

Honorary Doctor of Science

Professor Sir Harold W KROTO

Citation written and delivered by Mr CHAN Che-shing

Chairman:

Please allow me to introduce to you Professor Sir Harold W Kroto, Fellow of the Royal Society: a distinguished scientist, a Nobel Prize winner, an educator, and an artist.

Born in Wisbech, Cambridgeshire, in 1939, the child of refugees from Nazi Germany, Professor Kroto was brought up in Bolton, in the North of England. Professor Kroto obtained his BSc in Chemistry in 1961 at the University of Sheffield, where he also gained a PhD in molecular spectroscopy in 1964. After two years' postdoctoral research at the National Research Council in Ottawa, Canada, and a year at Bell Laboratories, New Jersey, he started his academic career at the University of Sussex in 1967. He became a professor in 1985 and a Royal Society Research Professor in 1991. He received a Knighthood from Queen Elizabeth II in 1996. This was the same year in which he was awarded the Nobel Prize for Chemistry, together with Robert Curl and Richard Smalley of Rice University, Houston, for the discovery of a new form of carbon: C₆₀, also known as Buckminsterfullerene. It was Professor Kroto's inspiration to name this molecule Buckminsterfullerene, in honour of the architect Richard Buckminster Fuller, inventor of the geodesic dome, due to their resemblance in shape.

As a result of the discovery of C₆₀, new carbon structures have become known, and a new branch of chemistry has developed. The research carried out at the University of Sussex by Professor Kroto and his colleagues encompasses the basic chemistry of the fullerenes and nanotubes — thin carbon-based tubes with closed ends, which are one of the main focuses of Professor Kroto's current research.

The applications of fullerene research lead us into 21st century technology, with (for example) superconducting salts of C₆₀, new three-dimensional polymers, and carbon nanotube integrated circuits. From a theoretical point of view, the discovery of fullerenes has influenced our conception of such widely separated

scientific problems as the galactic carbon cycle and classical aromaticity, a keystone of theoretical chemistry. These advances in scientific knowledge owe much to Professor Kroto's long and distinguished career as a research scientist, and his dedication to wide-ranging fundamental research, covering chemistry, physics, materials science and astrophysics.

In addition to the Nobel Prize, Professor Kroto has won numerous prizes and awards for his contributions to science, including the International Prize for New Materials from the American Physical Society in 1992, the Italgas Prize for Innovation in Chemistry in 1992, the Royal Society of Chemistry Longstaff Medal in 1993, the Hewlett Packard Europhysics Prize in 1994, and the American Carbon Society Medal for Achievement in Carbon Science in 1997. He has been awarded honorary degrees from universities far and wide, including the Universities of Brussels, Stockholm, Limburg, Sheffield, Kingston, Sussex, Helsinki, Nottingham, Yokohama City, Hertfordshire, Sheffield Hallam, Aberdeen, Leicester and Aveiro.

In 1994, Professor Kroto set up the Vega Science Trust with Dr Patrick Reams. Its aim is to create high quality science programmes for network television. Under his chairmanship, 35 programmes have been made and 20 broadcast on the BBC Learning Zone. These films have achieved one of the missions of the Vega Science Trust: to preserve our scientific cultural heritage by recording scientists who are outstanding communicators, as well as notable contributors to their field.

Professor Kroto is also a member of National Advisory Committee on Cultural and Creative Education in the UK, which represents his second interest: his passion for creative graphic design. It has been one of his dreams to set up a studio specialising in scientific graphic design. Though Professor Kroto's interest in art has been overshadowed by his outstanding scientific achievements, his graphic design work has been no less prolific, resulting in numerous posters, letterheads, logos, book and journal covers, and medal designs. He won the Sunday Times Book Jacket Design competition as a research student in 1964, and the Moët Hennessy/Louis Vuitton Science pour l'Art Prize in 1994. This bears witness to his creative mind and passion for art. Being also a good tennis and football player, and possessing the rare qualities of an outstanding research scientist, artist, educator and athlete, Professor Kroto is indeed an exemplar of whole-person excellence, an ideal which is at the heart of the educational philosophy embraced by the City University of Hong Kong.

I would like to finish this introduction of Professor Kroto by quoting a bit of his advice — a recipe for success, which we can all use, which is “to do something which interests you or which you enjoy and do it to the absolute best of your ability. If it interests you, however mundane it might seem on the surface, still explore it because something unexpected often turns up just when you least expect it. With this recipe, whatever your limitations, you will certainly still do better than anyone else. Having chosen something worth doing, never give up and try not to let anyone down.”

Mr Chairman, may I now present to you Professor Sir Harold W Kroto for the degree of Doctor of Science, *honoris causa*.