"Ph.D. Student Assistantship Position"

Imagine a world where the solution to microplastic and nanoplastics pollution lies within the depths of our oceans, in the remarkable properties of seaweed. Harnessing the power of nature's own filtration system, seaweed-based nanocomposites offer a tantalizing glimpse into a future free from the grip of microplastics. Join us in pioneering this eco-friendly revolution and turning the tide on plastic pollution.

Position: Ph.D. Student Assistantship
Faculty: Natural Resources Management and Biorefinery Research Institute
Location: Lakehead University, Thunder Bay, Ontario, Canada
Anticipated Start Date: September 2024

Position Summary:
Assistant Professor Seyedrahman Djafaripetroudy, holding the Biorefining Research Chair at Lakehead University, warmly welcomes applications from two highly motivated Ph.D. candidates to join his dynamic research team:

Ph.D. position 1: Synthesizing Bio-inspired Nanomaterials from Seaweed in Different Qualities
Objective: This research aims to pioneer innovative, energy-efficient, and cost-effective methodologies for extracting and refining nanomaterials from seaweed sources. By employing meticulous synthesis techniques, the goal is to tailor the properties and qualities of seaweed-derived nanomaterials, unlocking their potential for diverse applications.

PhD position 2: Developing Novel, High-Performance, and Multifunctional Seaweed-based Nanocomposites
Objective: This research endeavors to pioneer advanced methodologies for crafting seaweed-based nanocomposites, with a focus on superabsorbent structures, as sustainable alternatives to petroleum-derived synthetic polymers. By engineering multifunctional materials capable of efficient pollutant capture and removal, the aim is to address the global challenge of micro and nanoplastics pollution, offering environmentally friendly solutions to mitigate plastic contamination in diverse ecosystems. Through rigorous experimentation and optimization, the ultimate goal is to develop high-performance nanocomposites that drive the transition towards a more sustainable future.

These are full-time, funded research positions offering a competitive salary, available immediately for a duration of four years. Successful candidates will engage in research activities under the guidance of Dr. Seyedrahman Djafaripetroudy as the Principal Investigator.

Positions duties:
As part of their Ph.D. research assistantship, candidates will undertake a diverse range of responsibilities, including:

- Conducting independent research in bio-inspired nanocomposites, chemistry, chemical engineering, and nanotechnology.
- Crafting scholarly manuscripts, presentations for scientific conferences, and reports for industrial partners and MITACS.
- Overseeing laboratory operations and ensuring the upkeep of sophisticated equipment under the PI's supervision.
- Participating in the expansion initiatives of the laboratory that are pertinent to the research.
- Providing mentorship to MSc and undergraduate students.
- Undertaking additional research-related duties as necessary.
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Required Qualifications:
The position demands a multidisciplinary approach, with a preference for candidates with expertise in the following fields:

- A Master of Science degree in Polymer Chemistry, Nanotechnology, Biopolymers, Green Chemistry, or Chemical Engineering.
- Demonstrated proficiency in biopolymer synthesis, polymer reactions, nanomaterials synthesis, modifications, and their applications, supported by a robust theoretical foundation and practical experience.
- Advanced competencies in conducting microbiological analyses.
- Excellent written and oral communication skills, with the ability to publish scholarly manuscripts.

Preferred Qualifications:
• Preference will be accorded to applicants with a robust publication record, notable drive and motivation, and exceptional problem-solving abilities.
• Priority consideration will be given to Canadian applicants.

How to apply:

- Interested individuals are invited to submit their inquiries and complete application packages, comprising: 1) a cover letter outlining their interest in the position and detailing their qualifications, 2) a curriculum vitae (CV), and 3) contact information for three references, to Dr. Seyedrahman Djafaripetroudy at sdjafari@lakeheadu.ca. Please ensure that "SW_PS_NanoSAPs_2024" is included in the subject line.
- Applications will undergo continuous review, commencing immediately and continuing until the position is filled.
- Early submissions are strongly encouraged.
- Only candidates shortlisted will receive further communication.

Further information:
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