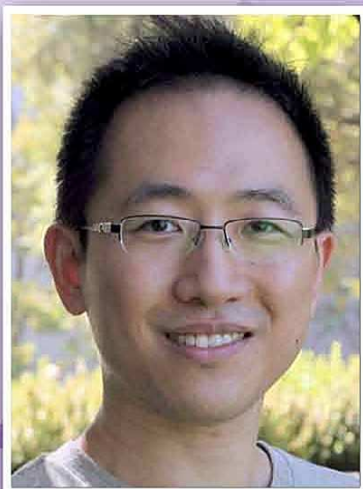


# IMCB Invited Speaker



**Speaker : Dr. Chu Ci**  
**A\*STAR Post-Doc Scholar, Stanford University, USA**

**Date : 10 January 2014, Friday**

**Time : 11:00AM - 12:00PM**

**Venue : IMCB Seminar Room 3-46, Level 3, Proteos, Biopolis**

**Host : Dr. Ernesto Guccione**

## Seminar :

### **Novel technology and insights in lncRNA:interactome analysis**

Long noncoding RNAs (lncRNAs) are key regulators of diverse cellular activities, yet their mechanisms of actions are largely unknown. Our understanding of lncRNA biology can be greatly improved by the development and deployment of novel technology, such as biochemical tools optimized for RNAs. Here we introduce Chromatin Isolation by RNA Purification (ChIRP), where tiling oligonucleotides retrieve specific lncRNAs and their interacting DNA sequences, which are enumerated by deep sequencing. ChIRP-seq reveals that RNA occupancy sites in the genome are focal, sequence-specific, and numerous. *Drosophila* roX2 RNA occupies male X-linked gene bodies with increasing tendency toward the 3' end, peaking at CES sites. ChIRP can also be modified for the purification of lncRNA-interacting transcripts and proteins, making it a universal tool for illuminating lncRNA-interactome with newfound precision.

## About the Speaker :

Ci Chu is developing novel technology for long noncoding (lnc) RNA research. Many lncRNAs are powerful regulators of gene expression, sometimes capable of shutting down an entire chromosome (e.g. Xist), but their mechanisms of action are largely unknown. Our understanding of lncRNA biology is in part held back by a lack of appropriate tools, for example, biochemical techniques optimized for the purification of RNAs. Once developed, these tools will allow us to isolate macromolecules interacting with lncRNAs, much like how immunoprecipitation has led to the development of powerful techniques such as co-IP and ChIP, allowing us to better understand how lncRNA control gene expression.