

Faculty Name:

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Lab:

Ultrasound and Elasticity Imaging Laboratory

Project Title:

Multi frequency- harmonic motion imaging (MF-HMI) for breast and metastatic liver cancer imaging

Description:

Harmonic motion imaging (HMI) is an acoustic radiation force (ARF) based method to interrogate mechanical properties like stiffness. To interrogate mechanical properties, HMI uses oscillatory ARF at a particular frequency (generally 25-100 Hz) and then, estimates the ARF-induced motion to infer the mechanical properties. Recently, we developed Multi frequency-HMI (MF-HMI) to collect the motion data from 100-1000 Hz in a single acquisition. The objective of this project is to validate and investigate MF-HMI for breast and metastatic liver cancer imaging. The students will make new tissue-mimicking phantoms, perform experiments on the phantoms and 4T1 breast cancer mouse tumor using an ultrasound system, and process the collected ultrasound and histopathology data.

Location of Research:

On-Site

of hrs/week:

40

Department/Program:

Biomedical Engineering

Eligibility:

BS, Third Year, BS, Fourth Year, MS

To apply, please contact:

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