GEOLOG

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President's Preamble

"No tweets please" was Steve Morison's quip welcoming me into the role of GAC® president. Although I have assured Council I will not make Donald Trump my model of presidential behaviour, I do like the way Dave Lentz has co-opted the slogan "Make GAC great again!"

The Resources for Future Generations (RFG) conference in Vancouver was an excellent technical meeting, and one that highlighted for Council the challenging landscape facing the Geological Association of Canada (GAC[®]). Numerous people put a tremendous effort into making RFG successful, and in particular, I would like to recognise GAC[®] volunteers Steve Morison, Deanne Van Rooyen and Liz Stock. The strength of organisations like GAC[®] is their core of volunteers, and I thank all who contribute their time, energy and talents.

RFG highlighted the breadth and interconnectedness of diverse disciplines that all link in one way or another to earth sciences, and brought together about 2,000 people from 56 different countries. Much as participants enjoyed the RFG and benefited from the boundary-spanning array of talks, people kept telling us how much they enjoyed the more intimate atmosphere of GAC-MAC conferences in smaller venues, and the GAC-MAC brand seemed lost among the multitude of technical partners at RFG. Next year in Quebec City, we welcome the International Association of Hydrogeologists - Canadian National Chapter to the joint GAC-MAC-IAH/CNC and look forward to a more traditional meeting with three partners in cultural alignment. You can be sure that in Québec the beer sessions will close after the technical sessions!

As incoming President of the Geological Association of Canada, I had a small number of big goals. Perhaps they can be distilled into one goal: Let's make GAC-MAC the one technical conference that every geoscientist in Canada wants to attend, above all others.



So how can we do this? First of all, by recognising that the Local Organising Committees (LOCs) are doing most of the work in putting on a conference, and aligning GAC[®] to support them in any way we can. And by listening to our members to understand what you value about GAC[®] and the GAC-MAC, and what you think we could do better.

The Geological Association of Canada was founded in 1947 and the operating environment has changed drastically in the last 70 years. To ensure that GAC[®] remains viable so we can continue having fun and intellectually stimulating exchanges with colleagues at future GAC-MAC meetings, we have taken a hard look at our operating model and our business plans. Last year GAC[®] applied to the Canadian Geological Foundation for a grant to engage a consultant to help with the challenging process of restructuring the Association, and in October 2018 Council held a two-day strategic planning workshop with Peter Wright of The Planning Group.

A systematic review of GAC's current operating model, environment, stakeholder relationships, challenges, and opportunities produced consensus around four key priorities. Our annual conference is complicated to organize, and we want our LOCs

GEOLOGICAL ASSOCIATION OF CANADA

The MISSION of the Geological Association of Canada is to facilitate the scientific well-being and professional development of its members, the learned discussion of geoscience in Canada, and the advancement, dissemination and wise use of geoscience in public, professional and academic life. The VISION of the GAC[®] is to be a multidisciplinary scientific society supportive of the entire scope of the geosciences in Canada. The GAC[®] aims to be a geoscience community that is knowledgeable, professionally competent and respected, whose input and advice is relevant, widely sought and utilized, and whose vital contribution to the economic prosperity and social well-being of the nation is widely acknowledged.

La MISSION de l'Association géologique du Canada est d'aider au développement scientifique et professionnel de ses membres, de favoriser les échanges géoscientifiques au Canada ainsi que de promouvoir et de diffuser l'utilisation éclairée des géosciences dans un contexte public, professionnel et académique. La VISION de l'AGC[®] est de faire connaître une communauté géoscientifique de grand savoir, dont les compétences professionnelles sont respectées, dont les suggestions et les avis sont pertinents, recherchés et utiles, et dont la contribution largement reconnue est considérée comme vitale pour la prospérité économique et le bien-être de la nation.

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GEOLOG

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GEOLOG (ISSN 0227-3713; 1712-3747) is the quarterly newsmagazine of the Geological Association of Canada, St. John's, Newfoundland and Labrador. GEOLOG is published for the benefit of GAC[®] members and its content reflects the diversity of the organization. News items and short articles on topics of potential interest to the membership including public geoscience awareness are encouraged. Also encouraged are communications promoting interaction among academic, industry and government sectors. *GEOLOG* accepts and publishes contributions in both of Canada's official languages. Opinions expressed herein are those of the writers and do not necessarily represent the official positions of the GAC[®]. *GEOLOG* is one of several forums provided by the GAC[®] for scientists worldwide.

SUBSCRIPTIONS: *GEOLOG* is one of the privileges of GAC[®] membership. To become a member, application forms are available by mail or fax from the Geological Association of Canada, or can be printed from the website.

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GEOLOG (ISSN 0227-3713; 1712-3747) est le bulletin trimestriel de l'Association Géologique du Canada, à St. Jean, Terre-Neuve-et-Labrador. GEOLOG s'adresse aux members de l'AGC® et son contenu reflète le caractère polyvalent de cette organisation. Nous invitons la soumission de nouvelles et articles courts pouvant intéresser les membres, incluant les thèmes de sensibilisation du public aux sciences de la Terre. Les articles suscitant des échanges d'opinions et d'informations entre les secteurs académique, industriel et ouvernementaux sont également la bienvenue. GEOLOG accepte et publie les articles dans les deux langues officielles du Canada. Les idées sont celles des auteurs et ne représentent pas nécessairement la position officielle de l' AGC®. GEOLOG n'est qu'un des nombreux forums offerts par l' AGC® aux scientifiques à travers le monde.

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Contributions for next issue

Please send items for next issue of *GEOLOG* by e-mail to Alwynne.Beaudoin@gov.ab.ca on or before **March 1 2019**.



Landslide damage in the Turnagain Heights area of Anchorage, Alaska, caused by the Good Friday Earthquake of 1964. The earthquake generated a massive tsunami that caused significant damage along the northwest coast of North America. Port Alberni, British Columbia, was one of the Canadian communities severely impacted.

The Good Friday earthquake and tsunami is one of the events profiled in *Cascadia's Fault*, reviewed on p. 11.

Image credit: Public domain, https://en.wikipedia.org/ wiki/1964_Alaska_earthquake#/media/ File:Good_Friday_Earthquake_at_Turnagain_Arm.jpg and other volunteers to be able to focus on scientific content and local flavour rather than navigating the many logistical, legal, tax and financial aspects of events coordination. Council is currently investigating options to engage professional help for those aspects of GAC-MAC conferences. As part of the unglamorous but very important duty of oversight of financial affairs and regulatory compliance, we have also undertaken a review of the governance of the Association.

Celebrating excellence is another priority for GAC[®], and as geologists and Canadians we have been perhaps too low-key about honouring achievements and distinguished careers. We are fortunate to have a robust geoscience community in Canada, with many worthy individuals whose accomplishments deserve to be recognized. Every year GAC honours four medallists at our awards luncheon, and we are also entrusted with overseeing awards endowed by members who chose to leave a legacy to the Canadian geoscience community through GAC[®]. Our fourth key priority is ensuring that GAC[®] continues to provide relevant professional development and networking opportunities. In this, as in our other activities, strengthening our relationship with stakeholders such as Sections and Divisions is key. The Sections and Divisions ensure that the conference technical program includes sessions of interest to members, and often take on the organisation of short courses and field trips, and even generate publications. We are re-aligning GAC's business model, stakeholder relationships, and governance model in a strategic plan that will set long-term direction for GAC[®] and developing a five-year workplan that will focus the Association on activities that are of greatest value to the membership and the association.

The GAC[®] is a great organization. Let's make it even better!

See you in Quebec City on May 12-15, 2019 Sincerely, Dène Tarkyth GAC[®] President



Image: 1979stl, Wikimedia Commons, Public Domain, https://commons.wikimedia.org/wiki/File:Quebec_City.jpg

Canadian Tectonics Group Workshop

The Canadian Tectonics Group (CTG) held another successful annual workshop from September 28 to 30th, 2018, where 55 participants met in a rustic setting near Saints-Martyrs-Canadiens, located in the Appalachians about 35 km southeast of Victoriaville, QC. The conference was held at Camp Beauséjour, on Lac Sunday, situated in the heart of the Thetford Ophiolite Complex. Camp Beauséjour is where Alain runs his annual geological mapping field school for UQAM undergraduates. This was the 38th such workshop since CTG's formation in 1981, and was organized by Alain Tremblay (UQAM), Morgann Perrot (UQAM) and David Corrigan (GSC Ottawa). The participants represented a broad slice through the Canadian tectonic community from Halifax to Victoria, with a very healthy participation of graduate and undergraduate students from the more geographically proximal Quebec- and Ontario-based universities, as well as participants from across Canada. Overall, eleven Canadian universities were represented, as well as Government Survey geologists and retired researchers.

A large number of participants drove to the conference, whereas others flew to Montreal airport, from where they were shuttled to Camp Beauséjour. On the Friday evening, participants assembled within the campgrounds, posters were set-up and numerous joyful discussions were held over refreshments. On Day 1, twenty oral presentations were heard, organized under four broad themes: 1- Lithosphere/Geophysics; 2-Mineral Exploration and Related Themes; 3- Tectonics; 4- Tectonostratigraphy and Rheology. The talks were held in a quaint wooden chapel on a knoll amid spruce trees and white birches, within the campgrounds.

The day started on a very high note with an enlightening 40 minutes keynote presentation by Herb Helmstaedt (Queen's University, Emeritus), entitled "Structural and tectonic considerations in decyphering the evolution of primary diamond deposits". Everyone was commenting on the high quality and relevance of talks that were heard throughout the day, ranging in scope from the lithospheric- to thin section scale, and from empirical observation to modelling. Posters were displayed in the large cafeteria where breakfast, lunch and dinner were served. On the Saturday evening a special banquet was held in honour of Herb Helmstaedt, where he received the Canadian Federation of Earth Sciences (CFES) Award for Mentorship. For the occasion, a méchoui dinner (beef roasted on a spit) was served at the camp by a local restaurateur. The banquet highlighted numerous anecdotes from participants who have had the pleasure of interacting with Herb during his long and illustrious career at the Department of Geological Sciences and Engineering at Queen's.



Herb Helmstaedt receiving the CFES Mentorship award from Shoufa Lin.



"Preaching from the pulpit", Herb presenting his keynote talk on diamond deposits.

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Group photo at Stop 2.

Day 2 got underway early Sunday morning with a drive along Highway 112 southwestwards towards the Ordovician Ascot Complex volcanic arc in the Sherbrooke area. Of the five stops planned we were only able to complete three, due to unforeseen logistical reasons, but those that we did manage to do were very much worthwhile. The first stop brought us to the "Big Hollow Brook" section of the La Guadeloupe fault, along which Silurian and Devonian rocks of the Gaspé Belt are thrust over the Ascot Complex. At that location, nicely developed shear bands showing top-tothe-NE sense of shear are formed in hanging wall metasediments as well as in the footwall granite mylonites.

Stop two consisted of a large, recently blasted road section on an abandoned highway access ramp, where ductile shear affects felsic and MORB-type mafic lavas of the Stoke Domain. As with the outcrops of Stop 1, these rocks also displayed a variety of meso- to microscale reverse fault (top-to-the-NNW) shear sense indicators. The originally planned stops 3 and 4 were skipped, and we drove directly to the last formal field trip location.

Stop three (officially numbered '5' in the Program, Abstracts and Field Guide book) consisted of a spectacular set of road cut outcrops showing multiple generations of crenulation in pyrite-bearing black shales. The black shales, previously interpreted as being in fault contact with adjacent metavolcanic rocks of the Ascot Complex, are now interpreted as being in depositional contact with the latter.

After lunch, an optional visit to the historical Capelton Mine was offered to participants, namely those who did not have to be shuttled back to Montreal airport or drive back home over long distances. "L'épopée de Capelton" is a privately owned venture that offers guided tours to what is the oldest VMS mine in Canada, in operation from 1863 to 1907. Access to the three uppermost levels of the mine has been recently completed, with wooden stairs and railings leading to the various tunnels and workings. Structures that folded – and likely enriched – the massive sulphide lenses can be observed.

The field guide and the program-with-abstracts volume may be downloaded from the CTG website at www.canadiantectonicsgroup.ca/workshops.html. At the business meeting we learned that next CTG Workshop (2019) will be held in western Newfoundland, and will be organized by John Waldron. We look forward to seeing everyone next year on 'The Rock'.

See you in October 2019!

Alain Tremblay, David Corrigan and Morgann Perrot

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Reports from Precambrian Division student travel grant winners

Both students used their travel grants to attend the *Resources for Future Generations (RFG)* meeting in Vancouver in June. Here are their thoughts on the experience.

Robert Meek

I am a first year M.Sc. student studying at the Harquail School of Earth Sciences at Laurentian University. With the supervision of Alessandro Ielpi (Laurentian University) and Rob Rainbird (Geological Survey of Canada) my thesis focuses on the sedimentology and stratigraphy of the Husky Creek Formation; a Mesoproterozoic fluvial unit near the base of the Amundsen Basin in Nunavut which records the conditions prior to the amalgamation of supercontinent Rodinia. With the support of the Precambrian Division of the Geological Association of Canada through their student travel grant I was able to attend the recent GAC-MAC meeting in Vancouver and present an oral presentation in the session "Proterozoic Sedimentary Basins: The bigger picture of a formative eon II". From this, I received valuable feedback as well as the opportunity to listen and communicate with other people with similar research interests giving me new ideas to advance my current project. Additionally, I was fortunate to attend the post conference field trip: "Geology and Natural Hazards of the Sea-to-Sky Corridor - Howe Sound, West Vancouver to Squamish, South-coastal British Columbia". This day trip exposed me to the diverse geology that is present right on Vancouver's doorstep and the steps that are taken to limit the impact of both natural and human induced geological hazards. I thoroughly enjoyed this conference and am thankful for the support that was provided by the Precambrian Division of the Geological Association of Canada.



Robert Meek doing field work in the Amundsen Basin, Nunavut

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Jordan Deane

I am in the final stages of my Masters project with Dr. Kathryn Bethune at the University of Regina. My research combines petrographic, microstructural, and quartz lattice-preferred orientation fabric analyses with detailed field mapping and Ar-Ar geochronology of hornblende and biotite to characterize and temporally constrain the multitude of structures associated with the Nolan-Zemlak domain boundary. This boundary is a 5-7 km wide locus of high strain focused along the lithotectonic contact between ~2.6 Ga granites and granodiorites of the Nolan domain and 2.52 Ga granodiorites to diorites of the Zemlak.

This conference has allowed me to present my research to an audience of academics and industry professionals alike, and receive guidance and critique towards making the most accurate interpretations of my data as possible. It has also given me the opportunity to observe and provide feedback on the work of my peers and to network and find some new friends amongst the geological community.



Jordan Deane and his supervisor Dr. Kathy Bethune at the Resources for Future Generations conference in Vancouver

Atlantic Universities Geoscience Conference 2018

The 68th annual Atlantic Universities Geoscience Conference (AUGC) was hosted by the Dawson Geology Club at Dalhousie University, Halifax, Nova Scotia, on November 1–3, 2018. Approximately 125 students from Memorial, Dalhousie, Saint Francis Xavier, St. Mary's, Acadia, University of Cape Breton, and the University of New Brunswick attended the conference. Also present were professors from many of the universities and geological professionals from local government organizations and private industry.

The conference began with an Ice-breaker at Dalhousie University on Thursday evening, and was followed up by three wet and windy field trips on Friday that included (1) a visit to the historical Montague gold district and Bayers Lake Business Park to observe the environmental impacts of historical gold mining and acid rock drainage issues in the Halifax area, led by Dr. Michael Parsons (Geological Survey of Canada-Atlantic); (2) a trip to the contact metamorphic aureole in the Halifax Group around the South Mountain Batholith in the Meguma terrane, led by Drs. Richard Cox and Becky Jamieson (Dalhousie University); and (3) a paleontological and geological trip lead by Dr. Tim Fedak (Nova Scotia Museum) to the Triassic/Jurassic Fundy Basin near Parrsboro.

The 'Jeopardy-style' Challenge Bowl was held Friday evening, hosted by the Canadian Society of Exploration Geophysics. Students from Memorial University came out on top and their team won an all-expense-paid trip to Calgary in the spring of 2019 to participate in the national championship.

Saturday was filled with eleven oral presentations and seventeen poster presentations ranging from across all areas of geoscience. This event took place in the Marion McCain – Scotiabank Auditorium and adjacent lobby on the Dalhousie University Campus. The quality of all the presentations was very good and congratulations are due to all speakers and poster presenters. The abstracts will be published in the Atlantic Geoscience Society's electronic journal *Atlantic Geology*.

The evening Awards Banquet was held at the nearby Atlantica Hotel, where Dr. Kathryn Sullivan, a geologist, chief scientist with the National Oceanic and Atmospheric Administration, former astronaut with the NASA, and Dalhousie University Alumna, was the Guest Speaker.

Winners of the various awards were:

Science Atlantic Best Paper Award: Liam MacNeil (University of New Brunswick), for his paper on "Reconstructing paleoproductivity in the North Water Polynya employing diatom microfossils".

Imperial Oil Best Poster Award: Mattea McRae (Memorial University of Newfoundland) for her poster "Comparing CO_2 sequestration experimental methods and investigating CO_2 sequestration using type I and type II serpentine groundwaters".

Frank Shea Award for best paper in Economic Geology: Kali Gee (St. Mary's University) for her paper "Origin of epithermal-style gold mineralization in the eastern Cobequid Highlands, Nova Scotia: constraints from S isotopes and pyrite trace element chemistry".

Canadian Society of Petroleum Geology Award for best presentation of a petroleum geology-related paper: Brant Gaetz (Memorial University of Newfoundland) for his paper "Geophysically constrained microplate fragmentation model, and terrane-controlled evolution of Mesozoic basins - rifted North African borderlands, offshore Newfoundland, Canada".

Canadian Society of Exploration Geophysicists Award for best presentation of a geophysics-related paper: Jacob Newman (Memorial University of Newfoundland) for his poster "Numerical and experimental observation of nonlinear responses from the interaction of two progressing waves at an interface".

Atlantic Geoscience Society Award for Environmental Geoscience: Garrett Velkjar (Acadia University) for his



paper "Decoupling sources of natural and anthropogenic impact using lake sediment archives: an example from Cecil Lake, Fort St. John, B.C."

The organizing committee (Jordyn Souter and Ryan Taylor - Co-Chairs, Mike Young - Faculty Advisor, Catherine Evans - Field Trip Coordinator, Tanner Milne -Judge Coordinator, Max Angel - Registration Coordinator, Kanwar Multani - Treasurer, Bay Berry - Webmaster, Juan Chavez - Venue Coordinator, Aliya Anderson - Secretary, and Ben Myrer - Hotel and Banquet Coordinator) thank the many volunteers and sponsors, and especially everyone who attended, for helping to make AUGC 2018 such a memorable event.

Submitted by Chris E. White (Nova Scotia Department of Energy and Mines) and Rob Raeside (Acadia University)



GAC Awareness Events

Seven universities will hold GAC[®] Awareness events in 2018. These events are intended to describe and promote the benefits of GAC[®] membership to students. Two events have already happened; here are pictures from one of them.

Submitted by Ihsan Al-Aasm, University of Windsor, and GAC® Campus Liaison



Crossing Big Hollow Brook on the way to the La Guadeloupe Fault at Stop 1. For article, see page 6.

Reading on the Rocks

Cascadia's Fault

Jerry Thompson (2011) HarperCollins Publishers Ltd. 359 pp. Hbk. ISBN 978-1-55468-467-0

Science journalist Jerry Thompson has a personal interest in earthquakes and tsunamis, living as he does in Sechelt, BC, on a coastline that is overdue for "the Big One". After the 1985 Mexico City earthquake, tasked with doing some background research, he heard "for the first time about a slab of Pacific Ocean floor called the Juan da Fuca plate" and its related subduction zone. In Cascadia's Fault, he traces the history of research on faulting and earthquake potential along the west coast of North America, interviewing and incorporating perspectives from many geoscientists, including some based in Canada. Thompson outlines how understanding of the Cascadia Subduction Zone has developed during recent decades. Being about 100 km offshore, it had been almost "hidden", or at least awareness of its potential to inflict onshore damage was low, until research, including offshore profiling and analysis of seismic data, led to the recognition that a very large earthquake (magnitude 9 or greater) is way overdue.

Using the 1700 "orphan tsunami" and the massive Jogan tsunami of 869 as analogies, Thompson suggests that most of the damage and loss of life may not be caused by the earthquake itself but by the subsequent tsunami. We saw this with the March 2011 Tohoku earthquake off northeastern Japan and the December 2004 Sumatra earthquake. Evidence is derived from the discovery of "ghost forests", such as the dead red cedars along the Copalis River in Washington state, salt-water drowned through subsidence behind the shoreline. Palaeoecologists have found organic layers buried by thick sediments deposited by tsunamis at places along the west coast, including southern British Columbia. In eastern Japan, similar sediment sequences suggest that high-magnitude tsunamis have occurred at approximately thousand-year intervals. The lessons are stark. As Oregon State University palaeoseismologist Chris Goldfinger remarks to Thompson ".. You can't base your estimates of hazard on short instrumental and historical records. [Japan's] giants come at thousand-year intervals, roughly, so even a thousand-year history was inadequate" to identify them.

Most alarmingly, because the 'quake will happen close by, not far offshore, there will probably be only be 10 to 15 minutes' warning on the northwest coast before the tsunami hits. Simulations suggest that the water wave spilling onshore could be up to 100 feet high, more powerful even than the tsunami that hit Japan in March 2011. Narrow



fjord-like channels will funnel the water and concentrate its impact, as happened at Port Alberni after the 1964 Alaska 'quake, a magnitude 9.2 event and the most recent regional analogue.

Thompson examines earthquake and tsunami readiness and reports how unprepared communities along the west coast are for a disaster of this magnitude. Again, simulations suggest that most infrastructure will be destroyed or heavily damaged. Perhaps most alarmingly, many buildings identified as shelters, including schools, may not survive. People will be on their own for many days or weeks. Self reliance will be important as will help from neighbours. As he notes "We're two hours away from the nearest big city, Vancouver, which may be in much worse shape than our own coastal hamlet. Rescue squads, medical aid, and emergency supplies will go first to the areas of greatest need, where the greatest numbers of people are affectedand where television cameras will focus the world's attention. To us this means help may be a long time coming to Sechelt, so we're pretty much on our own." Ominously, he warns "What it comes down to its this: when the Big One hits, you're on your own. This is all about self reliance. And helping your neighbors." Although not a focus, there would almost certainly be breakdowns in social order following the massive event.

This is a very interesting but sobering book. Like all natural disasters, earthquakes and tsunamis seem remote possibilities until they actually happen. Meanwhile, the west coast waits and life continues, with most residents likely oblivious to the danger just offshore.

> Alwynne B. Beaudoin Edmonton, Alberta

Announcements

Canadian Tectonics Group 2018 award winners

The Canadian Tectonics Group proudly announcements the recipients of the 2017 Jack Henderson best thesis in structural geology and tectonics awards:

Ph.D. thesis prize:

Jeremy Powell, University of Ottawa for his thesis: Burial and Exhumation History of the Mackenzie Mountains and Plain, NWT, Through Integration of Low -Temperature Thermochronometers, supervised by David Schneider

M.Sc. thesis prize:

Kelian Dascher-Cousineau, McGill University for his thesis: *The Evolution of Fault Slip Surfaces with Displacement*, supervised by Jamie Kirkpatrick

MP10: Atlas of Cathodoluminescence Textures

Luminescence techniques have been developed as standard analytical procedures for use in the geosciences. In particular, cathodoluminescence is widely applied in mineralogical and petrological studies, as well as in the characterization of synthetic technical materials.

The authors have worked extensively with cathodoluminscence techniques for more than two decades. The material presented in this atlas should help both beginners and experts in the field of luminescence to understand the physical background and principles of cathodoluminescence.

The nine chapters of this atlas illustrate cathodeluminescence properties of selected minerals, the internal cathodoluminescence textures in minerals and synthetic materials, and their interpretation for different applications in the geosciences.

Available through the online GAC[®] Bookstore, price is \$75 (\$41.25 for GAC[®] members)

Congratulations to both winners and their supervisors!

The Dave Elliott award for best paper in Canadian structural geology and tectonics, with publication year 2017, was awarded to:

Jordan McDivitt, Bruno Lafrance, Daniel Kontak and Lise Robichaud, for their paper entitled "The Structural Evolution of the Missanabie-Renabie Gold District: Preorogenic Veins in an Orogenic Gold Setting and Their Influence on the Formation of Hybrid Deposits" published in *Economic Geology*, 2017, volume 112, 1959-1975.

Congratulations to Jordan and co-authors!

Many thanks to those who read papers and submitted nominations. Without their time and efforts, this award would not be possible.



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L'Association géologique du Canada (AGC), l'Association minéralogique du Canada (AMC) et la section nationale Canadienne de l'Association internationale des hydrogéologues (AIH/SNC) vous invitent cordialement à vous joindre à eux pendant la conférence AGC-AMC-AIH/SNC, qui se tiendra du 12 au 15 mai 2019 dans la ville historique de Québec, site du patrimoine mondial de l'UNESCO. Les participants auront l'opportunité de visiter et vivre le charme et l'hospitalité de cette merveilleuse ville ainsi que d'explorer ses nombreux sites naturels avoisinants.

Sous la bannière "Où les géosciences convergent", le comité organisateur tient à promouvoir la collaboration et les échanges stimulants entre géologues, minéralogistes, pétrologues, hydrogéologues, géophysiciens et géochimistes. La conférence mettra l'emphase sur les thèmes suivants:

- Géosystèmes et hydrogéosystèmes;
- Ressources minérales, énergie et environnement;
- Science des données en géoscience;
- Géosciences et société
- Sessions générales incluant:
- Minéralogie et cristallographie:
- Pétrologie ignée et métamorphique;
- Sédimentologie, stratigraphie et paléontologie;
- Géophysique;
- Géologie structurale et tectonique;
- Hydrogéologie générale;
- Géologie glaciaire et géomorphologie au Canada.

The Geological Association of Canada (GAC®). the Mineralogical Association of Canada (MAC) and the Canadian National Chapter of the International Association of Hydrogeologists (IAH/CNC) invite you to join them at the joint GAC-MAC-IAH/CNC meeting from May 12th to 15th 2019 in historic Québec City, a UNESCO World Heritage site. Participants will have the opportunity to visit and discover the warmth and charm of this beautiful city and to explore its many attractive nearby natural sites.

Under the theme "Where Geosciences Converge", the organizing committee wishes to promote collaboration and stimulating discussions among geologists, mineralogists, petrologists, hydrogeologists, geophysicists and geochemists. The conference will highlight the following themes:

- Geosystems and hydro-geosystems;
- Resources, energy and environment;
- Data science for geosciences;
- Geosciences and society

General Sessions including:

- Mineralogy and crystallography;
- Igneous and metamorphic petrology;
- Sedimentology, stratigraphy and paleontology;
- Geophysics:
- Structural geology and tectonics;
- General hydrogeology;
- Glacial geology and geomorphology in Canada.

SÉANCES PLÉNIÈRES/PLENARY SESSIONS



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Howard Street Robinson Fund

The Robinson Fund was established in 1977 by the Geological Association of Canada, using a bequest from the estate of Howard Street Robinson. The fund is dedicated to the furtherance of scientific study of Precambrian Geology and Metal Mining by:

•sponsoring an annual Distinguished Lecturer Tour whose focus alternates between Precambrian research and economic geology (lecturer alternately chosen by the GAC[®]'s Precambrian and Mineral Deposits divisions)

•supporting Special Projects including publications, symposia and conferences.

Proposals for special projects on Precambrian Geology or Metal Mining should be submitted to the Robinson Fund Committee. Projects should be sponsored or organized through the GAC[®] or one of its Divisions or Sections. Proposals that have a wide appeal or degree of accessibility to the GAC[®] membership are preferred.

For further information and proposal submissions, please contact: Dr. Stephen Piercey, Chair, Robinson Fund, c/o Department of Earth Sciences, Memorial University of Newfoundland, St. John's, NL A1B 3X5 Canada, E-mail: spiercey@mun.ca

The Last Word

The last few months have challenged my time management skills. If you check GAC's administrative information on p. 3, you'll see that I have a new worksite address. During the past six months or so, I have been focussed on packing up my office and an associated lab ready to move to a new building. Since late November, work has

Information for Contributors

Contributions should be submitted by e-mail to Alwynne.Beaudoin@gov.ab.ca, with GEOLOG in the subject line. Contributions are welcome in either of Canada's two official languages. MS Word (.doc or .docx) is the preferred format for contribution but generic word processing (.rtf or .txt) files are also fine. Please do not submit PDF files. Up to four hi-res images may be submitted per contribution: preferred format is .jpg, RGB colour, with a minimum 300 dpi resolution at 5" x 3" size. Please ensure that images are cropped and colour-corrected, and provide a caption for each image, and an image credit line if needed. Contributors are responsible for securing permission to publish for any third-party images or images of living recognizable people. Diagrams (vector graphics) may also be submitted. Preferred format for graphics is Adobe Illustrator (.ai); make sure that the file is saved with "save text as lines" option enabled to ensure no font substitutions. Additional information on other file formats can be obtained from the Editor. Please do not embed images or graphics in your text document; images or graphics should be submitted as separate files. In your text, use a call-out in parentheses to indicate the approximate placement of each image and graphic. If files are larger than 10 mb, please contact the Editor for alternate delivery arrangements. Your contribution will be copy-edited to ensure consistent spelling and orthography and to correct any obvious typos or errors. Contributions may also be edited for clarity and length. If the Editor has questions about specific information in the text, she will contact contributors for clarification. Contribution deadlines are March 1, June 1, September 1 and December 1.

been all about unpacking. Of course, this was a team effort, with everyone in my work group fully engaged with the move. With our microscopes set up and lab functional, I am looking forward to getting back to earth science research and writing, as well as planning new projects. I may even have time now to write an abstract for RFG2018! Alwynne B. Beaudoin, *GEOLOG* Editor

Consignes aux auteurs

Les contributions d'auteur doivent être soumises par courriel à Alwynne.Beaudoin@gov.ab.ca, en indiquant GEOLOG à la rubrique Objet. Les articles seront acceptés dans l'une des deux langues officielles du Canada. Les fichiers de format MS Word (.doc ou .docx) sont préférables, mais les formats génériques (.rtf ou .txt) sont aussi acceptables. Veillez ne pas soumettre de fichiers au format PDF. Par article, jusqu'à quatre images haute résolution peuvent être soumises; format préféré est .jpg, couleurs RVB, avec un minimum de 300 PPP en taille 5 po x 3 po. Veillez vous assurez que les images sont recadrées et leurs couleurs corrigées, qu'elles sont accompagnées d'une légende ainsi que des informations de référence le cas échéant. Il est de la responsabilité des auteurs d'obtenir la permission de publier toute image de tiers ou de personne reconnaissable. Des diagrammes (graphiques vectoriels) peuvent également être soumis. Le format préféré pour les diagrammes est celui d'Adobe Illustrator (.ai); assurez-vous que le fichier est sauvegardé avec l'option « Sauvegarder le texte comme ligne » activée pour éviter toute substitution de police de caractère. On peut obtenir des informations sur d'autres formats de fichiers en communicant avec l'éditrice. S'il vous plaît ne pas incorporer d'images ou de graphiques dans votre texte; ces images ou graphiques doivent être

soumis sous forme de fichiers distincts. Dans votre texte, veillez utiliser des notes numérotées entre parenthèses pour indiquer l'emplacement approximatif de chaque image et graphique. Dans le cas de fichiers dépassant 10 Mo, veuillez contacter l'éditrice pour convenir des modalités de téléchargement. Vos articles seront révisés afin d'en assurer la cohérence orthographique et corriger les fautes de frappe ou erreurs évidentes. Les articles pourront aussi être corrigés pour plus de clarté et éviter des longueurs. Dans les cas où l'éditrice aurait besoin d'informations particulières concernant le texte, elle communiquera avec les auteurs. Les dates limites pour soumettre des articles sont le 1 mars, le 1 juin, le 1 septembre et le 1 décembre.