

University of Houston - Biomedical Engineering Seminar

Friday, September 10, 2021, 12 noon

Via Zoom: <https://uh-edu-cougarnet.zoom.us/j/93512038041>

Structural and Functional Imaging with Optical Coherence Tomography



Manmohan Singh, Ph.D.

Abstract

Optical coherence tomography (OCT) is a noninvasive imaging technique capable of cross-sectional imaging at micrometer scale resolution. Since its formal introduction in 1991, OCT has expanded beyond its initial use in ophthalmology to other fields like dermatology, pulmonology, and developmental biology because of its rapid imaging speed, noninvasive nature, and high resolution. For developmental biology in particular, OCT has rapidly gained traction because it does not require any exogenous contrast agents and can be readily used without extensive sample preparation protocols. I will show some of our recent work using structural and functional OCT to answer various questions in developmental biology.

Biosketch

Dr. Manmohan Singh got his PhD in biomedical engineering here from the University of Houston in 2018 and he recently completed a postdoctoral fellowship from the Gulf Coast Consortia of Quantitative Biomedical Sciences. His research interests are focused on developing novel imaging systems and techniques for quantifying tissue biomechanical properties for early disease detection and personal therapies and imaging intricate development processes and how various factors affect embryonic growth. He is currently developing multimodal imaging systems capable of combining complementary imaging techniques for simultaneous structural and functional imaging of small mammal embryos.