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Canada's fastest growing Indigenous career portal, Careers.Indigenous.Link is pleased to introduce a new approach to job searching for Indigenous Job Seekers of Canada. Careers.Indigenous.Link brings simplicity, value, and functionality to the world of Canadian online job boards.

Through our partnership with Indigenous.Links Diversity Recruitment Program, we post jobs for Canada's largest corporations and government departments. With our vertical job search engine technology, Indigenous Job Seekers can search thousands of Indigenous-specific jobs in just about every industry, city, province and postal code.

Careers.Indigenous.Link offers the hottest job listings from some of the nation's top employers, and we will continue to add services and enhance functionality ensuring a more effective job search. For example, during a search, job seekers have the ability to roll over any job listing and read a brief description of the position to determine if the job is exactly what they're searching for. This practical feature allows job seekers to only research jobs relevant to their search. By including elements like this, Careers.Indigenous.Link can help reduce the time it takes to find and apply for the best, available jobs.

The team behind Indigenous.Link is dedicated to connecting Indigenous Peoples of Canada with great jobs along with the most time and cost-effective, career-advancing resources. It is our mission to develop and maintain a website where people can go to work!

Contact us to find out more about how to become a Site Sponsor.

Corporate Headquarters:

Toll Free Phone: (866) 225-9067

Toll Free Fax: (877) 825-7564

L9 P23 R4074 HWY 596 - Box 109

Keewatin, ON P0X 1C0

Job Board Posting



Careers.Indigenous.Link

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Research Officer in Accelerated Materials Discovery & Self-Driving Lab for Li-ion Battery Materials / Agent de recherche, découverte acc. et labo. autonome pour les matériaux de batteries au lithium-ion

Job ID	49-DF-93-24-3D-63	
Web Address	https://careers.indigenous.link/viewjob?jobname=49-DF-93-24-3D-63	
Company	National Research Council Canada	
Location	Mississauga, Ontario	
Date Posted	From: 2024-03-22	To: 2024-04-12
Job	Type: Full-time	Category: Engineering
Job Salary	From \$80,523 To \$133,853 Per Annum	
Languages	English	

Description

Help bring research to life and drive your career forward with the National Research Council of Canada (NRC), Canada's largest research and technology organization.

We are looking for a Research Officer (RO) with experience in a variety of accelerated materials discovery and/or process optimization aspects to be at the forefront of our accelerated material discovery/process optimization platforms at the NRC Research Facility in Mississauga. The selected candidate would be someone who shares our core values of Integrity, Excellence, Respect and Creativity.

You will be working in a team environment with researchers and technical experts in world-class facilities. This work will involve you playing a leading role in the design, development, and orchestration of self-driving laboratories (material acceleration platforms) at Energy Mining and Environment Mississauga (EME-M). This role will be highly collaborative, leading a project involving a multi-disciplinary team of mechatronics, design and automation engineers, electrochemists, process engineers, and AI/ML experts to realize self-driving laboratories towards new material discoveries.

In this role, you will be responsible for all aspects of the self-driving laboratory, including but not limited to:

- Planning and guiding the experimental workflow process, including helping to procure automated equipment. Transitioning from benchtop experimentation to automation and high-throughput methods in synthesis, characterization, and performance evaluation.
- Creating automated workflows for data handling and post-processing.
- Working with AI/ML specialists to develop optimization algorithms and integrating them into the experimental process.

You will work with a team that possesses focused skill sets (subject matter expert, AI/ML, robotics and automation etc.) to address specific areas of the project. However, you will serve as the primary orchestrator to realize a successful self-driving laboratory, and be directly involved in all aspects from conception, development, testing, operation, and deployment. You will lead autonomous materials discovery or process optimization campaigns, utilizing a validated self-driving laboratory, and be responsible for project definition, budget, timeline, and regular reporting of project progress to program managers and team lead.

You will have an active role in the development of the roadmap for future material exploration. This role will also require you to consider how the self-driving laboratory fits into the larger scope of the EME-M vision of accelerated materials discovery and process optimization.

Being in a dynamic position means that the workdays are always evolving, challenging and motivating. This role will require you to stretch yourself beyond traditional experimental and/or laboratory roles. You are a self-starter who can excel in an evolving and exciting R&D environment and provide input into the direction and priorities of R&D activities that will be set forth by this new initiative in Mississauga. If you are that person and the concept of pushing laboratory experimentation towards a new paradigm, proposal and research direction development, and the development of relationships with research collaborators excites you, then this may be the perfect role for you!

Contribuez à la réalisation de travaux de recherche stratégiques et poursuivez une carrière prometteuse au Conseil

national de recherches du Canada (CNRC), la plus grande organisation de recherche et de technologie au Canada. Nous sommes a la recherche d'une personne pour occuper le poste d'agent de recherches aux installations de recherche du CNRC a Mississauga. La personne retenue aura une experience variee de la decouverte acceleree de materiaux ou des aspects d'optimisation des procedes qui seront au premier plan de nos plateformes dans ce domaine. Elle partagera egalement nos valeurs fondamentales relatives a l'integrite, a l'excellence, au respect et a la creativite. Cette personne travaillera en collaboration avec des scientifiques et des specialistes techniques dans des installations de classe mondiale. Elle sera appelee a jouer un role cle dans la conception, le developpement et la coordination de laboratoires autonomes (plateformes de decouverte acceleree des materiaux) au Centre de recherche sur l'energie, les mines et l'environnement a Mississauga (EME MIS). Ce role sera hautement collaboratif : elle dirigera un projet faisant intervenir une equipe multidisciplinaire composee d'ingenieurs en mecatronique, en conception et en automatisation, d'electrochimistes, d'ingenieurs des procedes et d'experts de l'intelligence artificielle et de l'apprentissage automatique (IA/AA) pour la realisation de laboratoires autonomes en vue de faire de nouvelles decouvertes de materiaux.

Elle sera responsable de tous les aspects du laboratoire autonome, ce qui comprend entre autres :

- Planifier et guider le flux de travail experimental, notamment fournir de l'aide pour l'achat de l'equipement automatise.
- Effectuer la transition des essais sur table aux methodes d'automatisation et a haut debit dans la synthese, la caracterisation et l'evaluation de la performance.
- Creer des flux de travail automatises pour la manipulation et le post traitement des donnees.

Travailler avec des specialistes de l'IA/AM sur l'elaboration d'algorithmes d'optimisation, et integrer ces derniers dans le processus experimental.

Elle travaillera avec une equipe qui possede des competences specialisees (experte en la matiere, IA/AA, robotique et automatisation, etc.) afin d'aborder les domaines precis du projet. Elle jouera aussi le role de coordonnateur principal pour la realisation d'un laboratoire autonome, et participera directement a tous les aspects de la conception, du developpement, de la mise a l'essai, de l'utilisation et du deploiement. Elle dirigera des campagnes sur la decouverte de materiaux autonomes et l'optimisation des procedes en utilisant un laboratoire autonome valide, et elle sera responsable de la definition, du budget et du calendrier du projet, ainsi que des comptes rendus periodiques du projet a l'intention des gestionnaires du programme et du chef d'equipe.

Elle jouera un role actif dans l'elaboration de la feuille de route pour l'exploration future de materiaux. Pour ce faire, elle devra examiner comment le laboratoire autonome s'inscrit dans la portee plus vaste de la vision d'EME MIS au chapitre de la decouverte acceleree de materiaux et de l'optimisation des procedes.

Un poste dynamique signifie que les journees de travail evoluent constamment et presentent des defis motivants. Ce role necessitera de la personne retenue qu'elle aille au dela des roles d'experimentation et de laboratoire traditionnels. Elle sera une personne autonome qui peut exceller dans un environnement evolutif et passionnant de recherche-developpement (R D) et qui peut guider l'orientation et les priorites des activites de R D qui seront presentees dans le cadre de cette nouvelle initiative a Mississauga.

Si vous etes cette personne et que le concept consistant a diriger l'experimentation en laboratoire vers un nouveau paradigme, a elaborer une orientation pour les propositions et la recherche, et a etabli des relations avec les collaborateurs de recherche vous motive, c'est peut-etre le role parfait pour vous!

Experience

Recent experience in the energy materials domain of battery and/or other energy storage materials with recent experience regarding the synthesis, characterization, and performance testing of these materials.

Experience with concepts of laboratory automation and/or hands-on experience working with automated equipment.

Experience with AI/ML approaches and data science, in particular as it relates to their application with experimental data and/or experimental optimization.

Recent experience in leading research projects involving a multidisciplinary team.

Assets:

Experience working in an agile environment would be considered an asset.

Experience in Python would be an asset.

Experience with robotics and mechatronics would be an asset.

Experience recente du domaine des materiaux energetiques des batteries ou d'autres materiaux accumulateurs d'energie, et experience recente du domaine de la synthese, de la caracterisation et des essais de performance de ces materiaux.

Experience des concepts d'automatisation de laboratoire ou experience pratique du travail avec de l'equipement

automatise.

Experience des approches d'IA/AA et des sciences des donnees, notamment sur le plan de leur utilisation avec des donnees experimentales ou l'optimisation experimentale.

Experience recente de la direction de projets de recherche faisant intervenir une equipe multidisciplinaire.

Atouts:

Experience de travail dans un environnement agile, un atout.

Experience de Python, un atout.

Experience de la robotique et de la mecatronique, un atout.

Education Requirements

PhD in Materials Science/Engineering, Chemical Engineering, Chemistry, Physics, or a similar domain.

A Master's degree with high alignment to the position may also be considered.

Doctorat en sciences et genie des materiaux, en genie chimique, en chimie, en physique ou dans un domaine connexe.

Une maitrise dans un domaine en lien direct avec le poste pourrait etre prise en compte.

Essential Skills

Knowledge of inorganic material synthesis for energy applications, knowledge of high-throughput experimentation and/or proven experience working with automation would be considered an asset.

Knowledge of electrochemistry.

Knowledge of data science (statistics and quality control) as it relates to experimental data and ability to automate data storage, curation, and post-processing of experimental results.

Ability to manage research projects and stakeholder relationships.

Familiar with writing their own automation scripts for instrument control or data handling (eg. python or equivalent) would be considered a strong asset.

Connaissance de la synthese des matieres inorganiques pour les applications energetiques, connaissance de l'experimentation a grande echelle ou experience de travail demontree dans le domaine de l'automatisation, un atout.

Connaissance de l'electrochimie.

Connaissance de la science des donnees (statistiques et controle de la qualite) en lien avec les donnees experimentales et capacite d'automatiser le stockage, la conservation et le post traitement des donnees des resultats des experiences.

Capacite de gerer des projets de recherche et des relations avec les intervenants.

Bonne connaissance de la creation de scripts d'automatisation pour le controle des instruments ou la manipulation des donnees (p. ex., langage Python ou tout autre langage equivalent), un atout appreciable.

How to Apply

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