



IBS Center for Molecular Spectroscopy and Dynamics

COLLOQUIUM

- **SPEAKER**

Prof. Hajin Kim (School of Life Sciences, UNIST)

- **TITLE**

Approaches toward Live Tracking of Genomic Elements

- **ABSTRACT**

Direct visualization of the genomic elements in living cells can provide valuable information, complementary to the structural information provided by techniques such as Hi-C, on the dynamic mechanism of the gene regulation. Currently available techniques relying on the CRISPR system are limited mostly to apply to the genomic loci with large repeating sequence and also suffer from nonspecific loci due to the fluorophore aggregation. We developed a modified CRISPR system combining triple-split fluorophores, solubilizing tags, and SunTag system in order to suppress background fluorescence, reduce aggregation, and amplify the signal. Novel split fluorophore design suppressed the background and thus enhanced signal-to-background ratio several folds. Solution-exchanging fragmented fluorophore and the SunTag system greatly extended the allowed observation time. We report successful tracking of an arbitrary genomic locus by targeting a sequence of only several repeats using our new design. This technique will enable the general application of CRISPR-based imaging to genome-wide loci.

- **DATE AND VENUE**

August 16, 2017 (Wednesday, 11:00 - 12:00)
Seminar Room 116, KU R&D Center

- **LANGUAGE**

Korean/ English

- **INVITED BY**

Prof. Sang-Hee Shim

* If you want to discuss with Prof. Hajin Kim or have a lunch with him, please contact to Prof. Sang-Hee Shim (sodaus@gmail.com).