

Postdoctoral scientist position at the Canadian Neutron Beam Laboratory (CNBL)

Context

McMaster University is building up a team of neutron scientists, technicians and programmers with interests in both instrumentation and materials research at the Canadian Neutron Beam Laboratory (CNBL). The CNBL is an emerging neutron beam facility based at the 5 MW McMaster Nuclear Reactor. As the CNBL grows into a national user facility, it will enable Canada's strong neutron user community to perform characterization of materials for both fundamental and applied research. These experiments generate vital knowledge and underpin technologies in areas such as energy, environment, health, and quantum devices. Experiments at the CNBL provide Canadian users with essential training and foundational measurements to leverage effective use of major international neutron sources.

The CNBL is tasked with developing a suite of five neutron diffractometers at the MNR. It has an operational neutron diffractometer and is commissioning a small-angle neutron scattering (SANS) instrument. The other three are newly funded through the CFI 2020 Innovation Fund project "Building a Future for Canadian Neutron Scattering," a national collaboration of 17 universities. The CNBL is currently housed within the Department of Physics and Astronomy at McMaster University.

More information about the CNBL is available here: <https://nuclear.mcmaster.ca/neutron-beams/>

Job summary

As a researcher with the Canadian Neutron Beam Laboratory, you will contribute to the design and development of ongoing instrumentation projects and support the scientific experiments of external researchers as a Local Contact. You may also choose to dedicate up to half of your time to perform independent materials research that capitalizes on the growing suite of neutron instruments available at the CNBL and develops the CNBL's user community through collaborations.

You will be mentored in scientific research by Profs. Bruce Gaulin and Patrick Clancy at McMaster University and will report to the CNBL Facility Manager.

Your profile

We seek a talented and ambitious individual who is highly motivated to investigate materials utilizing neutron techniques in a growing team. The successful candidate holds a PhD in experimental physics, chemistry, engineering, or similar area. Experience in neutron scattering techniques is mandatory. Ideally, you have a background in small-angle neutron scattering (SANS) and may have experience with nanomaterials, engineering materials, energy materials, or life sciences applications of SANS. Experience in neutron powder diffraction or neutron instrument development will also be considered an asset. You have good communication skills and enjoy working in a team-oriented interdisciplinary environment.

Term of the position

Your employment contract is limited to 2 years, with potential for extension.

Other requirements

Applicants must complete all degree requirements before starting their appointment.

Application

For further information, please contact Mitch DiPasquale, CNBL Facility Manager, by e-mail at mdipa@mcmaster.ca.

Deadline

Applications welcome from 1 April 2025 until position is filled.