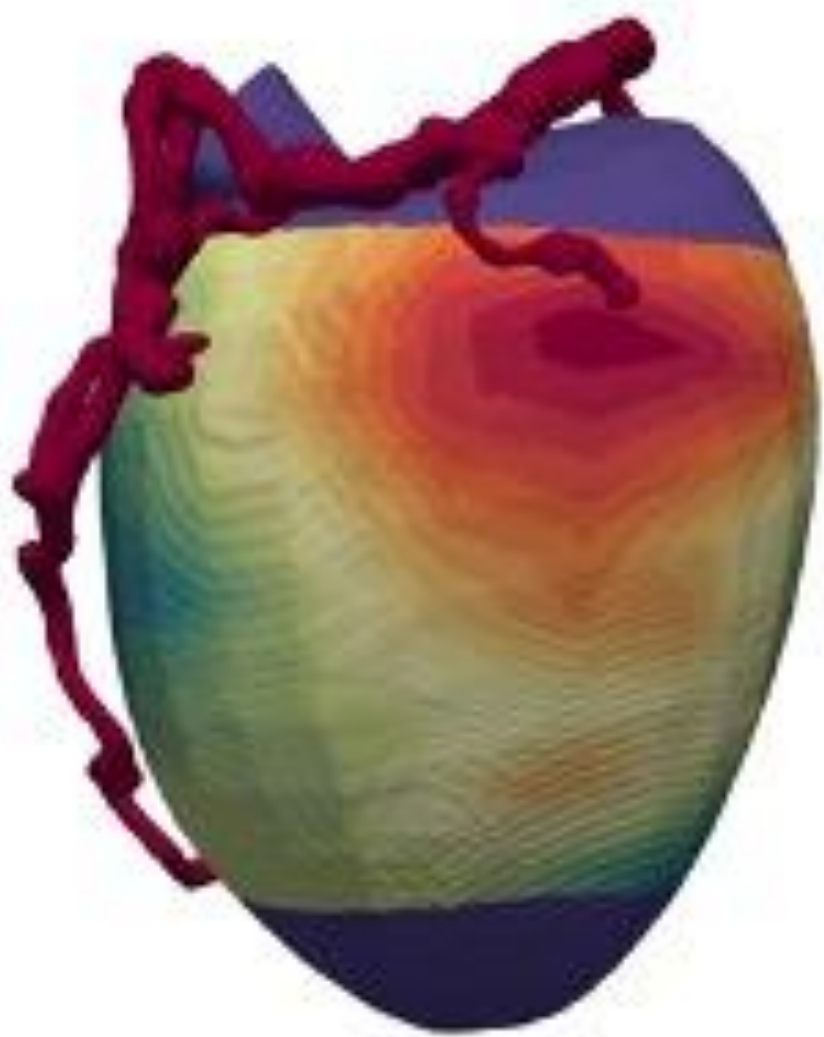


2022 – 2023 Seminar Series

Displacement-encoded MRI: From Basic Principles to Clinical Applications and Commercialization



Frederick Epstein

Mac Wade Professor of Biomedical Engineering
and Professor of Radiology and Medical Imaging
Associate Dean for Research, School of
Engineering and Applied Science
University of Virginia
Charlottesville, VA

The use and value of quantitative tissue-motion imaging continues to increase, and methods that are accurate, reproducible, and easy to use are needed. MRI stimulated echoes have the unique and fundamental property that tissue displacement can be encoded directly into the phase of the signal. We have exploited this property to develop MRI data acquisition and image analysis methods that facilitate clinical quantitative imaging of heart motion. This seminar will review the physics of displacement encoding using stimulated echoes (DENSE), the development of rapid DENSE imaging methods, and the development of image analysis algorithms for quantifying tissue displacement strain. This seminar will also review applications of DENSE in the heart and brain, demonstrating the clinical utility of this method. The path to commercialization of DENSE technologies will also be discussed.

Wednesday, November 2nd @ 11:45AM

Laufer Center Lecture
Hall Room 101



Stony Brook University

Faculty Host: Yi-Xian Qin