

Lise Meitner

(1878 - 1968)

Co-discovered Nuclear Fission

Lise Meitner studied physics under Ludwig Boltzmann at the University of Vienna. After obtaining her doctorate in 1906, Meitner went on to work with the chemist Otto Hahn, and continued to do so for 30 years. Meitner and Hahn lead a section in Berlin's Kaiser Wilhelm Institute for Chemistry, and collaborated in the study of radioactivity. In 1918 they discovered the element protactinium.

In 1922, Meitner also discovered the phenomenon whereby an atom with an electron vacancy in its inner shell becomes more stable by ejecting one or more electrons. This was later named the Auger Effect, after the French scientist Pierre Victor Auger who independently discovered the phenomenon a year after Meitner's original finding.

After Austria was annexed in 1938, Meitner fled to Sweden where she continued her work at Manne Siegbahn's Institute in Stockholm. She had very little support, due to Siegbahn's prejudice against women in science. She met with Hahn again secretly in Copenhagen to plan and work on a new set of experiments. These experiments later provided evidence for nuclear fission, being made public in 1939. Later that year Meitner published the physical explanation for the observations. This led other scientists to prompt Albert Einstein to write a warning letter to President Franklin. D. Roosevelt, culminating in the Manhattan Project.

Otto Hahn and Meitner were nominated for the Nobel Prize in both Physics and Chemistry several times, but in 1944 Hahn was solely awarded the Nobel Prize for Chemistry. Many years later, the papers of the Nobel Committee were made public, and Meitner's exclusion has subsequently been described by her biographers as stemming from *"a mixture of disciplinary bias, political obtuseness, ignorance, and haste."*



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