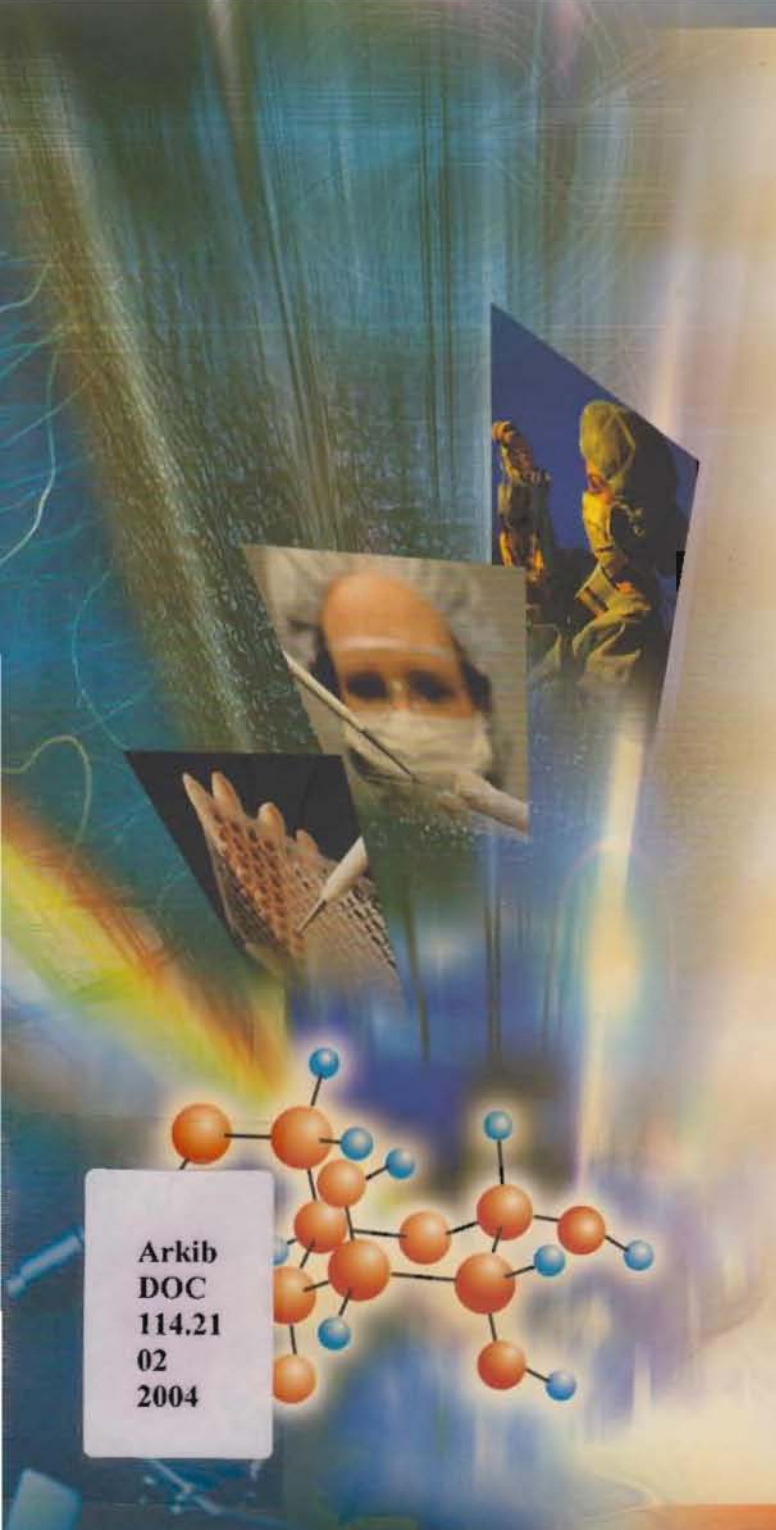

SCIENTIFIC ORATION
PUBLIC LECTURE AND SPECIAL FORUM

by Nobel Laureate
Prof. Yuan Tseh Lee
(Nobel Prize in Chemistry, 1986)

in conjunction with

The Nobel Prize Centennial Exhibition

8 & 10 May 2004
Kuching, Sarawak

organized by:

Akademi Sains Malaysia
Academy of Sciences Malaysia

Universiti Malaysia Sarawak
UNIMAS

Biography of Prof Yuan Tseh Lee

Born in 1936, Yuan Tseh Lee received his B.S. degree from Taiwan University in 1959, and his Doctorate from UC-Berkeley in 1965. He joined Dudley Herschbach's group at Harvard as a research fellow in 1967. After being appointed Assistant Professor at the University of Chicago in 1968, Dr. Lee rapidly made his laboratory a major center for molecular beam study in North America. He returned to Berkeley as Professor of Chemistry in 1974. He was University Professor and Principal Investigator at the Lawrence Berkeley Laboratory, UC Berkeley, before he became President of Academia Sinica in 1994.

Dr. Lee has received numerous awards and honors, including the 1986 Nobel Prize in Chemistry, the U.S. National Medal of Science, and Faraday Medal from the Royal Chemical Society of Great Britain. He is a fellow of the U.S. National Academy of Sciences, the American Academy of Arts and Science, and Academia Sinica; a foreign member of Göttingen Academy of Sciences, Indian Academy of Sciences, Korean Academy of Science and Technology, Royal Swedish Academy of Engineering Sciences, the Third World Academy of Sciences, etc. Dr. Lee has received Doctor Honoris Causa from 30 universities throughout the world.

Public Lecture

Meeting the Challenges of the 21st Century

Prof Yuan T. Lee
Academia Sinica, Taiwan, R.O.C.

During the long history of the development of mankind, the planet of earth seemed to be an infinitely large place where one could never reach its end. Even after the discovery of the "New World" by Christopher Columbus in 1492, sailing over seven seas was beyond the dreams for most of the people. The earth was so immense, with limited population, that the impact of human activities to the biosphere seemed quite negligible. But in the twentieth century things have changed dramatically. World population increased from in this century 1.5 billion to a 6 billion and with the advancement of communication technologies and transportation equipment, the earth has shrunk in relative terms, and now it is almost possible to communicate with people anywhere, and it takes only a day and a half for a commercial jet plane to fly all around the world. This sudden transition from "unlimited space" to "limited space" has extremely significant consequences, yet the development of human society, moving along to adapt to the new reality that the earth is "limited". How to pursue "unlimited dreams" in a "limited earth" is certainly a great challenge for all of us in the 21st century.

Dynamics of Chemical Reactions and Photochemical Processes

Prof Yuan T. Lee
Academia Sinica, Taiwan, R.O.C.

Every macroscopic chemical transformation, whether it is atmospheric ozone depletion or the burning of a candle, consists of millions of microscopic chemical events which involve collisions between molecules. It has been the dream of scientists for a long time to observe and understand the details of molecular collisions which transform reactant molecules into product molecules with our naked eyes. During the last several decades, because of the advances in crossed molecular beams method and laser technology, especially, from the measurements of product angular and velocity distributions, it has become possible to "visualize" exact details of how chemical reactions take place through molecular collisions or through photochemical processes.

Whether two reactant molecules can transform into product molecules during collisional processes depends not only on the orientations of molecules when they approach each other, but also on the energy contents of reactant molecules. Reactants must contain sufficient energy to overcome potential energy barriers on their way to product formation. However, when a molecule is energized, there are many different modes in which the required energy could be deposited. Whether the energy is in the translational, the rotational, the vibrational, or the electronic degrees of freedom will have different effects in promoting chemical reactions. Very often reactions might also proceed with different mechanism. With the advancement of various laser techniques, it has now become possible to energize atoms and molecules quite effectively through laser excitation.

In this lecture, in addition to illustrate experimental details of crossed molecular beams method, examples will be given to demonstrate how detail information on the dynamics of chemical reactions and photochemical processes can be obtained using various experimental approaches.

Programme

PUBLIC LECTURE BY NOBEL LAUREATE
PROF YUAN T. LEE
(Nobel Prize in Chemistry, 1986)

Meeting the Challenges of the 21st Century

8 May 2004 (Saturday)
The Ball Room, Hilton Hotel Kuching

Chairperson: Prof Jane Cardosa, UNIMAS

2:00 pm	-	Arrival of guests
2:30 pm	-	Welcoming Speech by the President/Representative Malaysian Academy of Sciences
2:45 pm	-	Introduction of Prof Yuan T. Lee by the Chairperson
3:00 pm	-	Public Lecture by Prof Yuan T. Lee
4:00 pm	-	Question and Answer Session
4:30 pm	-	Refreshment

Programme

SCIENTIFIC ORATION BY NOBEL LAUREATE
PROF YUAN T. LEE
(Nobel Prize in Chemistry, 1986)

Dynamics of Chemical Reactions and Photochemical Processes

10 May 2004 (Monday)
Lecture Hall DK7, UNIMAS, Kota Samarahan

Chairperson: Prof Mohd Azib Salleh, UNIMAS

9:30 am	-	Arrival of guests
10:00 am	-	Welcoming Speech by the Vice-Chancellor Prof Datuk Yusuf Hadi
10:15 am	-	Introduction of Prof Yuan T. Lee by the Chairperson
10:30 am	-	Scientific Oration by Prof Yuan T. Lee
11:30 am	-	Question & Answer Session
12:15 pm	-	Refreshment

Programme

SPECIAL FORUM/SCIENCE MOTIVATION SESSION
WITH NOBEL LAUREATE
PROF YUAN T. LEE
(Nobel Prize in Chemistry, 1986)

10 May 2004 (Monday)
Lecture Hall DK7, UNIMAS, Kota Samarahan

Chairperson:		Prof Henry Gudum, UNIMAS
2:00 pm	-	Arrival of guests
2:20 pm	-	An Overview of R&D Activities at Unimas by Prof Dr. Murtedza Mohamed, Dean, Faculty of Resource Science and Technology
2:40 pm	-	Presentation by Dr. Pang Suh Cem, Faculty of Resource Science and Technology entitled "Research on Nanostructure Materials"
3:00 pm	-	Discussion
4:00 pm	-	Refreshment