Position Summary

Postdoctoral Fellow: Prostate Cancer Image Processing

Purpose
According to the National Institute of Health (NIH) and the National Science Foundation (NSF), a postdoc is an individual who has received a doctoral degree (or equivalent) and is engaged in a temporary and defined period of mentored advanced research training to enhance the professional skills and research independence needed to pursue his or her chosen career path. In addition, according to the National Postdoc Association (NPA), Postdoctoral appointees can pursue basic, clinical or translational projects so long as their primary effort is devoted toward their own scholarship. Postdocs are essential to the scholarly mission of the mentor and host institution, and thus are expected to have the freedom to publish the results of their scholarship.

Characteristics of a postdoctoral appointment:
It is expected that postdocs at MCW, with the assistance of their supervisor, will:
• Transition to career independence through the development of professional skills that enable the postdoc to actively pursue a career of his/her own choosing.
• Be supervised by at least one senior scholar who actively promotes the postdoc's professional development.
• Establish an individual development plan (IDP) that incorporates equally the postdoc's career and training goals and the mentor's research goals.
• Pursue basic, clinical, or translational projects so long as effort is focused primarily on research.
• Publish results of the postdoc's research and scholarship during their appointment.
• The postdoctoral appointment is temporary by nature, the aggregate amount of time spent as a postdoc is recommended to not exceed five years (not including family medical leave or maternity/paternity leave).
• As postdocs are important members of the host institution's community, appropriate levels of compensation, health care, and other benefits commensurate with their essential status should be afforded, independent of the postdoc's source of funding.

Primary Functions
Applications are invited for a postdoctoral fellow position in the laboratory of Dr. Peter LaViolette starting immediately within the Department of Radiology at the Medical College of Wisconsin. The fellow will work on an integrated translational research project combining computational modeling, machine learning, deep learning, and image processing, with an overall goal of improving prostate cancer imaging. This fellow will work with an extensive dataset of radiographic human imaging and aligned digital histopathology following surgery. The fellow will have the opportunity to participate in imaging experiments in addition to the computational modeling and image processing algorithm development and deployment. The research will provide significant training and exposure in the computational modeling of histopathology and MRI. The fellow will also gain significant training and experience to become an independent researcher in the larger field of research. In addition, the ideal candidate will:
• Plan, design and execute complex research studies, procedures and protocols.
• Participate in discovery projects.
• Coordinate research study activities; lead and manage projects.
• Oversee organization, synthesis and analysis of data and findings.
• Prepare scientific reports, outcome findings and scientific manuscripts.
• Participate in meetings with principle investigator and research staff in which you will evaluate/interpret
the validity of data, develop methodologies, and design and evaluate lab procedures.

- May oversee the work of laboratory personnel including training and development as well as daily work direction, delegation and establishing priorities.

Knowledge – Skills – Abilities

Required knowledge: programming, mathematics, statistics, documentation, records management, data utilization, complex problem solving, critical thinking, resource management, and writing skills

Organizational Structure

Building: MACC Fund Research Center, 4th floor
Department: Radiology
Division: Imaging Sciences
Reports to (Title): Peter LaViolette, PhD

Specifications

Minimum Required Education: PhD
Minimum Required Experience:
A strong background in mathematical modeling, image processing, data analyses, computational methods, and scientific and technical computing skills using MATLAB.
Preferred Education:
PhD in bioengineering, biomedical engineering, applied mathematics, physics, or a related scientific field.
Preferred Experience:
Machine learning, Python, quantitative image analysis, histo-morphometry, MRI, Experience in computer programming using other languages.

Job Scope

Complexity – regularly applied judgment to accomplish tasks; develops policies and procedures
Autonomy – performs work independently with regular check-ins; supervision available as needed
Responsibility – advises others
Confidentiality – regularly prepares and uses confidential information
Leadership – acts as a role model
Physical Requirements
Work requires occasionally lifting moderate weight materials, standing, or walking continuously.

Risk Potential
Little or no exposure to hazards such as dust, fumes, or extreme temperatures, airborne or blood borne pathogens, extreme temperatures, or allergens.

Sensory Acuity
Ability to detect and translate speech or other communication required. May occasionally require the ability to distinguish colors and perceive relative distances between objects.

Work Environment
Occasional exposure to dust, noise, temperature changes, or contact with water or other liquids. Work is performed in an environmentally controlled environment.

Performance Dimensions

Collegiality
Exhibit confidentiality, honesty, and actions that build trust and strengthen relationships. Listen to others and effectively communicate in a clear and concise manner through written and verbal communication. Demonstrate respect and commitment to the values of diversity and equity; seek out and incorporate diverse perspectives into decision making.

Excellence and Creativity
Exhibit initiative and ingenuity by taking ownership of tasks to proactively improve services, avoid problems, or develop opportunities. Generate novel and valuable ideas to impact institutional missions. Identify and implement new methods to increase efficiency and quality.

Education and Development
Displays an ongoing commitment to continuous learning and self-improvement in one's area of responsibility. Actively seek out mentorship and learning opportunities that can be applied to current and future work activities. Develop and maintain professional affiliations. Participate in design, development, and/or evaluation of instructional materials, methods, courses, or programs.

Agility and Judgment
Remain flexible and versatile in rapidly changing environment and adapt quickly to changing circumstances. Change behavioral style or method of approach when necessary to achieve a goal. Make timely and sound decisions based on analysis of information, experience, and logic. Show reliability and accountability in the successful completion of all work.

Stewardship and Institutional Citizenship
Support transformational change to achieve institutional vision and strategies. Be an active and thoughtful participant in institutional initiatives, meetings, and committee work. Conserve resources and use in an efficient and cost effective manner across all institutional missions. Look for ways to improve and promote quality within area of influence.
Disclaimers

Background Check
Employment in this position may be contingent upon successfully completing a background and criminal history check, caregiver background check in accordance with the Wisconsin Caregiver Background Check Law, physical examination, and / or driving record check.

Equal Opportunity Employer
The Medical College of Wisconsin is an affirmative action / equal opportunity employer and does not discriminate in hiring or employment on the basis of age, sex, race, color, religion, national origin, veteran status, disability, or sexual orientation.

Diversity and Inclusion
The Medical College of Wisconsin defines diversity as a commitment to recognizing and appreciating the variety of individual differences in an environment that promotes and celebrates individual and collective achievement. The diversity of MCW continues to be an important source of innovative ideas and creative accomplishments.

Confidentiality
Employees that have access to MCW, affiliate, subsidiary, or student data or Protected Health Information (PI), or research protected information are obligated to protect the confidentiality and proper use and access of this information in order to prevent loss, misuse, unauthorized access, unnecessary identification, or security breaches.

Completeness
This job description is not an employment contract and the Medical College of Wisconsin may modify this document at any time. This document is intended to indicate the types of tasks and levels of skill, effort, and responsibility required by positions assigned this title. This information shall not be construed as a declaration of the specific duties and responsibilities of any particular position. It is not intended to limit or modify the right of any supervisor to assign, direct, and control the work of direct reports. The functions described are not to be interpreted as exclusive or all-inclusive of the various functions performed.

Effective Date: