From Ernest Walton's atom splitting to the LHC and the Higgs Boson

Dr Eric Finch and Dr Ronan McNulty

E.T.S. Walton, the only Irish Nobel laureate in any of the sciences, caused an instant world-wide sensation when in 1932 he and John Cockcroft beat stiff competition from the U.S.A. to split the atomic nucleus artificially for the first time. Dr Finch summarised the physics involved, Walton's remarkable skills and why they were crucial to the experiment, the excellence of his teaching at Trinity College Dublin, his work as a 'nuclear pacifist', and the scientific legacy which he has left us.

The LHC produces energies last seen one billionth of a second after the Big Bang and allows us recreate the early universe. We can travel 'back in time' to a point where electromagnetism and radioactivity were the same - a unification in which the Higgs boson plays a fundamental role. Dr McNulty discussed the Irish involvement in this investigation and reported on the latest results in the search for the Higgs.