

# Alexandre-Edmond Becquerel Biography

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# Biography

Alexandre-Edmond Becquerel was the second of three generations of eminent French physicists. His father, Antoine-César Becquerel (1788-1878), was an experimental professor at the Paris Museum of Natural History; his son was Antoine-Henri Becquerel (1852-1908), the discoverer of radioactivity. Alexandre also served at the Museum of Natural History, turning down opportunities at the Ecole Polytechnique and the Ecole Normale Supérieure in order to work with his father. He later received his doctorate from the University of Paris, and eventually took a professorial position at the Agronomic Institute of Versailles.

Becquerel conducted extensive research in the fields of magnetism, electricity, and optics. He was especially interested in phosphorescence and luminescence, chemical reactions caused by exposing certain substances to light. In the 1840s he found that these reactions could produce an electric current in both liquids and metals. He devised an instrument, called an actinometer, that could measure the intensity of a light source by observing the amount of electrical current it elicited in these substances. The connection between light energy and chemical energy was seized upon by many scientists in the following years, and research has led to the development of the photoelectric cell.

During this time, Becquerel was considered the foremost authority on luminescent phenomena and published several important papers on the subject. He conducted three pioneering experiments between the years 1857 and 1859 that formed the foundation of all later studies of luminescence.