

## For Young Architects of the Nanoscale World

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Nobel Laureate in Chemistry (1996) and MANA Advisor

I have now been coming annually to the Center for Materials Nanoarchitectonics (MANA), NIMS for several years and although, when it started, I was apprehensive about how successful the whole venture was likely to be, my apprehensions have turned out to be unfounded. I should like to summarise here my conclusions with regard to the outstanding educational opportunities that the highly innovative and far-sighted MANA research programme has provided for young scientists. These young people can rightly be described as Architects of the Nanoscale World.

Almost right from the start as I came to Tsukuba and sat through a wide range of individual one-on-one presentations by the young scientists, I was most impressed by not only their intrinsic expertise but also their innovative ideas and enthusiasm. As time has progressed and I have visited annually, the range of research topics addressed has gradually become more wide-ranging and even more interesting. Each year I have found the standard of expertise extremely high and indeed each year it has improved; this year, 2011, was no exception. As I listened to this year's crop of presentations, I found myself fascinated by all the topics and also able to understand the presentations even though in some

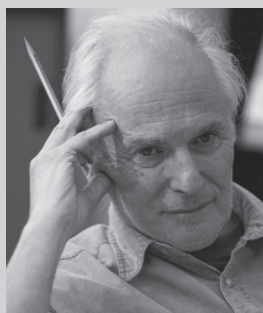
cases my expertise in the field was fairly limited. This was a real tribute to the presentation skills developed by the young people. I must admit that I have always found it surprising that each and every researcher has such an individually different personality and approach to tackling their work. There seem to be as many ways of doing research successfully as there are researchers. From an early attitude of quiet hope for great success for this imaginative programme, I have now come to recognize that it is a fantastically successful venture and a real tribute to those who set it up in the first place as well as those who have over the whole period of its existence made it in to the success it has become. It has always been a pleasure to come to Tsukuba and see the progress and a see the level achievement go from strength-to-strength.

The idea to bring together a cohort of highly promising young researchers from all over the world, to work together and learn from each other in the great research environment that has been built here, was a highly imaginative one. There is now no doubt in my mind that this is



Figure 1. Prof. Kroto and a young MANA researcher in discussion.

one of the most successful research ventures ever initiated, and apart from a fascinating range of key breakthroughs in materials research, it has been a most important educational exercise, in particular in the way that it has been able to launch most effectively so many promising young researchers on academic careers.



Harold Kroto earned his PhD in molecular spectroscopy from the University of Sheffield (1964). After postdoctoral research in Canada and the USA, he worked at the University of Sussex. In 1985, in collaboration with researchers at Rice University, he discovered Buckminsterfullerene ( $C_{60}$ , also known as the Buckyball), which has many fascinating chemical and electrical properties. Along with Robert Curl and Richard Smalley, he was awarded the Nobel Prize in Chemistry (1996) for this discovery. Currently, Prof. Kroto is the Francis Eppes Professor of Chemistry at the Florida State University. He has been a MANA advisor since 2007.

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