Faculty Name:

Dr. Elisa Konofagou

Faculty Email:

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Lab:

UEIL

Project Title:

Age and Gender Impact on Acoustic Attenuation of Mouse Skulls

Description:

Transcranial focused ultrasound (tFUS) holds promise for treating various brain diseases, including gliomas, Alzheimer's, and Parkinson's. Numerous studies involving rodent models are underway to understand the mechanisms and enhance therapeutic interventions. A crucial concern in tFUS is the attenuation of ultrasound energy through the skull, impacting the delivery of acoustic pressure to the brain target. Many preclinical studies use a fixed value (18-20%) for mice skulls, neglecting age and gender influences on skull attenuation. This project aims to investigate the age and gender impact on acoustic attenuation in mouse skulls. Mice skulls of different ages and genders will be harvested, and their attenuation will be measured using an ultrasound transducer and a hydrophone. Changes in skull thickness and density related to age and gender will be investigated through micro-CT scans.

The student is expected to be present in the lab every weekday for 6 hours, with flexibility based on workload. Responsibilities include conducting the water bath experiment, analyzing acoustic measurements and micro-CT data, and documenting progress reports.

Location of Research:

On Site

# of hrs/week:

30

Department/Program:

Biomedical Engineering

Eligibility:

MS

To apply, please contact:

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