

# ENRICO FERMI

Power Point realised by:

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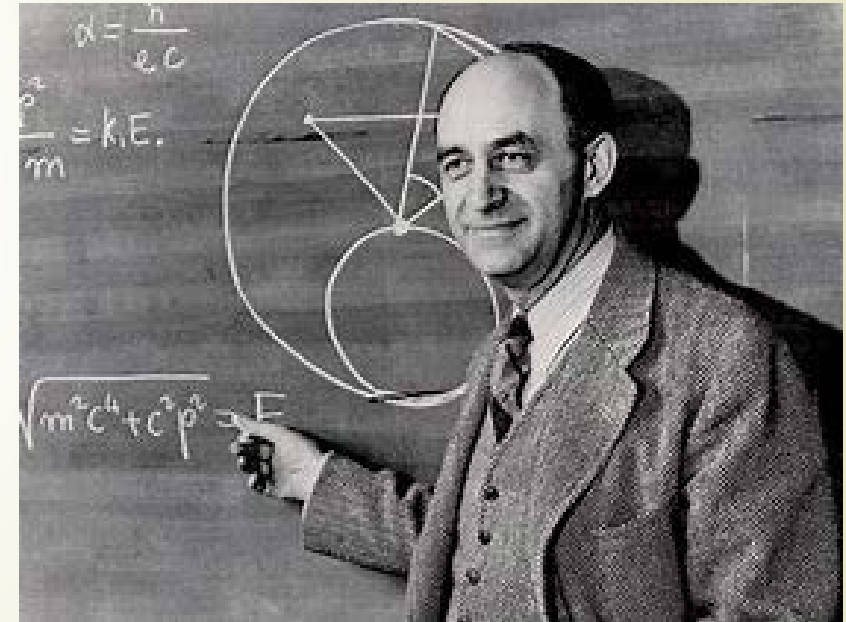
## ENRICO FERMI (1901 – 1954)

Enrico Fermi was an Italian and naturalized-American physicist and the creator of the world's first nuclear reactor, the Chicago Pile-1. He has been called the «architect of the nuclear age» and the «architect of the atomic bomb». He was one of very few physicists to excel in both theoretical physics and experimental physics. Fermi held several patents related to the use of nuclear power, and was awarded the 1938 Nobel Prize in Physics for his work on induced radioactivity by neutron bombardment and for the discovery of transuranium elements. He made significant contributions to the development of statistical mechanics, quantum theory, and the nuclear and particle physics.



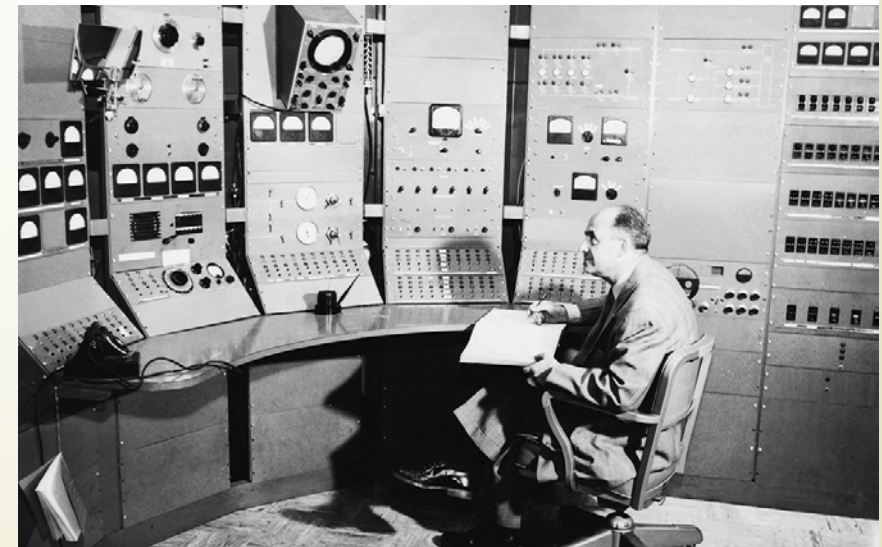
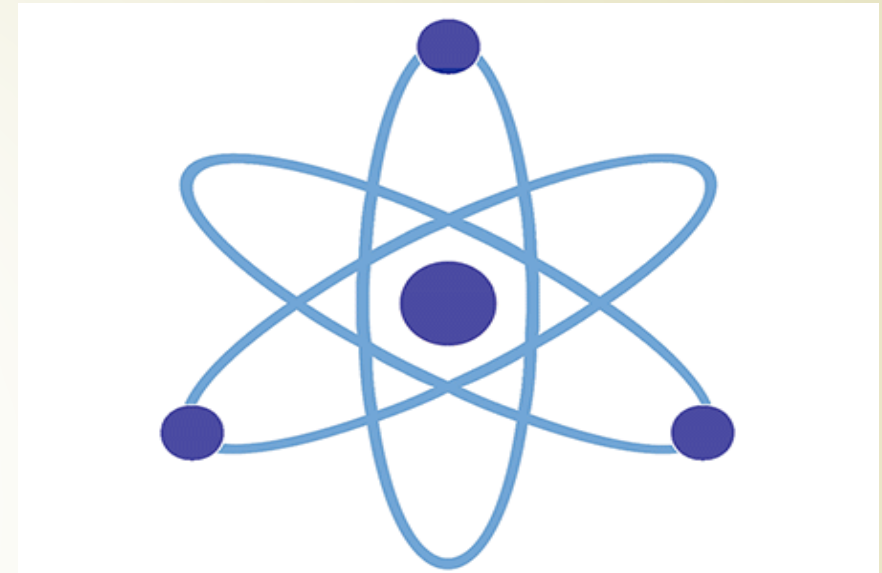
# School

Fermi graduated from high school in July 1918, and at Amidei's urging applied to the Scuola Normale Superiore in Pisa. Having lost one son, his parents only reluctantly allowed him to live in the school's lodgings for four years. Fermi took first place in the difficult entrance exam, which included an essay on the theme of «Specific Characteristics of Sounds»; the 17 years old Fermi chose to use Fourier analysis to derive and solve the partial differential equation for a vibrating rod, and after interviewing Fermi the examiner declared he would become an outstanding physicist.



# Manhattan project

Fermi arrived in New York City on 2 January 1939. He was immediately offered positions at five universities, and accepted one at Columbia University, where he had already given summer lectures in 1936. He received the news that in December 1938, the German chemists Otto Hahn and Fritz Strassmann had detected the element barium after bombarding uranium with neutrons, which Lise Meitner and her nephew Otto Frisch correctly interpreted as the result of nuclear fission. Frisch confirmed this experimentally on 13 January 1939. The news of Meitner and Frisch's interpretation of Hahn and Strassmann's discovery crossed the Atlantic with Niels Bohr, who was to lecture at Princeton University. Isidor Isaac Rabi and Willis Lamb, two Columbia University physicists working at Princeton, found out about it and carried it back to Columbia. Rabi said he told Enrico Fermi, but Fermi later gave the credit to Lamb.



# The discovery

Fermi on the 1926 arrival at knowing of the principle of exclusion of Wolfgang Pauli, at short time of him pulled the conclusion for the statistic mechanics of the particle. In the autumn (on the 1926) Fermi transferred to Rome and at the period he created the group of collaborators for example: Rasetti, Segrè, Amaldi, Majorana and Pontecorvo. The group at the beginning occupied atomic spectroscopy, but then departed clear at Fermi that new perspective opened in the study of the nucleus atomics. On the 1933 Fermi elaborated the theory of beta decay based on the formalism of the quantum theory of fields and the hypothesis advanced from Wolfgang Pauli. This theory put for the first time forward the existence of a new strength, «the weak strength».



# The study during the war and after war

Enrico Fermi on the 1945 it express into the practice of the atomic bomb on the civil bombard. After the second global war in Chicago, Fermi it dedicate at theoric studies on the elementary particle physics. On the 1951 bring the study on the collision of the proton - pions observe the first state isobaric of the nucleon.

