

Position Title: Research Associate

Project: Visual Neurophysiology Centre

Contract Term: Until December 31, 2023

Annual Salary: \$90,000 plus benefits

Hours of Work: 35 hours per week

About VISUAL NEUROPHYSIOLOGY CENTRE

The *Visual Neurophysiology Centre*, which is deeply integrated with the *Centre for Vision Research* and with the *Vision: Science to Applications* (VISTA) program funded by the *Canada First Research Excellence Fund*, was established with three primary purposes. The first purpose was to participate in and facilitate the design of a new vivarium to be constructed in the new neuroscience building that is scheduled to become available in early spring 2024. This first purpose includes the purchase of husbandry and surgical infrastructure necessary for the vivarium. This must be coordinated with the architect and construction manager and must be accomplished with haste to avoid increased costs.

The second purpose was to contribute to and facilitate the hiring of three new Assistant Professors who will establish new research programs investigating visually-guided behavior using neurophysiological and other methods with nonhuman primates. Each of the three has now been hired, and two are in the earliest stages of setting up their laboratories in the current nonhuman primate vivarium in the Behavioral Sciences Building. They need experienced technical support to equip and establish their laboratories.

The third purpose was to purchase, install, and utilize the apparatus used in the new laboratories with funds from *Canada Foundation for Innovation* (CFI) grant entitled, “Centre for Neuro-Behavioral Monitoring Using Advanced Technologies”. This procurement, installation, and use is urgent because spending authority ends in August 2023.

JOB PURPOSE:

The Research Associate will contribute crucially to the development of the *Visual Neurophysiology Centre* by aiding in the establishment of multiple nonhuman primate visual neurophysiology laboratories. This assistance, which will be provided to all laboratories with emphasis on new investigators, will include but is not limited to (a) selection and evaluation of apparatus and vendors based on knowledge and experience doing nonhuman primate visual neurophysiology, (b) guidance in preparation of forms and evaluation of bids necessary for procurement, (c) installation, troubleshooting, and research use of apparatus, (d) obtaining performance, neuroimaging, neurophysiology and other data from nonhuman primates, (e) analyzing findings and preparing materials for dissemination in consultation with faculty and trainees, and (f) presenting findings through presentations at international meetings and peer-reviewed publications.

Fulfillment of this purpose requires knowledge of and experience with launching and sustaining nonhuman primate neuroscience laboratories, which includes but is not limited to (a) preparation of necessary apparatus and facilities, (b) handling and care of nonhuman primates including obtaining and training for specific laboratory uses, (c) surgical preparation, execution, and recovery, (d) preparation of

protocols and interactions with animal care staff and regulatory agencies, (e) utilizing specialized neurophysiological and other equipment to obtain high-quality data, and (f) training new graduate students, postdoctoral researchers, and novice research assistants in proper procedures

Based on this job definition, initial funding of this position is consistent with the Infrastructure Operating Fund associated with the CFI grant because (a) the experimental apparatus to be installed and used will have been funded by the CFI, (b) the CFI-funded infrastructure project to which it relates was approved after July 1, 2001, (c) an award agreement is in place for this CFI project, (d) the operating and maintenance activities enabled by this Research Associate are needed to ensure the infrastructure can be used to carry out the proposed research, and (e) the infrastructure will be used for the stated research purposes. This position will be filled for the indefinite future based on the policy that there is no maximum number of years for which the IOF funding can be claimed when infrastructure is still being used for the stated research purposes during the period claimed.

MAJOR DUTIES:

- Support the faculty of the York *Visual Neurophysiology Centre* in the acquisition, installation, and use of apparatus and equipment purchased with the CFI grant and associated faculty start-up funds and grants.
- Support the procurement, installation, and use of husbandry and surgical infrastructure for the new neuroscience building vivarium.
- Enhance collaboration across laboratories by reducing regulatory, managerial, and logistic barriers. Help develop work goals, reconcile priorities, guide workflow, and coordinate schedules to ensure effective utilization of specialized resources in the *Visual Neurophysiology Centre* and associated laboratories (MR, EEG) based on knowledge of research developments and facility availability. Manage logistics of coordinating research activities with veterinary and vivarium staff, scheduling the use of MR in coordination with other human and animal use, and transporting monkeys between NHP vivaria and Sherman MR Centre.
- Ensure efficient and regulatory compliant operation of research groups (PIs, postdoctoral research associates, graduate students, research assistants and animal technicians) through development and maintenance of laboratory manuals and other standardized documents and forms. Necessary documents range from animal use protocols that occupy dozens of pages to single page anesthetic monitoring and fluid regulation forms. This duty includes training of novice postdoctoral research associates and graduate students in good practices, supervision of technical staff, and instruction of new users on procedures and best practices.
- Help solve technical and administrative problems. This includes (1) consulting with students, postdoctoral research associates, technicians, faculty members and university administrators to identify and resolve problems; (2) maintaining expertise with performing and interpreting the experiments; and (3) serving as liaison with other York offices that interact with the NHP research program, e.g., ACC, veterinarian staff, vivarium management, Faculties of Science and of Health, procurement, human resources, and the VPRI office. Also, schedule work to meet experimental and publication deadlines, either directly or in conjunction with PI.
- Ensure compliance with ACC, CCAC, and OMAFRA regulations and expectations. Performance of this duty requires experience with nonhuman primate behavior, housing, handling, and training procedures. This duty includes preparing for and managing facility inspections by regulatory agencies and other inspectors. It also includes training new graduate students, postdoctoral fellows, and research assistants in proper laboratory techniques, NHP care and handling, NHP surgical preparation and recovery, and NHP neuroscience data collection.

- Assist with NHP surgical procedures through (1) form preparation and record keeping, (2) preparation of instruments and OR for aseptic procedures, (3) pre-operative preparation of NHP, (4) execution of surgical procedure as scrubbed surgeon or as scrub nurse, and (5) recovery of NHP and post-surgical record-keeping for the necessary days or weeks.
- Assist with NHP brain imaging procedures through (1) scheduling of facility and coordination with staff, trainees, and faculty, (2) preparation and transport of NHP to imaging facility, (3) monitoring NHP during imaging procedure, (4) recovery of NHP and return to vivarium, (5) monitor and manage necessary record keeping.
- Assist with data analyses and facilitate preparation of materials for dissemination of new findings through presentations at international meetings and peer-reviewed publications.
- Ensure financial resources are utilized effectively by helping establish grant budgets, making sure necessary supplies and equipment are available, and monitoring expenditures.
- Monitor and update the Director's, the Centre's, and other Centre faculty websites.

QUALIFICATIONS:

- Minimum of Bachelor's degree in biology, neuroscience or psychology with eight years of relevant experience in an academic/research environment supporting research in multiple neuroscience laboratories with diversity of species.
- Minimum of six years of experience working with nonhuman primates or other mammals in more than two laboratories is necessary.
- Hands-on experience establishing and sustaining multiple nonhuman primate neurophysiology laboratories in collaborative environment is necessary.
- Hands-on experience obtaining neurophysiological data with nonhuman primates and other mammals is necessary.
- Hands-on experience obtaining non-invasive measures of electrophysiology, computed tomography imaging, and magnetic resonance imaging of nonhuman primates is necessary
- Demonstrated experience using specialized scientific software for brain imaging such as CURRY, BrainVoyager, OSIRIX, SPM, or AFNI is necessary.
- Demonstrated dissemination of research findings via co-authorship of multiple presentations at international meetings and peer-reviewed publications in visual neurophysiology is necessary. Co-authorship on reports of distinct findings obtained with non-overlapping or only partially overlapping faculty and trainees is necessary.
- Experience with academic procurement processes is necessary.
- Experience with website maintenance using WordPress is necessary.
- Demonstrated experience using Excel, PowerPoint and Word processing in both Windows and Apple environments is necessary.
- Demonstrated experience preparing animal care and use protocols, working with university veterinarians and animal care staff, and interacting effectively with representatives of regulatory agencies is necessary.
- Demonstrated capacity for self-organization guided by University policies and established strategies and plans is necessary.
- Administrative experience with demonstrated ability to organize teams of diverse individuals and manage resources in logistically complex activities to achieve common goals is necessary.
- Superior organizational skills to simultaneously handle conflicting priorities and meet deadlines is desirable.
- Comfortable with budgets and an understanding of accounting principles
- Excellent oral and written communication skills
- Effective interpersonal skills, discretion, and the ability to maintain confidentiality
- Experience liaising with multiple organizations and managing relationships across the academic hierarchy

*Note: The duties of Research Associate may evolve as the research funding within the **Visual Neurophysiology Centre** changes or expands through initiation of new funding programs or participation in multiple new team grants. Flexibility, comfort with ambiguity, and a readiness to adapt to change will be essential.*

Application Instructions:

Please submit cover letter and resume to Emma Yuen, Senior HR Officer, at emmay@yorku.ca. This position is open until filled.