Center for Molecular Spectroscopy and Dynamics, IBS-Korea University

IBS Center for Molecular Spectroscopy and Dynamics

COLLOQUIUM

- **SPEAKER**
  Prof. Francois Amblard (School of Life Sciences, UNIST)

- **TITLE**
  Why does Dynamics Matter for Molecules and Cells?
  Optical & biological investigations of structural dynamics and transport

- **ABSTRACT**
  Cells assemble building blocks, molecules, to produce highly dynamic structures across scales. I will try to articulate what dynamics can possibly mean at different scales, and how dynamic properties could ultimately determine biological functions. Over the years we focused on cytoskeleton dynamics, and will first report on how actin self-assembly dynamics can produce defective polymerization intermediates and lead to kinetic control of structures. I will then describe how we used the outstanding sensitivity of multiple light scattering to resolve the non-thermal fluctuations induced by motor proteins in actin-myosin networks. We observed anisotropic effective temperatures, and quantitatively described the conformational dynamics of the myosin powerstroke. Finally, at the multicellular scale, I will briefly report on E-cadherin turnover at intercellular junctions, and demonstrates how it serves the purpose of the dynamic stabilization of cell-cell adhesion.

- **DATE AND VENUE**
  July 13, 2017 (Thursday, 11:00 - 12:00)
  Seminar Room 116, KU R&D Center

- **LANGUAGE**
  English

- **INVITED BY**
  Prof. Sang -Hee Shim

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