THE UNIVERSITY OF IDAHO
NEUROPHYSIOLOGICAL IMAGING AND MODELING LABORATORY

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Job Opportunity: Postdoctoral Fellow in Biomechanics of Chiari Malformation for NIH-sponsored research

The Neurophysiological Imaging and Modeling Laboratory (NIML) within the Department of Biological Engineering at the University of Idaho is dedicated to advancing the health and well-being of millions of people affected by central nervous system (CNS) diseases. The NIML seeks a highly motivated and critical-thinking post-doc that wishes to participate in a dynamic multi-disciplinary research team that makes new discoveries about CNS disorders using state-of-the-art medical imaging and modeling techniques. To learn more about the NIML research program visit www.niml.org.

Project supervisor
Bryn Martin, Ph.D., Department of Biological Engineering, University of Idaho, Moscow, ID

Salary and benefits
A post-doc position is offered with $41,000 - $48,000 salary plus benefits of University of Idaho.

Deadline for submission
Accepting applicants starting from November 5, 2019 until position is filled.

Project description
Untreated Type 1 Chiari malformation (CM1) is a devastating neurological disorder that can be treated by a high risk and costly brain operation. Since the decision to operate is often based on common symptoms, such as severe headache, along with a single imaging measure of cerebellar position that is commonly recognized as inadequate, the concern for under- and especially over-treatment is high. With an estimated 4-5 million in the US carrying the current inadequate anatomical marker of cerebellar descent >5 mm below the foramen magnum and approximately 97% of these millions demonstrating only minimal symptoms or symptoms with other unrelated etiologies, there is a potential for tens of thousands of inappropriate operations with corresponding bad outcomes, while others suffer untreated. The CM1 public critically needs a biomarker that better reflects CM1 pathophysiology, allowing physicians a more accurate surgical selection. As a post-doc you will work in a multidisciplinary team to replace the simplistic CM1 radiographic diagnostic measure of cerebellar tonsil descent with a novel MRI-based biomarker that quantifies intrinsic cardiac-induced stretching and compression (deformation) of the brain and spinal cord. This project is ongoing and conducted in partnership with collaborators at Johns Hopkins University and Emory University.

Qualifications
Applicants will be subject to standard background check. Applicants should hold a Ph.D. in Biomedical or Mechanical Engineering or related engineering discipline and have experience in engineering finite element modeling (FEM) software, Matlab, and MRI post-processing and physics. Excellent English communication skills (written and oral) and ability to work with and lead a team including PhD students is expected.

The University of Idaho
The University of Idaho (UI) is a top choice for researchers from around the globe and is ranked by U.S. News & World Report as 85th in the nation's public universities. UI annual research expenditure in 2019 was ~110 million dollars. It is located in Moscow, Idaho surrounded by the idyllic rolling Palouse hills. Moscow has 24,000 residents and was selected as one of the nation's five best places to live among college towns with art galleries, coffee shops, pubs and outdoor activities.

How to apply
Please send a copy of your current CV, 3 references, and 3 peer-reviewed full-length journal publications to brynm@uidaho.edu. UI promotes equal opportunities for all qualified candidates.