

Marie Skłodowska Curie

(7 November 1867 – 4 July 1934) was a Polish–French physicist–chemist famous for her pioneering research on radioactivity. She was the first person honored with two Nobel Prizes—in physics and chemistry. She was the first female professor at the Sorbonne (University of Paris). She was the first woman to be entombed on her own merits (in 1995) in the Paris Panthéon.

She was born Maria Salomea Skłodowska in Warsaw, in Russian Poland, and lived there to the age of 24. In 1891 she followed her older sister Bronisława to study in Paris, where she earned her higher degrees and conducted her subsequent scientific work. She shared her Nobel Prize in Physics (1903) with her husband Pierre Curie (and with Henri Becquerel). Her daughter Irène Joliot-Curie and son-in-law, Frédéric Joliot-Curie, would similarly share a Nobel Prize. She was the sole winner of the 1911 Nobel Prize in Chemistry. Curie was the first woman to win a Nobel Prize, and is the only woman to win in two fields, and the only person to win in multiple sciences.

Her achievements include a theory of radioactivity (a term that she coined [2]), techniques for isolating radioactive isotopes, and the discovery of two elements, polonium and radium. Under her direction, the world's first studies were conducted into the treatment of neoplasms, using radioactive isotopes. She founded the Curie Institutes: the Curie Institute (Paris) and the Curie Institute (Warsaw).

While an actively loyal French citizen, Skłodowska–Curie (as she styled herself) never lost her sense of Polish identity. She taught her daughters the Polish language and took them on visits to Poland. She named the first chemical element that she discovered "polonium" (1898) for her native country. [3] During World War I she became a member of the Committee for a Free Poland (Komitet Wolnej Polski). [4] In 1932 she founded a Radium Institute (now the Maria Skłodowska–Curie Institute of Oncology) in her home town, Warsaw, headed by her physician-sister Bronisława.

Maria Skłodowska was born in Warsaw, Poland, on 7 November 1867, the fifth and youngest child of well-known teachers Bronisława and Władysław Skłodowski. Maria's older siblings were Zofia (born 1862), Józef (1863), Bronisława (1865) and Helena (1866).

Maria's paternal grandfather Józef Skłodowski had been a respected teacher in Lublin, where he taught the young Bolesław Prus. [5] Her father Władysław Skłodowski taught mathematics and physics, subjects that Maria was to pursue, and was also director of two Warsaw gymnasia for boys, in addition to lodging boys in the family home. Maria's mother Bronisława operated a prestigious Warsaw boarding school for girls; she suffered from tuberculosis and died when Maria was twelve.

Maria's father was an atheist; her mother—a devout Catholic. [6] Two years earlier Maria's oldest sibling, Zofia, had died of typhus. The deaths of her mother and sister, according to Robert William Reid, caused Maria to give up Catholicism and become agnostic.

[7] When she was ten years old, Maria began attending the boarding school that her mother had operated while she was well; next Maria attended a gymnasium for girls, from which she graduated on 12 June 1883. She spent the following year in the countryside with relatives of her father's, and the next with her father in Warsaw, where she did some tutoring.

On both the paternal and maternal sides, the family had lost their property and fortunes through patriotic involvements in Polish national uprisings. This condemned each subsequent generation, including that of Maria, her elder sisters and her brother, to a difficult struggle to get ahead in life.

Maria made an agreement with her sister, Bronisława, that she would give her financial assistance during Bronisława's medical studies in Paris, in exchange for similar assistance two years later. [9] In connection with this, Maria took a position as governess: first with a lawyer's family in Kraków; then for two years in Ciechanów with a landed family, the Łorowskis, who were relatives of her father. While working for the latter family, she fell in love with their son, Kazimierz Łorowski, which was reciprocated by this future eminent mathematician. His parents, however, rejected the idea of his marrying the penniless relative, and Kazimierz was unable to oppose them. Maria lost her position as governess. [10] She found another with the Fuchs family in Sopot, on the Baltic Sea coast, where she spent the next year, all the while financially assisting her sister.

At the beginning of 1890, Bronisława, a few months after she married Kazimierz Dłuski, invited Maria to join them in Paris. Maria declined because she could not afford the university

tuition and was still counting on marrying Kazimierz Źorawski. She returned home to her father in Warsaw, where she remained till the fall of 1891. She tutored, studied at the clandestine Floating University, and began her practical scientific training in a laboratory at the Museum of Industry and Agriculture at Krakowskie Przedmie[cie 66, near Warsaw's Old Town. The laboratory was run by her cousin Józef Boguski, who had been assistant in Saint Petersburg to the great Russian chemist Dmitri Mendeleev. [11] In October 1891, at her sister's insistence and after receiving a letter from Źorawski, in which he definitively broke his relationship with her, she decided to go to France after all.[6]

Maria's loss of the relationship with Źorawski was tragic for both. He soon earned a doctorate and pursued an academic career as a mathematician, becoming a professor and rector of Kraków University and president of the Warsaw Society of Learning. Still, as an old man and a mathematics professor at the Warsaw Polytechnic, he would sit contemplatively before the statue of Maria Skłodowska which had been erected in 1935 before the Radium Institute that she had founded in 1932. [12] In Paris, Maria briefly found shelter with her sister and brother-in-law before renting a primitive garret [13] and proceeding with her studies of physics, chemistry, and mathematics at the Sorbonne (the University of Paris).

Skłodowska studied during the day and tutored evenings, barely earning her keep. In 1893, she was awarded a degree in physics and began work in an industrial laboratory at Lippman's. Meanwhile she continued studying at the Sorbonne, and in 1894, earned a degree in mathematics.

That same year, Pierre Curie entered her life. He was an instructor at the School of Physics and Chemistry, the École supérieure de physique et de chimie industrielles de la ville de Paris (ESPCI). Skłodowska had begun her scientific career in Paris with an investigation of the magnetic properties of various steels; it was their mutual interest in magnetism that drew Skłodowska and Curie together.

[14] Her departure for the summer to Warsaw only enhanced their mutual feelings for each other. She still was laboring under the illusion that she would be able to return to Poland and work in her chosen field of study. When she was denied a place at Kraków University merely because she was a woman,[15] however, she returned to Paris. Almost a year later, in July 1895, she and Pierre Curie married, and thereafter the two physicists hardly ever left their laboratory. They shared two hobbies, long bicycle trips and journeys abroad, which brought them even closer. Maria had found a new love, a partner, and a scientific collaborator upon whom she could depend.

[http://en.wikipedia.org/wiki/Madam\\_Curie](http://en.wikipedia.org/wiki/Madam_Curie)

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