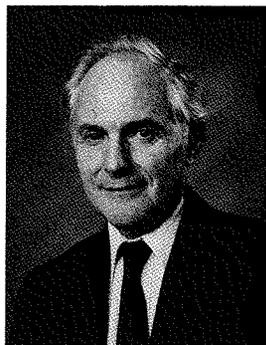


Biographical Sketch for *Harold Kroto*

Harold Kroto was born in 1939 in Wisbech, Cambridgeshire, and brought up in Bolton, Lancashire. He graduated in Chemistry at the University of Sheffield in 1961 and in 1964 received his PhD there for research with R N Dixon on high resolution electronic spectra of free radicals produced by flash photolysis. After two years postdoctoral research in electronic and microwave spectroscopy at the National Research Council in Ottawa, Canada, he spent one year at Bell Laboratories NJ studying liquid phase interactions by Raman spectroscopy and he also carried out studies in Quantum Chemistry. He started his academic career at the University of Sussex (Brighton) in 1967, where he became a professor in 1985 and in 1991 he was made a Royal Society Research Professor.



The research programme at Sussex has covered several interdisciplinary areas. One area focused on the creation and spectroscopic characterisation of new molecules, in particular, unstable species and reaction intermediates which contained labile multiple bonds. This work led to the production of the first molecules with a carbon phosphorus double bonds as well as the development of the first analogues with carbon phosphorus triple bonds. Since these pioneering studies the presently extremely active field of phosphalkene and phosphalkyne chemistry has developed. Laboratory synthetic and spectroscopic work on cyanopolynes led to the surprising discovery, by Radioastronomy, that of very long carbon chain molecules were relatively abundant in interstellar space. During a project which explored the possible source of these carbon chains in space, laboratory experiments which simulated the chemical reactions in the shells of red giant carbon stars were carried out which serendipitously uncovered the existence of C₆₀ Buckminsterfullerene. In follow-up investigations of this original discovery the molecule was isolated independently at Sussex and structurally characterised.

The presently active research programme derives directly from the earlier work on C₆₀ and focuses on the implications of the discovery for several areas of fundamental chemistry as well as the way in which it has revolutionised our perspective on carbon based materials. The research encompasses the basic chemistry of the fullerenes, fundamental

studies of carbon and metal clusters as well as carbon microparticles and nanotubes. Work on various aspects of interstellar and circumstellar molecules and dust is also in progress. Some parts of the research have been successful due to their interdisciplinary nature and this has been the result of synergistic collaborations involving primarily: colleagues J F Nixon, R Taylor and D R M Walton at Sussex, T Oka at NRC (Canada), and R F Curl and R E Smalley at Rice University (Texas).

Since 1990 he has been chairman of the editorial board of the Chemical Society Reviews.

Awards: 1981-82 Tildon Lecturer (Royal Society of Chemistry), 1990 Elected Fellow of the Royal Society, 1991 Royal Society Research Fellowship, 1992 International Prize for New Materials (American Physical Society) - Italgas Prize for Innovation in Chemistry - Université Libre de Bruxelles (DHC) - University of Stockholm (PhDHC) - Longstaff Medal 1993 (Royal Society of Chemistry) - Academia Europea (Member), 1993 University of Limburg (DHC), 1994 Hewlett Packard Europhysics Prize - Moet Hennessy/Louis Vuitton Science Pour l'Art Prize, 1995 University of Sheffield (Hon. Degree) - University of Kingston (Hon. Degree), 1996 Knighthood - Nobel Prize for Chemistry.