

Acadia University

Earth and Environmental Science Newsletter Summer 2020



View from the Department

1838 – 1877 – 1920 – 1996 – 2020 – banner years for Acadia. In case you didn't know, these are the years Acadia was founded, burned down, burned down again, introduced Acadia Advantage with laptop computers, closed because of the Covid-19 pandemic. I expect there were closures around the 1919 Spanish flu, but the details are unknown to me.

There's no doubt this year will be one for the history books. We were just three weeks from the end of term when suddenly the rug was pulled out from beneath our feet, it seemed. In retrospect, it was probably a good test of our emergency systems, and not all of them worked perfectly! There was much confusion about what was going on – why can't we continue to work in our offices? There's no one else here. What does a week of cancelled classes mean? That was to give students who could leave a chance to get home and give professors a chance to convert their courses to online offerings. What is this Teams thing that keeps popping up on our computer? Now that's our primary means of communication. I don't know how we could have lived without it! And of course, no field

school at Camp Geddie. Every day of the week I should have been at field school I looked out and wondered what the weather conditions were on the shore. As two of those days it was raining hard or snowing here, there was a twinge of relief that I wasn't blethering on about bimodal volcanism and pull-apart basins, or logging oolitic limestone by centimetre! However, aside from the field school, we have done what we needed to do. Exams were written, likely in several time zones, graduation lists were compiled, and the class of 2020 exited without crossing the stage. We hope we can invite them back next year.

It was a banner year also in other ways. Our most recently tenured professor, Peir Pufahl, received an offer from Queen's University that he couldn't refuse and left us last summer. Although we knew he was going quite some time before, details about the transfer of some of his research equipment got bogged down in administration, and the final clearance for his departure didn't come till the end of June. Only then could we start to look for someone to teach the courses he left vacant. We were very happy

to locate a recently graduated student from the University of Alberta, Morgan Snyder, who has brought a breath of fresh air to the third floor of Huggins.

Another banner year event was Ian Spooner's move out of the head's office, where he has resided for the past five years, initially to try to refocus his research program, but which was quickly gobbled up by the TV show *The Curse of Oak Island*. Ian has been a scientific consultant on the show, and many of you may have seen him in his Acadia Women's Hockey teeshirt (he coaches the team) as he advises about drilling in the "eye of the swamp"! He's sworn to secrecy, but there's something about a pile of gold in a sinkhole... As if that wasn't enough, Ian also took on the position of Director of Research in the KC Irving Environmental Science Centre, which has him overseeing all the scientific activities in the centre, and acting as the contact with the Irving family, who still maintain a profound interest in all that goes on there.

We hope you enjoy learning about our activities in this newsletter. Huggins third floor

is usually a busy place, any time of year (Covid-19 shutdown aside!). The events outlined here are a sample of the news items from the past year that we have posted on our website.

Giving to Acadia



Also feel free to drop a note to ees@acadiau.ca (that message goes to the department head) as we love to hear from you! We'll gather up your news and include it in our next letter!

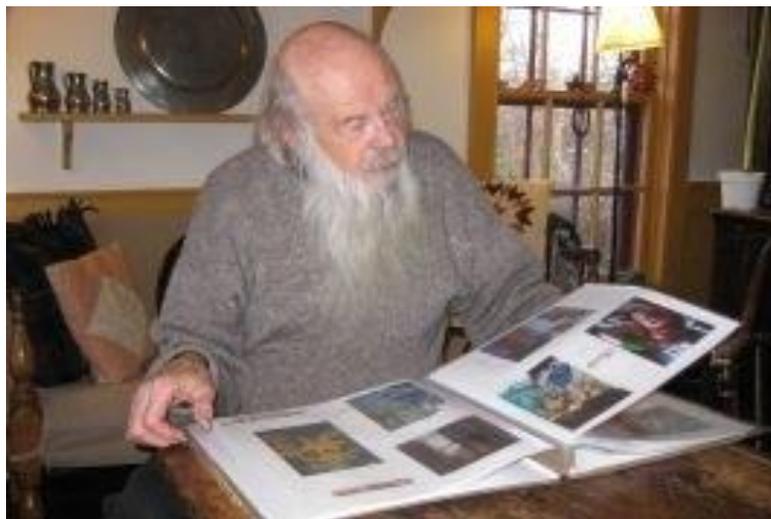
All the best,

Rob Raeside, Department Head

rob.raeside@acadiau.ca

<https://www.facebook.com/campaignforacadia/>

The Reginald Moore Memorial Award in Geoscience



We are pleased to announce the establishment of The Reginald Moore Memorial Award in Geoscience thanks to the generosity of Dr. Peter von Bitter ('64).

Dr. Moore was a paleontologist and stratigrapher who taught geology at Acadia from 1960 until his retirement in 1992. Generations of Acadia graduates remember his keen passion for fieldwork and care for his students. An advocate for social justice and a long-time member of Amnesty International, Dr. Moore also had a lifelong interest in

languages and philosophy and continued to take courses at Acadia after retiring.

The Reginald Moore Memorial Award in Geoscience will be awarded by the Department of Earth and Environmental Science to a returning full-time undergraduate student in a Geoscience program who demonstrates promise, aptitude and emerging talent.

Former students and colleagues are invited to support this important new award by visiting:

<http://bit.ly/MooreGeo>

Introducing Professor Morgan Snyder

Morgan (Mo) Snyder is our new Assistant Professor here at Acadia University. Mo graduated from the University of Alberta in January 2019; their thesis was titled ‘Deformation in the Maritimes Basin’. Even though Mo is from Alberta, they have a strong connection to Acadia. Three field seasons were spent at Horton Bluff, Cheverie, and Split Rock (picture below) measuring fractures and folds, and studying soft-sediment deformation structures.



Mo also worked in southwest Newfoundland, enjoying the hospitality, the lobster, and the geology (in that order). Mo spent a few months on a bathymetry survey ship, looked at salt structures, and made some very cool geological maps using field, seismic, bathymetry, magnetic, and gravity data. If you are interested in structure, sedimentology, or geophysics, Morgan is your person!

Mo’s future at Acadia includes further study of the Maritimes Basin rocks. They are especially interested in Windsor Group salt, sinkhole development, and remapping the geology around the Bay of Fundy. This topic is especially current given the recent sinkhole events in Oxford and Falmouth, Nova Scotia, and is obviously of much interest to the ge-public. At the Atlantic Geoscience Society conference in February, Mo gave a presentation on the Oxford structures to a standing-room only session that was competing with session on gold deposition and geo-education, both normally very popular sessions.

A side project Morgan is very interested in is virtual field mapping, which happens to be ‘in vogue’ during COVID-19 times. Morgan looks forward to a rockin’ good future at Acadia.

Can’t wait to get you out to Arisaig and McAras Brook Morgan!



HIGHLIGHTS OF THE YEAR

Back in classes in September, we had two new faces at the front of the class, the result of the departure over the summer of Peir and Christa Pufahl when Peir took up a position at Queen's University. Replacing Peir for the year, we were very fortunate to obtain the services of Morgan Snyder, recently graduated from the University of Alberta, but who did some of her thesis work around the Minas Basin, so already familiar with the area. Morgan taught courses in sedimentary geology, paleontology and oceanography this year (more details on Morgan elsewhere).



That left just our second-year geomorphology course to find an instructor, and for it we hired Dewey Dunnington, who graduated from the Environmental Science program in 2012, and from the Geology MSc program in 2016. Dewey is now finishing his PhD in Environmental Engineering at Dalhousie, but never averse to a new challenge, took up “geomorph”.



The end of summer brings the start of classes, and in the Geology program, that usually begins with a field school in the Cape Breton Highlands. With a smaller group of students this year, it was touch and go if the field school would run, but three students went with Rob Raeside (first half) and Sandra Barr (second half) to the Gaelic College, to experience bagpipes at breakfast, mossy waterfalls and geological puzzles in three (or four) dimensions. On the shoreline traverse this year we even enjoyed the company of a playful otter around a bay.



During the fall term we were eager to gain from Morgan's experience in her PhD work and arranged a field trip to Rainy Cove with the Fletcher Geology Club. Blessed by brilliant sunshine and low tide at midday, the group examined the intertidal sand bar with dune-scale ripples, as well as the spectacular folding



beneath the Triassic unconformity, before going on to Cheverie to see the classic stratigraphy of Horton and Windsor groups and the petroleum seeps in folded gypsum beds.

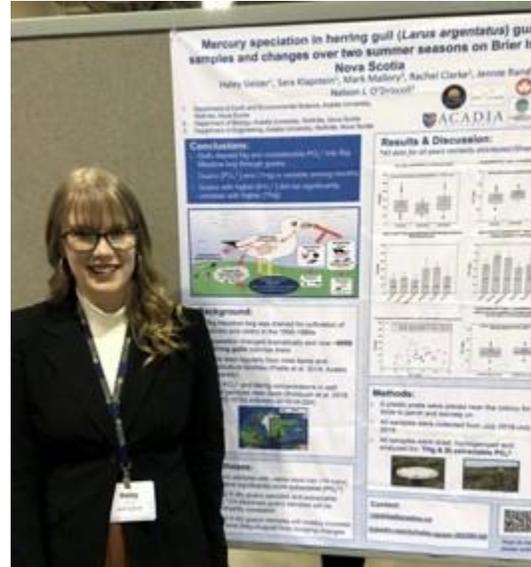
Later in the fall term the Fletcher Club also participated in the annual AUGC – the Science Atlantic conference for Geology majors. The event was held at St. F.X. last year, with 8 students from Acadia participating. Field trips took in the geology familiar from field schools along the Georgeville-Arisaig shoreline, and the Moose River gold mine.



While this may look like an all-male affair from Acadia's perspective, we can assure you that there were plenty of females from other universities to balance the numbers! Special congratulations went to Miguel Vaccaro (centre, above) who brought home the hardware, winning the Science Atlantic best presentation award.

Through the fall term we were privileged to host Dr. John Waldron, from the University of Alberta. John used to teach in Nova Scotia, and has maintained an interest in the structural geology and stratigraphy of the Carboniferous rocks here, including the area now famous for the Oxford sinkhole. Accompanying John was his partner, artist Sydney Lancaster, and together they provided us with a fascinating cross-disciplinary presentation with the Art program, "Boundary|Time|Surface: Art and Geology Meet in Gros Morne National Park, Newfoundland, Canada". Sydney and John coordinated the installation of an ephemeral sculptural work on the shore at the Cambrian-Ordovician global boundary stratotype section in Newfoundland, which they created to interrogate the brevity of human experience relative to the enormity of time, and the fragile and arbitrary nature of human-defined boundaries.

In early November, Nelson O'Driscoll's Mercury Lab group participated in the SETAC (Society for Environmental Toxicology and Chemistry) meeting in Toronto, with undergrad, masters and post-doc participants.



Haley Geizer (BScH), above, presented a poster on mercury deposition in gull guano on Brier Island and Rachel Clarke (now pursuing a MSc) talked on mercury bioaccumulation in Kejimikujik and mercury photochemistry in estuaries.

To close out the term, students in Morgan Snyder's course on Clastic Rocks and Petroleum Geology, made posters for their term paper and presented them in a final lab of the fall term. Topics included were Arctic Cryostructure, Holocene Mesopotamia, Hurricane and Tsunami Deposits, a comparison of the Orinoco Belt and the Athabasca Oil Sands, Land Loss in the Mississippi Delta, the Formation of the Lower Saint John River Estuary, the Athabasca Glacier and the Northern Cuban Oil Field.

In early January, the Canadian Conference For Fisheries Research and the Society of Canadian Limnologists met together in Halifax. MSc student Lauren Muzak-Ruff presented her research, supervised by Ian Spooner, on factors that affect metal deposition and productivity in upland hydroelectric reservoirs. Her field work took place on Gaspereau Lake and Black River Lake. Shortly after, the university announced the appointment of Ian Spooner as the Director of Research at the K.C. Irving Environmental

Science Centre and Harriet Irving Botanical Gardens. There, he will focus on strategy, planning, and communication to ensure that the Irving Centre and Botanical Gardens continue to be a leader in environmental study.

The annual Atlantic Geoscience Society colloquium convened in Truro in early February, as always blessed by another snowstorm. The first day's workshop by Cliff Stanley was pushed partially online – a forerunner of what was to come later in the term! However, all the delegates from Acadia arrived for two days of scientific presentations and catching up with each other. As usual, the event was well attended by industry, government and university participants, including 5 professors, 15 students and many former students from Acadia. Two Acadia Geology alumni were recognized with awards at the closing banquet.



Ralph Stea (BSc 1977, above centre) was awarded the Society's top honour, the Gesner Medal for his work in Quaternary geoscience. Ralph completed his PhD at Dalhousie and spent most of his career with the geological branch of the Nova Scotia government, where he pioneered the study of Ice Age deposits. His work is still widely cited, as revealed by his nominator Denise Brushett (above, left). Also shown is David Lentz, UNB, the incoming Society president.

The Society's Laing Ferguson Distinguished Service Award was made to Terry Hennigar (BSc 1965). Terry still lives in the Wolfville area and had made his career in the area of groundwater geoscience. For over 55 years he has worked in hydrogeology, originally a student of Rupert MacNeill, professor at Acadia until 1982. As a practising hydrogeologist, he has worked all over the region, including advising

on the installation of groundwater supply for geothermal purposes on the Acadia campus. Terry had tickets to a big game in Montreal the night of the awards banquet, so he received the plaque in advance at Acadia and recorded a short video for us, which we were able to show at the event.



A new course introduced this year for senior students was “Climate Change for Environmental Professionals”. The course was full (capped at 40) on the first day of registration, such was the interest. Coordinated by Ian Spooner, the course was offered on Monday evenings, each week with a different professor participating. Rob Raeside launched it on the first night of the winter term with an overview of the science of changing climate, followed by Ian Spooner who examined the climate record, then



professors from History, Biology, Business, Politics, and Nutrition each had a week to broaden the perspective. Presenters included Suzie Currie, the Dean of Science, and Peter Ricketts, University President, who both work in this area. The culmination of the course was a student poster event, where each student presented on a topic of their interest, discussion of which flowed over into an online blog that ran throughout the course. The poster event was held in the new Huestis Pavilion, attached to Huggins Hall, and members of the public were also invited to come and review the work.

Then came March, and the Covid-19 pandemic. Suddenly classes ceased, but courses continued online. We took a week to prepare for the new ways of delivery, discovering among ourselves new skills and ways to communicate. All our courses were completed, exams run, and 31 students graduated. However, many events were cancelled, including the Science Atlantic Environment conference in Antigonish, the Student-Industry Field Trip and the Mineral Exploration Workshop, and of course graduation. It is hoped that some of these events will happen later, and graduating students have been assured their day will come when they can participate in appropriate festivities on campus.



Nelson O'Driscoll, David McMullin, Cliff Stanley and Rob Raeside hosted the celebratory event.

We held an online event for our graduates in Earth and Environmental Science on the middle evening of the grad weekend, to which more than half of our grads were able to tune in, along with a few parents and supporters.

Finally, a couple of high profile awards: Ian Spooner was awarded the Associated Alumni of Acadia University Teaching Award. Made annually, this is the top teaching award at

Acadia. In making the announcement, the Association President Donalda MacBeath ('75) said, "the yardstick by which we measure teaching excellence at Acadia is the current and long-term impact that professors have on our students, not only in classrooms and labs, but after graduation when students apply the tools they have developed during their time here. In this regard, it would be difficult to overstate Dr. Spooner's influence. "In addition to letters of recommendation from his colleagues, the Alumni Association received more than 20 testimonials from past students spanning grad years from 1997 to 2019 in support of Dr. Spooner's nomination. It reflects, in no small way, his outstanding record of teaching excellence and the continued effect his dynamic personality and creative teaching style has had on his students. We are lucky to have him at Acadia, and I extend on behalf of the Alumni Association our heartiest congratulations on this latest personal and professional accolade." Thank you to the "more than 20" of you who wrote on Ian's behalf – I'll be back in touch, as now Ian will be entered in the Association of Atlantic Universities Teaching Award!



The Acadia University Distinguished Alumni Award, which recognizes truly outstanding achievements of a graduate of Acadia University whose endeavours have distinguished them in their chosen profession, went to **Catharine Farrow**

MSc (1989). Catharine is a Professional Geoscientist and accredited Corporate Director with more than 25 years of mining industry experience, much of it Nunavut. You can read more of Catharine's experience on the [Acadia Alumni webpage](#). We had hoped to host an event with Catharine at Acadia in May, in conjunction with our recently updated Acadia Petrographic Facility (alias "rock room"), but that has to be deferred to another time.

Full details and more pictures from all of these events can be found on the [Earth and Environmental Science web page](#).

A Sabbatical Year – Dr. Alice Cohen

Professors at Acadia have the opportunity of taking sabbatical leave as an earned right intended to provide an opportunity to pursue scholarly interests related to their academic and professional responsibilities. This year, Dr. Alice Cohen had the opportunity to take her first sabbatical.



This year, I worked on writing, new research, and presentations and connections. On writing: I made significant progress on a book on environmental politics in Canada, co-authored with Dr. Andrew Biro and under contract with the University of Toronto Press, which we plan to submit before the end of the summer. I also published a paper with a former student on municipal climate planning in Nova Scotia in the *Journal of Environmental Planning and Management*, and I am the lead author on a paper accepted in the *Annals of the Association of American Geographers* – a top journal in my field – on the colonial politics of community water monitoring in Canada.

On new research: with support from the Harrison McCain foundation, I hosted a workshop for policy makers in Halifax in February, which led to a successful CLARI grant in Spring 2020. That grant

will be used to build, with the Atlantic Water Network and Coastal Action, tools for effectively using data from community water monitoring initiatives.

On presentations: I was an invited panelist at the Canadian Science Policy Conference in Ottawa in November, as well as at the annual Science and Technology Action Network meeting in Calgary. I also presented at the Dimensions of Political Ecology conference. The last third of the sabbatical was stunted due to Covid-19, but I made good use of it by continuing to work on the book, applying for funding for a new project, and spending time with our young family.

Remote teaching Natty Dees in the Spring Intersession

I have the distinction of being the first person in the Department to teach a class remotely, Natural Disasters (Natty Dees as it seems to be called) in the Spring Intersession. For those of you who have taken Natty Dees, you know it's a very fast gallop through almost every kind of natural hazard. In some ways it's an easy class as, unfortunately, there are always great/horrifying examples occurring on an almost daily basis. As an intersession class the principle challenge (for both me and the students) is the blistering pace. The intersession term is just 13 days (3 weeks or 15 days minus the Victoria Day holiday and a day for the final exam). Under normal circumstances a standard intersession class is 3 hours long, though even I can't lecture for 3 hours; I break it into two

approximately 1-hour lectures with a 20-minute break.

This time around, with only a few days' notice that the course would go ahead, I decided to go ahead with my usual format but to present lectures via Microsoft Teams – a video-conference app like Zoom. Teams allowed the students to see me and allowed me to present a lecture by sharing my PowerPoint presentation to their screens. In addition, Teams allows me to record any session I have with the students so that they can review at a later time either as a study aid or because they weren't signed in during the regular class time. For the most part, the recording process worked well – as long as I remembered to start the recording. In one case the recording froze part way through the lecture,

something that wasn't obvious until after the class was over. Those who've taken Natty Dees in the past know that I also present many video clips and I was able to do that through Teams with no problem. The big change was to testing. Both midterms and the final exam were done remotely and online with ACORN. That meant that I had to design the tests as "open book" because I knew students could access any resource they wanted while doing the test at home on their computers. I found this a

challenge and one that needs more work when I teach Natty Dees again in the Fall.

The students tell me that, by and large, they enjoyed the remote delivery experience. [Phew!] They suggested, though, that I be a bit more interactive at the start of the term/lecture to engender a more engaging tone to each lecture. I did find it difficult to get people to ask questions and engage with me, but I've got some ideas for the Fall. Wish me luck!

- David McMullin

GOOD TIMES IN THE ACADIA PETROGRAPHIC LAB

From the Acadia Petrographic Lab, once known as the rock room.....

It has been an exciting year in the old rock room. Two sizable donations totaling \$105,000 had been gifted to 'equipment purchases in Earth and Environmental Science' through the Campaign for Acadia. We are most grateful to alumna Catharine Farrow and Sandra Barr. A ceremony to thank them had been planned for May but sadly, due to Covid-19, had to be postponed.

Using the donations as well as income we earn making thin sections for external clients we were able to purchase an Accutom 100 for sawing and grinding as well as a Tegamin 30 for polishing, both from Struers. With new equipment coming it was the right time to freshen up the lab space. All the taps were replaced with ones having levered wrist control handles. The back room with the main operations was repainted. All the fluorescent tubes in the ceiling lighting were replaced. The polishing room is now fully dedicated to polishing with the office component moving to a new space around the building. These small changes have made it a bright and welcoming space and the placement of the new equipment has generated a nice work flow. It has also given us the confidence to take on more external work with the



current equipment and back-up equipment still available for use. A Cit-O-Vac vacuum impregnation unit from Struers was also acquired and resides in the fume hood near the office. Our next savings goal is for fume hood replacement in the main production lab.

The new look inspired a new name. We are now the Acadia Petrographic Lab or APL. Changes were made to reflect this on the website and on all our [forms used for ordering](#). The lab brings income to the department to support thin section services for Acadia faculty, masters and honours students. We make our

own thin sections for teaching and the students can see the operation with one undergraduate student paid to assist for 3 hours/week through term.

If you are in the neighborhood and have memories of working in 'the rock room', always wondered where the rock room was, or are just curious, call or email us for a tour. We'd love to show you APL.

- Pam Frail

WHERE ARE THEY NOW?

Some news of the achievements and adventures of our alumni/alumnae.

Chris Annan (BSc Geol 2017) works for TMac Resources Hope Bay Project, recently promoted to Senior Geologist and is now PGeo in Nunavut and Ontario. He deals with the challenges of permafrost, a short sea-lift season and wind-chill temperatures in the range of -60. The tundra, wildlife and local communities also offer unique ways of doing business unlike anything seen anywhere else in Canada. Anticipating buyout from Shandong Gold Cooperation, the second biggest gold mining company in China, he is optimistic about the future of the project.

Donnelly Archibald (MSc 2012) moved to Adelaide, Australia to pursue a PhD investigating the origin of Neoproterozoic plutonic rocks in Madagascar. After completing that in 2016, he moved back home to Nova Scotia and accepted a job as a Lab Instructor at StFX University. In 2018, he was awarded a Natural Sciences and Engineering Council of Canada postdoctoral fellowship to investigate the age and origin of the iconic Donegal batholith in northwestern Ireland. Donnelly also keeps busy at home reading stories to his year-old daughter Matilda.

Kelli Armstrong (BSc Envs 2012) started the environmental department at the coastal/structural engineering firm Caribbean Coastal Services (CCS), which is now part of a group of technical companies with the same directors. She was promoted this year to do multidisciplinary project management for the parent company, BRON. Here you can see her interviewed on PBS as a top environmental scientist: https://www.youtube.com/watch?v=UotI2M1_jls.

Shauna Baillie (BSc Geol 1994) is an aquatic science biologist working for DFO in St Andrews NB as Maritimes Region operational lead biologist for a new national aquaculture monitoring program. They measure pesticides, antibiotics, trace metals, sulfides, and tie it in with the physical habitat, largely described by grain size of marine sediments.

Diane Baldwin (MSc 1991) has “semi-retired” from work with the NWT government, and now runs Minex Services, providing research and training for geoscientists in Yellowknife.

Nadine (Wood) Barrett (BSc Geol 2005) has been working with the Climate Change Unit at Nova Scotia Environment, helping the Department of Communities, Culture, and Heritage, and the archaeology community to develop climate change adaptation plans.

Michael Brophy (BSc Envs 2017) finished his MSc Civil Engineering in 2018 and worked for the Atlantic Policy Congress of First Nations Chiefs Secretariat as a Policy Analyst focused on drinking water dealing with drinking water issues and policy implementation in First Nations communities. He moved to a new position as a Process Specialist with the water treatment team at CBCL Engineering consultants last year. He is also still curling competitively – actively trying to make it to the Tim Horton's Brier!

Gordon Clarke (BSc Geol 1989) moved from VP Exploration for a Vancouver based company with Canadian properties and a gold mine in Sweden to be the director of the British Columbia Mineral Development Office for the past six years. He monitors mineral exploration in B.C. and promotes the industry to potential investors. Both he and his elder son (age 11) are keen rugby players, but he finds the Lower Mainland to be crowded after working out of Yellowknife, and hopes some day to return to the Annapolis Valley, maybe when his sons are ready to start at Acadia!

Kirklyn Davidson (BSc 2018) has been studying at Dalhousie University toward a MSc in Environmental Engineering. He should this summer and graduate in September. He now works with SCG Industries as an Environmental Geoscientist.

Frank Dennis (MSc 1988) completed his last contract in March and is taking six months off to see if he wants to carry on working or hang up his boots and concentrate on extra-curricular activities like tennis and gardening. He lives in Keyworth, Notts., UK, which is the home of the British Geological Survey and funnily my wife, who has a PhD in nuclear physics, just started working for them. They plan to stay put until the kids finish university, then move to Spain where

Esther has more family than you can shake a stick at. He had an eventful year developing a health, safety and environmental management system for Cadent Gas, the UK's largest gas distribution company and managed to support the IAEA to run workshops in Tajikistan and cost estimation in remediation in Brazil.

Brian Eddy (BSc Geol 1987) lives happily among the ophiolites in Corner Brook, NL, working with NRCan doing research on climate change impacts and adaptations for resource-based communities.

Luke Ehler (BSc Envs 2017) did the Canadian Conservation Corps program run by the Canadian Wildlife Federation to recruit young Canadians 18-30 who have an interest in conservation and was hired on as Education Coordinator at Hope for Wildlife Rescue and Rehabilitation Centre in Nova Scotia. From there he was selected by the United Nations Association of Canada to attend the COP24 summit in Poland as one of 3 representatives of the entire Canada Service Corps initiative, including the Canadian Conservation Corps. After a year with Hope for Wildlife, he was hired by the Canadian Wildlife Federation as the Assistant Manager for their new, national conservation-based experiential leadership program, WILD Outside, a brand new program that aims to recruit young Canadians to participate in a combination of outdoor adventures and community service projects.



Randal Evans (BSc Envs 2012) and **Shaun Todd (BSc Geol 2012)** are in Sudbury, Randal working as a hydrogeologist with Golder and Shaun working as an exploration geologist with Glencore.

Paige Giddy (BSc Geol 2009) working for Orix Geoscience, most of that time in the field, frequently working on the Hope Bay project in Nunavut or from her old farmhouse near Lunenburg. In September she plans to go back to school to take the GIS diploma at CoGS. She reports that she works with **Edwin Escarraga (MSc 2010)**, who is a “super star geologist” also with Orix, using 3D modelling to visualize deposits.

Chris Helmer (BSc 1997) running a hydrogeology consulting business (www.hydrog.ca) in Kitchener, ON, having a hard time keeping up with the workload despite having two field techs to help. He has been involved with projects all across southern Ontario ranging from land development to construction dewatering to open-loop and closed-loop geothermal, and beyond. Outside of work, he and his family annually head somewhere tropical and somewhere snowy each year to keep up the snowboarding, skiing, wake surfing, and dirt biking skills.

Matt Kolsun (BSc 2016) moved on from the BC Ministry of Transportation to be Project Coordinator for Tervita Corporation, an environmental solutions company in Victoria, BC. When I'm not connecting with vendors or clients throughout the day, you can usually find him socially distancing myself from pars and birdies on a golf course on Vancouver Island after hours.

Crystal Laflamme (BSc Geol 2007) is a Canada Research Chair and teaches at Université Laval in Quebec City. She is also now a councillor for the Mineralogical Association of Canada – great to see our alumni/ae serving in the societies!

Christian Lichter (BSc 1993) lives in New Mexico among the amazing vistas, red, yellow and purple, volcanic stocks and marine strata deposits. He writes that his time at Acadia was time well spent developing an ongoing sense of inquiry and wonder of Earth and the universe in general which was put into action not in the Earth Sciences but as a pilot (the USAF prefers to recruit science and engineering students for aviation) and now senior staff officer in the Air Force. Recently he was promoted to colonel.

Robert Lodge (BSc Envs 2004, Geol 2005) got tenured at UWisconsin-Eau Claire. He and **Cassie (Gaudet, BSc Geol 2010)** are expecting their fifth baby in July.

Jill MacDonald (BSc Envs 2014) works as a research associate with Perennia Food & Agriculture in the field services division. She does viticulture research, evaluating grape varieties among various soil types and conditions, and how that has an impact on cluster and wine quality.

Allison Macdougall (BSc Geol 2018) started working as a geotech for Tudor Gold on the Treaty Creak project in northern BC.

Mariana Marques (BSc Geol 2019) lives in Zaandam, the Netherlands, working as a product owner at a software company.

David Mosher (BSc Geol 1983) worked for the GSC until 2015, leading many of Canada's expeditions to the Arctic Ocean in development of its extended continental shelf submission. In 2015, he took up a professorship at the University of New Hampshire and assisted in development of the U.S. submission also. In 2017, he was nominated by Canada and subsequently elected as Commissioner to the Commission on the Limits of the Continental Shelf at the United Nations in New York. That is a body of 21 experts in geology, geophysics and hydrography that review coastal State submissions for an extended continental shelf to define their maritime limits under the UN Convention on the Law of the Sea. Jurisdiction of its extended continental shelf provides sovereignty of the resources on and under the seabed to the coastal State. To undertake this position, he took a leave of absence from UNH. Consequently, he spends 21 weeks per year in New York working for Global Affairs Canada at the Commission and returns to the GSC as senior research scientist at Bedford Institute of Oceanography for the remaining 31 weeks per year. Fortunately, he left New York on March 13, the day before the lockdown!

Harris Ohland (BSc Geol 2013) moved to Austin, TX worked at Apple on their Maps app. When that contract ended he moved over to Facebook as an analyst in the HR department,

now in a full-time position, possibly one of only three people at the ~35,000 person company who has a degree in geology. The work is great and I really enjoy it though I do miss field work.



Jeff Parks (BSc Geol 1987) has just concluded his term as President of Geoscientists Canada, after serving on the Board of Directors for six years and prior to that two terms as Councillor and as President of the Association of Professional Geoscientists of Nova Scotia. He enjoyed serving the profession and now looks forward to the next chapter which will likely be retirement in the next couple of years.

Jean-Luc Pilote (MSc 2011) was selected by the Mineral Deposits Division of GAC as the 2020 William Harvey Gross medalist. The award consists of a medal and a cash supplement supported through endowment funds provided by Corona Corp. and donations by the friends and family of Bill Gross to provide a contribution toward the travel expenses for the recipient and a guest to attend the annual luncheon of the MDD to receive the award.

Nathan Rand (BSc Geol 2013) worked in hard rock exploration in northern Manitoba, then in operations management in Grande Prairie AB, before finally finishing the last course for his degree in 2013 (only 10 years after leaving Acadia!) He moved on to wellsite geology, now with Belloy Petroleum Consulting and finding himself busy. He lives in Golden, BC, with his wife and two children, enjoying skiing, biking, hiking, camping, hunting, paddling, fishing, and relaxing in the mountains, but admits he has yet to drive the 30 minutes (and hike for 6 hours) to visit the Burgess Shale.

Justin Sinclair (BSc Geol 2019) was working with Overburden Drilling Management, Ottawa, up to March, enjoying winter field work. He has used the time since the shut-down to explore Ottawa and finding enough outdoor beer patios to make it feel more like Nova Scotia!

Melanie (Bugden) Squires (BSc Geol 2009) worked as a mine geologist in Newfoundland until the mine closed in 2015. Her husband (an underground blaster) now works 3 weeks on, 3 weeks off, in the Brucejack Mine, BC and Melanie stayed in Newfoundland with their two daughters and runs a coffee shop and hoping a mine opens closer to home so that she can go back to Geology. She loved working at a mine, going underground every day but had to give that up to keep the family at home.

Paul Ténrière (MSc 2002) left the TSX in 2018 and has been living in Rothesay, NB, closer to family. He has been consulting his own and through Mercator Geological Services out of Dartmouth, NS. He is also President and CEO of two companies, Eastern Zinc Corp (base metals and precious metals) and Cameo Industries Corp (molybdenum mine), in holds a board position with a gold company with early-stage properties in Mexico, which has been quite difficult over the past year with the markets being in such turmoil. As raising money has been getting easier he hopes for a better budget for exploration on properties in southeast BC, New Brunswick, and Greenland.

José Texidor-Carlsson (MSc 2007) and Helen Texidor-Carlsson (Admin Assistant, 2006-07) dropped by in the summer with their daughters Anna and Rachel. José works in mineral exploration in Chile and Peru; Helen now works in accounting in Toronto.

Leah (Chiste) Treloar (BSc Geol 2011) is planning to defend her MSc thesis at Queen's in August, element mobility and precipitation in deposits under cover. Last April she started a new job at SGS labs and she is now a Global MMI Product Manager. MMI is a soil geochemistry technique that targets unbound ions in soils, used in exploration, mapping, agriculture, anthropogenic environmental work and archeological work. She enjoys the opportunity to travel the globe with the position and meet amazing geologists, chemists, engineers, etc., who work with soils. She and her

husband Michael (Acadia Grad from 2011 B.Sc. Chemistry) are expecting their first child in November.



Chris White (BSc Geol 1984) received the 2019 Excellence in Geoscience Award of Geoscientists Nova Scotia. Chris is now the Senior Provincial Geologist with the Nova Scotia Department of Energy and Mines, Geological Surveys Branch and is an adjunct professor at Acadia University. The [news release](#) from Geoscientists Nova Scotia documents his over 500 publications and provides accolades on his work and service.

Stephanie White (BSc Biol/Envs 2016) completed her MSc in Biology in 2017 studying the effectiveness of wildlife underpasses. She then started with East Coast Aquatics as an Environmental Consultant, in Bridgetown NS. After two years conducting wetland restoration and delineation projects with ECA, she accepted a position as Environmental Scientist with Stantec Consulting in Fredericton NB where she has worked on various environmental projects across the country.

Karen (Johnstone) Zwicker (BSc Geol 2002) and Colin Zwicker (BSc Geol 2003) are both still working for ESRI. Colin is the highest level Lead Product Engineer for the Geodatabase team and Karen is a Lead Product Engineer and Author for the Map Exploration team, both working in software development. Colin plays soccer in his off time and Karen has been a yoga instructor the past 11 years part time. They have two kids, Cameron (8) and Sarah (5.5). Last year

they got to geek out on some amazing geology in Iceland, hiking and exploring, and went to Thingvellir to walk through the rift valley marking the crest of the Mid Atlantic ridge between the NA and Eurasian plates. Most people were there because Game of Thrones had scenes filmed there. Hah! Then, in November, the JOIDES Resolution came to port in San Diego and Karen went for a tech reunion with much of the crew she once sailed with, including **Heather Paul (BSc 2002)**, who gave a wonderful tour of the ship which was amazing for the kids.



Heather and Karen reminiscing on ocean exploration.

How did we fare in the Covid-19 shutdown?

We asked various people around the department to tell us one thing they have enjoyed and one thing they have missed most as a result of the building closure for during the pandemic. Here are their responses.

Sandra Barr has nothing positive to say about the closure of the Acadia campus and resulting lack of access to Huggins. I have most missed the daily in-person interactions with other inhabitants of Huggins, and most importantly my graduate students. I miss being able to go down the hall and ask a question or resolve a problem in person, rather than by a series of e-mails (one is never enough because communication by e-mail is a series of one-way streets – two-way traffic is necessary for real communication) or virtual meetings (where again, I find that real communication is handicapped). I can write papers in isolation here at home but I often need access to my materials in my office and lab at Acadia, especially the rocks and field notes. I have a long "things-to-check" list for when I get back. And so far, field work has been impossible. In summary, working at home is better than not working at all – but it is not comparable to working in Huggins and in the field.

Pam Frail (rock room technician): It has been great to be able to do a few of the things I've had on the back burner but haven't been able to fit in the regular work day – particularly a maintenance manual for our 23 pieces of equipment and a daily, weekly, monthly, annual schedule. Meeting the neighbours, walkers,

bikers and joggers as they passed the house and gardening have been a true bonus. But oh, how I miss our 'new equipment'. The Tegramin 30 and Accutom 100 had their own set of nuanced skills to learn and I was becoming confident in the application. Let's hope they stuck!

David McMullin: I'm not sure "enjoyed" is quite the right word, but I have "appreciated" being able to work from my guest bedroom.



I've a beautiful view across the Valley to North Mountain and on a beautiful day like today that helps cheer me up. What I have missed is perhaps obvious, the interaction with my friends and colleagues in the Department. The constant interaction that is normal helps keep me focused and on task and gives me lots of ideas. And in this difficult time, ideas are at a premium. It is surprisingly hard to keep focused without the order and structure of a "normal" workday and work environment.

Nelson O'Driscoll: *what I have enjoyed most since closures:* Living within a few blocks of my lab and office and in a small town means that my work-life balance has always been more manageable at Acadia. So in many ways my daily routine has not changed except that I now have an office in my living room and I look out at my backyard instead of a beautiful Acadia campus. I do however enjoy working in my pyjamas for extended periods.

What I have missed most since closures: I miss the face-to-face interactions with my students and colleagues and the ability easily to run a vibrant field research program. I especially miss this in June and July when we are normally out in the field, working on lakes and rivers, and analyzing samples back in the Irving Centre's labs. My group has been working virtually and developing writing and research planning, but it does not replace the hands-on field and lab work that we normally do and love.

Rob Raeside: It has been surprising how little life and work has changed for me during the shutdown of Acadia. The university administration still happens, meetings are online (so many meetings!), and work gets done. We've all learned new skills, for which I am thankful, but perhaps my greatest pleasure has been watching the seasons progress. My home office is right beside my back yard, and I have enjoyed watching the snow melt, the spring flowers bloom and fade, and as I write now, I am sitting under a huge rhododendron in full deep red bloom, with a carpet of lily of the valley wafting its perfume in through an open window. Maybe it's because I am at ground level, but I feel more connected with the seasons. Of course, I do miss the opportunity to interact with students directly and see flashes of understanding across their faces, but most of all, I think I have missed the graduation events. After marshalling convocation for the past 15 years, this was to be my final year, but I refuse to feel robbed of that, so I withdrew my resignation as marshal and will submit it after I get one last chance to announce all the graduands.

We hope you have a great summer and, as always, we look forward to hearing from you! If you are travelling through the area, when the building is open again to visitors, do drop by and see us. We love to know what you are doing, and if you let us know in advance you are coming, we might even give you a chance to speak to a class!

Morgan Snyder: Greetings from Alberta! Working from home has sure been interesting the past few months. What I have missed most: the Annapolis Valley. I am excited to make the permanent move next month; the beauty of Acadia University is difficult to beat. What I have enjoyed about isolation: working from home has allowed me to finally get a new puppy (Bruce Dogtrotter)! He is a stinker, literally and figuratively, but he is a lovable derp that I will enjoy introducing to the department in the coming year.

Ian Spooner: Trying to stay focused on the positive side of this unfortunate situation has been important. It has been a chance to work on papers as well as data processing and entry, with quality time with my "bubble" family (including various animals!)

Cliff Stanley: *What have I enjoyed since the closure of campus activities?* Aside from not having an hour-long drive to get to Wolfville, I have gotten a chance to really set up my home office in Annapolis Royal. I now have just about every necessary piece of office equipment in one room, have some nice artwork on the walls, and there is a wonderful view of a hayfield out my office window. I've also used this opportunity to re-start road biking again, and I am going about 100 km per week, so while I am addressing the stress that COVID-19 brought on, I'm starting to feel pretty fit in the process.

What have I missed most? This one is easy. I miss the students. Finishing off the last month of the term and teaching a fully online course during the Spring term, I never realized how much my teaching keys off the body language of my students. Being outside of a classroom where those keys are absent really makes it hard to know whether the material is sinking in. I wish we were back together again, but I fear that there will be some time passing before that is truly realized. It's clear that the rate of change is changing, so I guess the sooner you appreciate that a plan is just that, and can change at a moment's notice, the better off you will be in adapting to our new normal, whatever that is.

Final Thoughts



Any time I encounter former students outside Acadia, one of the first questions they ask is “What’s it like in Huggins now?” After our renovations, the building has a new outer shell, and is no longer the 1960s eyesore (above), but inside it has changed quite a bit too. The teaching classes and labs are very much the same, but the corridors have all been pushed out on to the beams where pigeons once roosted, and energy-efficient windows have been installed. Here are a couple of “before” and “after” photos from inside.



(left) the east corridor (by the elevator) was lined with maps and notices; (right) now it has windows that look across to U-Hall, and the sunshine streams in. We think it gives one of the best views on campus!



(left) looking along the north corridor past most of the professors’ offices toward the main office; (right) the south corridor outside the dean’s office, with ample space for study areas. Just beyond the block of offices another break-out area is furnished with armchairs!

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