



# President's Award for Excellence in Research

**Dr. Jacob Hanley**

Professor, Department of Geology



As a global leader in the field of geochemistry and mineral resource geology, Dr. Jacob Hanley's research conducted on campus at Saint Mary's and nationally and internationally has been an influential force for faculty, students, industry partners and the scientific community.

Always happy to mentor the next generation of researchers, Dr. Hanley has supervised more than 50 BSc honours theses and graduate theses at SMU, with alumni moving on to successful careers in industry, government and academia. His lab's active, varied research scope includes considerable student involvement, many industry and government funding sources, and spans a continent and centuries of data.

In a partnership with the Nova Scotia Museum, Dr. Hanley is currently engaged in an interdisciplinary collaboration with archaeologists, geochemists, and community members that may rewrite the understanding of pre-contact copper trade across North America. Using the chemical composition of copper from protohistoric sites in Nova Scotia, this research group is also tracking copper from its place of origin in 16<sup>th</sup> and 17<sup>th</sup> century Swedish mines to the Maritimes Basin of Canada, where it was repurposed by Indigenous peoples.



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Another major research theme focuses on the geochemical origin of deposits of critical metals such as tin, tungsten, cobalt and lithium. Dr. Hanley's team has developed ways of measuring concentrations of these metals at their source, deep in the Earth's crust, by analyzing microscopic samples of trapped magma in crystals that are transported to surface during eruption. The supply of these metals is threatened, a concern that Canada has recognized as they are essential to national economic security and the transition to a low-carbon economy.

Recognized for his research excellence, Dr. Hanley has won national awards, contributed to dozens of peer-reviewed publications and has received significant research funding, including \$2.6 million as Principal Investigator from industry and government sources.

His career has already been exceptionally productive, creative, and influential and we anticipate even more interesting work from him as his career progresses.

Dr. Hanley earned his PhD in Geology from the University of Toronto, where he also earned a Bachelor of Applied Science (Honours) in Mining Engineering and a Master of Science (Geology). Now a full tenured professor, he has held increasingly senior faculty roles in the Department of Geology at Saint Mary's since 2007.

The President's Award for Excellence in Research honours continued exceptional contributions to research and scholarship conducted by a full-time Saint Mary's University faculty member. More information can be found at [smu.ca/fgsr/presidents-award](https://smu.ca/fgsr/presidents-award).