

University of Toronto
Faculty of Applied Science and Engineering
Mechanical and Industrial Engineering Department

Posting date: May 27, 2019

Area of Research: Thermodynamics and Machine Learning for Renewable Energy Applications

Description of Duties: A grand challenge before the thermofluids community is the development of efficient and effective fluids to advance renewable energy applications and to increase the energy efficiency. The Sinton Lab (www.sintonlab.com) is seeking a **postdoctoral fellow** in this area, particularly with deep expertise in one or more of thermodynamics, thermofluids, and machine learning. The group is mission-driven, and the mission is to increase the efficiency and effectiveness of geothermal energy and cooling applications. Specifically, we are developing bespoke, high performance working fluids for geothermal energy applications and cooling applications - including advanced phase change materials, and blends. Our approach is a blend of fundamental thermodynamics analysis, high-throughput microfluidics-based industrial fluid testing systems, and ultimately AI-guidance of the experimental system. Meeting this challenge will require excellence and innovation in both fundamental thermofluids and automated high throughput fluid testing.

Our labs are located in the Mechanical Engineering building at the Downtown Toronto Campus (St. George) at the University of Toronto. The successful candidate is expected to both lead independent research and be a resource within this multidisciplinary team. The candidate will also liaise directly with industrial partners and contribute to funding and commercialization efforts.

Salary: \$50,000/year

Expert start date: September 1, 2019

Term: One-year with a possible renewal

FTE: 100%

Requirements: Candidates must have a PhD in Engineering, Physics or Chemistry, and have a strong track-record of academic excellence and research impact.

The normal hours of work are 40 hours per week for a full-time postdoctoral fellow (pro-rated for those holding a partial appointment) recognizing that the needs of the employee's research and training and the needs of the supervisor's research program may require flexibility in the performance of the employee's duties and hours of work.

Application Instructions: Highly motivated applicants are invited to send a cover letter, a CV, and a list of three references as a single PDF file to David Sinton (sinton@mie.utoronto.ca), by the closing date of June 30, 2019. Please put "PDF-Renewable Energy" in the subject line to reference this opportunity.

Closing Date: June 30, 2019.

Employment as a Postdoctoral Fellow at the University of Toronto is covered by the terms of the CUPE 3902 Unit 5 Collective Agreement. This job is posted in accordance with the CUPE 3902 Unit 5 Collective Agreement.

The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ persons, and others who may contribute to the further diversification of ideas.