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Towards Large-Scale Cellular-Level 3D Tissue Models

Collecting three dimensional images of tissue at both high resolution and large extent is challenging due to implied trade-offs between both modes. Current strategies in three-dimensional imaging, such as confocal and light-sheet microscopy, are time consuming and provide limited fields of view. Recent methods relying on tissue ablation, such as knife-edge scanning microscopy (KESM), can overcome some of these challenges. However, the resulting images are extremely large and contain complex embedded structures that are difficult to segment. In this talk, I will discuss methods for acquiring and segmenting large multi-dimensional images that provide cellular-level resolution at macroscopic scales. These techniques are critical for understanding complex tissues involved in neurological diseases and cancer. Our goal is to allow routine processing of large samples to create models critical for understanding function and the mechanisms of disease in complex samples.

Keck Seminar

Friday, Feb 15, 4pm

BioScience Research Collaborative

Room 280



The Gulf Coast Consortia is a collaboration of:

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