

University of Houston - Biomedical Engineering Seminar

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

Functional Imaging of Embryonic Development with Noninvasive Volumetric Optoacoustic Tomography



Maryam Hatami, Ph.D.

Abstract

Optoacoustic (OA) tomography is a real-time, noninvasive imaging method combining pulsed laser excitation and ultrasonic detection of the tissue response. The experimental setup is composed of an optical source for illumination/excitation, the ultrasound detection array, and the computing system for data acquisition and image reconstruction. OA tomography is a rapidly emerging imaging modality that is suitable for live embryonic imaging as it enables high-contrast imaging combined with high spatial resolution and has demonstrated an exclusive potential for noninvasive deep tissue visualization. I present some of our recent work using OA tomography for *in vivo* volumetric visualization of murine embryonic development.

Biosketch

Maryam Hatami, PhD, is a postdoctoral fellow at the Department of Biomedical Engineering. She has got her PhD in physics in 2012 from the University of Sciences and Research in Iran. Dr. Hatami has over 15 years combined experience working in industry and academia with experience in nonlinear optics, optical and optoacoustic imaging and characterization and basic science research on nanofabrication and characterization. Her research interests include nonlinear optics, optical spectroscopy, biomedical imaging and sensing, image processing and data analysis.