Center for Molecular Spectroscopy and Dynamics, IBS-Korea University

IBS Center for Molecular Spectroscopy and Dynamics

Seminar

- **SPEAKER**
  Prof. Jongwoo Lim (Seoul National University)

- **TITLE**
  Revealing spatiodynamics of lithium ion battery primary particles via synchrotron-based operando x-ray microscopy

- **ABSTRACT**
  Electrochemistry plays a significant role in energy storage and conversion technologies, such as lithium-ion batteries, fuel cells, and microbial fuel cells. Because of porous and heterogeneous nature of the electrodes in these applications, the conventional current-voltage measurement shows certain limit in untangling complexity of electrochemical reactions (charge transfer, mass transport, chemical reactions and so on). Here in my talk, I will introduce the in-situ electrochemical platform combined with synchrotron-based X-ray spectromicroscopy which visualizes nanoscale charge transfer and electrochemical reactions of individual battery particles. [1,2] Within individual particles, spatial variations in the electrochemical reaction rate control lithium ion insertion pathway. I will also discuss how this technique is expansively applied to other electrochemical systems in my group.

- **DATE AND VENUE**
  January 16, 2019 (Wednesday, 4:00 - 5:00 pm)
  Seminar Room A (116), KU R&D Center

- **LANGUAGE**
  Korean

- **INVITED BY**
  Professor Kyungwon Kwak