



Yale Institute for Nanoscience and Quantum Engineering

Friday-November 17, 2017

12:00-1:00 PM

BECTON SEMINAR ROOM
Light lunch will be served at 11:45 a.m.

Michael Mak

Department of Biomedical Engineering, Yale University

“Active Mechanobiological Networks in Development and Cancer”

The structural and mechanical features of cellular systems are often composed of complex, active biopolymer networks. The intracellular filamentous network – the cytoskeleton – enables cells to perform basic mechanical functions, such as force generation and tissue morphogenesis, and the extracellular matrix serves as a scaffolding and signaling environment. Deregulation in these networks can lead to diseased states, such as cancer metastasis. Through integrated experimental and computational approaches, we explore the local physical mechanisms that modulate network behavior.

Joerg Bewersdorf

Department of Cell Biology and Department of Biomedical Engineering, Yale University

"The Super-Resolution Revolution in Light Microscopy Reaches Cell"

Fluorescence nanoscopy, or super-resolution microscopy (Nobel Prize in Chemistry, 2014), has become an important tool in cell biological research achieving 25 nm resolution and better in proof-of-concept experiments. I will present our work of expanding super-resolution technology to become an everyday tool for cell biological research. Application examples demonstrate the potential of fluorescence nanoscopy in biomedical research. Joerg Bewersdorf has financial interest in Hamamatsu and Bruker.

Host: Professor Corey O’Hern