

KONWERSATORIUM NARODOWEGO CENTRUM BADAŃ JĄDROWYCH

W dniu **18 czerwca 2015 r. o godz. 11.30** tematem konwersatorium, przeznaczonego dla szerokiego grona zainteresowanych współczesną fizyką i techniką jądrową, będzie

The Birth of Quantum Physics - Boltzmann, Planck, Einstein, Nernst, and others

Referat wygłosi

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Abstract

At the end of the 19th century, due to the rapid growth of many branches of industry, there developed a need for new institutions concentrating on basic research in physics and chemistry. In Germany, in particular Werner Siemens and Hermann von Helmholtz strongly advocated such a facility supported by Government. In 1887 this led to the foundation of the Physikalisch-Technische Reichsanstalt in Berlin. At the time, artificial illumination became also a highly important field, and quantitative optical data and relevant standards were in great demand. Hence, in the optical laboratory of the Physikalisch-Technische Reichsanstalt the spectral distribution of the light intensity was measured over a large frequency range. It turned out that the new data could not be explained in terms of the existing models. Between October and December 1900 Max Planck arrived at his famous radiation law based on Boltzmann's probabilistic entropy expression. As a key novelty Planck introduced the quantization of the radiation energy in terms of the discrete energy elements $h\nu$, with the universal constant h . Whereas Planck did not accept the full impact of the new quantum physics for nearly 10 years, it was Albert Einstein with his brilliant concepts of light quanta in 1905 (photons) and of quantized lattice vibrations in 1906 (phonons), and a few years later Walther Nernst with his specific heat measurements, who strongly pushed the new ideas about quantum physics.

Konwersatorium odbędzie się w budynku Działu Edukacji i Szkoleń. Zainteresowanych spoza terenu Świerka informujemy, że do Świerka można dojechać autobusem pracowniczym, odchodzącym o godz. 10.15 (Hoża 69, brama wjazdowa).

Prof. dr hab. Ludwik Dobrzyński