

## **Open positions for graduate students of Electrical Engineering in the Wilson lab at the University of Tennessee**

The Wilson lab (<http://volweb.utk.edu/~dwilso81/>) in the Department of Electrical Engineering and Computer Science at the University of Tennessee, Knoxville has multiple funded graduate student positions available. Our group works on the development and use of model reduction in computational systems biology with the ultimate goal of developing better medical treatments than those that are currently available. Theoretical neuroscience, cardiac electrophysiology, optimal control strategies, spontaneous synchronization, and chaotic dynamics are all areas of interest. Potential projects include (but are not limited to):

- The development of open-loop electrical stimulation techniques for the elimination of cardiological arrhythmias that ultimately result in cardiac arrest. Realistic models of cardiac electrophysiology will be considered in two- and three-dimensional domains with simulations carried out in the CUDA parallel computing platform.
- The investigation of pre-treatment strategies for jet-lag and other causes of circadian misalignment. With a detailed understanding of the human body's master pacemaker (the suprachiasmatic nucleus) in an appropriate coordinate system, preliminary results indicate novel pretreatment strategies for rapid circadian recovery after transcontinental travel. These treatments could be much more convenient and effective than currently proposed strategies for rapid recovery from jet lag.

### **Ideal candidates will have:**

- A degree in Electrical Engineering, Mechanical Engineering, Physics, Computer Science, Mathematics, or a related technical discipline
- Excellent communication and technical writing skills
- An interest in working with and learning MATLAB, C++, and CUDA programming languages

### **About the School:**

The University of Tennessee, Knoxville is the flagship campus of the University of Tennessee. The graduate program in the college of engineering is ranked 33<sup>rd</sup> among all public engineering programs according to US News and World Report. The department of Electrical Engineering and Computer science has a graduate enrollment of nearly 300 students and ranks 16<sup>th</sup> nationally among public EECS programs in research expenditures per faculty member.

Interested candidates should send a CV (or resume) and contacts information for two references to [dwilso81@utk.edu](mailto:dwilso81@utk.edu). Positions will remain open until filled. Stipends will be competitive with other top-tier universities in the field.