Postdoctoral research fellow at UMass Boston

A postdoctoral fellow position is available in the [Brain Stimulation & Simulation Lab](#), directed by Dr. Sumientra Rampersad, in the Department of Physics at the University of Massachusetts Boston. Our lab focuses on investigating electromagnetic brain stimulation through computational methods and experiments with healthy volunteers. This position is funded by a 5-year [NIH R01](#) grant with the goal to investigate a novel form of brain stimulation called transcranial **temporal interference stimulation** (TIS) and to optimize and translate it into an effective and efficient neuromodulation method for academic research and clinical practice. The fellow will **develop novel optimization methods for high-density TIS** and supervise a PhD student who will conduct simulations and optimizations using **finite element modeling**. The goal is to provide noninvasive and spatially specific treatment options to patients with brain disorders resistant to existing approaches.

You will join a **multidisciplinary team** with expertise in computational modeling and optimization, human and primate electrophysiology, cellular and systems neuroscience, and biomedical engineering. You will also have the opportunity to work on **other cutting-edge projects** involving several brain stimulation methods including tCS, TMS, ECoG, sEEG and TTF (see [lab website](#) for examples). Our collaborators at Northeastern University, the University of Utah, Harvard University, MGH, and the University of Washington, provide us **access to specialized software and unique clinical data**. The fellow will be mentored by Dr. Rampersad (UMass Boston) and Dr. Dana Brooks (Northeastern). This is an outstanding career development opportunity to work with leaders in the field of brain stimulation with an exceptional record of collaboration and mentoring.

Required **qualifications** include a PhD in physics, math, electrical, biomedical engineering, or equivalent, expertise in either brain stimulation modeling or computational optimization methods (preferred both), a track record of conference presentations and peer-reviewed publications, strong verbal and written communication skills, and proficiency in Matlab or Python.

This is a one-year appointment with the possibility of extension provided satisfactory progress is made. To **apply**, send a cover letter and CV to Dr. Rampersad (sumientra.rampersad@umb.edu) with the subject "TIS postdoc". Please describe in detail your experience with optimization, brain stimulation, FEM, coding, project management, and mentoring students.