**MASc position on combustion of aluminum particles in water to generate zero-carbon hydrogen**

The Energy and Particle Technology Laboratory (EPTL) at Carleton University, Ottawa, Canada is accepting applicants for a Master of Science position on experimental evaluation of high pressure combustion of recycled aluminum powders in water to generate hydrogen gas. The successful applicant will develop a procedure to reduce the particle size of aluminum in a ball-mill, operate a high pressure and temperature batch reactor to collect and analyze reaction data, and pre and post characterization of the reactant and byproduct. This is a 24 month project in collaboration with GH Power and National Research Council of Canada and starts on May 1st, 2022.

**Candidate qualifications**

Candidates must have completed at four two years of studies in mechanical or aerospace engineering or in a closely related field. The candidate should have demonstrated experience in the following areas:

* Demonstrated experience in a lab setting (specific training will be provided)
* Experience on the setup of experimental equipment and related infrastructure
* Familiar with a programming language such as Matlab
* 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
* Minimum GPA of A- (10)

**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](mailto:reza.kholghy@carleton.ca)