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Obituary: Prof. Laurence Declan Burke, MRIA (1939 – 2011)

Stephen Fletcher, Dept. of Chemistry, Loughborough
University, Loughborough, Leicestershire, LE11 3TU, UK,
stephen.fletcher@lboro.ac.uk

Obituary



Prof. Laurence Declan Burke, MRIA (1939 – 2011)

Stephen Fletcher¹

Laurence Declan Burke received his BSc degree from University College Cork in 1959, and his PhD degree in 1964 from Queen's University Belfast, where he worked with Frederick Alastair Lewis on the catalytic hydrogenation of acetylene using platinum group metals [i]. Following the award of his doctorate he returned to U.C.C. as a member of staff. One year later, his early promise was recognized in the award of a prestigious Alexander von Humboldt Fellowship, which enabled him to work for a year and a half at the *Universität Karlsruhe*, Germany, with Hans Rickert and Rolf Steiner on the solid-state electrochemistry of zirconium dioxide [ii].

After returning to Cork he initiated his now-famous investigations of the electrochemistry of metals, oxides and especially hydrous metal oxides [iii, iv, v]. This work, which uncovered many unusual phenomena, later proved to be of central importance in fuel cells, electrocatalysis, and electrochromic devices [vi, vii, viii]. Despite limited financial resources, he also managed to train over 40 research students, taught chemistry to thousands of undergraduates, and established a global reputation for excellence.

In 1995 he was elected a member of the Royal Irish Academy and a Fellow of the Electrochemical Society (the first scientist resident in Europe to be so honored). He was also among the top 1% of most cited authors in chemistry. Given his fame, he could doubtless have accepted a senior position anywhere in the world, but preferred

¹ S. Fletcher
Department of Chemistry, Loughborough University,
Ashby Road,
Loughborough, Leicestershire LE11 3TU, UK
e-mail: Stephen.Fletcher@Lboro.ac.uk

to devote his energies to the advancement of science in Ireland. He did this with unassuming modesty and (as I can personally attest) considerable charm.

Declan formally retired from University College Cork in 2004. However, he continued to be active in research until this year. In this period he focused his formidable intellect on the problem of electrocatalysis by activated gold and silver surfaces [ix-xiii]. He was among the first to realize that crystallographic defects were behaving as active sites, and clearly foresaw their industrial applications in fuel cells. Sadly, this work must now be continued by others.

Declan died on the 4th of December 2011. He leaves his wife, Susan, his daughter Vivienne, and his sons John and Alan. He will be greatly missed.

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