

Opening Lecture: Wilhelm Conrad Röntgen – Discovery and first attempts to clarify the physical nature of X-rays

Tuesday, 8 June 2021 09:20 (1 hour)

Wilhelm Conrad Roentgen –born in Remscheid, Germany world renowned researcher, brilliant physicist and receiver of the first Nobel Prize. His work revolutionized medical diagnostics and paved the way for numerous applications in modern science and technology without which our modern world would be inconceivable. An extraordinary personal and historic achievement –and yet Roentgens life and work represent much more: a timeless universal message for creative thinking, the positive driving force behind all cultural and social developments as well as behind technological progress and innovation. Roentgen found the start of his career in August Kundt's physics laboratory in 1870. On November 8, 1895 he discovered a new kind of invisible matter penetrating rays. He called them x-rays. At a single stroke Roentgen was in the spotlight of publicity. His rays were both of scientific and public interest. The physical fundamentals and the biological effects of the new rays were largely unknown at the end of the 19th century. At the beginning, everyone who used x-rays in any way was an experimenter. Differing scientific cultures –medicine, physics and engineering – came together at this new interface. The time after Röntgen's discovery was characterized by a public feeling of elation about the new kind of rays and their possibilities. On the other hand, in the early 20th century a whole generation of most gifted and excellent scientists was affected by Roentgen's revolutionary discovery. Amongst them we can find great names and Nobel laureates like: Sir George Stokes, Charles Glover Barkla, Arnold Sommerfeld, Max von Laue, Henry G.J. Moseley, Arthur Holly Compton, and last but not least: Sir William Henry Bragg and Sir William Lawrence Bragg. The great scientific work of the Bragg family led to the answers surrounding the fundamental questions about the structure of the matter embedding the exploration of the human genome.

The lecture gives an insight into the life of the first Nobel Prize winner in physics and discusses the efforts in physics to find out the physical nature of the new rays.

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