MSRI
Mathematical Sciences Research Institute

The MSRI Simons Biology Colloquium . . .

Interpreting the Sequence Differences in the Human Genomes of Populations

A FREE lecture for mathematicians and other scientists

Tuesday, April 25, 3-4 pm
(reception following)

Simons Auditorium

MSRI
17 Gauss Way
Berkeley

MSRI proudly announces a lecture by Arnold Levine of The Institute for Advanced Studies, Princeton, for mathematicians and other scientists:

Interpreting the Sequence Differences in the Human Genomes of Populations

IN 2001, THE COMPLETE SEQUENCE of three billion nucleotides was determined for the human genome. This is, in effect, a parts manual for building humans. Since that time up to 10 million differences in sequence between people have been identified and these are called single nucleotide polymorphisms or SNPs. Inherent in this variation between people, and the combinatorics of these variations, are the origins of human evolution and the association of different SNPs with disease processes. This approach opens a path to investigate the impact of our genetic endowment and the environment upon our behavior patterns and even our longevity.

ARNOLD LEVINE'S RESEARCH centers on the causes of cancer. In 1979, Levine and others discovered the p53 tumor suppressor protein, a molecule that inhibits tumor development. As chair of the National Institutes of Health Commission on AIDS Research and the National Academies Cancer Policy Board, he has helped determine national research priorities. He established the Institute's Center for Systems Biology, which concentrates on research at the interface of molecular biology and the physical sciences; on genetics and genomics, polymorphisms and molecular aspects of evolution, signal transduction pathways and networks, stress responses, and pharmacogenomics in cancer biology.

Dr. Levine is currently a professor at the Institute for Advanced Study. He served as President of Rockefeller University from 1998 to 2002 and was the Harry C. Weiss Professor of the Life Sciences and Chairman of the Molecular Biology Department at Princeton University from 1984 to 1996.

Presented by **The Mathematical Sciences Research Institute**

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