

## **Postdoctoral Fellowship Opportunity in Computational and Systems Biology of Cardiomyocyte and Mitochondrial Function in Health and Diseases, Medical College of Wisconsin, Milwaukee, WI, USA**

Position: Postdoctoral fellowship  
Organization: Medical College of Wisconsin  
Location: Milwaukee  
Deadline: Open until the position is filled

### **Description:**

Applications are being sought for a position of postdoctoral fellowship at the Medical College of Wisconsin in the areas of Computational and Systems Biology of cardiomyocyte and mitochondrial functions in health and diseases. The prospective postdoctoral fellow will work on an integrative research project built-on combining computational modeling and experimental measurements of cardiac mitochondrial and cellular functions (electrophysiology, bioenergetics, cation homeostasis, reactive oxygen species (ROS) emission) with an overall goal of quantitatively understanding the biophysical and biochemical mechanisms associated with mitochondrial and cellular dysfunctions in cardiac ischemic-reperfusion (IR) injury and related pathologies. This research is critical for identifying important mitochondrial and cellular targets for developing effective cardioprotective strategies against IR injury and related pathologies. Funding for this research is through a NIH-funded Program Project Grant, which involves close collaborations with various faculties within the Departments of Physiology, Biomedical Engineering, and Anesthesiology. The fellow will have the opportunity to participate in wet-lab experiments (isolated mitochondria, isolated cardiomyocytes, and ex-vivo and in vivo hearts) in addition to the computational modeling. The research will provide significant training and exposure to mechanistic computational modeling of integrated biochemical and metabolic systems (e.g. calcium-ROS interactions) as well as biological mass transport and exchange processes. The fellow will gain significant training and experience to become an independent researcher in the larger field of research.

### **Qualifications:**

The minimum criteria for the position are enumerated below:

- (1) A Ph.D. degree in bioengineering, biomedical engineering, biochemical engineering, biophysics, biochemistry, applied mathematics, or a related scientific field. Completion of the Ph.D. dissertation within the last 2 years will be highly desirable.
- (2) A strong background in cardiovascular physiology and cellular metabolism, mathematical modeling of physiological and metabolic systems, experimental data analyses, computational methods, and scientific and technical computing skills using MATLAB. Experience in computer programming using other languages, such as FORTRAN, C, C++ will be an added advantage. Hands-on experience in wet-lab work pertinent to cardiomyocyte and mitochondrial physiology will be highly desirable.
- (3) Excellent communication skills (written/spoken English) and a demonstrable leadership in publishing in peer-reviewed journals and receiving academic excellence.

(4) Lastly, the applicant should have a keen desire and initiative to learn, and the ability to function as part of a team.

### **Application Process:**

Interested applicants should submit a single pdf file with (1) letter of intent outlining their qualifications and career objectives, (2) Curriculum Vitae and list of publications, and (3) contact information for 3 references who may be contacted. Application package and reprints of 3 representative publications should be sent electronically to Dr. Ranjan Dash, Departments of Physiology and Biomedical Engineering, Medical College of Wisconsin, Milwaukee, WI-53226 (Email: [rdash@mcw.edu](mailto:rdash@mcw.edu)). Salary will be based on NIH scale that commensurate with background and experience. Medical College of Wisconsin is an equal opportunity employer.