Fermi, Enrico
{fair'-mee, ayn-ree'-koh}

The Italian physicist Enrico Fermi, b. Sept. 29, 1901, d. Nov. 28, 1954, is best known as a central figure in the MANHATTAN PROJECT to build the first ATOMIC BOMB. Fermi received his doctorate from the University of Pisa in 1922. After working under Max BORN at Gottingen and Paul EHRENFEST at Leiden, he returned to Italy in 1926 and became professor of theoretical physics at the University of Rome. In 1938, on the eve of World War II, he escaped to the United States.

Fermi's early work on the statistical distribution of elementary particles led him to divide these atomic constituents into two groups, known as fermions and bosons, depending on their spin characteristics. This division is now accepted as standard. His subsequent work on radioactivity and atomic structure involved experiments on the production of artificial radioactivity by bombarding matter with neutrons, for which he received the 1938 Nobel Prize for physics (see NUCLEAR ENERGY). In collaboration with other eminent scientists, Fermi experimented with nuclear fission at Columbia University. This work culminated in the first sustained nuclear reaction, on Dec. 2, 1942, at the University of Chicago. Further work at Los Alamos Scientific Laboratory led to the construction of the ATOMIC BOMB. After the war, Fermi accepted a post at the newly established Institute for Nuclear Studies at the University of Chicago and continued his work in the field of neutron physics.

Steven J. Dick

Bibliography: Fermi, Laura, Atoms in the Family: My Life with Enrico Fermi (1954); Segre, Emilio, Enrico Fermi, Physicist (1970).

Picture Caption[s]

Enrico Fermi (1901-54) conducted the experiments in radioactivity that won him the 1938 Nobel Prize for physics before emigrating from Italy to the United States and commencing work on the atomic bomb. An exceptional researcher and theorist, Fermi developed a statistical method for predicting the behavior of atomic particles and later led the group that achieved the first self-sustaining fission reaction. (The Bettmann Archive)