



Graduate Seminar



The Department of Biomedical Engineering

presents

Zhen Xu, PhD

Assistant Professor

Dept. of Biomedical Engineering

University of Michigan

Histotripsy: Imaging Guided Ultrasound Therapy for Non-invasive Surgery

Histotripsy is a new non-invasive technique that mechanically fractionates and removes soft tissue using high intensity ultrasound pulses. By focusing ultrasound pulses to the targeted tissue inside the body, histotripsy produces a cluster of energetic cavitation microbubbles within a treatment region. These microbubbles, each similar in size to individual cells, function as “mini-scalpels” to mechanically fragment and subdivide targeted cell and tissue structures. Meanwhile, the tissue outside the treatment region remains intact. The histotripsy treatment is guided and monitored by ultrasound imaging in real-time. Histotripsy has potential for many clinical applications where non-invasive tissue removal is desired. My work focuses on cardiovascular and fetal therapy applications. I will talk about my current projects, including histotripsy for breaking down diseased blood clots (thrombolysis), creating intracardiac communications for congenital heart diseases, and prenatal therapy.

Friday, January 22 at 2:00 — 130 Fisher

MichiganTech
