Department of Mechanical and Biomedical Engineering

Seminar Series

Harness the power of light: optogenetic control of intracellular activities

Dr. Liting Duan
Postdoctoral Researcher
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Date	February 7, 2018 (Wednesday)
Time	2:30pm – 3:30pm
Venue	Room B6619 (MBE Conference Room) 6/F, Yeung Kin Man Academic Building

Abstract

Optogenetic methods utilize light to control cells with unprecedented spatial and temporal precision, which opens new routes to drug discovery and gene therapy. Optical approaches based on light-inducible protein-protein interactions have gained tremendous success in regulating various intracellular activities. In this talk, I will introduce my recent work on developing optical strategies to control intracellular organelle transport and signal pathways as well as engineering the interaction of photosensory proteins.

About the Speaker

Liting Duan received a Bachelor degree in Chemistry from Renmin University of China (People's University of China) and a Ph.D. in Chemistry from Stanford University. She is currently working as a postdoctoral researcher at Stanford University with Prof. Bianxiao Cui in Chemistry and Prof. Michael Lin in Bioengineering and Neurobiology. Her research is focused on the study and

application of light-inducible protein-protein interactions. She has developed optical strategies to remotely and non-invasively control several critical intracellular processes, including organelle transport, MAPK signaling and NGF/TrkA signaling, with spatiotemporal resolution. In addition, she has investigated and optimized the interaction of photosensory proteins for optogenetic applications.

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All are Welcome!

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