

<u>Position Title:</u>	Scientific Engineer
<u>Program:</u>	Connected Minds: Neural and Machine Systems for a Healthy, Just Society. York University, Keele Campus
<u>Contract Term:</u>	1 year with possibility of extension
<u>Annual Salary:</u>	\$100-120K per year
<u>Hours of Work:</u>	Full-time; 35 hours per week

ABOUT CONNECTED MINDS:

Connected Minds: Neural and Machine Systems for a Healthy, Just Society (2023-2030) is funded by the Canada First Research Excellence Fund. Its mission is to lead Canada and the world in the socially responsible creation and adoption of scientific and technological innovation to promote a healthy, resilient, and just society.

JOB DESCRIPTION:

Connected Minds is seeking a Scientific Engineer. This role is responsible for designing and developing specialized instrumentation, integrating hardware and software systems, and advancing the technical capabilities of Connected Minds laboratories. The successful candidate will contribute to the technical infrastructure that supports interdisciplinary research across neuroscience, engineering, artificial intelligence, and human-centered technology.

The Scientific Engineer reports administratively to the Executive Director of Connected Minds. The position reports scientifically to the Lead of the Infrastructure and Facilities Committee. The Scientific Engineer will work closely with individual researchers and laboratory staff and students.

MAJOR DUTIES:

Equipment Design & Fabrication

- Design, fabricate, and assemble specialized electronic, electromechanical, and optical devices for experimental research informed by signal processing analysis.
- Develop circuit diagrams, layouts, and schematics using CAD tools.
- Interface electronic and computer systems to support data collection and experiment automation.
- Prepare clear technical documentation.

Installation & Calibration

- Install and configure laboratory systems including visual displays, auditory systems, motion tracking, and other sensor devices.

- Calibrate instruments for accuracy of measurement such as spatial coordinates, brightness and colour, audio levels, body position.
- Troubleshoot and upgrade laboratory systems to support new research projects.
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Maintenance & Troubleshooting

- Diagnose and repair hardware and software issues in laboratory devices and computer interfaces.
- Maintain equipment inventories, warranties, and service records for shop and laboratory equipment.

Training & Support

- Support students and staff on proper equipment installation, operation, and maintenance.
- Ensure compliance with institutional and provincial safety requirements.

Software & Systems Integration

- Support Linux and Python based environments for experiment automation and data logging.
- Develop or adapt low-level software interfaces for device control and data acquisition.
- Assist with programming microcontrollers.
- Familiarity or expertise programming with Arduino, C++, Matlab, Python, or similar environments.

QUALIFICATIONS:

Education

- Bachelor's degree in Electrical Engineering, Electronic Engineering, Instrumentation Engineering, or a closely related discipline.
- Candidates with a diploma in Electrical/Electronics Engineering Technology and significant directly relevant experience may also be considered.
- Knowledge relevant provincial and federal codes, safety regulations, and standards.

Experience

- Experience designing, assembling, and troubleshooting analog and digital circuits.
- Experience with software–hardware integration and signal processing is preferred.
- Experience supporting experimental laboratory environments will be considered an asset.

Working Conditions

- Ability to perform strenuous physical activities including lifting to 50 lbs unassisted, bending, standing, and climbing.
- Ability to perform fine motor tasks such as soldering and manipulation of delicate components.
- Use of manual tools and power equipment common to electronic fabrication and repair.
- Occasional exposure to electrical and chemical materials in accordance with safety protocols.
- Regular interaction with faculty, graduate students, and technical staff across Connected Minds labs.

Note: The duties of the Scientific Engineer may evolve as the Connected Minds program expands and priorities shift. Flexibility, comfort with ambiguity, and a readiness to adapt to change will be essential.

Application Instructions:

Please submit a cover letter and resume to Nicoleta Negoita, Senior People Partner, at nicol23@yorku.ca This position is open until filled.