Discoveries that changed the world: 1932 – 1942

James Chadwick & Lise Meitner

G. H. Lander

Grenoble, France

From the discovery of the neutron (1932) to the first demonstration of controlled fission (1942) was just ten years; a period that took physics from an occupation of a small number of eccentric gentlemen and (even fewer) ladies to something of concern to, and funding decisions of, Governments all over the world. The shadows of those tumultuous years are still with us, for better or worse.

This talk will recount those ten years through the lives of James Chadwick (1891-1974) and Lise Meitner (1878-1968), contemporaries who played pivotal roles in the events, even though, partly because of their retiring personalities, they are often over-shadowed by "larger" figures.
Biography for G. H. Lander

Gerry Lander had his primary education in South Africa and then went to Cambridge, UK, with a “1851 Scholarship” to do his Ph. D, which he received in 1966. He went to Argonne in 1967 as a post-doc, and after one year was sent to Ames as the ANL reactor was shut down for refurbishment. He started working on 4f systems in Ames, and then when he returned to ANL he advanced to 5f systems, where he has basically been ever since!

He was made a Fellow of the American Physical Society in 1980. From 1981-1986 he was Director of the Intense Pulsed Neutron Source at ANL.

In 1986 he joined the Institute for Transuranium Elements (ITU) operated by the European Commission in Karlsruhe, Germany, as head of the Basic Research Group on actinides.

In 2001-2002 he was a John Wheatley Fellow at Los Alamos National Laboratory, and in 2002 became Director of the ITU. He was a visiting Professor at the University of Liverpool, UK, and at the Polish Academy of Sciences, Wroclaw, Poland.

He retired at the beginning of 2006 and now lives in Grenoble, where he is again involved in neutron and synchrotron experiments. In 2011 he was awarded the Walter Hälg Prize by the European Neutron Scattering Association.

For many years he has had an interest in history and the “Chadwick & Meitner” talk was first given at the Oxford Neutron School in 2003. Since then he has given it over 40 times, and articles have appeared in various magazines.