NUS National University of Singapore | Department of Biological Sciences, Faculty of Science

BIOLOGY COLLOQUIUM

Friday, 17 Jan 2020 | 4pm | DBS Conference Room 1

Hosted by A/P Liou Yih-Cherng

RNAs on fire



By **Vinay Tergaonkar**

Research Director, Institute of Molecular & Cell Biology, A*STAR

The transcription factor NFκB is a master regulator of gene expression programs that control inflammation. Indeed, deregulated NFκB signaling and inflammation are hallmarks of many human ailments, ranging from metabolic syndromes to cancers. In the past 25 years a number of proteins which regulate NFκB signaling and hence inflammation have been characterized and mutations in genes coding some of these proteins have been identified as drivers of these human diseases. Emerging evidence strongly suggests that mutations in regions of genome that do not code for proteins are also causally linked to human aliments with deregulated NFκB activity and inflammation. A possible interpretation of these observations is that non-coding RNAs (ncRNAs) coded by these genomic regions by themselves may affect NFκB signaling, inflammation and hence pathology. I will present genome scale identification of ncRNAs that regulate NFκB driven inflammation and provide physiological evidence for their involvement in regulating NFκB biology and inflammation in health and disease.

About the Speaker

Vinay Tergaonkar obtained his Ph.D. (2001) through an international cancer society (UICC) fellowship for collaborative research at Tufts University, Boston, USA. He has been a fellow (2001-2004) and a special fellow (2004-present) of the Leukemia and Lymphoma Society of America and conducted his postdoctoral studies at the Salk Institute for Biological Studies, La Jolla, California. He joined the Institute of Molecular and Cell Biology (IMCB), Singapore, in late 2005 as Principal Investigator and became a Senior Principal Investigator in 2010 and Research Director in 2015. He is also a Professor at School of Medicine at National University of Singapore. He serves on Editorial Boards of 1) Science Advances (AAAS), 2) Molecular and Cellular Biology (American Society for Molecular Biology), 3) Biochemical Journal (Portland Press), 4) Critical Reviews in Oncology/Hematology (Elsevier Press). Work from his laboratory has received international recognition, including the British council development award (2014), the Premiers' fellowship from Government of South Australia (2015) and University of Macau Distinguished Professorship (2019).