Prof. Jean Marie Lehn

French Chemist and a 1987 Nobel laureate

Prof. Jean Marie Lehn (born 30th September 1939) is a French chemist. He received the Nobel Prize together with Prof. Donald Cram and Prof. Charles Pedersen in 1987 for his work in Chemistry, particularly his synthesis of the cryptands. Prof. Lehn was an early innovator in the field of supramolecular chemistry, i.e., the chemistry of host-guest molecular assemblies created by intermolecular interactions, and continues to innovate in this field. He has published in excess of 800 peer-reviewed articles in reputed journals of chemistry. His lecture on 'A Journey through Chemistry' was highly informative.

A Journey through Chemistry

10th February 2010

The most complex and researched topic of the 21st century that has intrigued scientists worldwide is the Human Genome. What is extremely fascinating about it is that it is the result of the interactions of only 4 simple chemical molecules. It wouldn't be wrong to say that life itself is a big chemical reaction. Chemicals and their interactions form the basis of our existence. This makes chemistry one of the most researched subjects in science. But while there are many good scientists working in this field not many can arouse the interest of students in this complex subject. On 10th February 2010, IIT students had a rare opportunity to experience the fascinating world of chemistry projected by a world renowned chemist Prof. Jean Marie Lehn.

There was no trace of chemistry when the universe originated via the Big Bang. As the universe cooled down, atoms connected together to make molecules and that was the beginning of chemistry. Eventually molecules interacted to form complex entities which further interacted and finally life evolved. But the perplexing question is how does matter get converted from elementary particles to a thinking organism? How does this organism take the form of Einstein? What are the forces that operate to give rise to complex matter? Prof. Lehn provided answers to several such questions.

He defined chemistry as the science that tries to understand the structures of those entities that make molecular matter and then transform it into more complex assemblies. He quickly flipped through slides highlighting the milestones made by some of the greats like Lavoisier, Dimitri Mendeleev, Joseph Achille and Louis Pasteur.

Delving deeper into the field of molecular chemistry he revealed two milestones in it – the synthesis of molecules of urea and Vitamin B12. He quoted several examples that posit that the human body is a result of molecular interactions and recognitions. Addressing a jam-packed audience, he swiftly shifted the focus from molecular to supramolecular chemistry, chemistry beyond molecules; the chemistry of systems based on the chemistry of interactions. Whether it is the action of enzymes on substrates or the functioning of cancer cells or the self-assembly of the Tobacco Mosaic Virus, these mechanisms have their roots deep seated in the field of supramolecular chemistry. He ended the lecture with David Hilbert's words, "We must know. We will know".