



呂杰翰博士
中研院應科中心

Dr. Chieh Han Lu
Research Center for Applied Science,
Academia Sinica

***Multi-scale biological imaging: From
single-organ to single-molecule***

Date: 2023/02/14 (Tue)

Venue: S4-625

Time: 14:00-15:30

Abstract:

Fluorescence super-resolution imaging sees structures underlying the diffraction limit. By leveraging this tool, scientists can observe the basic mechanism behind a biological process with molecular precision, such as the molecular signaling between neuron synapses and the protein trafficking between cell organelles.

This talk covers the applications of this imaging tool in two extreme circumstances. We will discuss the challenges of improving the imaging volume of a super-resolution microscope to a single organ level and how this imaging technology resolves the complicated neuronal structure inside a brain. On the other side, we push the acquisition speed of single-molecule imaging as fast as to capture one of the swiftest phenomena in cells, the protein trafficking between organelles. By analyzing the dynamics of protein movement, we confirm the bi-directional trafficking between the endoplasmic reticulum and lipid droplets.