



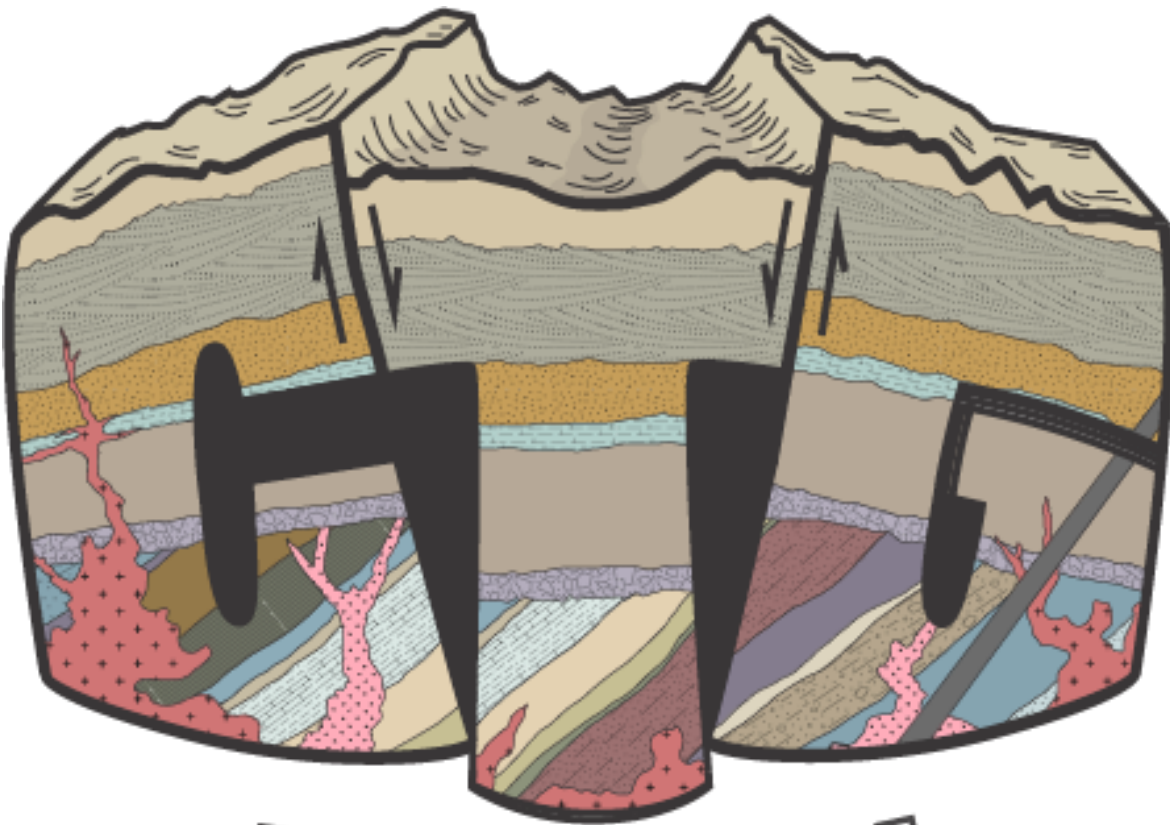
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GEOLOGICAL  
ASSOCIATION OF CANADA  
ASSOCIATION  
GÉOLOGIQUE DU CANADA

# THE MAIN THRUST

NEWSLETTER OF THE CANADIAN TECTONICS GROUP DIVISION OF  
THE GEOLOGICAL ASSOCIATION OF CANADA

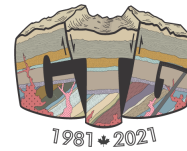


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[www.canadiantectonicsgroup.ca](http://www.canadiantectonicsgroup.ca)



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## The Canadian Tectonics Group – Highlights from 2023-2024

The CTG has had a very successful 2024 – 2025 year! Many of our members took part in the recent GAC-MAC in Ottawa and the CTG was proud to offer financial support to 5 graduate students to aid in attending and presenting at the conference. At GAC-MAC, the CTG also hosted multiple events for its members and supporters. One of these events celebrated the unveiling of the new name for the CTG's annual award for best MSc Thesis. The award was named in the spirit of inclusiveness, celebrating the careers of three outstanding geoscientists: Dr. Sandra Barr (Acadia University), Dr. Becky Jamieson (Dalhousie University), and Dr. Sharon Carr (Carleton University). During the conference, we also hosted a successful Pub Night, which over 60 of our members attended. Our annual field trip and workshop, which included a 2-day field trip to Antigonish Highlands in Nova Scotia and virtual seminar component, was a huge success! We thank Brendan Murphy and Donnelly Archibald, St. Francis Xavier University, for the organization of this fantastic, well attended (23 participants) workshop! Our regular seminar series has continued to have great success. The series was organized this past year by Tarryn Cawood, whom has volunteered to continue on in her role as seminar lead. The CTG was also very excited to host (virtually) our first ever short course: EBSD applied to structural geology and petrology which took place from April 2<sup>nd</sup> to 4<sup>th</sup>, 2024. The course was incredibly successful, and we hope to continue to offer these courses on an annual basis. Anyone interested in pursuing organizing a course is encouraged to contact Dawn Kellett. Finally, the CTG congratulates all award winner for best thesis and papers. The CTG awarded Eren Berberoglu from the University of Alberta with the best MSc thesis award in 2024! The David Elliott award was presented to Christopher Harrison and Marc R. St-Onge for their impressive paper: [Geological history and supercontinent cycles of the Arctic](#), published in GSA Bulletin. Thank you to all those who volunteer with the CTG and continue to participate in our communities' events. We appreciate all the support and hope to keep growing the tectonics community in Canada into 2025 – 2026!

### CTG Seminar Series

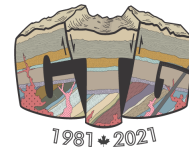
The CTG seminar series continues to grow into an amazing monthly event which those in the Tectonics community look forward to participating in. We'd like to thank Tarryn Cawood who began as our seminar organizer for the 2024-2025 fall/winter seminar series. Tarryn will continue as organizer for the 2025-2026 year. Thank you, Tarryn for a great 2024-2025 and we all look forward to the continued growth of the series in 2025-2026!

You can find all talks (for which the authors have allowed us to post) on our seminar YouTube channel here:

[Canadian Tectonics Group - YouTube](#)



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## 2024 Canadian Tectonics Group Annual Field Trip and Workshop

The Canadian Tectonics Group 2024 fall workshop and field trip was in Antigonish, Nova Scotia, Friday September 27<sup>th</sup>- Sunday, 29<sup>th</sup>. Virtual presentations were made on Tuesday, October 2<sup>nd</sup>.

The workshop consisted of an introductory talk on the opening night of the conference. The field trip was led by Brendan Murphy and Donnelly Archibald, St. Francis Xavier University. There were 23 participants, including 12 students and field trip leaders. The theme for the field trip was “ON THE EDGE: ANTIGONISH HIGHLANDS AS A RECORDER OF REGIONAL TO GLOBAL TECTONIC EVENTS”. The purpose of this field trip was to examine how global to regional tectonic events are encoded in the geology of a small region (Antigonish Highlands) and to examine the feedback between that tectonic activity and the magmatism it produced (in particular the interplay of magmatism and coeval fault motions). Day 1 (Saturday) of the field trip focused on exquisite exposures of Neoproterozoic-Carboniferous rocks along the coastal sections of the Northumberland Strait. Day 2 (Sunday morning) focused on some excellent inland exposures in quarries and road-cuts. Because much of this geology was developed on continental margins, the terrane records much of the odyssey of Avalonia from Baltica-Gondwana to Laurussia as well as the local response to the amalgamation of Pangea. The weather cooperated to show this spectacular geology in all its splendour.

The workshop also consisted of 8 poster presentations on September 28 including 6 student presentations, and 4 virtual presentations on October 2<sup>nd</sup>. Both were organized by Donnelly Archibald. Topics varied from the structural and tectonic setting of mineral deposits to detailed microstructural analysis.



**Photo 1 (294)** Group photo, Arisaig, Nova Scotia. Unfortunately, the ice cream shop (located in the lighthouse) was closed



**Photo 2 (261)** Examination of the contact between the pegmatitic phase of the 580 Ma Georgeville Granite and the previously deformed low grade turbidites of the late Neoproterozoic Georgeville Group. Many of those white “splodges” are single quartz crystals with vertical c axes!



**Photo 3 (335)** Sitting on the edge of the edge! Within the Hollow fault zone that forms the northern margin of the Antigonish Highlands.



**Photo 4 (365)** Interplay between folding and faulting within the Neoproterozoic Georgeville Group. 1 Phil for scale.



**Photo 5 (344)** The relatively simple geometry of the Visean Windsor Group carbonates.

## **2025 Canadian Tectonics Group Annual Field Trip and Workshop**

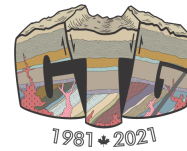
Due to circumstances beyond our control, the destination for the annual Fall field trip is still being decided. We hope to have a confirmed location within the next couple of weeks. Please keep you eyes pealed and apologies for the delay!

## **CTG Short Course 2024: EBSD Applied to Structural Geology and Petrology**

During April 2-4, 2024, the [Canadian Tectonics Group](#) held our first online short course, on Electron Backscatter Diffraction (EBSD) applied to structural geology and petrology. The course was proposed, organized and coordinated by Dawn Kellett (GSC, past CTG Chair) with enthusiastic support from the CTG executive. The goal of this short course was to provide basic training and a range of example applications to students and researchers interested in incorporating EBSD analyses into their own research, through a series of online, interactive lectures. The course was free, and open to any graduate students and researchers working in the fields of structural geology, metamorphic petrology, geochronology and tectonics. National/international, free, online short courses like this one can fill a critical gap in HQP training in Canada, where we have few



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experts in any given part of the country that can provide direct specialized training in structural geology, metamorphic petrology and tectonics tools.

The course was a fantastic success, with 57 participants comprising MSc and PhD students, post-docs, lab technicians, faculty, research scientists and professionals. Participants brought their expertise back to their institutions: Geological Survey of Newfoundland and Labrador, NWT Geological Survey, Institut national de la recherche scientifique, Geological Survey of Canada, University of Ottawa, Saint Mary's University, McGill University, University of British Columbia, University of Toronto, University of British Columbia-Okanagan, Lakehead University, Queen's University, Simon Fraser University, Carleton University, Laurentian University, Memorial University of Newfoundland, Johns Hopkins, Amherst College, Postdam GFZ, University of Heidelberg, University of Portsmouth, Tribhuvan University, and a few geoscience companies.

The short course showcased lectures and hands-on exercises developed by a world-class set of instructors:

- Matthew Polivchuk, Geological Survey of Canada
- Riccardo Graziani, Geological Survey of Canada
- Rellie Goddard, Lakehead University
- Tarryn Cawood, Geological Survey of Canada
- Jamie Kirkpatrick, McGill University
- Renelle Dubosq, Max Planck Institut für Eisenforschung
- Nicolas Piette-Lauziere, University of British Columbia
- Laura Nania, Geological Survey of Canada

The syllabus was as follows:

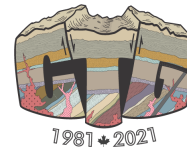
#### Part 1: EBSD fundamentals

- Theory, instrumentation, study design, data acquisition and simple processing - *Matthew Polivchuk, GSC*
- Pattern indexing - *Renelle Dubosq, MPIE*

#### Part 2: Intro to EBSD data processing



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- Data processing, data interpretation approaches, hands-on exercise – *Riccardo Graziani, GSC*

#### Part 1: Applications in structural geology

- Pole figures and Inverse pole figures: methods for identifying crystallographic inheritance across the coesite-quartz transition – *Rellie Goddard, Lakehead U*
- Crystallographic vorticity axes – *Nicolas Piette-Lauziere, UBC*

#### Part 2: Applications in petrophysics and geochronology

- Deformation fabrics and rock physical properties of mantle xenoliths– *Jamie Kirkpatrick, McGill U*
- EBSD applied to geochronology - *Laura Nania, GSC*

#### Part 1: Applications in ore systems, Recap, Q/A

- Sulphide deformation and remobilization – *Tarryn Cawood, GSC*
- Q/A recap, other common applications not covered above (e.g. piezometry) – *All instructors*

#### Part 2: Follow up on hands-on exercises

- Follow up of hands-on exercises from Day 1, Part 2 – *Riccardo Graziani, GSC*

The CTG would like to extend a sincere thanks to all the instructors that contributed to this great short course. The feedback from participants was very positive!

## Future CTG Short Courses

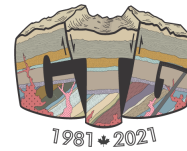
We at CTG hope that the success of our first short course may inspire future short courses led by our members under the broad CTG umbrella of expertise. Some ideas could be:

- phase equilibria modeling
- geochron/thermochron/petrochron?
- seismic interpretation?
- structures and ore systems?

The options are endless!



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If you are interested in submitting a proposal or floating an idea for a short course for a course you would like to pursue please contact **Dawn Kellett**: [dawn.kellett@NRCan-RNCan.gc.ca](mailto:dawn.kellett@NRCan-RNCan.gc.ca)

## CTG Events GAC-MAC 2025

The Joint Annual Meeting of the Geological Association of Canada and Mineralogical Association of Canada was held in Ottawa this past May. There were many amazing sessions in Tectonics, organized by our membership. The CTG also organized two events which were very well attended. Please read below for more information.

### **Barr–Jamieson–Carr’ Best M.Sc. Thesis Award**

At GAC-MAC 2025 the CTG was excited to finally announce the new award name for the Best MSc Thesis! The name has been many years in the making and only made possible through the diligent and amazing work of the naming committee (recognized below). The award has been named in honour of three outstanding Canadian professors:

- Dr. Sandra Barr (Acadia University),
- Dr. Becky Jamieson (Dalhousie University), and
- Dr. Sharon Carr (Carleton University)

The award will be hereinafter named the **Barr–Jamieson–Carr’ Best M.Sc. Thesis Award**

The tripartite name was conceived in the **spirit of inclusiveness** recognizing the strength of the collective contributions of these three Canadian geoscientists to our field.

These three individuals have made significant contributions to structural geology & tectonics, advanced our global understanding of tectonic processes, and positively influenced the learning environment and research culture for students

Symbolically, these contributions encompass the entire country, from the Appalachian orogen in the Maritimes, to the Canadian Shield (especially the Grenville Province in central and eastern Canada), to the Canadian Cordillera in the west, and beyond!

A formal presentation from Kathy Bethune and Shawna White was carried out and ~ 60 CTG members were in attendance. The presentation began with a detailed description of the Jack Henderson Best Ph.D. Thesis Award, which honoured the legacy of Jack Henderson and his meaningful contributions to teaching/mentoring for future generations of geoscientists which serve to inspire students, no matter their background, to pursue careers in geoscience, particularly in the area of structural geology & tectonics.



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Following these events, the presenters then described the origin and premise of the new **Barr–Jamieson–Carr’ Best M.Sc. Thesis Award**, also reading out biographies of the three honoured geoscientists before awarding this year’s recipients. Both Barr and Carr were in attendance for the ceremony. It was a very well received event!

**The CTG would like to sincerely thank the following members of the awards naming committee. Without their hard work and dedication to this initiative, we would not have been able to accomplish this successful endeavour! We sincerely thank,**

- Kathryn Bethune, University of Regina,
- Kyle Larson, UBC Okanagan,
- JoAnne Nelson, BC Geological Survey,
- Rebecca Canam, NT Geological Survey
- and Shawna White, Saint Mary’s University

Thank you for making this happen!

**A full explanation of both awards and bios of all honoured geoscientists will soon be available in the awards section of the [CTG website](#).**

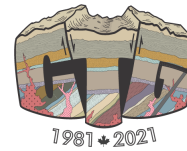
### **CTG Annual GAC-MAC Pub Night**

The Annual CTG Pub Night at Gac-Mac Ottawa was held at Deacon Brodies Pub. The event was a huge success with over 60 CTG members throughout the evening joining the celebration. It was a great time and wonderful to reconnect with colleagues and friends. Thanks to everyone who attended!





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## Award Winners and Grant Recipients

### Best Theses Award

This best MSc and PhD thesis awards are presented annually to geoscientist's whose theses are deemed to represent an exceptional contribution to structural geology & tectonics. The winning submission will be an original and innovative scientific contribution that has significant potential for research impact.

#### Best MSc Thesis Award Recipient

The **2024 Best M.Sc. Thesis Award** goes to **Eren Berberoglu** for their thesis entitled "[Structural Analysis and Kinematic Restoration along the Nova Scotia Passive Margin, Atlantic Canada](#)" at University of Alberta. Supervisor: Elena Konstantinovskaya.

Congratulations to Eren and Elena! And, thanks to all our reviewers!

#### Jack Henderson Best PhD Thesis Award Recipient

There was no award given for the Jack Henderson Best PhD Thesis Award in 2024.

### Winner of the 2024 David Elliott Best Paper Award

The David Elliott award is presented each year by the Canadian Tectonics Group division to an exceptional publication in the field of tectonics by a researcher at a Canadian institution (lead author) or investigating a Canadian field area.

The 2024 Elliott Prize (with publication year 2023) has been awarded to **Christopher Harrison** and **Marc R. St-Onge** for their impressive paper: [Geological history and supercontinent cycles of the Arctic](#), published in GSA Bulletin. Congratulations! The paper was an excellent read!

#### Honourable Mentions

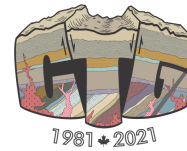
There were many nominations in the 2023 publication year (therefore many great papers to choose from). Hence, the selection committee also chose to make an honourable mention.

Congratulations to **Adina Bogatu and coauthors**, for an honorable mention for their paper:

Bogatu, A., Bédard, J.H., Labrousse, L., Zagorevski, A. and Tremblay, A., 2023. *An oceanic core complex preserved in the Squanga Lake ophiolite, northern Atlin terrane, Yukon*. Lithos, p.107269.



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Congratulations to all the authors! Many thanks to all those who nominated papers (including all our councillors) and a particular thank you to the short list committee. Without their time and dedication to CTG, these awards would not be possible. We encourage everyone to take the time to read these excellent contributions!

### **Forthcoming 2025 David Elliott Best Paper Award**

The nomination deadline for the David Elliott Best Paper Award for the publication year 2024 has now passed and the award winner will soon be announced formally to members of the CTG via our mailing list. Keep your eyes posted for this exciting upcoming announcement.

### **Excellence in the Canadian Tectonics Community Recognitions**

These awards recognize the short or long term efforts/initiatives of individuals that have contributed positively to the field of structural geology and tectonics in Canada, including anyone demonstrating leadership, dedication, or vision in their research, teaching, outreach, diversity, equity and inclusion initiatives, mentoring, etc.

This year, **Frank Fueten** and **Noah Phillips** were nominated for *Excellence in the Canadian Tectonics Community* recognitions

**Frank** has been involved with the CTG for an impressive number of years. He is being recognized for his incredible service maintaining and monitoring our mailing list, for which he has done for 31 years! Frank has been invaluable for keeping our lines of communication open and flowing effectively for over 30 years.

**Noah** has also been a long time contributing member with the CTG. We recognize Noah here for all his dedication in organizing and running the CTG Seminar Series for two years, in 2022-2023 and 2023-2024. This endeavor is a major commitment and was very much appreciated at such a busy time in Noah's career!

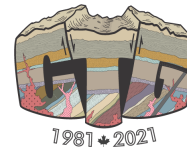
Congratulations Frank and Noah, and thank you for being part of the community that keeps the CTG thriving!

### **Future Nominations**

Recognition is open to all members of CTG as well as students who are not members (if nominated by members or by other students). Nominations will be evaluated, and recipients announced on a biannual basis. Please find the nomination form here: [CTG Excellence Recognitions](#)



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## GACMAC 2024 Student Grants

We had many student applicants for grants to attend 2024 GAC-MAC-PEG, which took place from May 19<sup>th</sup> to 24<sup>th</sup> in Brandon, Manitoba.

The CTG provided funding to support five students' attendance to the 2024 GACMAC in Manitoba.

- Egor Koptev – PhD – McMaster
- Kelsey Krossa – MSc – UBC Okanagan
- Nicolas Prieto – Moreno – MSc – MUN
- Carson Kinney – PhD – Waterloo
- J r mie Darveau – MSc – Universit  Laval

## **CTG Business Meetings**

The last business meeting of the CTG was held online via the Zoom platform June 11<sup>th</sup>, 2024. Minutes can be found on the CTG website.

The next CTG business meeting will be held Friday June 13<sup>th</sup>, via Zoom in 2025. Please use the following link to attend.

- Topic: CTG AGM
- Time: Jun 13, 2025, 02:00 PM Atlantic Time (Canada)
- Join Zoom Meeting
- <https://smu-ca.zoom.us/j/86932727150?pwd=TbwLA5kN63vmIACzvYMT6nNCYCrbXO.1>
- Meeting ID: 869 3272 7150
- Passcode: 171862

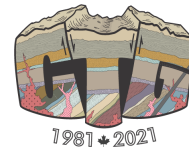
## **Current CTG Executive and Councillors**

### Executive

- **Chair:** *Shawna White*, Saint Mary's University
- **Vice Chair:** *Chris Yakymchuk*, University of Waterloo, Waterloo
- **Secretary:** *Alexander Peace*, McMaster University, Hamilton
- **Treasurer:** *Luke Beranek*, Memorial University of Newfoundland, St. John's



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**Councillors:**

- ***Dawn Kellett***, Geological Survey of Canada-Atlantic, Dartmouth, Nova Scotia
- ***Kathryn Bethune***, University of Regina, Regina
- ***Normand Goulet***, Université Québec à Montréal
- ***Lyal Harris***, Institut national de la recherche scientifique, Québec
- ***John Waldron***, University of Alberta, Edmonton
- ***Joseph C. White***, University of New Brunswick, Fredericton
- ***Laurent Godin***, Queen's University, Kingston
- ***Dan Gibson***, Simon Fraser University, Burnaby
- ***Deanne van Rooyen***, Acadia University, Wolfville
- ***Camille Partin***, University of Saskatchewan, Saskatoon
- ***Shoufa Lin***, University of Waterloo, Waterloo
- ***Dazhi Jiang***, University of Western Ontario, London