Biomechanical Engineer

FULL-TIME POSITION OPEN

UNIVERSITY OF PITTSBURGH
VASCULAR BIOENGINEERING LABORATORY

The Vascular Bioengineering Laboratory at the University of Pittsburgh is currently seeking a research engineer. The primary focus areas of this position are both computational and experimental vascular biomechanics. The experimental aspects include biomechanical testing of engineered and native soft tissues with both commercial and custom electromechanical devices, data analysis including constitutive modeling, ex vivo perfusion of living vascular segments, microstructural analysis using microscopic imaging techniques and custom image analysis software, biomechanical testing system and experimental design, use of different transducers and signal conditioning techniques, programming and data acquisition using LabVIEW, etc. The computational aspects of the position include image processing and 3D reconstruction, finite element analysis (FEA) and post-processing. For this several software packages are used, including ABAQUS FEA, Mimics (reconstruction software), MATLAB, Mathematica, Solidworks, Geomagic, Rhinoceros, TruGrid, TecPlot and others). Execution of visual C and Fortran compilers for user-defined material properties in ABAQUS is also required.

While specific techniques will be taught to the person who fills this position, a base knowledge of or ability to quickly learn them is necessary. Previous experience in the techniques is preferred. The successful candidate would possess extensive knowledge of data acquisition, 3D reconstruction and FEA software – i.e., LabVIEW, MATLAB, Mimics, Solidworks, Geomagic and ABAQUS or ANSYS FEA. The successful candidate will possess the ability to troubleshoot laboratory equipment; program and debug computer systems; procure tissue samples from live animals, the OR, and/or autopsy suite; and maintain a variety of databases. The candidate must be reliable and have the ability to be “on call”, including occasional weekends and evenings for procuring surgical specimens as needed. Knowledge of statistical analysis software is essential. Additionally, the successful candidate will have the ability to conduct simple biological experiments after suitable training. The candidate should have excellent English speaking and writing skills to communicate effectively within multidisciplinary research teams and to provide assistance with written submissions (e.g., grant proposals, manuscripts, abstracts, presentations, IRB protocols, etc.).

Candidates with MS degrees (or BS degrees with significant related experience) in Mechanical Engineering, Biomechanics, or related engineering disciplines, with a particularly strong background in mechanical testing of biological structures and management, use of electromechanical systems, and FEA analysis are encouraged to apply.

Salary level will be commensurate with previous experience. We are currently accepting applications for this immediate opening and will continue until the position is filled.

To apply, please send cover letter summarizing relevant qualifications as they pertain to this position as well as a resume via email with the subject line “Biomechanical engineer lab position” to:

mam266@pitt.edu

ATTN: David A. Vorp, Ph.D.
Department of Bioengineering
University of Pittsburgh

General information on the lab and Dr. Vorp can be found at:
http://www.engineering.pitt.edu/vorplab/

The University of Pittsburgh is an equal opportunity and affirmative action employer. Women and minorities are encouraged to apply.