

Pierre and Marie Curie and radioactivity

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In 1898, the discovery of two new elements, polonium and radium, reawakened the topic of the spontaneous emission of the so-called uranic rays, discovered two years earlier by Henry Becquerel. Radium proved to be a million times more radioactive than uranium. Radioactivity, a name coined by Marie Curie, became a major research field in the decades that followed. It opened the way to atomic physics and nuclear physics, to nuclear energy and to many applications or consequences in other research fields. Radioactive isotopes are used typically as chronometers, but also as tracers. The huge amount of thermal energy produced by radioactive elements present inside the Earth has played an important role in the Earth's internal dynamics over its billions of years of history.

Pierre Curie was already recognized as a first rank physicist when he met the young Maria Sklodowska. Their scientific collaboration started at the end of 1897, when Marie decided to prepare a thesis. It was tragically stopped in April 1906 by the death of Pierre Curie in a traffic accident. The talk will emphasize their strikingly different characters, together with their common love of scientific research and their hope that science would benefit to humanity.

Marie Curie became the first woman with a full professor position in a French University. She focused on a long-term program on the chemical properties and accumulation of radium, a cornerstone of radioactive studies at the time. She created and managed the Radium Institute in Paris, one of the leading laboratories for radioactivity in the world. At the beginning of the last century, Marie Curie was often considered as only an assistant to her husband. She has become a legendary figure, a symbol of women's access to science.