



DIARMUID DOWNS

1922–2014

Elected in 1987

“For significant contributions to the understanding of combustion processes in internal combustion engines and to advances in engine design.”

SUBMITTED BY THE NAE HOME SECRETARY

DIARMUID DOWNS, known as a “gentleman engineer,” died February 12, 2014, at the age of 91. His research improved the internal combustion engine, reducing knock in car engines and producing cleaner, more efficient engine technology.

Diarmuid Downs was born April 23, 1922, in London. His father ran a small engineering business, manufacturing equipment for the oil industry. He was educated at Gunnersbury Catholic Grammar School and the Polytechnic, London. He then studied at Northampton Engineering College, London, where he graduated with first class honors in 1942.

He won a postgraduate grant for further research and study, which he took up that November at Ricardo and Company Engineers Ltd. in Oxford (following its wartime evacuation from the Sussex coast). He spent his entire career there. In 1947 he was made head of the Petrol Engine Department, in 1957 he became a member of the board and in 1967 managing director, and in 1976 he was appointed joint chair and managing director, a post he retained until his retirement in 1987. He was

A detailed biographical memoir of Sir Diarmuid Downs was published by the Royal Society in March 2019. It includes more photos as well as personal anecdotes and is available at <https://royalsocietypublishing.org/doi/10.1098/rsbm.2018.0036>.

also involved in the purchase of G. Cussons Ltd. in 1964 and became its chair.

For his initial 15 years, Sir Diarmuid pursued a fundamental study of abnormal combustion phenomena in the petrol engine, resulting in a clearer understanding of the problems of knock and preignition. He published numerous papers on internal combustion engines in the British and international engineering journals and conference proceedings. Over the years he became well known and highly respected not only among Ricardo's clients but in the automotive industry in general, as attested by his regular technical addresses to large numbers of attendees at the SAE Detroit Congress.

He was active in the broader community, as a member of the Advanced Council for Applied R&D (1976–80), UK Science and Engineering Research Council (1981–85), Design Council (1981–89), and Advanced Board of the Parliamentary Office of Science and Technology (1988–93). He also served on the boards of the Society of Automotive Engineers (1983–86) and the British Council (1987–93). In addition, he was a member of the Council at City University (1980–82), a visiting fellow at Lincoln College, Oxford (1987–88), and Pro Chancellor of Surrey University (1992–94).

Early in his career Sir Diarmuid won three prizes from the Institution of Mechanical Engineers (IMEchE) for his research: the George Stephenson Research Prize and the Crompton Lanchester Medal, both in 1951, and the Dugald Clerk Prize the following year. In 1985 he received the James Alfred Ewing Medal of the Institution of Civil Engineers, and in 1986 the FISITA Medal of the International Federation of Automotive Engineering Societies.

Sir Diarmuid became an IMechE fellow in 1961 and president in 1978. He was a fellow of both the Royal Academy of Engineering (1979) and the Royal Society (1985), and in 1987 was elected a foreign member of the US National Academy of Engineering. He was made a Commander of the Order of the British Empire (CBE) in 1979 and received his knighthood in 1985. Since 1984 he was a liveryman in the Worshipful Company of Engineers.

In Sir Diarmuid's foreword to John Reynolds' book *Engines and Enterprise: The Life and Work of Sir Harry Ricardo* (Sutton Publishing Ltd., 2000) he wrote: "I had the great privilege of working for Sir Harry Ricardo for the last thirty years of his life, first as a young engineer and eventually as his chosen successor as head of the company. His staff...in continuing and building on [his] achievements benefited from the comments and guidance of Sir Harry himself, right up to his death in his ninetieth year. Sir Harry was a fine engineer and a delightful man. The story of his life...has lessons and fascination for us all."

An epitaph that family, friends, and colleagues would agree is just as fitting for Sir Diarmuid himself.

Sir Diarmuid was survived by his wife Carmel (née Chillman; she died November 2, 2016); their children Ann, Lucy, Clare, and Martin; and five grandchildren.