

Mike Young

Senior Instructor

Department of Earth and Environmental Sciences,
Dalhousie University, Halifax, Nova Scotia, Canada

email: mike.young@dal.ca

Education

GIS Diploma, *Selkirk College*, 2005

MSc, (*Geological Sciences*), *Queen's University*, 2003

BSc, (*Geology, Honours*), *Dalhousie University*, 2000

Professional Experience

July 2017 – present

Senior Instructor, Department of Earth and Environmental Sciences, Dalhousie University

January 2010 – July 2017

Instructor, Department of Earth Sciences, Dalhousie University

Summer 2011

Geological Mapping and GIS Support, Smash Minerals, White Gold District, Yukon

October 2008 – December 2012

Project Co-leader and Regional Geologist, Geological Survey of Canada,

- Three-year Cumberland Peninsula Project on Baffin Island. Publication of 11 GSC maps.

January 2008 – December 2008

Senior Project Geologist, Acadian Mining Corporation

- Devonian Quartz vein-hosted lode gold deposits in Meguma metaturbidites
- Mississippi Valley Type Lead Zinc operating mine

June 2005 – October 2007

Regional Geologist, Geological Survey of Canada

- Northern Baffin Island; Boothia Peninsula. Archean granite-greenstone belts reworked by Paleoproterozoic orogenic systems

March 2004 – Sept 2004

Exploration Geologist, Miramar Mining Corporation

- Hope Bay Belt; shear zone-hosted lode gold in Archean greenstone belt

July 2003 – February 2004

Geological Assistant, Geological Survey of Canada

- Committee Bay, Nunavut; Archean granite-greenstone reworked during Paleoproterozoic.

Honours

Professor of the Year, Earth Sciences, Dalhousie University, 2020-2021

Faculty of Science Award for Teaching Excellence, Dalhousie University, 2016

Professor of the Year, Department of Earth Sciences, Dalhousie University, 2012-2013

Natural Resources Canada Merit Award – for excellence in community outreach, 2011

Natural Sciences and Engineering Research Council (NSERC) of Canada Postgraduate Scholarship, 2001-2003.

President's Gold Medal, C.I.M. Student Essay Competition, 2000

University Medal in Earth Sciences, Department of Earth Sciences, Dalhousie University, 2000

Best Undergraduate Thesis Award, Department of Earth Sciences, Dalhousie University, 2000

Rupert MacNeil Award, Best Student Paper, Atlantic Geoscience Colloquium, 2000

Media Coverage and Online Content

Virtual Field Trips:

Overview Video: <https://youtu.be/PtjWOWS2U1o>

Arisaig: <https://arcg.is/1WPTXL>

Conrad's Head: <https://arcg.is/0uueaz>

Georgeville: <https://arcg.is/1SLW9i1>

Horton Bluff: <https://arcg.is/0mf5CG0>

Lower East Chezzetcook: <https://arcg.is/bjuvG>

Margaretsville: <https://arcg.is/019Xni>

Port Greville: <https://arcg.is/1irXDj>

Rainy Cove: <https://arcg.is/bT5zD>

Virtual Field Trip Project in 2020:

July 2020. [DalNew article](#)

Aug 2020. [Capital Current article](#)

Aug 2020. [Chronicle Herald article](#)

January 2021. [University Affairs article](#)

February 2021. [EduCanada video interview](#)

YouTube Channel:

<https://www.youtube.com/channel/UCQm1bVJZHOppWPkf1pEbtA/videos>

Sketchfab Site:

<https://sketchfab.com/mike.young>

Northerner Geoscience Training Program:

July 2013. [DalNews article](#)

July 2013. [Nunatsiaq News article](#)

July 2015. [CNGO website](#) including photo essays from participants

Project Funding and Fundraising

2019	Fundraising for EARTH 4002: Advanced Field School Includes OERA (\$5000), Dalhousie Science Society (\$1000), Integrated Ventures Corp. (\$2500), PDAC (\$2000), CSPG (\$1000). (as well as 8 x \$1500 individual grants for additional \$12,000)	\$11,500
2018	Supervised and assisted with student-led fundraising for the AUGC conference in Nov, 2018. Over 25 individual donors.	\$23,300
2018	Fundraising for EARTH 4002: Advanced Field School Includes OERA (\$5000), Dalhousie Science Society (\$1000), Integrated Ventures Corp. (\$2500), PDAC (\$850)	\$8,350
2017	Fundraising for EARTH 4002: Advanced Field School Includes OERA (\$5000), Dalhousie Science Society (\$5000), Integrated Ventures Corp. (\$2500), RBC Foundation (\$1400), and other alumni donations (\$750).	\$14,650
2016	OERA Student travel grants Fundraising for EARTH 4002: Advanced Field School I coordinated the grant application on behalf of the students	\$5500
2015	Canada-Nunavut Geoscience Office Paleoproterozoic sedimentary basins on Archean basement in central Rae domain, Nunavut. Support for a BSc honours thesis	\$1000
2015	Northerner Geoscience Training Program Source: Government of Nunavut Funds supported 5 Inuit students to attend Advanced Field School	\$16,500
2015	ProjectDal – Inaugural year for Dalhousie Crowdfunding Fundraising for Advanced Field School I coordinated many of the student fundraising activities	\$20,850
2014	Northerner Geoscience Training Program Mine Training Program of Government of Nunavut Funds supported 3 Inuit students to attend Advanced Field School	\$8,500
2014	Northerner Geoscience Training Program Geo-Mapping for Energy and Minerals – NRCan Funds supported Inuit training program, field school equipment purchases, and salary for camp manager	\$12,000
2013	Canada-Nunavut Geoscience Office Support for Advanced Field School Travel for 2 Inuit students to field school and salary for camp manager	\$8800
2013	Acadian Mining Corp Contributions for start-up of Advanced Field School	\$3000

2013	Canada-Nunavut Geoscience Office Tectonometamorphic evolution of Hall Peninsula, Nunavut. Support for a BSc honours thesis	\$2300
2011	Smash Minerals Inc Placer gold study in the Yukon. Support for a BSc honours thesis	\$3000
2011	Acadian Mining Corp Portable XRF study of Beaver Dam gold deposit, NS. Support for a BSc honours thesis	\$1200

Selected Publications

Refereed Articles and Government Reports and Maps

Skipton, D.R., Wodicka, N., McNicoll, V., Saumur, B.M., St-Onge, M.R., and Young, M.D., 2019. U-Pb zircon geochronology of Archean greenstone belts (Mary River Group) and surrounding Archean to Paleoproterozoic rocks, northern Baffin Island, Nunavut; Geological Survey of Canada, Open File 8585, 1 .zip file. <https://doi.org/10.4095/314938>

Young, M; Mate, D; Peyton, P; Sudlovenick, C; Steenkamp, H; 2014. Geoscience field training for Nunavut students: a collaboration between the Canada-Nunavut Geoscience Office and Dalhousie University. Canada-Nunavut Geoscience Office, Summary of Activities 2013; p. 213-220.

Creason, C; Gosse J; Young, M; 2013. Rift flank uplift and landscape evolution of Hall Peninsula, Baffin Island, Nunavut: an exhumation model based on low-temperature thermochronology. Canada-Nunavut Geoscience Office, Summary of Activities 2012, p. 75-84.

Braden, Z M; Young, M; St-Onge, M; Skipton, D; 2013. Field observations on D1 and D2 deformation fabrics and metamorphic mineral growth in the Newton Fiord region of Hall Peninsula, Baffin Island, Nunavut. Canada-Nunavut Geoscience Office, Summary of Activities 2012, p. 65-74.

Sanborn-Barrie, M; Young, M; 2013. Geology, Circle Lake, Baffin Island, Nunavut. Geological Survey of Canada, Canadian Geoscience Map no. 5, 1 sheet

Sanborn-Barrie, M; Young, M; 2013. Geology, Sunneshine Fiord, Baffin Island, Nunavut. Geological Survey of Canada, Canadian Geoscience Map no. 6, 1 sheet

Sanborn-Barrie, M; Young, M; 2013. Geology, Padle Fiord, Baffin Island, Nunavut. Geological Survey of Canada, Canadian Geoscience Map no. 37, 1 sheet

Sanborn-Barrie, M; Young, M; 2013. Geology, Durban Harbour, Baffin Island, Nunavut. Geological Survey of Canada, Canadian Geoscience Map no. 38, 1 sheet

Sanborn-Barrie, M; Young, M; 2013. Geology, Qikiqtarjuaq, Baffin Island, Nunavut. Geological Survey of Canada, Canadian Geoscience Map no. 39, 1 sheet

Craven, J A; Sanborn-Barrie, M; Roberts, B J; Stefanescu, M; Young, M; 2013. Preliminary insights into the architecture of southern Cumberland Peninsula from megnetotelluric data. Geological Survey of Canada, Current Research (Online) no. 2013-3, 15 pages.

Hamilton, B; Pattison, D; Sanborn-Barrie, M; Young, M. 2012. Metamorphic map of Cumberland Peninsula, Baffin Island, Nunavut. Geological Survey of Canada, Current Research.

Keim, R; Sanborn-Barrie, M; Ansdell, K; Young, M. 2012. Totnes Road volcanic rocks: a highly fragmental, Ti-enriched komatiitic volcanic suite on Cumberland Peninsula, Baffin Island. Geological Survey of Canada, Current Research.

Sanborn-Barrie, M; Young, M; Whalen, J; James, D. 2011. Geology, Ujuktuk Fiord, Nunavut. Geological Survey of Canada, Canadian Geoscience Map no. 1, 1 sheet, 1 CD-ROM.

Sanborn-Barrie, M; Young, M; Whalen, J. 2011. Geology, Kingnait Fiord, Nunavut. Geological Survey of Canada, Canadian Geoscience Map no. 2, 1 sheet 1 CD-ROM.

Sanborn-Barrie, M; Young, M; Whalen, J; James, D; St-Onge, M R Geology, Touak Fiord, Nunavut. Geological Survey of Canada, Canadian Geoscience Map no. 3, 1 sheet 1 CD-ROM.

Sanborn-Barrie, M and Young, M. 2011. Bulk compositional data for sulfidic and gossanous rocks from Cumberland Peninsula, Baffin Island, Nunavut. Geological Survey of Canada, Open File 6916, 11 pages.

Sanborn-Barrie, M; St-Onge, MR; Young, MD; James, DT, 2008. Bedrock geology of southwestern Baffin Island, Nunavut: expanding the tectonostratigraphic framework with relevance to mineral resources. Geological Survey of Canada, Current Research No 2008-6, 16 pages.

Ryan, JJ; Nadeau, L; Hinchey, AM; James, DT; Young, MD; Williams, SP; Schetselaar, EM, 2008. Geology, southern Boothia mainland area, Pelly Bay - Rae Strait - Harrison Island map area, Nunavut. Geological Survey of Canada, Open File 5808, 1 sheet.

St-Onge, MR; Sanborn-Barrie, M; Young, MD, 2007. Geology, Mingo Lake, Baffin Island, Nunavut. Geological Survey of Canada, Open File 5433, 2007; 1 sheet 1 CD-ROM

St-Onge, MR; Sanborn-Barrie, M; Young, MD, 2007. Geology, Foxe Peninsula, Baffin Island, Nunavut. Geological Survey of Canada, Open File 5434, 2007; 1 sheet 1 CD-ROM

Young, M.D., McNicoll, V., Helmstaedt, H., Skulski, T., Percival, J.A. 2006. Pickle Lake revisited: new structural, geochronological and geochemical constraints on greenstone belt assembly, western Superior Province, Canada. Canadian Journal of Earth Sciences, 43: 821-847.

Johns, SM and Young, MD, 2006. Bedrock geology and economic potential of the Archean Mary River group, northern Baffin Island, Nunavut. Geological Survey of Canada, Current Research no. 2006-C5, 13 pages.

Little, E.C., Dyke, A.S., Young, M.D., Utting, D.J. 2005. Preliminary bedrock geochemistry and drift prospecting results from the North Baffin Project (NTS 37F, 37G, 47E), northern Baffin Island, Nunavut. Geological Survey of Canada, Open File 4944, 245 pages.

Young, M.D., Sandeman, H., Berniolles, F., Gertzbein, P.M. 2004. A preliminary stratigraphic and structural geology framework for the Archean Mary River Group, northern Baffin Island, Nunavut. Geological Survey of Canada, Current Research No. 2004-C1, 14 pages.

Little, E.C., Holme, P.J., Hinchey, A.C., Young, M. 2004. Glacial geology, ice-movement chronology, and drift prospecting in the vicinity of Icebound Lakes, northern Baffin Island, Nunavut. Geological Survey of

Canada, Current Research No. 2004-B1.

Skulski, T., Sandeman, H., Sanborn-Barrie, M., MacHattie, T., Young, M., Carson, C., Berman, R., Brown, J., Rayner, N., Panagapko, D., Byrne, D., Deyell, C. 2003. Bedrock geology of the Ellice Hills map area and new constraints on the regional geology of the Committee Bay area, Nunavut. Geological Survey of Canada, Current Research No. 2003-C22, 11 pages.

Sanborn-Barrie, M., Sandeman, H., Skulski, T., Brown, J., Young, M., MacHattie, T., Deyell, C., Carson, C., Panagapko, D., Byrne, D. 2003. Structural geology of the northeastern Committee Bay belt, Ellice Hills area, central Nunavut. Geological Survey of Canada, Current Research No. 2003-C23, 2003, 13 pages.

Young, M., Helmstaedt, H. 2001. Tectonic evolution of the northern Pickle Lake greenstone belt, northwestern Superior Province, Ontario. Geological Survey of Canada, Current Research No. 2001-C20, 20 pages.

Horne, R.J., White, C.E., Muir, C., Young, M.D. 1999. Preliminary geology of the Weymouth and Church Point areas, Nova Scotia. Report ME 1999-002, page 13.

Young, M.D., Horne, R.J., Culshaw, N. 1999. Characterization of minor folds in buckled coticule layers within the Beaverbank Member, central Nova Scotia. Report ME 1999-002, page 36.

Theses

Young, M.D. 2003. New structural, geochronological, and geochemical constraints on the tectonic assembly of the Archean Pickle Lake greenstone belt, Uchi subprovince, western Superior Province, Northwestern Ontario. Unpublished M.Sc. thesis, Queen's University, 182 p.

Young, M.D. 2000. Minor folds in Coticule layers and their relationship to regional fold evolution, central Meguma Terrane, Nova Scotia. Unpublished B.Sc. thesis, Dalhousie University, 146 p.

Invited Talks and Presentations at Scientific Meetings

Young, M.D., Strang, J., Toutah, R., and LaPierre, M. 2020. VIRTUAL FIELD TRIPS DELIVERED THROUGH ARCGIS ONLINE: INTEGRATING 3D MODELS, GIGAPANS, VIDEOS, AND OTHER CONTENT IN A WEB BROWSER-BASED APPLICATION. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020. doi: 10.1130/abs/2020AM-351851

Young, M.D., 2020. Virtual Field Trip through Nova Scotia. Invited talk at the Atlantic Universities Geological Conference. Virtual conference hosted by University of New Brunswick, Nov 21st.
<https://youtu.be/PtjWOWS2U1o>

Garrison, W. and Young MD. 2015. Preliminary interpretation of the geological history and characterization of a Paleoproterozoic metasedimentary cover sequence near Daly Bay Complex, Nunavut. In AUGC meeting, Saint Mary's University, Halifax, October 2015

Braden, Z., Young, MD, St-Onge, M, Skipton, D, Mate, D. 2013. Integrated structural and petrological observations constraining the Paleoproterozoic polymetamorphic evolution of the Newton Fiord region Hall Peninsula, Baffin Island, Nunavut. In Program and Abstracts, Atlantic Geoscience Society Colloquium and Annual General Meeting, Dartmouth, Nova Scotia, Canada, February 1-2, 2013.

Young, MD; Sanborn-Barrie, M; Rayner, N; St-Onge, M. 2013. Timing and conditions of polyphase deformation and plutonism during Paleoproterozoic assembly of northeast Laurentia. *In* Program and Abstracts, Atlantic Geoscience Society Colloquium and Annual General Meeting, Dartmouth, Nova Scotia, Canada, February 1-2, 2013.

Higgins, M., Young, M.D., Cox, R.A., MacDonald, D., Fleming, A. 2012. Placer gold provenance in the Black Hills Creek watershed, west-central Yukon: exploration strategies from grain morphology and geochemical analysis. AGS Colloquium, Moncton, February 2012.

Young, MD; Sanborn-Barrie, M; Wodicka, N; Rayner, N; Keim, R; Whalen, J. 2010. A preliminary stratigraphic architecture of the Paleoproterozoic Hoare Bay group of the Cumberland Peninsula, eastern Baffin Island: update from the 2010 GEM Cumberland Project field season. Yellowknife Geoscience Forum, 39th, Program and Abstracts.

Young, MD; Sanborn-Barrie, M; Dyke, A; James, DT; Lynds, T; Craven, J; Coyle, M, 2009. The Cumberland Peninsula GEM Project: overview of 2009 field results and insights into exploration potential. Yellowknife Geoscience Forum, 37th, Program and Abstracts.

Young, M.D., Sandeman, H.A., Berniolles, F., Creaser, R.A. 2005. Structural, geochemical, and Nd isotopic constraints on the lithotectonic architecture of the Archean Mary River Group on northern Baffin Island, Nunavut. *In* Program and Abstracts, vol. 30, Geological Association of Canada – Mineralogical Association of Canada annual meeting and conference, Halifax, NS, May 15-18, 2005.

Young, M.D., Helmstaedt, H., McNicoll, V., Percival, J.A., Skulski, T. 2003. Pickle Lake revisited: new field, geochemical, and geochronological constraints on greenstone belt assembly. *In* Program and Abstracts, vol. 28, Geological Association of Canada – Mineralogical Association of Canada annual meeting and conference, Vancouver, BC, May 26-28, 2003.

Young, M.D., Horne, R.J., Culshaw, N. 2000. Minor folds and their relationship to regional fold evolution, central Meguma Terrane, Nova Scotia. *In* Program and Abstracts, Atlantic Geoscience Society Colloquium and Annual General Meeting, Fredericton, New Brunswick, Canada, February 10-12, 2000.

List of Courses Taught (Last 7 Years)

2021/2022

ERTH 2110 Field Methods
ERTH 4510 Directed Readings. Geology of North America
ERTH 1080 Geology I Labs
ERTH 3001 Field School (summer)
Teaching release: Undergraduate Advisor

2020/2021

Virtual Field Trip development: ERTH 2203, 3010, 3302, 3303, 4153, ENVS 2500, 4003
ERTH/GEOG 1060 Natural Disasters. Online content.
ERTH 4511 Directed Readings. Geology of North America
ERTH 2110 Field Methods (Summer Term)
Teaching Release: Undergraduate Advisor

2019/2020

Sabbatical (education) Leave

2018/2019

ERTH 2110 Field Methods (Fall Term)

ERTH 4511 Directed Readings (Winter Term). Geology of North America

ERTH 4002 Advanced Field School (4 weeks in April & May)

Teaching Release: Undergraduate Advisor

2017/2018

ERTH 1080 Geology I labs (Winter term; 6 hours/week; 2 lab sections)

ERTH 4002 Advanced Field School (28 days plus prep)

Parental Leave in Fall term

Teaching Release: Undergraduate Advisor

2016/2017

ERTH 2110 Field Methods (7 hours/week; 1 four-hour lab section)

ERTH 3500 GIS lab (3 hours/week; 1 lab section)

ERTH 1080 Geology I labs (Winter term; 6 hours/week; 2 lab sections)

ERTH 4002 Advanced Field School (28 days plus prep)

Teaching Release: Undergraduate Advisor

2015/2016

ERTH 2000 Introductory Field School (60 hours/week for 11 days)

ERTH 1080 Geology I labs (Fall term; 12 hours/week; 4 lab sections)

ERTH 2110 Field Methods (7 hours/week; 1 four-hour lab section)

ERTH 3500 GIS lab (3 hours/week; 1 lab section)

ERTH 1080 Geology I labs (Winter term; 6 hours/week; 2 lab sections)

ERTH 1090 Geology II labs (9 hours/week; 3 lab sections)

ERTH 4002 Advanced Field School (28 days plus prep)

ERTH 4100 Undergraduate Thesis: Billy Garrison

Student Supervision

MSc Committees

Gabe Creason (2012-2015): Phanerozoic Exhumation History of Hall Peninsula, Baffin Island: Insights from Apatite and Zircon (U-Th-Sm)/He Thermochronology and 3D Thermokinematic Modeling.

BSc Honours Students

Billy Garrison (2015-2016): Geology of a Metasedimentary Package in the Outer Shear Zone of the Daly Bay Complex, Nunavut.

Zoe Braden (2012-2013): Linked polymetamorphic and deformation history of the Newton Fiord region, Hall Peninsula, Baffin Island, Nunavut.

Jessica Guselle (2011-2012): Geochemistry (XRF-EDX) of the Beaver Dam slate-hosted gold deposit, Meguma Supergroup.

Mark Higgins (2011-2012): Provenance of placer gold grains in the White Gold District, Yukon.

Winner: AGS Best Student Oral Presentation.

Winner: Best Honours Thesis, Dalhousie Earth Sciences

Supervision of other student projects

Rosa Toutah (2020): field videos to support virtual field trips.

<https://www.youtube.com/channel/UCQm1bVJZHOpWPk1pEbtA/videos>

Atlantic Universities Geoscience Conference, Dalhousie 2018: I supervised the student organizing committee.

Northerner Geoscience Training Program (2013, 2014 & 2015): coordinated and supervised Nunavut Arctic College students at our senior field school each May. Between 2 and 5 Inuit students attended each of the listed years.

ERTH 4002-Advanced Field School class (2015): inaugural crowdfunding project for Dalhousie. We successfully reached our fundraising goal of \$20,000.

Leigh van Drecht (2014): video documentary on our Advanced Field School. The video currently had over 1000 views on YouTube as of 2016. <https://youtu.be/vmsRa3oxjrw>

Atlantic Universities Geoscience Conference, Dalhousie 2012: I supervised the student organizing committee.

Departmental Service (last 7 years)

2021/22

Undergraduate Advisor for Earth Sciences and Geography

Coordinator, Field Safety

Member, Safety Committee

Member, Alumni Outreach Sub-Committee

2020/21

Undergraduate Advisor for Earth Sciences and Geography

Coordinator, Field Safety

Member, Safety Committee

Member, Alumni Outreach Sub-Committee

2019/2020

Sabbatical (education) Leave

2018/2019

Undergraduate Advisor for Earth Sciences and Geography

Coordinator, Field Safety

Member, Safety Committee

Member, Alumni Outreach Sub-Committee

2017/18

Undergraduate Advisor for Earth Sciences and Geography

Coordinator, Teaching Assistant assignments
Coordinator, Field Safety
Member, Safety Committee
Member, Alumni Outreach Sub-Committee

2016/17

Undergraduate Advisor for Earth Sciences and Geography
Coordinator, Teaching Assistant assignments
Coordinator, Field Safety
Member, Safety Committee
Member, Alumni Outreach Sub-Committee
Member, GIS Instructor Search Committee

2015/16

Coordinator, Teaching Assistant assignments
Coordinator, Field Safety
Coordinator, Undergraduate Awards
Advisor, Dawson Club (Departmental Undergraduate Student Society)
Member, Safety Committee
Member, Alumni Outreach Sub-Committee