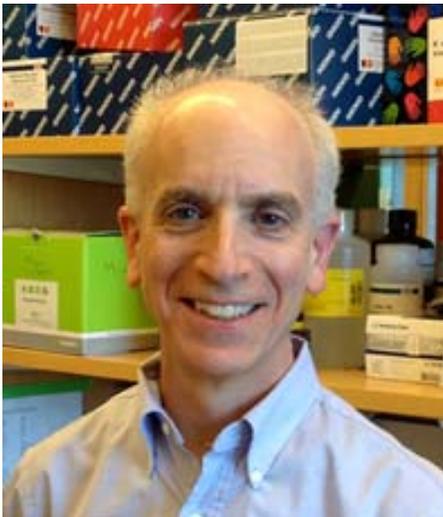


**2013 AXELROD
DISTINGUISHED LECTURES****DEPARTMENT OF BIOCHEMISTRY**

Presented by
Fred Winston
Department of Genetics
Harvard Medical School



Tuesday, March 26
3:30 in the Deans Auditorium (PFEN 241)

Unexpected transcription across genomes - what is meaningful and what is junk?

Wednesday, March 27
4:00 in the Deans Auditorium (PFEN 241)

Factors that control transcriptional accuracy and chromatin integrity

Unexpected transcription across genomes - what is meaningful and what is junk?

Until recently, we viewed transcription as occurring primarily across protein-coding regions, producing mRNAs. However, over the last few years, our view has dramatically changed. Thanks to improved technologies, we now know that transcription is pervasive, occurring across most of genomes, including in intergenic regions and on antisense strands. For example, while only 1.5% of the human genome encodes protein, over 70% is transcribed. There has been considerable speculation about the possible biological roles of these newly-recognized transcripts. Although some functions are now emerging, we are only at the beginning of understanding whether most of these RNAs have functions and, if so, what they are. In this talk, I will review some recent developments in the field that have opened our eyes to possible functions of noncoding RNAs.

Factors that control transcriptional accuracy and chromatin integrity

Transcription *in vivo* is controlled by a large number of proteins that are required for normal initiation, elongation, and termination along a chromatin template. Our laboratory uses two yeasts, *S. cerevisiae* and *S. pombe*, to study transcription and chromatin structure. By the isolation of mutants defective for transcription, we have identified a number of factors that play critical roles in different aspects of gene expression. One of these factors, Spt6, is conserved from prokaryotes to humans, and plays a central role in transcriptional accuracy and chromatin integrity. In this talk, I will describe some of our analysis of Spt6 in both *S. cerevisiae* and *S. pombe* and how it has brought us to the study of unanticipated aspects of gene expression.

About the Axelrod Lectures:

Dr. Bernard Axelrod served as Head of the Department of Biochemistry. His efforts were instrumental in founding the biochemistry program at Purdue University. On the occasion of his 70th birthday, colleagues and friends established this lectureship in honor of Dr. Axelrod's many contributions to the field of biochemistry and its community of scientists. Dr. Axelrod passed away in 2011 at the age of 97.