Institute of Molecular and Cell Biology

A*STAR

SEMINAR ANNOUNCEMENT

We would like to invite you to attend this seminar hosted by Prof. Wanjin Hong:

Date: 28 March 2018, Wednesday
Time: 11:00AM – 12:00PM
Venue: Level 3, IMCB Seminar Room 3-46, Proteos, Biopolis

Speaker: Prof. Robert G. Roeder, Arnold and Mabel Beckman Professor of Biochemistry and Molecular Biology, The Rockefeller University, New York, USA
Title: Mechanisms of transcriptional regulation through diverse co-activators

Transcriptional regulation by gene- and cell-specific DNA-binding factors underlies key events in development, cell differentiation and transformation. However, their effects on specific genes depend upon complex arrays of cofactors (co-activators and co-repressors) whose biochemical mechanisms are not completely understood. These cofactors include both chromatin remodeling/histone modifying factors (e.g., the p300/CBP histone acetyl-transferases and the SET1/MLL H3K4 methyl-transferases) and other factors (e.g., Mediator, TAFs) that facilitate more direct communication between promoter-bound regulatory factors and the general transcription machinery. Emphasizing biochemical studies with cell-free systems reconstituted with recombinant chromatin templates and purified transcription factors, as well as cell-based and genetic analyses, the cooperative functions and mechanism of action of various co-activators will be discussed in relation to gene regulation by selected activators (p53, nuclear receptors, B cell factors, or leukemic fusion proteins). This may include recent studies of p300-dependent activation of chromatin templates through novel acylation marks, cooperative functions of p300 and SET1/MLL complexes in establishment of active promoters and enhancers and mechanisms for the de-compaction and activation of higher order (linker histone H1-containing) chromatin templates.

Biography:
Robert G. Roeder is currently the Arnold and Mabel Beckman Professor and Head of the Laboratory of Biochemistry and Molecular Biology at The Rockefeller University. He was previously the James S. McDonnell Professor of Biochemical Genetics at Washington University School of Medicine. For over 45 years he has pioneered biochemical studies of transcriptional regulatory mechanisms in animal cells. These include discovery and characterization of RNA polymerases I, II and III, cognate classes of initiation factors, the prototype transcriptional activator in eukaryotes, and a variety of ubiquitous and tissue-specific coactivators. Current studies focus on transcriptional regulation through diverse coactivators that include chromatin modifying factors. Notable awards include election to the U.S. National Academy of Sciences, the NAS-US Steel Award in Molecular Biology, the General Motors Cancer Research Foundation Alfred P. Sloan Prize, the Louisa Gross Horwitz Prize, the Gairdner Foundation International Award, the ASBMB Merck and Herbert Tabor Awards, the Albert Lasker Award in Basic Medical Research, the Salk Medal for Scientific Excellence and the Albany Medical Center Prize in Medicine and Biomedical Research.

ALL ARE WELCOME *(No registration required)*