QBiC SEMINAR

Speaker

Bo Huang, Ph.D.

University of California, San Francisco

Date & Location

Monday, December 11, 2017, 11:00 - 12:00

Osaka, QBiC Bldg. A 1F lounge

(6-2-3, Furuedai, Suita, Osaka)

There will be a TV broadcast at CDB seminar room A7F

Title

Life inside the cell: super-resolution microscopy and beyond

Abstract

Cellular activities are often orchestrated by multiple proteins assembled into large complexes. With the spatial resolution approach the size of a protein molecule, super-resolution microscopy has offered the opportunity to uncover the architecture of macromolecular assembly. Using a combination of structured illumination microscopy (SIM) and stochastic optical reconstruction microscopy (STORM), we have dissected the molecular organization of the centrosome and the ciliary transition zone, shedding light on the mechanisms of pericentrolar matrix expansion and ciliary transport gating. On the other hand, in addition to spatial resolution improvement, we have also developed computational methods and light-sheet microscopes for fast and large-volume live cell imaging. These advancements, together with our engineering of new fluorescent probes and protein tagging methods, have allowed us to visualize subcellular protein organization and dynamics with great details and clarity.

Host

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