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effects of solar activity on the lowest layers of the atmosphere. The Appleton prize is given triennially, and was established in 1966 to commemorate the work of the late Sir Edward Appleton, who received the Nobel prize in physics in 1947.

Japanese Meteorological Society Award to Yamada

The Japanese Meteorological Society has presented its highest honor, the Society Award, to Tetsuji Yamada, a member of the earth and space sciences division of Los Alamos National Laboratory. Yamada received the award for his development of computer-simulated models of atmospheric turbulence over complex terrain that are used for air-pollution and weather studies. He earned both his BS and MS in engineering from Osaka University in Japan, and his PhD in 1971 from Colorado State University at Fort Collins. A naturalized US citizen, Yamada was a meteorologist at Princeton University and at Argonne National Laboratory before joining Los Alamos in 1981.

AMS presents awards to Doob, Stein and Carleson

The American Mathematical Society awarded three Leroy P. Steele prizes at its 88th Summer Meeting, held at the University of Oregon.

Joseph L. Doob, professor emeritus of mathematics at the University of Illinois, Urbana-Champaign, was awarded the 1984 Career Prize for "his fundamental work in establishing probability as a branch of mathematics and for his continuing profound influence on its development." Doob obtained his PhD from Harvard University in 1932 and held postdoctoral fellowships at Columbia University. A member of the faculty of the University of Illinois since 1935, he served as president of AMS in 1963 and 1964. He is best known among physicists for his book, *Stochastic Processes*.

Elias M. Stein, professor of mathematics at Princeton University, received the 1984 Expository Prize for his book, *Singular Integrals and the Differentiability Properties of Functions*, written in 1970. After obtaining his PhD in 1955 from the University of Chicago, Stein held teaching posts there and also at the Massachusetts Institute of Technology before coming to Princeton in 1963. His major research interests are topics in harmonic analysis related to the Littlewood-Paley theory, singular integrals and differentiability properties of functions

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Lennart Carleson of the Mittag-Leffler Institute of Stockholm was presented the 1984 Steele Prize for a Fundamental Paper for a series of three papers: the first two deal with interpolation problems in complex analysis, and the third resolves a 40-year-old question in harmonic analysis on the convergence and growth of

partial sums of Fourier series. Carleson received his PhD in 1950 from Uppsala University. He has held visiting professorships at the Massachusetts Institute of Technology and Stanford University and currently holds an appointment at the Mittag-Leffler Institute. He served as president of the International Mathematical Union from 1979-82.

obituaries

Leon Pape

Leon Pape, a leader in the development of medical physics, died unexpectedly on 2 January 1984 at age 58.

Pape was born 8 February 1925, in New York. He received his MS in physics in 1953 and his PhD in biophysics in 1965, both from the University of Southern California.

Pape was certified in radiological physics by the American Board of Radiology. From 1955-62 he worked as a radiological physicist, first at Cedars of Lebanon Hospital in Los Angeles, then as chief radiological physicist at the City of Hope Medical Center in Duarte, California. In 1961 he became a professor of physics at California State University, Los Angeles; he served as chairman of that department from 1967-70. During this period Pape developed facilities and programs in biophysics and in radiological health physics; late in his tenure as chairman, his efforts were particularly significant in persuading a California legislation committee to approve adequate supplementary funds for the construction and operation of the University's 4-MeV Van de Graaff laboratory, a facility unique in the California State University system.

From 1971 until his death, Pape worked at the Zoophysiological Laboratory B, August Krogh Institute, University of Copenhagen in Denmark, serving as its director from 1975-77. Research areas represented in his publications include radiobiology, energy transport and cell physiology, and physical theories of the living state. His central research interest was membrane biophysics: After developing research methods and techniques in a series of experiments on *Amphiuma* red-cell membranes, he was able to use those techniques on human red cells and other human membranes, a study in which he was productively engaged until the end of his life.

Leon Pape was an exceptionally warm human being who could generate instant rapport with colleagues, collaborators and students. Even 13 years after leaving California State, the news



PAPE

of his death moved the campus community as though he were a universally loved current colleague. As a tribute to his memory, the Leon Pape Memorial Lecture Series has been established; Rosalyn S. Yalow, medical physicist and Nobel Laureate in medicine, delivered the inaugural lecture on 11 May 1984.

HAROLD L. COHEN
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Ernest Omar Wollan

Ernest O. Wollan died on 11 March 1984, at the age of 81. As one of the real pioneers in nuclear energy, he had made notable and varied contributions to physical knowledge and techniques; in particular, he was a founder of health physics and a leader in developing the science of neutron diffraction.

Wollan obtained an AB from Concordia College in 1923, and a PhD in 1929 from the University of Chicago while working with Arthur H. Compton on studies of x-ray scattering. Wollan's measurements in gaseous helium, neon and argon gave probably the best experimental data for comparison with the current theories of Llewellyn Thomas, Enrico Fermi, and Douglas