



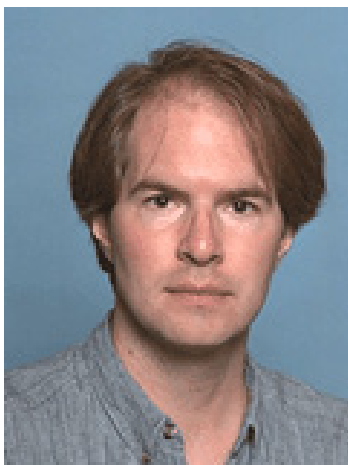
THE UNIVERSITY of TEXAS

HEALTH SCIENCE CENTER AT HOUSTON

SCHOOL of HEALTH INFORMATION SCIENCES

JOHN P. MCGOVERN LECTURESHIP IN BIOMEDICAL COMPUTING AND IMAGING

Structural Basis of Prokaryotic Transcription



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Transcription is the major control point of gene expression and RNA polymerase (RNAP) is the central enzyme of transcription. Dr. Darst and his coworkers aim to elucidate the physical basis of transcription and its regulation by defining the physical interactions between RNAP, DNA, RNA, and associated regulatory factors. *E. coli* RNAP serves as an excellent model, due to the conservation of RNAP structure and mechanism from bacteria to man. Because of the large size and complexity, these studies require a combination of methods. Electron microscopy (EM) and image reconstruction is used to determine low resolution (10-25 Å) structures of intact assemblies. To obtain high-resolution information, Dr. Darst uses X-ray crystallography and computational models of RNAP subunit domains.

Dr. Darst is director of the Molecular Biophysics Laboratory at Rockefeller University. Highlights of his recent work include the atomic structure of *Th. aquaticus* RNAP (*Cell*, 89:811, 1999), a model of transcription elongation (*Science*, 296:1285, 2002), and EM studies of the transcription elongation factor GreB (*Cell*, 114:335, 2003).



DATE: Wednesday, December 3, 2003
TIME: 4:00PM – 5:30PM
**PLACE: Trevisio Restaurant, 6th floor,
John P. McGovern Medical Center Commons,
6550 Bertner Ave., Houston, TX 77030**

Parking in the Commons will be validated by Trevisio Restaurant
For information contact Dr. Yao Cong at 713.500.3981