Senior Research Scientist – GTP 8

Senior Research Scientists lead and perform work at the scholarly level for the purpose of research projects with varying degrees of expertise and accountability. Positions at this level are accomplished seasoned professional researchers who hold a PhD or equivalent qualification and are very specialized in their field. They are involved in large collaborative research projects that span across multiple sites, principal investigators and/or partnerships.

Typical Duties may include some or all of the following:

- Lead scientific initiatives in research and serve as a corresponding author on one or more scientific journal articles per year
- Lead the development and implementation of advanced data management strategies to support research projects
- Responsible for publications, ensuring the production of peer-reviewed articles on an annual basis, along with lectures, one-on-one training with students and postdocs, and reporting to sponsors.
- Engage in cross-disciplinary and multi-institutional collaborations
- Lead the preparation and dissemination of multiple peer-reviewed publications annually, including review articles, book chapters, and technical reports that shape industry and academic discourse.
- Seeks new research opportunities and plays a leading role in the development of new projects and proposals, writing grant and contract proposals, making significant contributions to funding applications and negotiating research agreements.
- Operate and develop information technology equipment and software to enhance research capabilities
- Lead research collaborations with industry, providing consultation, setting up research trials, negotiating funding support and building partnerships
- Develop and pursue funding strategies that align with institutional and research objectives
- Contribute to academic program development and student training initiatives.
- Design and deliver graduate-level courses, including instruction on software use and research methodologies
- Independently establish and manage high-profile research collaborations with national and international institutions
- Manages product or process changes to improve the testing environment and support new methodologies
- Provides leadership to other researchers and technicians
- Applies specialized knowledge to conceptualize, design, develop, coordinate and manage major research projects
- Provides leadership for specialized or complex research projects including new or experimental methodologies
- Oversees the set-up and running of planned experiments, ensuring that they are appropriately supervised and resourced
- Provides guidance for advanced scientific principles to develop and adapt analytical techniques, trouble shoots research methods, modifying research protocols and experimental design
- Ensures lab/experiment safety procedures are implemented and followed
- Writes manuscripts for publication in peer reviewed journals, articles and other media
- Participates and presents research findings at national and international conferences

Decision Making/Accountability: Independent judgement and autonomy required to conceptualize and design research plans and protocols and exploring new research methods and techniques, ensuring alignment with departmental objectives.

Supervision Received: Supervisor provides decisions involving institutional policy adherence, regulatory compliance (e.g., data governance, ethical research standards), or major operational changes that could impact the

institute's credibility and funding. Finalizing significant funding proposals, budget reallocations, or the initiation of large-scale multi-institutional projects that require administrative or institutional buy-in.

Supervision Exercised: Provides supervision and guidance to other research staff within research project. Provides expertise and guidance to others (including research team and students) as subject matter expert and project coordinator. Has oversight over project funding account. Provide scientific training and mentorship to graduate students (MASc, MEng, BSc and PhD level) in their area of expertise. Design appropriately scaled research projects for co-op undergrad and MEng graduate students.

Working Environment: Work may be performed in an office, laboratory, or field work outside, with potential exposure to outdoor elements, temperature extremes, chemicals and/or hazardous materials or equipment. May operate scientific machinery or equipment or work with animals, where there is an increased risk of injury.

Minimum Qualifications:

- PhD in relevant field of study, with a minimum 8 years of practical experience as an independent and/or lead researcher
- Or equivalent combination of education and experience (some roles may require more extensive experience or training in a particular area of research)