



27th Lady Masson Memorial Lecture

5.00 pm 5th March 2008

Masson Lecture Theatre

School of Chemistry |

Professor Dame Julia Higgins | DBE FRS FREng

Professor of Polymer Science Department of Chemical Engineering and Chemical Technology, Imperial College London. UK.

Professor Higgins studies the behaviour of complex materials, and particularly polymers, in terms of their molecular structure, organisation and motion. In November 2006, she finished her five year appointment as Vice President and Foreign Secretary of the Royal Society. She is a member and former Chair of the steering committee of the Athena project – a UK wide government funded activity to improve recruitment, retention and advancement of women in academic posts in Science Technology and Medicine. Professor Higgins was president of the British Association for the Advancement of Science from 2003 until 2004. In 2003 – 2007 she was Chairman of the Engineering and Physical Sciences Research Council. In June 2006 she was appointed Principal of the Faculty of Engineering at Imperial College London. The Faculty of Engineering at Imperial College is one of the largest in the UK, comprising nine departments with 1,000 staff, over 4,200 students and an annual turnover of around £80 million.



“Tangling with Long Molecules”

They are so much part of our daily lives, it is hard to imagine a world without synthetic polymers for packaging, clothing, transport, sport – the list is endless. Some of their chemical names have become household terms – polyethylene, polystyrene – some are know better by their initials only – PVC, PET – they are all around us, yet rarely is the question asked “Why so ubiquitous, what is so special?” Polymers can stretch or bounce they are usually electrical or thermal insulators (though electrically active ones are ‘hot’ developments), they are tough and they are light. In this lecture, we will explore the consequences of the “poly” prefix, which tells us they are enormously long molecules and which give them this package of highly desirable properties. We shall look at one or two examples of experimental observation that help us understand how the properties are related to the molecular size and shape. Finally we will consider, too, how to handle such potentially intractable beasts and thus fabricate objects from them.

This lecture is free and open to the public | Enquiries on (03) 8344 7137 | mdensley@unimelb.edu.au