

Fuel Cell Research Laboratory

fcrel.ca

Directed by Dr. Erik Kjeang

School of Mechatronic Systems Engineering, Vancouver, Canada

PhD Student Fellowship Opportunity: Polymer Electrolyte Membrane Fuel Cells

There is an immediate opportunity for a 3-year PhD student fellowship at the Simon Fraser University Fuel Cell Research Laboratory in collaboration with local fuel cell industry partners to conduct research on polymer electrolyte membrane fuel cells (PEMFCs). The PhD program is slated to start in September 2018 although the fellowship term may begin as early as June 1, 2018 or as soon as possible.

Responsibilities:

- Conduct theoretical/computational modeling of physical, electrochemical and chemical processes in PEMFCs.
- In-house fabrication of membrane electrode assemblies for fuel cell testing.
- Carry out experiments related to PEMFC performance and durability using specialized diagnostic techniques including in-situ and in-operando visualization.
- Characterize PEMFC components using advanced spectroscopic and microscopic techniques coupled with physico-chemical methods, e.g., BET, MSP, DVS, DMA, etc., to understand the relation between structure, composition and properties of components with performance/durability.
- Analyze, interpret and summarize test data.
- Maintain up-to-date knowledge, critically analyze, and summarize related PEMFC materials, technology and application literature.
- Work effectively within a research team of scientists and research engineers to accomplish technical objectives.
- Develop solutions for enhanced fuel cell durability and performance.

Requirements:

- Master's/Bachelor's degree in mechanical, materials, or chemical engineering, or a related discipline.
- Prior mechanistic/computational modeling and/or experimental R&D experience.
- Experience in transport phenomena, porous materials, electrochemistry, and/or polymer engineering.
- Strong interest and commitment in sustainable green energy systems.
- Strong analytical skills.
- Strong hands-on capabilities and aptitudes.
- Good oral and written communication skills.
- Ability to work as part of a small team and as an individual researcher.

To apply for this position, please contact apcfc@sfu.ca by **April 30, 2018**, including a cover letter and resume addressing how you meet and exceed the requirements.

This position is open to Canadian citizens, permanent residents, and international applicants. Admission to the PhD program at Simon Fraser University is required (visit www.sfu.ca/dean-gradstudies/future.html).