



IBS Center for Molecular Spectroscopy and Dynamics

Seminar

■ **SPEAKER**

Prof. Yeon Ui Lee (Chungbuk National University)

■ **TITLE**

Metamaterial Assisted Optical Nanoscopy

■ **ABSTRACT**

Recent discoveries in electromagnetic metamaterials have added new functionalities and possibilities to the exciting research field of advanced optical microscopy, and led to substantial improvements in imaging modality and resolution. In this talk, I will present my recent studies using metamaterials to develop super-resolution optical imaging techniques. The lateral resolution barrier was broken by a structured illumination technique with large-spatial-wavevector illumination patterns provided by the metamaterials, while the distance-dependent photobleaching dynamics of fluorophores on the metamaterial substrate enabled high-precision axial localization of each fluorophore; a three-dimensional super-resolution imaging is possible by combining both the lateral and axial dynamics. This metamaterials-assisted advanced imaging technique has significant impact on cell biology and nanophotonics, enabling researchers to unveil the subtle structure of cellular architectures and surface morphology of nanostructures.

■ **DATE AND VENUE**

October 05, 2022 (Wednesday, 16:00 - 17:00)
Seminar Room A (116)

■ **LANGUAGE**

Korean

■ **INVITED BY**

Dr. Kwang Jin Lee