Weinberg and Peierls receive Enrico Fermi Award

Alvin M. Weinberg and Rudolf E. Peierls were presented the Department of Energy's highest scientific prize, the Enrico Fermi Award, for 1980. In a ceremony on 8 January then Secretary of Energy Charles Duncan presented each winner with a gold medal, presidential citation, and $25 000 that comprise the award.

Weinberg was cited for "pioneering contributions to reactor theory, design and systems, untiring work to make nuclear energy serve the public good, both safely and economically, inspiring leadership of the Oak Ridge National Laboratory, and wise counsel to the executive and legislative branches of government."

Peierls citation noted his "many path-breaking discoveries in theoretical physics, including contributions to the understanding of the nucleus and the solid state, inspiration to several generations of students, pioneering contributions to early atomic energy developments in England and America, and efforts in working towards the responsible development and control of nuclear weapons."

The Fermi Award is presented in recognition of "exceptional and altogether outstanding scientific and technical achievement in the development, use, or control of atomic energy." It originated in 1954 with the special recognition the AEC bestowed on Fermi. In 1956 the award was established on a permanent basis.

Weinberg, (see page 48) is the director of the Institute for Energy Analysis of Oak Ridge Associated Universities. He was educated at the University of Chicago, where he received AB, MS, and PhD (1939, physics) degrees. There he was also (1939–41) a research associate and (1941–45) a physicist in the Metallurgical Lab, where he joined Arthur Compton working to develop the uranium chain reaction for plutonium production. The following three years he was a physicist at Clinton Labs in Tennessee. In 1948 he joined Oak Ridge, serving first as the director of the Physics Division (1948–49), then the research director (1949–55), then the lab's director (1955–74). In 1974 he became director of the Office of Energy Research and Development of the Federal Energy Administration. In 1975 he returned to ORNL and assumed his present position.

PEIERLS (LEFT) AND WEINBERG

At Oak Ridge he pursued the development of pressurized-water and fluid fuel reactors. Then and since he has written extensively on problems of public policy raised by the growth of the scale of modern science. He has also been a vocal partisan of the view that fission and fusion can provide safe long-term energy resources.

Peierls, born in Germany, studied at the Universities of Berlin, Munich, under Arnold Sommerfeld, and Leipzig, under Werner Heisenberg, where he received his PhD in 1928. From 1929 to 1932 he worked as Wolfgang Pauli's assistant in Zurich. Subsequently he had fellowships in Rome and Cambridge (England) (1932–33), at the University of Manchester (1933–35), and at the Royal Society Mond Lab (1935–37). In his early work he investigated the Hall effect and properties of electron bands. He proposed a general theory of diamagnetism of metals and an explanation of the oscillatory behavior of the susceptibility of bismuth in terms of I. D. Landau's theory of the quantization of electron orbits in the magnetic field.

In 1937 he was appointed to a chair at the University of Birmingham, which he held until 1963. At Birmingham he extended the theoretical work begun by Francis Perrin on the critical fissile material needed to sustain a chain reaction. With O. R. Frisch in 1940, Peierls described how U-235 might be separated from other isotopes and what the radiative effects might be of a nuclear detonation. This work stimulated British scientists, and, in turn, the US effort to develop the bomb. From 1943 to the end of the war, Peierls lived in the US and led a group at Los Alamos concerned with the theory of implosions. Afterwards, he returned to Birmingham. From 1963 until his retirement in 1974 he was Wykeham Professor of Theoretical Physics at Oxford. During the following three years he held the Battelle Professorship at the University of Washington.

NAS honors Wasserburg, Patterson, Zimm, Donahue

Four physicists will be among the eleven recipients of awards from the National Academy of Sciences at a ceremony in April.

Gary D. Patterson, as the first recipient of the new Award for Initiatives in Research, established by Bell Labs in