Memorial Lecture, spoke on "What Science Knows about Violins—and What It Doesn't Know." Fuller, who received the Millikan Medal, spoke on "Hypermedia and the Knowing of Physics."

Weinreich was cited for his expertise in a number of different areas. His earlier research included work on atomic spectra and solid-state theory. More recently he has focused on musical acoustics, including a well-known paper on the physics of pianos, published in *Scientific American* (January 1979). In 1980 he became associated with the Institut de Recherche et Coordination Acoustique/Musique in Paris, which led to his work in violin physics. Weinreich was also cited for his skills as a teacher; his first book, based on his lecture notes, is entitled *Solids: Elementary Theory for Advanced Students* (Wiley, New York, 1965).

Weinreich received a PhD in physics from Columbia University in 1954. A year earlier he had joined the technical staff of Bell Telephone Labs, where he worked in William Shockley's group. In 1960 he became a physics professor at the University of Michigan.

The Millikan Medal is given for "notable and creative contributions to the teaching of physics." Fuller was cited for creating and leading "a host of innovative projects in science education," including a multidisciplinary program for freshmen at Nebraska based on the principles of Piaget. He has promoted the use of videodiscs in physics teaching, and he has produced several, including a 3-disc set called "Physics: Cinema Classics," which includes physics films from the 1960s and 1970s.

Gabriel Weinreich

Robert G. Fuller

Fuller earned a PhD in physics from the University of Illinois, Urbana, in 1965. After working as a researcher at the Naval Research Laboratory for four years, he joined the physics faculty of the University of Nebraska in 1969. Fuller was AAPT president in 1980.

DAUBECHIES AND SCHNEIDER AMONG 1992 MACARTHUR FELLOWS

The MacArthur Foundation of Chicago named Ingrid Daubechies of Rutgers University and Stephen H. Schneider of Stanford University as two of its 33 fellows for 1992. The five-year fellowships include a grant and health insurance.

Daubechies, a professor of mathematics, will receive $240 000. Schneider, a professor of biological sciences at Stanford and a senior scientist at the National Center for Atmospheric Research in Boulder, Colorado, will receive $290 000. The award amounts are indexed with the recipient's age.

The Foundation recognized Daubechies for her contributions to the study of wavelets. She has explored wavelets, which are the elementary building blocks, as the basis for the mathematical technique of "wavelet transforms." These transforms are useful in the analysis of functions with transient high-frequency phenomena, such as the sound of a scratch on a musical recording. Daubechies is currently studying additional mathematical properties of the wavelet transform and also working on applying the wavelet transform to numerical data for signal analysis.

Daubechies earned a bachelor's degree in 1975 and a PhD in 1980, both in physics, from the Free University of Brussels. She then became a research fellow in the department of theoretical physics at the university until 1987, when she joined the Mathematics Research Center at AT&T Bell Laboratories. Since 1991 she has also been a professor in the

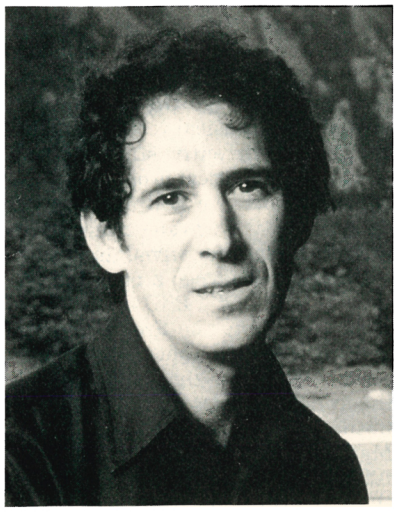
Ingrid Daubechies

mathematics department at Rutgers University.

Schneider was honored for his ability to integrate and interpret the results of global climate research and related subjects, as well as to perform some of the climate research. His work to bring the human consequences of climate change to the public were also noted. Among Schneider's research interests are climatic change; environmental and science public policy issues; ecological implications of climatic change; and modeling of ancient climates and of human impacts on climate caused by the greenhouse effect or by the smoke and dust from nuclear war. Schneider wrote *Global Warming: Are We Entering the Greenhouse Century?* (Sierra Club, 1990) and is editor of the journal *Climate Change.*

Schneider earned his PhD in mechanical engineering and plasma physics from Columbia University in 1971. He then held a series of research and research management positions at NASA's Goddard Institute for Space Studies in New York City. In 1987 he became head of the interdisciplinary climate systems section of NCAR. In 1992 he was named to his present position at Stanford.

Stephen H. Schneider



IN BRIEF

In July 1992 **Susan Wyckoff** was appointed chair of the department of physics and astronomy at Arizona State University, in Tempe.

The Naval Research Laboratory's Chief Scientist Emeritus **Herbert Friedman** received the Massey Award from the Royal Physical Society in September. He was cited for his "distinguished contributions to rocket and satellite astronomy and particularly to x-ray astronomy."

On 31 August, **Leon Lederman** joined the faculty of the Illinois Institute of Technology as Pritzker Professor of Science.

The Royal Society's 1992 Copley Medal went to **George Porter**, professor and chairman of the Centre for Photomolecular Sciences at Imperial College, London. His citation recognized his "contributions to fundamental understanding of fast photochemical and photophysical processes and their roles in chemistry and biology."

Among those who received the Royal Society's 1992 Royal Medal was **David Tabor**, emeritus professor of physics at the University of Cambridge, whose citation noted his "contributions to the basic study of friction and wear between solids, of considerable relevance to the design of machines."

Alexander Feschenko of the Institute for Nuclear Research of the Academy of Sciences of the EUR was the recipient of the first Faraday Cup, which was presented at the 1992 Accelerator Instrumentation Workshop in October. He was recognized for his paper "Bunch Shape Measuring Technique and Its Application for an Ion Linac Tuning."

OBITUARIES

Gerald Feinberg

Gerald Feinberg, a theoretical physicist who was a professor of physics at Columbia University, died of cancer on 21 April 1992. He was internationally known for his contributions to elementary particle physics and to atomic physics and for his many books on various aspects of science, intended for a popular audience.

Gary, as he was known to family and friends, was born on 27 May 1933. He attended the famous Bronx High School of Science and then Columbia College. He got his PhD in physics at Columbia University in 1957, working with Tsung-Dao Lee, and he went on to postdoctoral positions at the Institute for Advanced Study in Princeton and at Brookhaven National Laboratory. He joined the physics faculty at Columbia in 1959, became a full professor in 1965 and served as department chairman from 1980 to 1982. He served as a divisional associate editor of *Physical Review Letters* from 1983 to 1986.

In elementary particle physics, Feinberg's main interest lay in symmetry principles, conservation laws and the violation thereof. An early important contribution to this field came in 1958 when he showed, based on the intermediate boson theory, that the strong experimental upper bound on the decay of the muon into an electron and a photon indicated that the electron neutrino associated with beta decay was distinct from the muon neutrino associated with the decay of the muon. In 1962 Leon Lederman, Melvin Schwartz and Jack Steinberger did the experiment that confirmed the theoretical prediction of two neutrinos, and they received the Nobel Prize in 1988 for this experiment. Over the years Feinberg wrote numerous papers and review articles dealing with topics in this and related areas; one of the experiments he proposed for precise measurement of the parity nonconserving part of the neutral current interactions was recently carried out at the MIT-Bates electron accelerator.

In atomic physics Feinberg played a major role in developing a general theory of the long-range interactions arising from the exchange of two or more massless particles. This theory, which is based on the general principles of quantum field theory, can be used to derive and generalize in a model-independent way previous results—such as the Casimir–Polder potential acting between two atoms, which takes into account the retarded character of electromagnetic interactions—and to obtain new results for the interaction between a charge and an atom or between two charged systems. Another area in which Feinberg made lasting contributions was