

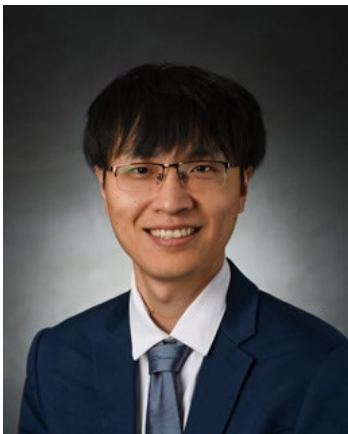
NEURAL ENGINEERING SEMINAR SERIES

Ultrasound for the brain: challenges and opportunities

<https://psu.zoom.us/j/92405373420>

October 25, 2023

12:15 -1:15 p.m. (ET)
W306 Millennium Science
Complex



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ABSTRACT:

In this presentation, I will provide an overview of the forefront of ultrasound technology, focusing on its applications in brain imaging and therapy. Delving into the fundamental physics underlying brain treatment through thermal or mechanical effects, I will explore exciting applications like blood-brain barrier opening, neuromodulation, and sonogenetics. Shifting to ultrasound brain imaging, I will highlight recent developments driving advancements in neuroimaging capabilities. Additionally, I will underscore the significant challenges posed by the skull in both therapeutic and imaging contexts, emphasizing the ongoing efforts to address these hurdles.

BIOGRAPHY:

Yun Jing received a B.S. degree in acoustics from Nanjing University, China and a Ph.D. degree in architectural acoustics from Rensselaer Polytechnic Institute. He is currently a Professor in the Graduate Program in Acoustics at Penn State University. Prior to joining Penn State, he was an assistant professor and later an associate professor at North Carolina State University during 2011-2019. The Sound Innovation of Metamaterials and Biomedical Acoustics (SIMBA) lab led by Dr. Jing draws principles from mechanical wave physics and mathematics to develop the next generation of wave functional materials, diagnostic and therapeutic ultrasound, and computational methods for acoustics.