

Seminar

Light sheet fluorescence microscopy for fast, gentle, and high resolution imaging

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Light Sheet Fluorescence Microscopy (LSFM) has emerged as a powerful fluorescence microscopy tool for cell and developmental biology. LSFM is very well suited for long term imaging as it offers optical sectioning, high-speed imaging, and low photobleaching and phototoxicity. I will give a brief overview of this field and then discuss our implementation of LSFM: a fiber coupled dual-view inverted Selective Plane Illumination Microscope (diSPIM). DiSPIM provides an isotropic resolution of 350 nm by computationally fusing two volumetric views acquired by switching illumination and detection between two perpendicular objectives in an alternating duty cycle. I will also discuss our latest improvements to the diSPIM - increasing contrast and optical sectioning. Finally, I will conclude by discussing functional imaging of *C. elegans* nervous system during embryogenesis using diSPIM.

Tuesday, Sep 27th 2016

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TCIS