

## **PhD Student Position in Mechanical Properties of Materials at the Micron Scale**

**Job description:** We are seeking innovative and highly motivated PhD candidates to join the FROG lab in the mechanical engineering department at the University of Ottawa.

The successful candidate will work within Prof. Arnaud Weck's laboratory on a multi-disciplinary project to investigate the mechanical properties of materials at the micron scale. Some of the mechanical phenomena to be studied include: size effect on strength and fracture, grain boundary strength, grain boundary embrittlement, and strength and toughness of individual grain boundaries. The micron-sized specimens used in this project will be obtained using an ultrafast laser. The following laser related physical phenomena will be studied: ultrafast laser micromachining and laser-matter interactions.

Tools will involve micro-mechanical tester, in-situ electron microscopy, digital image correlation, ultrafast lasers and related characterization techniques, atomic force microscopy, as well as finite element codes.

The project may involve industrial collaborations.

**Qualification:** Applicants should hold Master's degree in Materials Science and Engineering or related fields (e.g. Mechanical Engineering). Knowledge and experience with ultrafast lasers would be an asset. Candidates should have demonstrated outstanding performance throughout their undergraduate and graduate studies. Critical thinking and strong enthusiasm for scientific research are essential. The candidate should have a strong interest in working in a multi-disciplinary environment and should have very good collaboration skills.

The English language requirement at the University of Ottawa needs to be fulfilled.

The successful applicant will join an enthusiastic and collaborative research group where a multidisciplinary approach is pursued.

**Institution Information:** Located at the heart of Canada's capital, the University of Ottawa host 40,000 students and is the largest bilingual (English-French) university in the world. The University of Ottawa has consistently been ranked one of Canada's top universities.

**Location:** With a population of over 1.3 million, the Ottawa region is the fourth-largest urban area in Canada. Ottawa is rich in culture and heritage with many national institutions and historic buildings. Ottawa boasts unparalleled standard of living, benefitting from a unique combination of urban convenience and accessible nature. Consistently ranking in the World's top 20 cities to live in and top 10 cities for safety, Ottawa currently ranks 16th in Mercer HR Consulting's 2015 Worldwide Quality of Living Survey. Ottawa also ranks 1st for Canada's best major city to live in (Moneysense-2015). Ottawa sits at the confluence of three major rivers and is minutes away from Gatineau Park's more than 350 square kilometres of trees, trails and campgrounds. Ottawa's four seasons provide an exhilarating canvas of colour, beauty, and recreational activity. With 44 national and university laboratories throughout the city, and the highest concentration of PhDs in North America tied with Boston, Ottawa is the place to be for a career in research and development.

**How to Apply:** Please send your letter of intent, CV, grade transcripts, and names and addresses of three references to [aweck@uottawa.ca](mailto:aweck@uottawa.ca).