



■ DECEMBER 17-19, 2008

Science as a basis for bridging between cultures and fostering peace and development

Keynote speaker: **Professor Roger David Kornberg**

Professor Roger Kornberg is an American biochemist and professor of structural biology at Stanford University's School of Medicine who was solely awarded the Nobel Prize in Chemistry in 2006 for his studies of the molecular basis of eukaryotic transcription. His work explained the process by which genetic information is copied from DNA to RNA and paved the way for unlocking new therapeutic approaches towards illnesses such as cancer, heart disease and various kinds of inflammation.

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If the secret of life could be likened to a machine, the process of transcription would be a central cog in the machinery that drives all others, and Professor Kornberg has given us an extraordinarily detailed view of this machine, which is essential for all life. His research team isolated the proteins responsible for transcription and gene regulation, including the Mediator responsible for the regulation of the process. This makes the detailed description of the mechanism that Roger Kornberg provides exactly the kind of "most important chemical discovery" referred to by Alfred Nobel in his will.

Understanding of how transcription works is of fundamental medical importance as disturbances in the transcription process are involved in many human illnesses such as cancer, heart disease and various kinds of inflammation. Professor Kornberg's research

helps explain how disease can result when transcription goes awry. It offers the potential for unlocking new therapeutic approaches. What he has done is to describe how the genetic information is copied from DNA into what is called messenger-RNA. The messenger-RNA carries the information out of the cell nucleus so that it can be used to construct the proteins.

Roger Kornberg earned his Ph.D. in chemistry from Stanford University. In his doctoral research he demonstrated the diffusional motions of lipids in membranes, termed flip-flop and lateral diffusion. Following postdoctoral work at the MRC Laboratory of Molecular Biology in Cambridge, England, he joined the scientific staff there where he discovered the nucleosome, the basic unit of DNA coiling in chromosomes. He then became part of the faculty in the Department of Biological Chemistry at Harvard Medical School and later returned to Stanford as professor of structural biology where his research has focused on the mechanism and regulation of eukaryotic gene transcription. Notable findings include the demonstration of the role of nucleosomes in transcriptional regulation, the establishment of a yeast RNA polymerase II transcription system and the isolation of all the proteins involved, the disco-

> SOME OF THE PREVIOUS "BRIDGES" EVENTS IN THAILAND AND THE PHILIPPINES

Nobel Laureate Prof. Claude Cohen-Tannoudji

Nobel Laureate Prof. James J. Heckman (left)

Nobel Laureate Prof. Jose Ramos-Horta

Nobel Laureate Prof. Jerome Karle (center)



SCHEDULE December 17–19, 2008

Wednesday, December 17, 2008:

10:00 Keynote speech and dialogue at the Universiti Kebangsaan Malaysia (UKM) in Bangi

Information and free seat reservation:
phone (03) 8925-0651, fax (03) 8921-4097,
email padlon@ukm.my

14:30 Dialogue with researchers on "Research on gene expression" hosted by the Academy of Sciences Malaysia (ASM) at the Chancellory Building (Senate Room) of the Universiti Kebangsaan Malaysia (UKM) in Bangi

Information and free seat reservation:
phone (03) 2694-9898, fax (03) 2694-5858,
email shukri@akademisains.gov.my
nitia@akademisains.gov.my

Thursday, December 18, 2008:

14:30 Keynote speech and dialogue at the Universiti Sains Malaysia (USM) in Penang

Information and free seat reservation:
phone (04) 653-3114, 653-3104,
fax (04) 658-9666, email pro@notes.usm.my
eliza_yasmin@notes.usm.my

Friday, December 19, 2008:

14:00 Keynote speech and dialogue at Mahidol University in Bangkok

Information and free seat reservation:
phone (02) 201-5033, fax (02) 201-5072,
email woram86@hotmail.com,
online registration www.sc.mahidol.ac.th

very of the Mediator of transcriptional regulation, the development of two-dimensional protein crystallization and its application to transcription proteins and the atomic structure determination of an RNA polymerase II transcribing complex.

Professor Kornberg's honors include the General Motors Cancer Research Foundation's Alfred P. Sloan Jr. Prize (2005), Le Grand Prix Charles-Leopold Mayer from the French Academy of Sciences (2002) and the Welch Prize (2001). He is a member of the National Academy of Sciences and a fellow of the American Academy of Arts and Sciences. His closest collaborator has been his wife, Dr. Yahli Lorch. They have three children, Guy, Maya and Gil.

SOME OF THE PREVIOUS "BRIDGES" EVENTS IN THAILAND AND THE PHILIPPINES >

Nobel Laureate Prof. Kurt Wuehrlich



Jakob von Uexkuell



Nobel Laureate Prof. Riccardo Giacconi (center)



Nobel Laureate Bishop Carlos Filipe Ximenes Belo

