PhD Position in Computational Materials Design for Energy and Environmental Applications

Project title: Designing Efficient and Affordable Energy Materials by Manipulating Disorder

Project description: The successful applicant will work on an exciting research program that has the potential to push sustainable energy technologies beyond their current limits. This program will specifically focus on designing efficient and affordable materials for sustainable catalysis and/or fuel cell applications by manipulating inevitable disorder present in materials. This critical research problem will be tackled with the aid of advanced modeling techniques (capable of analyzing materials from nano- to electronic- scales and under practical conditions), interdisciplinary approach, and experimental collaborations. The person appointed will work as part of a newly established interdisciplinary team focused on developing novel energy materials and will have access to world-class computational facilities and collaborations.

Research area: Computational materials design, Sustainable energy, Disordered materials, Catalysis, Fuel cells, Quantum and classical mechanics simulations, Nanomaterials

Starting date: May 2020

Research advisor: Prof. Kulbir Ghuman

Institution: Centre Énergie Matériaux Télécommunications de l’INRS, 1650 Boulevard Lionel-Boulet, Varennes, Quebec, J3X 1S2, Canada

Financial support: All students are entitled to receive financial support during their graduate studies. Moreover, students are also invited to apply for external scholarships from FRQNT, NSERC, etc.

Eligibility: Applicant should have a degree (M.Sc.) in Materials Science, Physics, Chemistry, or equivalent and must be fluent in English or French (orally as well as in written). He/She should be able to work independently as well as with a team. His/Her ability to demonstrate critical and independent thinking will be invaluable assets.

How to apply: Interested candidates should send a detailed CV, cover letter, academic records, statement of interest, and the contact details of at least one reference at kulbir.ghuman@emt.inrs.ca. Please mention if you are an international or a domestic (Canadian citizen/ permanent resident) candidate.

For more information contact Kulbir Ghuman, kulbir.ghuman@emt.inrs.ca, Tel. :+1 514 228 6921