Carleton UNIVERSITY

Canada's Capital University

PhD/MASc position in chemical energy storage with particles

The Energy and Particle Technology Laboratory (EPTL) at Carleton University, Ottawa, Canada is accepting applicants for a PhD/MASc position on chemical energy storage with particles. The successful applicant will perform experiments and theoretical calculations on the potential of nanoparticles for chemical energy storage. This project focuses on developing processes in which solar thermal energy is used for the synthesis of energetic nanoparticles that could later be oxidized to harness their chemical energy. This is a fully funded position for up to four years (two for MASc) conditional to the performance of the candidate starting from September 1st, 2020.

Candidate qualifications

Candidates must have completed a masters degree (exceptional bachelor graduates are also considered) in Material, Mechanical, Chemical, Physics, Chemistry or in a closely related field. The candidate should have demonstrated experience in the following areas:

- Demonstrated experience with the design, fabrication and assembly of mechanical parts using commercial software SolidWorks, CATIA, and/or AutoCAD
- Experience from the construction of experimental equipment and related infrastructure
- Experience with Thermal Gravimetric Analysis (TGA), Differential Scanning Calorimetry (DSC) and X-ray powder diffraction (XRD)
- work independently, self-motivated, with a strong work ethic and collaborative skills
- Applicants must be proficient in both written and oral English and possess excellent communication and interpersonal skills.

Energy and Particle Technology Laboratory

EPTL conducts research on nanoparticle engineering with applications in energy storage, advanced material synthesis, emission sensing and quantification of their impact on the environment. We develop process design tools for scalable gas phase synthesis of nanoparticles with tailored functional properties and study how particle characteristics including their size distribution, morphology and chemical composition are linked to their properties of interest such as optical, sensing and energy storage characteristics.

How to Apply

Applications should include a CV and a cover letter clearly outlining how past research and experience provide the essential qualifications to undertake the project. Additionally, contact info for three references should be available upon request. Please Direct Application to:
Professor Reza Kholghy (Director of EPTL): reza.kholghy@carleton.ca