UNIVERSITY OF TEXAS AT DALLAS - DEPARTMENT OF PHYSICS

PHYSICS COLLOQUIUM

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Wednesday, September 28, 2005; 4:00-5:00 PM
Kusch Auditorium, FN 2.102

DNA Biophysics in the 21st Century: the Mesoscale Approach

Professor Stephen Levene

Institute of Biomedical Sciences and Technology & Department of Molecular and Cell Biology, University of Texas at Dallas

Research in the Levene laboratory focuses on sequence-dependent DNA structure and the interactions of site-specific recombination proteins with their DNA targets. Site-specific recombination is an essential event in many biological processes that involve genomic rearrangements, including gene amplification and copy number control, viral and phage host specificity, retroviral integration, the generation of antibodies, and the transposition of drug resistance genes. The goal of this work is to determine the physical and chemical factors that govern the efficiency, product distribution, and DNA-sequence specificity of recombination. We combine biochemical and biophysical studies with computer modeling and simulation to examine the interplay of DNA structure and recombinase action.

About the speaker: Dr. Levene received his Ph.D. in Chemistry from Yale University and was an American Cancer Society postdoctoral fellow at University of California, San Diego. He spent one year as a staff scientist at the Human Genome Center at Lawrence Berkeley Laboratory and was a Program in Mathematics and Molecular Biology Fellow at University of California, Berkeley. Currently he is Associate Professor of Molecular and Cell Biology at The University of Texas at Dallas. In addition to scientific pursuits, Dr. Levene is an avid snow skier and cyclist, having previously been a competitor in both disciplines.