



PhD Position at the Ben-Yakar Lab, UT Austin

The Ben-Yakar Lab at the University of Texas at Austin is seeking a highly motivated PhD student to join our cutting-edge research team, which consists of graduate students and postdoctoral researchers with multidisciplinary backgrounds including mechanical, biomedical, and electrical and computer engineering. This position offers a unique opportunity to work at the intersection of machine learning, numerical techniques, laser-tissue interactions, and tissue imaging.

Project Overview: The successful candidate will develop and apply advanced machine learning techniques for a variety of tissue imaging applications. These include:

- **Segmentation and Denoising:** Enhancing the quality and interpretability of multi-photon microscopy images through state-of-the-art segmentation and denoising algorithms.
- **Laser-tissue interactions:** Creating physics-based and/or data-driven models that rapidly accelerate the simulation and prediction of laser-tissue interactions (including thermal and fluid-structure interactions), for better informing laser dosimetry in high-speed brain imaging.

Key Responsibilities:

- Design and implement machine learning models tailored to complex tissue imaging challenges.
- Formulate new ideas and problem statements to address unmet needs at the intersection of numerical techniques, machine learning, and tissue imaging.
- Collaborate with a multidisciplinary team of engineers, biologists, and physicists.
- Publish findings in high-impact journals and present at conferences.

Qualifications:

- A working understanding of deep learning models, specifically in computer vision or scientific machine learning, would be a plus.
- Theoretical understanding and/or practical experience with microscopy techniques is advantageous but not required.
- Programming proficiency in Python, MATLAB, or similar languages.
- A passion for interdisciplinary and independent research, and a desire to push the boundaries of current imaging technologies.

How to Apply: Interested candidates should send their CV, transcripts, and a brief statement of research interests to Prof. Adela Ben-Yakar at ben-yakar@mail.utexas.edu.