Solly Gabriel Cohen

Solly G. Cohen, professor of experimental physics at the Racah Institute of the Hebrew University, died of cancer on 1 March 1984.

Cohen was born in London in 1920 and obtained both MSc and PhD degrees in physics from Cambridge University. After working for the Atomic Energy Commission in Montreal from (1944–46), he held a position as Research Fellow at Cambridge until 1949 when he joined the staff of the Hebrew University, becoming the first experimental nuclear physicist in Israel.

Cohen's first important discovery was the natural radioactivity of In^{115} (halflife 10^{14} years), which was reported in *Nature* in 1951. Later that same year, he suggested in *Physical Review Letters* investigating the decay of neutrons into neutral hydrogen atoms, which would lead to a direct measurement of the neutrino mass. Cohen developed a new method for measuring picosecond nuclear lifetimes and pioneered the investigation of the inverse photonuclear reactions, analyzing, in 1959, the $N^{15}(p,\gamma)$ and $N^{14}(p,\gamma)$ reactions into giant dipole resonances. In 1960, in collaboration with the late Rina Wiener, he established an upper limit for the existence of pseudoscalar interactions in β-decay of praesodymium-144. His interests then shifted to the newly discovered Mössbauer effect and he established a research group in that field at the Hebrew University. He soon became a leading figure in the international Mössbauer community. Cohen and his coworkers were the first to measure hyperfine interactions in a two-lattice magnetic system and to observe the full hyperfine interactions of a rare earth ion in an ordered magnetic solid. In recent years, Cohen was especially enthusiastic about the application of the Mössbauer effect to biological and medical problems and to the study of protein dynamics.

An involved teacher, Cohen always presented physics as a culture rather than a trade, taking into consideration the historical and philosophical aspects of the discipline and science in general. His counsel was much sought in matters of central University policy and he had a great impact on the development of science in Israel in general. He was chairman of the Racah Institute of Physics (1971–75), dean of the faculty of sciences (1965–69) and director of the Center for the Study of History and Philosophy (1971–78) at Hebrew University. As a visiting professor at universities such as MIT, Princeton, Oxford and Columbia, he maintained his contacts with the international physics community. He read and wrote poetry, loved music and played several instruments. Cohen was a most considerate friend and colleague. The loss of his advice, leadership and humor will long be felt by all who knew him.

E. R. Bauminger
I. Unna
Racah Institute of the Hebrew University of Jerusalem

James L. C. Ford Jr

James L. C. Ford Jr, a nuclear physicist at Oak Ridge National Laboratory, died on 16 January 1984, at the age of 50.

Ford joined the physics division at Oak Ridge in 1962 after having completed his undergraduate work at Montana State University and his graduate work in nuclear physics at the California Institute of Technology. Throughout the years, he wrote over a hundred articles on Coulomb excitation, elastic and inelastic scattering, heavy-ion reaction mechanisms and instrumentation; it is through these papers that he is best known to the nuclear-physics community. Among the highlights of his research were precise measurements of the Coulomb excitation of the actinide nuclei, the use of heavy-ion reactions to study nuclear high-spin states, and the measurement of cross sections for single-nucleon transfer in heavy-ion reactions.

Working with Ford on an experiment was a pleasure because of his enthusiasm and his sense of adventure in testing new or improved instrumentation. His research style was characterized by a strong interaction with the experimental equipment—if it was doing the job, he was a proud parent; if it was not, he clearly showed mounting frustration. Usually the next experiment would have modified and improved equipment that he developed in the interim.

Over the years, Ford's research increasingly emphasized new or improved instrumentation. This emphasis was partly the result of his natural tendencies, but partly also the result of a highly developed sense of good citizenship that made him respond to the needs of the new Holifield Heavy-Ion Research Facility. He worked both on straightforward projects, such as new beam lines for the tandem accelerator, and on truly innovative projects. His work on focal-plane detectors for magnetic spectrometers culminated in the adaptation of a vertical drift chamber, capable of remarkable position resolution, for heavy-ion detection. A second pioneering project was the development of a very thin and nearly indestructible gas-jet target for use with heavy-ion beams.

At the time of his death, Ford was performing the important jobs of leading the experimental support group and serving as liaison officer for the Holifield users group.

Paul H. Stelson
Oak Ridge National Laboratory

John P. Cox

John P. Cox, professor emeritus of the University of Colorado at Boulder and fellow of the Joint Institute for Laboratory Astrophysics, died on 19 August.

Cox was born on 4 November 1926, in Fort Meyers, Florida, but lived for many years in Indiana, where he received AB, MS and PhD degrees from Indiana University over the period 1945–54.

While an instructor and, later, assistant professor of astronomy at Cornell University (1954–63), he published his initial investigations into the cause of pulsation of variable stars. Notable among these objects are the Cepheid variables, which have played a crucial role in the determination of the Hubble constant through the years. Cox identified those regions in the star where helium is undergoing partial ionization as thermal driving regions that ultimately cause the whole star to pulsate. His studies formed the basis for much of the subsequent work in the field of stellar pulsation theory.

In 1962, Cox was awarded a visiting fellowship to JILA, which is operated jointly by the University of Colorado at Boulder and the National Bureau of Standards, and the following year became a permanent fellow of the Institute and faculty member of the University—positions he held until his death. Those years were remarkably productive for him and saw the publication of numerous technical and review articles. Cox also served as a consultant for Los Alamos National Laboratory for the last 23 years. A major milepost in Cox's career was the publication in 1968 of his monumental two-volume reference text, *Principles of Stellar Structure*. Despite the explosive growth of stellar astrophysics in the intervening years, this work is still the standard for the professional. In 1980, he completed a companion volume, *Theory of Stellar Pulsation*, that summarized his lifetime fascination with variable stars. Parts of another text were in progress at the time of his death.

Cox's many friends and colleagues will miss his patient and gracious guidance in scientific matters but, more to the point, will miss the modest and very kindly man.

Carl J. Hansen
Joint Institute for Laboratory Astrophysics Boulder, Colorado □