

Marie Curie (1867–1934)

Marie Curie, who was born **Maria Salomea Skłodowska** on 7 November 1867 in Warsaw and died on 4 July 1934, was a Polish physicist and chemist. She became a naturalised French citizen by marriage.

An outstanding scientist, she was the first woman to win a Nobel Prize and, to this day, is the only woman to have received two. She remains the only person to have been awarded the prize in two different scientific fields. She was also the first woman to win the Davy Medal, which she received together with her husband in 1903 for her work on radium.

An exceptional student

Marie Curie excelled in her studies and graduated from high school with a gold medal in 1883. She was keen to enter higher education, but this path was forbidden to women in her country, so she became a governess for a provincial family in France to finance her studies. On 3 November 1891, she enrolled to study physics at the Faculty of Sciences in Paris, and in July 1893, she graduated at the top of her class with a bachelor's degree in physics. During the summer, she was awarded a grant which enabled her to continue her studies in mathematics, and in July 1894, she earned a bachelor's degree in mathematics, coming second in her class. At the same time, she was working in a physics research laboratory, where she investigated the magnetic properties of various steels.

There, she met Pierre Curie, who was also studying magnetism, and subsequently began to work with him. Marie and Pierre were married on 26 July 1895.

The following year, she studied for the *agrégation*, a competitive examination to qualify to teach mathematics to girls, and went on to obtain the top mark in the 1896 examination. However, she did not take up a post in a secondary school, as she wanted to work on a doctoral thesis.

A unique, pioneering woman

Marie Curie decided to devote herself to the study of Becquerel rays, discovered by Henri Becquerel. She began her thesis research on the rays produced by uranium in 1897. In 1898, she won the French Academy of Sciences' Gegner prize for her work on the magnetic properties of metals. She went on to win this prize on two further occasions (1900 and 1902). In 1898, Pierre started working with his wife on her research into radioactivity. Marie Curie announced the discovery of polonium on 18 July 1898. On 26 December, together with Gustave Bémont, who had started working with the couple, she announced the discovery of radium. On 10 December 1903, Marie Curie, along with Pierre and Henri Becquerel, was awarded the Nobel Prize for Physics.

In 1903, Marie Curie was the first woman to receive the Davy Medal. The following year, she received the Matteucci Medal. In 1906, she became the first woman in France to lead a university laboratory and the first female professor at the Sorbonne.

In 1910, Marie Curie successfully isolated a gram of radium in the form of pure metal. She published the *Treatise on Radioactivity* the same year.

In early November 1911, she took part in the first Solvay Conference, which brought together numerous physicists, including Albert Einstein and Ernest Rutherford. She was the only woman to attend.

On 8 November 1911, Marie Curie was awarded the Nobel Prize for Chemistry, “in recognition of her services to the advancement of chemistry by the discovery of the new elements radium and polonium, and by the study of their nature and compounds.”

Links with Monaco

In 1911, Prince Albert I, a member of the Academy of Sciences, supported Marie Curie's election to the Academy. In a letter addressed to Gaston Darboux, Perpetual Secretary of the Academy of Sciences, he formally expressed his support for the principle that women should be eligible to become members of the Institut de France, at a time when the issue was the subject of fierce debate. The prince wrote in his journal on 4 January: "I attended the memorable quarterly meeting of the five academies, where the issue of women's eligibility to join the Institute was discussed, relating to the Madame Curie's candidacy for the Academy of Sciences. It is impossible to imagine a more heated or agitated room; except for the fact that there was no fighting or swearing, one might compare the meeting to a session of parliament. But the most violent were to be found among those who oppose the election of women, and these people defended their views in the most pathetic way, offering arguments with not a hint of value. [...] As for the speakers in favour of making women eligible, they were members of the Academy of Sciences, notably Appell, and they acted with complete propriety, presenting only irrefutable arguments." On 23 January 1911, Marie Curie received 28 votes; her opponent, Édouard Branly, was elected with 30 votes. Marie Curie was elected as a member of the Academy of Medicine in 1922.