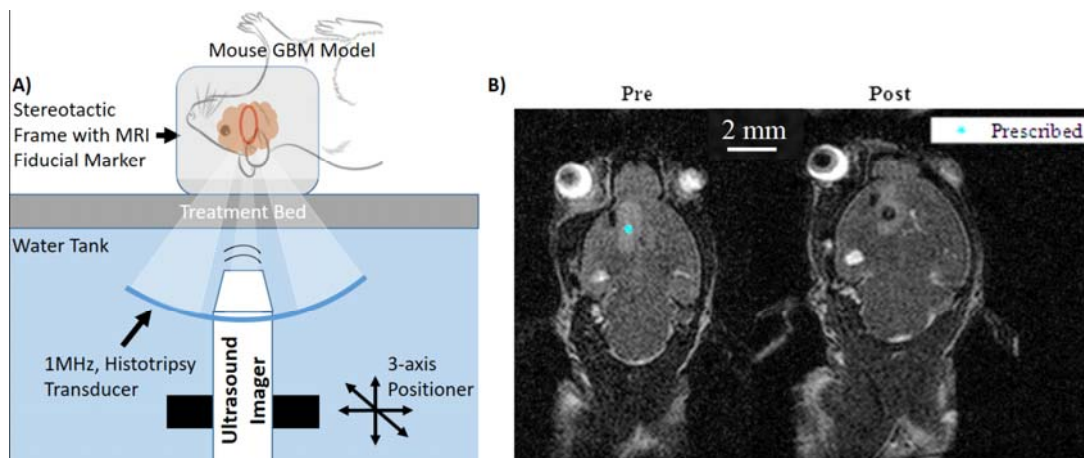


ELECTRICAL, COMPUTER, & BIOMEDICAL ENGINEERING SEMINAR

Histotripsy: Non-invasive Ultrasonic Surgery

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Histotripsy is a form of ultrasound therapy where short, intense bursts of sound induce highly energetic cavitation within tissue leading to disruption of structures and cell lysis. This method is showing promise to be a viable non-invasive surgical technique for a wide variety of medical applications in the liver, kidney, prostate, brain, and vasculature. While feasibility has been shown in both large and small animal models for all these tissue targets, a number of challenges remain in translating this work to the clinic. This talk will give an overview of the physics of histotripsy and current projects that will bring us closer to translation and as a competitive option in the clinic. I will also discuss in detail my PhD project, stereotactic histotripsy, that uses pre-treatment MR images to guide histotripsy tumor ablation on rodent Glioblastoma models with sub-millimeter accuracy, and the challenges that followed.

Friday, May 17, 12:50 p.m.

Wold 128 (*Lunch will be served at 12:30 p.m.*)