

Exploration Geochemistry Initiative

About the Initiative

The MDRU Exploration Geochemistry Initiative provides the leadership and financial support to implement a program that significantly increases the amount and quality of research and training in mineral exploration geochemistry. This initiative is being undertaken by the MDRU-Mineral Deposit Research Unit, based in the Earth, Ocean and Atmospheric Sciences Department at The University of British Columbia.

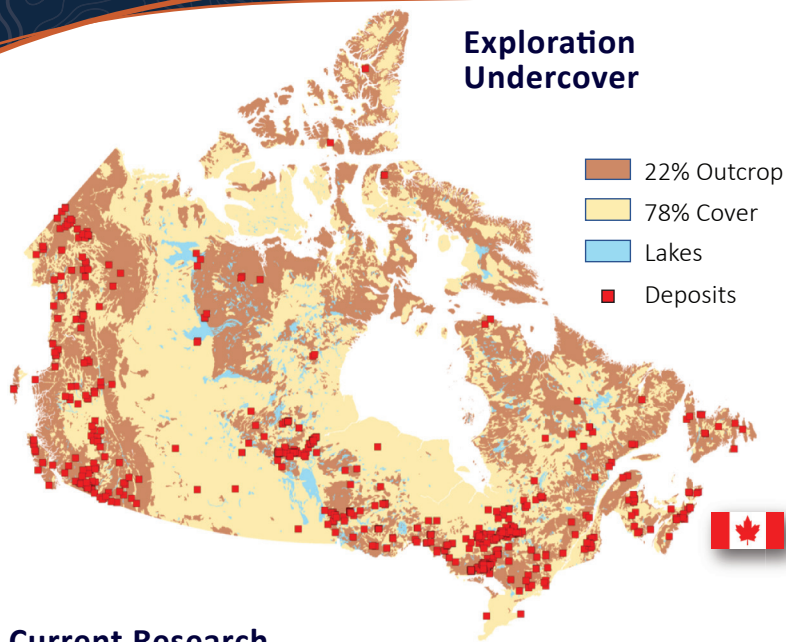
A significant foundation contribution from Bureau Veritas Minerals/Acme Laboratories and matching NSERC support has provided this initiative with funding for the NSERC/AcmeLabs/Bureau Veritas Minerals Industrial Research Chair in Exploration Geochemistry. This initiative also benefits from industry contributions and project sponsorships from Anglo American, Newmont, Vale, Olympus Innov-X, AGI, Geoscience BC, and the Northwest Territories Geological Survey.



The Exploration Geochemistry Initiative operates under 3 key modules

- 1** An **Industry Research Chair in Exploration Geochemistry** at UBC. The Chair provides leadership and innovation required to establish a robust research foundation in the field of Exploration Geochemistry.
- 2** A **robust research program** to understand element mobility and transport through surficial environments, specifically from buried and blind deposits, and to develop new exploration techniques and strategies. A well-funded and dynamic research group consisting of Post-Doctoral fellows and graduate students has been established; three students have graduated at the MSc level since inception in 2015.
- 3** Emphasis on the provision of **education, training, and professional development** opportunities in the field of exploration geochemistry. Focus is on the development of short courses and workshops for students and industry that emphasize applying the appropriate tools and instrumentation.





Current Research

Ongoing research projects include:

- Application of molecular biology as a mineral exploration tool. This is a collaborative project with the UBC life sciences department and receives substantial funding from Geoscience BC.
- Hydrocarbons as pathfinders for non-petroleum resources
- Mineral phase dynamics and reaction rates of partial extractions
- Wall rock alteration proximal to a kimberlite intrusion as a vector for discovery
- Exploration toolset for Cu mineralization beneath the Atacama gravels in Chile
- Development of a geochemical atlas for Colombia, in collaboration with the Colombian Geological Survey (SGC)

ENGAGE WITH US

Engagement can take a variety of forms, ranging from short one-on-one research projects with a corporate sponsor or a single researcher, or a student in the scope of a MSc or PhD thesis, to large, multi-company, multi-country projects with numerous researchers. Additional contributions and research project proposals are also welcome.

Peter Winterburn



Dr. Peter Winterburn is the NSERC/AcmeLabs/Bureau Veritas Minerals Industrial Research Chair in Exploration Geochemistry. With expertise in regional geochemistry and exploration methodologies, Peter previously served as Regional Geochemist in South America and Africa with Anglo American. His research interests centre on innovation of robust, cost-effective, geochemical exploration methods for concealed deposits.

At MDRU, Peter has established a robust research team comprising Post-Doctoral Fellows and graduate students to undertake collaborative, industry-relevant research to develop a deeper understanding of the processes by which inorganic and organic geochemical anomalies form and are retained over concealed mineralization. This research will lead to the development of industry appropriate strategies, and geochemical tools with a clear understanding of their geological and environmental constraints.

**For more information,
contact pwinterburn@eoas.ubc.ca**