



Department of Geology Seminar Series Presents

Atlantic Geoscience Society
2020-21 Speaker Tour

Dr. Alana Hinchey

Senior Geologist
Geological Survey of Newfoundland and Labrador

*The Science (and Art) of Regional Bedrock Mapping:
Lessons from Labrador and Life*

FRIDAY, FEBRUARY 26 - 11:00AM

via Zoom

*Connection details in email announcement
or by contacting geology@smu.ca*

Everyone is welcome to attend!



GEOLOGY
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**2020-21 AGS Speaker Tour, Dr. Alana Hinchey, Geological Survey of
Newfoundland and Labrador, Government of Newfoundland and Labrador**



Title: *The Science (and Art) of Regional Bedrock Mapping:
Lessons from Labrador and Life*

Abstract

Although essential research elements and core field skill requirements have not changed, there have been some fundamental changes in the field of bedrock mapping over the last 20 years. A complex, multidisciplinary approach is required to unravel the evolution of complex tectonic regimes. We need to apply a full suite of analytical techniques to a map area, such as field mapping, structural analysis, lithogeochemistry, isotope geochemistry, petrography, and geochronology in order to decipher its lithological, structural, and metamorphic history.

The advent of digital data capture systems and portable tablets have altered the way data are collected, integrated and published. These advances in technology allow the full integration of GIS into bedrock mapping. We now utilize digital geologic mapping to improve our field efficiency and problem solving capabilities. Basic digital mapping is just the beginning of new and evolving capabilities with true 3D mapping (i.e. mapping through a 3D interface as opposed to building a 3D model post field mapping). With the aid of unmanned aerial vehicles (UAVs), we are developing and applying high-resolution, photo-realistic terrain models as a base surface for 3D mapping. The integration of these new technologies into digital field workflows and 3D visualizations is transforming the practice of bedrock mapping by making it more accessible and visually realistic.

Biography

Alana Hinchey, B.Sc.H., M.Sc., Ph.D., P.Geo.

Alana earned a B.Sc.Hons. (Geological Science) from Queen's University in 1999, followed by a M.Sc. (Earth Sciences) from Memorial University in 2001, and a Ph.D. (Earth Sciences) from Carleton University in 2005.

Upon graduation, she worked with the Geological Survey of Canada under a Post-Doctoral Fellowship, before joining the provincial Geological Survey of the Government of Newfoundland and Labrador in 2006 as a bedrock mapping geologist.

In 2012, Alana was promoted to Senior Geologist for the Regional Geology Section and is accountable for the collection, development and interpretation of bedrock-geological data for the Province, as well as various research projects including deciphering the evolution of the Makkovik Province. In addition to Provincial products, Alana's work on Precambrian volcano-sedimentary sequences has recently been published in high-impact journals such as *Lithos* and *Precambrian Research*.

Alana is also a passionate volunteer for geoscience engagement and Provincial geoheritage. She was a key contributor to the successful application for the UNESCO Discovery Global Geopark on the Bonavista Peninsula. She currently serves on several non-profit boards, including the Canadian Geological Foundation, and the Geological Association of Canada.