Distinguished Visitor Programme

Prof Louis M. Kunkel
Chief, Division of Genetics, Children's Hospital Boston

Biography

Prof. Kunkel's appointments at the Children's Hospital include Chief of the Department of Genetics and Pediatrics, Associate Director of the Mental Retardation Research Center, and Director of the Multimedia and Molecular Genetics core facilities. He is also an Investigator with the Howard Hughes Medical Institute and a Professor of Pediatrics and of Genetics at Harvard Medical School. He received his B.A. degree from Gettysburg College and his Ph.D. degree in biology from the Johns Hopkins University in the Human Genetics Program of Victor McKusick. His postdoctoral training was with Brian McCarthy at the University of California, San Francisco, and with Samuel Latt at the Children's Hospital, Boston. His honors include the Duchenne-Erb-Preis 1986 (German Muscular Dystrophy Association), Royal Society Wellcome Foundation Prize, Warren Alpert Foundation Prize, Passano Foundation Young Scientist Award, National Medical Research Award - National Health Council, Gairdner Foundation International Award, E. Mead Johnson Award, Silvio O. Conte Decade of the Brain Award, Sanremo International Award for Genetic Research, the NIH Javits Neuroscience Investigator Award and the Charles A. Dana Distinguished Research in Neuroscience Award for his research into the pathogenesis and treatment of muscular dystrophy. He is a member of the National Academy of Sciences. He also serves on the MDA SAC (Muscular Dystrophy Association Scientific Advisory Committee).

Louis Kunkel is interested in the molecular genetic basis of human neuromuscular diseases. His work has led to improved diagnosis and rational approaches to therapy of muscular dystrophies.

Lecture Abstract

5 February 2004, Lecture Theatre 28 (next to carpark 9), Faculty of Medicine, National University of Singapore, 6.15 pm - 7.15 pm

"Using the Genome Project to Study Complex Genetic Traits such as Human Lifespan"

The sequence of the human genome is complete and we are on the verge of a new era in the study of human genetics. The last 15 years has witnessed the identification of many of the genes, which are disrupted in rare genetic diseases such as Muscular Dystrophy. The emerging frontier is the identification of the genes which underlie more common disorders such as cardiovascular and Alzheimer's disease. Most of the human DNA sequence is identical between different individuals, but there are small differences.

These so-called single nucleotide polymorphisms, or SNPs, are these differences. They can be used to distinguish the genetic differences between individuals and are themselves the basis of our different susceptibilities to disease. I will show how others are using these SNPs to uncover the genetic basis of a number of diseases such as Autism and Diabetes. I will also present my own studies in collaboration with a biotech firm, Elixir, to identify the gene we mapped to chromosome 4 and its role in human lifespan.