

## OBITUARY

## John H. Beynon (1923–2015)

John Herbert Beynon was born in Ystalyfera, Wales, United Kingdom on December 29, 1923 and died in Swansea, Wales, United Kingdom on August 24, 2015. He studied physics at the University of Wales in Swansea, earning an honors degree before serving in the Fighting Vehicles Research Establishment (1943–1947) working on tank armaments. Following World War II, he was employed (starting in 1947) by the Dyestuffs Division of Imperial Chemical Industries, Ltd. in the Manchester (UK) area, serving later as Manager of Physics and Physical, Polymer, and Analytical Chemistry and, in the period 1970–1974, as Senior Research Associate. During 1965 he visited the University of Minnesota, an important center for mass spectrometry because of the presence of A.O.C. (Al) Nier on the physics faculty. Beynon accepted a position as Professor of Chemistry and Director of the Mass Spectrometry Center at Purdue University in 1968. From 1974 to 1986, he served as Royal Society Research Professor and Director of the Mass Spectrometry Research Unit at his alma mater, Swansea University, and then from 1976 onwards as Research Professor, Physics and Chemistry. Professor Beynon held visiting positions in a number of universities, including long-term relationships with the University of Essex (UK) and the Institut Jozef Stefan (Slovenia).

He was honored with the 1973 Sigma Xi Research Award, Purdue University, the 1979 Maurice F. Hasler Award of the Spectroscopy Society of Pittsburgh, and the 1980 Jozef Stefan Medal. Other honors included the Medal of the Serbian Chemical Society (1981), Techmart Trophy of the British Technology Group (1984), Jan Marc Marci Medal, Czechoslovak Spectroscopic Society (1984), the Thomson Medal of the International Mass Spectrometry Society (1985), the Frank H. Field and Joe L. Franklin Award for Outstanding Work in Mass Spectrometry, American Chemical Society (1987), the Aston Medal, British Mass Spectrometry Society (1990), and the Gold Medal, Italian Mass Spectrometry Society (1990). He was a founding member of the American Society for Mass Spectrometry (ASMS), and in 1987, Beynon was the Founding Editor-in-Chief of *Rapid Communications in Mass Spectrometry*.

John was a keen golfer and nature photographer, and especially in later years, an enthusiastic fan of cricket and rugby, and a proud member of the Swansea Rugby Club. John and his wife Yvonne lived for many years in Buxton before moving to Swansea in his native Wales. It was there that he organized in



1985 the 10th International Mass Spectrometry Conference, to brilliant sunshine in an often rainy location.

When he arrived as a new employee at ICI, there was a note on his desk: “Remit for Mr. Beynon, build a mass spectrometer.” Beynon did this, building a 6-inch radius, 90° magnetic sector instrument working with one assistant. Based on this success, he was given the task of specifying and purchasing a commercial mass spectrometer. To do this, he worked with Metropolitan Vickers, a Manchester engineering company that was to become Associated Engineering Industries (AEI) and later GEC and then Kratos. The result was the AEI MS 8. John is considered to be the first to recognize that exact mass measurements could provide information on the molecular structures of organic compounds [*Nature* **174**, 735–737 (1954)], and in following up this insight with cooperative instrumentation development with manufacturers (AEI, MS 9) he is as responsible as any individual for the development of high resolution mass spectrometry. A second major contribution was the relationship between kinetic energy release during a metastable ion dissociation and the width of the product ion peak seen in the mass spectrum. This started many years of successful work in the study of the energetics, thermochemistry, and structures of dissociating ions in the gas phase, work that culminated in the text “Metastable Ions” (1973) and in the technique of ion kinetic energy scans, which used kinetic energy/charge analysis with electric sectors to characterize metastable ion (unimolecular)

dissociations and, in later work, collision induced dissociation. In parallel with work by Curt Brunneé and Fred McLafferty, he built a reverse geometry mass spectrometry, developing the technique of mass-analyzed kinetic energy spectrometry (MIKES). This method focused on obtaining information on ion structure from physical organic measurements. The instrument built at Purdue formed the basis for the enormously successful VG ZAB line of instruments, through the association of John Beynon with the other main Manchester mass spectrometer company, Vacuum Generators (VG), later to become a part of Waters.

John Beynon was a creative scientist and magnetic personality. Mass spectrometry and science generally are much the richer for the life and contributions of John Herbert Beynon.

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For a fuller description of John Beynon's research contributions see R. Graham Cooks: "John Beynon at Purdue" *Rapid Commun. Mass Spectrom.* **18**, 7–10 (2004) DOI: [10.1002/rcm.1303](https://doi.org/10.1002/rcm.1303)