

Postdoc and Graduate Student Positions in Winnipeg, MB, Canada

I am looking for one (or more, depending on funding) *postdoctoral fellow(s)* and one or more *graduate students* to join my research group (again, depending on funding). I would ask you to please bring this information to the attention of qualified candidates.

General Background

The research of the Schreckenbach group is entirely computational/ theoretical in nature. Within this framework, we pursue a range of different research projects, often in collaboration with experimental researchers.

Topics

The following topics are of particular interest:

1. Theoretical actinide molecular science

The project builds on existing strengths within my group in the general area of actinide chemistry. Specific projects and overall direction will be determined at a later date but may be partly driven by projects of our experimental collaborators in the USA and elsewhere.

2. Catalytic processes at surfaces

Modeling of adsorption and catalysis on solid surfaces, with a particular view of extended defects.

3. Rare earth separations using novel MOFs

In this project, the student and/or postdoc will collaborate directly with experimental and industry partners in Quebec on the development and characterization of novel metal-organic frameworks (MOFs) for extraction and separation of rare-earth elements.

4. Other projects are, in principle, possible as well.

This could (but not necessarily must) include quantum-chemical method and code development.

At the postdoc level, it is possible to combine two of these topics in one position.

Postdoc position(s), details

Background: Postdoc applicants must have or be close to receiving a Ph.D. in computational/ theoretical chemistry, materials science, or a closely related field (preferably within the last 3 years), as well as a strong publication record. Significant experience in quantum-chemical modelling of molecules or materials is required. It is important that the applicant is capable of independent work. The postdoc(s) will be expected to work independently, but in close collaboration with the PI and other group members, and with experimental collaborators. Postdocs are expected to provide leadership for more junior members of the research group. There is considerable room for postdocs to provide vision and give direction to the projects.

Experience in aspects of the respective project (e.g. relativistic quantum chemistry, surface modelling for project 2, MOFs for project 3, or multireference methods for project 1) is an asset.

Salary: The salary is approximately \$48,000 CAD per year plus benefits.

Start date, duration: The start dates are negotiable, but I would like the successful applicant(s) to start as soon as possible. The position(s) are initially 1 year in duration, with the possibility of renewal for another year *pending* mutual interest and, *in particular, the availability of funding.*

Application: Interested candidates *should send the following material* directly to Prof. Georg Schreckenbach (electronic submission requested pdf format):

- (i) Cover letter explaining your background; please mention where you learned about the positions; describe your career goals in connection to the position; for applicants whose native language is not English, please comment on your English-language skills also;

- (ii) Curriculum Vitae;
- (iii) List of Publications;
- (iv) Document explaining your choice of project(s) (projects 1– 4 above, or combination), *max. 1 page*;
- (v) *One-page* document outlining previous research achievements;
- (vi) Names and contact details of at least two referees;
- (vii) Any other documents that you deem relevant.

Graduate student position(s), details

Background: Students should have a strong background in chemistry (undergraduate or M.Sc. degree). Research experience in computational chemistry or a closely related field is a strong asset. In any case, evidence of research aptitude and potential is essential.

Funding: Graduate students in the Department of Chemistry receive stipends from a variety of sources.

Application: Interested candidates *should send the following material* directly to Prof. Georg Schreckenbach (electronic submission requested):

- (i) Cover letter explaining your background; please mention where you learned about the positions; describe your career goals in connection to the position; for applicants whose native language is not English, please comment on your English-language skills also;
- (ii) Curriculum Vitae, including list of publications (if any)
- (iii) Copies of transcripts;
- (iv) Document explaining your choice of project(s) (projects 1–4 above, or combination), *max. 1 page*;
- (v) Names and contact details of at least two referees;
- (vi) Any other documents that you deem relevant.

The review of applications will begin May 13, 2024, and will continue until the positions are filled. We value equality and diversity, and hence **applications from underrepresented groups are strongly encouraged!**

Environment:

The Schreckenbach research group is part of the Department of Chemistry at the University of Manitoba in Winnipeg. The University of Manitoba (<http://www.umanitoba.ca/>) is the largest university in the province of Manitoba and among Canada's major research universities. It has an undergraduate student population of about 25,000, and about 4,000 graduate students. The Chemistry Department (<http://www.umanitoba.ca/chemistry/>) is one of the largest departments in the University of Manitoba, yet it keeps a friendly and collaborative atmosphere.

The University of Manitoba campuses (including the Department of Chemistry) are located on original lands of Anishinaabeg, Ininewuk, Anisininewuk, Dakota Oyate and Denesuline, and on the National Homeland of the Red River Métis.

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