

# Acadia University

## Earth and Environmental Science Newsletter Summer 2021



### ***View from the Department***

What better image to sum up the 2020-2021 academic year than a MS-Teams screen-capture of several of the faculty in the Earth and Environmental Science Department enjoying a finale to the online graduation exercises in May? The image above was captured by Nelson O'Driscoll (visible in the small inset in the lower right), as Rob Raeside (upper right) was reviewing some highlights of the year for the graduating class. It's interesting to examine each professor's background. In the top row, Sandra Barr and Cliff Stanley use their home office spaces, while Ian Spooner (currently Director of the KC Irving Environmental Science Centre) and Nelson O'Driscoll use imagery from the Irving Centre. In keeping with his position as University President, Peter Ricketts employs an overview of Acadia with the Minas Basin and Cape Blomidon in the distance, while Mo Snyder is to be found deep in the British Natural History Museum, under *Rhomaleosaurus cramptoni* (a plesiosaur, one of Mary Anning's most famous finds), and David McMullin sits on the flanks of Etna, which he visited a few years ago.

Spring 2021 brought a sense of déjà vu for us in Nova Scotia, and the Earth and Environmental Science Department was no exception. With three weeks to go to the end of term last year, Covid-19 arrived on our doorstep, and everyone moved online. This year, we made it through term, through exams, even into field school, before the rug was rudely pulled out from under us and we had to stop the work. Last year, the field courses were abandoned all together, resulting in larger numbers this year, especially for the Environmental Science field course. By a heroic effort among the Environmental Science faculty, we were able to complete that course online. Instructors beamed in from home, office, or distant locations and students likewise made use of their well-tuned MS-Teams skills to complete the job. Lectures were provided for introduction to the topics, and students went outside at home to locate the phenomena under consideration. iNaturalist postings from the Annapolis Valley peaked, and learning happened.

The Geology field school ran for three days, before folding under the pressure of rising case

counts in the province, and the resulting ban on travel out of Kings County. We plan to resume it in early September, with the final local exercises and six days at Camp Geddie, near Arisaig, Antigonish County, at the start of term. For once the weather and seas will be warm, and there should be better retention of details with no long summer between field school and the start of classes!

While we all look forward to teaching students in classrooms in September, we did succeed in delivering the program through the pandemic! I think we can all say that we learned a few new tricks, but some of them took a lot of work to make happen. Numbers in the Geology program are lower than usual at the moment, which allowed for easier social distancing in some labs, although all first year and some upper year labs were taught online. Many online teaching resources exist, including substantial fossil and mineral collections (many observable in 3D), online field trips allow access to many famous locations, and stereonet can be drawn on PowerPoint, thereby minimizing the persistent threat of stabbing by drawing tack using tracing paper! Optical mineralogy by shared screen works remarkably well, although 100% online optics is probably too much. Students were very eager to get their hands on microscopes to reproduce the optical phenomena themselves.

Probably the biggest casualties to Covid-19 were the field trips. While a few exercises were conducted outdoors, the inability to jump in a bus to go to Ross Creek or take a van to visit a shoreline section or forest glade significantly compromised our ability to provide on-site learning. Even the weekend field trips by the Fletcher Club or Environmental Science Student Association were abandoned for the year. Watching a video of the rocks at Blue Beach isn't the same as discovering it yourself.

Finally, probably the thing we missed most last year was the presence of our students. While

some students were able to attend some classes (and we thank them for that!) many classes were "hybrid" – beamed online as well as in-person – and students in far-flung parts of the globe were never able to fully participate. The ability to take in a lecture from home was too alluring for many students, and all classes were separated by an extra 30 minutes this year for extra cleaning, which meant that students disappeared between classes. The halls of Huggins felt very quiet all year!

In spite of the trials of the year, we must acknowledge the resilience of the students who stuck with us through the challenges of Covid. They made it to class, whether in person or by avatar, and often helped out with the technology!

In the pages that follow, we hope you enjoy learning about our activities in this newsletter. 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**

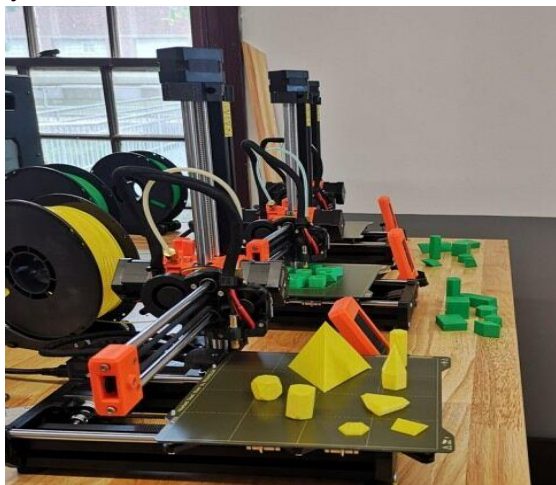


Also feel free to drop a note to [ees@acadiau.ca](mailto:ees@acadiau.ca) (that message goes to the department head) as we love to hear from you! We'll gather up your news and include it in our next letter!

All the best,  
Rob Raeside, Department Head  
[rob.raeside@acadiau.ca](mailto:rob.raeside@acadiau.ca)

## HIGHLIGHTS OF THE YEAR

Much of the summer last year involved uncertainty about how to do things. Professors and graduate students were restricted to working from home, and field work had to be deferred. As summer wore on, and Covid-19 case counts dropped to near zero in the Maritimes, the Atlantic bubble opened, and some travel was possible. Similarly, limited access was granted to buildings, and preparations were made to start teaching in the fall. Sandra Barr and David McMullin recorded field trips for the first year class and Cliff Stanley 3D-printed multiple batches of crystal models for the Mineralogy course, several of which were shipped to Ontario, Alberta, Bahamas, and Korea for students to study the symmetry of the crystal systems.



Some field work was accomplished despite the shut-down. Ian Spooner had students working in Cape Breton Island and Nelson O'Driscoll continued his monitoring of sites on Brier Island, Digby County. Cliff Stanley also advanced his study on till structure and geochemistry in Yarmouth County and Mo Snyder undertook work in the notorious sinkhole region of Colchester County, in part sponsored by a Harrison-McCain Emerging Scholar award. Many of you will have seen Ian Spooner digging around Oak Island too!

A highlight for the summer for Sandra Barr was the release of *“Geology of New Brunswick and Prince Edward Island: Touring through time at 44 scenic sites.”* This book, co-authored with Martha Hickman-Hild, is a companion to a book on the same theme for Nova Scotia that

Sandra and Martha released in 2015 and an earlier volume authored by Martha for Newfoundland.

In the fall term, the Geology students attended the annual AUGC, this year hosted by UNB, but conducted online. A full day of student presentations was followed by an online awards evening and banquet speaker (bring your own banquet). Likewise, the Nova Scotia Discovery Centre awards event, usually one of the higher profile social events in the province, was held online, allowing one and all to witness the appointment of Sandra Barr to the Discovery Centre Hall of Fame, in recognition of her many years of geological research.

For nearly two years, work has been under way to develop a new MSc program in Environmental Science. Bringing on a new program is a lengthy process – first it needs approval by the Faculty of Science, then the University Senate, but after that it must be submitted to the Maritime Provinces Higher Education Commission, which involves review by an external body, and much to and fro to deal with issues. On the premise that this program would be approved three students had started course work and research projects in 2019, and it was a race to see if the program would be fully approved before the first student defended a thesis. We made it with three weeks to spare!

That thesis defence in Environmental Science in December was one of four thesis deliveries in one week! It began with Caleb Grant, a student working with Sandra Barr, who completed a petrological and dating study of the northern Cape Breton Highlands (MSc Geology), followed by Lauren Musak Ruff, who worked with Ian Spooner on the biogeochemical tracking of fish movements into hydroelectric reservoirs (MSc Environmental Science), then by Beatriz Martins who studied in Portugal with Nelson O'Driscoll and Mark Mallory at Acadia and João Canário in Lisbon on methylmercury in freshwater and terrestrial invertebrates. The final thesis defence was by Daniel Mutton in the Applied Geomatics program, who used LiDAR to classify seabed morphology in the St. Lawrence estuary. Such activity clearly shows the graduate programs are strong and vibrant.



February 2021 should have been Acadia's opportunity to host the annual Atlantic Geoscience Society's Colloquium at the Old Orchard Inn. The event went virtual, but still succeeded in attracting nearly 200 delegates from across the region (and some from across the country) for 1½ days of presentations and discussion. Next year, the AGS celebrates its 50<sup>th</sup> anniversary by inviting everyone to Halifax 2022, a joint meeting of the Geological and Mineralogical Associations of Canada with the International Association of Hydrogeologists and the Canadian Society of Petroleum Geologists in May. Co-chairs of the conference Sandra Barr and Rob Raeside would love to see you there – follow updates at [halifax2022.atlanticgeosciencesociety.ca](http://halifax2022.atlanticgeosciencesociety.ca).

In February, the department was pleased to receive a donation of gemstone “seconds” from Nathan Herrick Jewelers in Toronto.



These stones include rough and cut stones used for jewelry and range from well-known gems like rubies, emeralds and sapphires to less commonly seen semi-precious stones that will significantly improve our collection of gem materials.

In March, the annual Science Atlantic Environment Conference was held virtually, hosted by UNB and CBU. A small in-person contingent met with Nelson O’Driscoll to attend the conference via the KC Irving Environmental Science Centre.

In the final week of term, the Climate Change for Environmental Practitioners class was honoured to include Nova Scotia Premier Iain Rankin and Minister Keith Irving for a question-and-answer session. Giving an hour of

their time the premier and the minister provided a brief outline of the government's plans to develop clean-tech economy, reduce and eliminate the dependence on coal, and mitigate the impacts of climate change.



*Iain Rankin (upper left), Acadia president Peter Ricketts (lower left) and Environment & Climate Change minister Keith Irving (lower right) with some in-person class members.*

Despite the necessity to conduct so much business online this year, both the Fletcher Geology Club and ESSA (Environmental Science Student Association) maintained activities, and their presidents, Nathan Carter and Ben Henger, were recognized with the Harcourt Cameron Prize and Linda Lusby Prize, respectively. These prizes, although small monetarily, are the result of peer nominations and recognize the recipients for their efforts to maintain student activities through the year.

In May, Rob Raeside was awarded the J. Willis Ambrose Medal by the Geological Association of Canada for “sustained dedicated service to the Canadian earth science community”. Rob received the medal “in recognition of his decades of dedication to the geoscience community through his tireless contributions to the work of geoscience societies and Canadian academic institutions on local, regional and national levels.” Most of that work has involved editing of *Geoscience Canada* for the GAC, short course co-ordinator and editor for the Mineralogical Association of Canada, and secretary of the CCCESD (Council of Chairs of Canadian of Earth Science Departments) since 1996, and the Atlantic Geoscience Society since 2006.

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

## ALUMNI AWARDS TO E&ES MEMBERS

Two of our number were recognized by the Acadia Alumni Association last year. Because of the pandemic shutdown, many of the associated activities had to be deferred to 2021.

### Distinguished Alumni Award 2020

**Catharine Farrow** studied at Acadia for her MSc in Geology in 1989, conducting a field/lab study of the plutonic igneous rocks of the eastern Cape Breton Highlands. After Acadia, she went on to Carleton University to obtain her PhD and has worked in the mining industry since then. She currently serves as a Director of Franco-Nevada Corporation and Centamin plc, is Chair of the Board of Exiro Minerals Corp., and the inaugural Member of the Advisory Board of Behr Technologies Inc., an Industrial IoT technology company.



She is President of FarExGeoMine Ltd. (her private company), Chair of the Advisory Board of the Mineral Exploration Research Centre, Harquail School of Earth Sciences, Laurentian University, is a member of Laurentian's Goodman School of Mines Advisory Board, and has been an Adjunct Professor at Laurentian since 1995. She is also currently a Program Director of the Osgoode Mining Law Program.

Much of Catharine's work has been focused on mineral exploration both in Ontario, especially the Sudbury area, and in Nunavut, where she was Founding CEO, Director and Co-Founder of TMAC Resources Inc., the first producing gold miner with operations in Kitikmeot Region.

### Faculty Award for Teaching, 2020

Several alumni provided input last year to the nomination of **Ian Spooner** for the Alumni Teaching Award, and your efforts clearly were successful! When Alumni Association President Donald MacBeath ('75) announced the recipient, she wrote, "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."

Ian has taught at Acadia since 1994 and works in environmental and risk assessment, groundwater and surface water contamination, and coastal erosion and recently has become a bit of a celebrity as a consultant on the History Channel hit, *The Curse of Oak Island*. For the past two years, Ian has also been the Director of Research at the K.C. Irving Environmental Science Centre, focusing on strategy, planning and communication to ensure that the Irving Centre and Botanical Gardens continue to be a leader in environmental study.



## ***Double Awards for Sandra Barr, appointed to the Discovery Centre Hall of Fame and CFES Mentorship Medal***

The Discovery Centre in Halifax inducted Dr. Sandra Barr into the Nova Scotia Science Hall of Fame at their annual Discovery Awards event on 26 November 2020. This award is given to internationally recognized Nova Scotians who have made outstanding lifetime contributions to society through discoveries in the fields of Science and Technology. They are role models for young Nova Scotians.



In her nomination statement, Sandra was identified as a pre-eminent geoscientist of Atlantic Canada who, with over 100 thesis students, has mapped nearly half of Nova Scotia and a substantial portion of New Brunswick, determining the geological history of the most complex parts using techniques ranging from petrological study to radiometric dating and paleontology.

In her 44 years of field work, she may have examined more rocks in Nova Scotia than any other living person and has unraveled the wanderings of several terranes that today make up the northern Appalachian Mountain belt. Published in over 170 refereed papers, 30 maps and 300 conference articles, her work is recognized as the authoritative record of the geology of Nova Scotia.

Sandra's geological research is notable not only for its volume but also for its longevity - when she started work in geoscience, the paradigm of plate tectonics was still being developed, and she was able to apply that to her work on the Pacific Ocean floor for her PhD thesis, to the mountain belts of Thailand in her early work in southeast Asia, and to the Maritime Provinces where she and her colleagues and students have steadily tracked the development of the various tectonic terranes that make up the region.

A few months later, Sandra was notified that she would receive the 2021 CFES Mentorship Medal by the Canadian Federation of Earth Sciences for her role in training generations of students and her contribution to the advancement of the geological understanding of the Northern Appalachians in Atlantic Canada.

### **A response from Peter Stewart BSc '82 (not involved in the nomination):**

I am greatly pleased to learn of the 2021 Mentorship award to Sandra. This is such a well-deserved acknowledgement of her supportive attitude to teaching at Acadia, and to life in general. I am a beneficiary of her approach to education. Not just what she taught me formally in the classroom, but how she (and former department head George Stevens) encouraged my application for an NSERC Post-graduate Scholarship before my graduation from Acadia in 1980. I was fortunate enough to be awarded this scholarship to attend Memorial Univ. (MSc 1985) and UWO (1986-89). After two years employment with the geological survey of Manitoba (and meeting my life partner Kathy who was a contract geologist with the MB government), I resumed my studies alongside Kathy at Western. I was granted a PhD in 1992 for my study of the Hope Brook gold deposit in southwest NF, funded by BP-Selco, the discoverer and developer of the mine. Kathy was granted a PhD the following year for her study of Late Neoproterozoic BIF in South Australia. My NSERC-funded path to post-graduate studies and continued learning was laid by the encouragement that I received from Sandra so many years ago. I will always be grateful for her nomination of me for this scholarship and for her continued friendship. What made Sandra stand out for me as a university professor was that she conveyed very clearly (through actions and implications) that she cared whether each student learned. This attitude is not always evident in most of her peers, inside and outside the department or Acadia. Congratulations to Sandra for this nation-wide recognition of her exceptional mentorship, well known to those of us that know her directly from Acadia.



## ***From Acadia to the Alps to Alabama – Stephanie Rogers (MSc Applied Geomatics 2010)***

I am writing to you from Auburn, Alabama on a typical hot, humid June day. People often ask me how I ended up in “the Deep South”, so I am delighted to tell you how my career path led me here. In 2007, I completed my *BA in Geography* from Saint Mary’s University in Halifax. While there, I took a liking to Geographic Information Systems (GIS) and the technical side of geography, so I decided to continue with it and complete an *Advanced Diploma in GIS* at the Centre of Geographic Sciences (CoGS) at the Nova Scotia Community College in Lawrencetown (2008). I was fortunate to work as a summer student through the Federal Student Work Experience Program with the Atlantic Water Quality Monitoring Group at Environment Canada where I fostered my interests in water quality research – I recommend all students try to take advantage of these excellent opportunities offered across Canada! In 2010, I completed an *MSc in Applied Geomatics* through a unique partnership between Acadia University and NSCC under

the supervision of Drs. Nelson O’Driscoll and Tim Webster (CoGS). This program bridges the gap between techniques and theory, and it is truly a one-of-a-kind experience. I worked on testing out a new type of LiDAR which uses fluorescence to monitor and map dissolved organic matter concentrations throughout the Maritimes, with a focus on the Annapolis Basin (check out [aub.ie/LIF\\_LIDAR](http://aub.ie/LIF_LIDAR)). I thoroughly enjoyed my time at Acadia, both studying and filling the role of student assistant coach of the 2009-2010 volleyball team. Additionally, I met my husband Geoff Williams, alumni of the Dr. Dave Shutler lab (aka the Birds and Bees lab), while at Acadia. In December of 2010, pursuing a new adventure, we left NS for Switzerland (because who could pass up unlimited cheese and chocolate?) for the next steps in our respective careers; I started a PhD at the

University of Fribourg and Geoff took up a Postdoctoral fellowship at the University of Bern. My PhD project focused on the geospatial modelling of glacial archaeological potential in the Swiss/ Italian Alps, unknown and challenging territory on many fronts. This multidisciplinary project allowed me to apply GIS knowledge and skills to new academic domains and geographic areas and thus expand my research horizons (check out this link: [aub.ie/glacial\\_archae-ology](http://aub.ie/glacial_archae-ology)). I completed my



PhD in 2014 and then spent time as a postdoc at both the Bern and Geneva before working as a GIS Expert at the Universal Postal Union (affiliate of the United Nations). With a desire to get back to North America to be closer to home, in 2016, Geoff and I both accepted positions at [Auburn University](http://Auburn University) – we knew it was a football school, but the extreme tailgating activities have far exceeded all expectations. I started out as a Lecturer in the Geosciences Department teaching geography

courses and am now an Assistant Professor and have established the GeoIDEA lab (**Geospatial Innovation, Development, and Environmental Applications**). My research investigates emerging geospatial technologies to push the boundaries of efficiency in data collection and management through innovation and development, while analyzing datasets using cutting-edge analytical methodologies to solve real-world problems across disciplines. I have two main research avenues: one, investigating water contamination (*E. Coli* and harmful algal blooms) using geospatial modelling and multi- and hyperspectral drones and, two, researching the effects of environmental characteristics (weather, climate, landscape patterns) on honey bee colony mortality across the United States. For more information or to reach out to me, feel free to visit my website ([aub.ie/rogers](http://aub.ie/rogers)).

## WHERE ARE THEY NOW?

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

**Ken Adams (MSc 1978)** retired several years ago, but has continued to exercise his skills on coastal processes in the Minas Basin. He has paid particular attention to the coastal erosion on a longshore gravel bar and dyke at Edgetts Beach near Apple River, Cumberland County, between 2011 and 2021 as we passed through a peak in an 18.6 year lunar tidal cycle.

**Kelli Armstrong (BSc Environmental Science 2012)** is Project Manager at BRON, an architecture, engineering and environmental firm in Nassau, Bahamas and this year also a Climate Ambassador of the Global Youth Climate Network (GYCN). As a member of the Coordination Team for their Position Paper on Climate Action, I have research and content creation responsibilities. I also became the first Bahamian Climate Change Professional (CC-P) certified by the Association of Climate Change Officers.

**Troy Boyd (BSc Geol 1989)** was planning to retire from teaching last year, but decided to do another year in Fort St. John, BC, mistakenly thinking that an unusual year might be reasonably easy, with a mix of online and in-class teaching. That was a mistake! The school hired **Rebecca Tompkins (BSc Geol 2017)** to replace Troy, and he has handed over the reins of the Geology and Earth Science courses and his collection of rocks and books. Troy will be delighted to retire at the end of this school year, back to his little farm in Masstown, Nova Scotia.

**Peter Brown (BSc Geol 1986)** has been retired from the international oil and gas world since 2015. The last eight years he worked the Middle East, before that, ten years in West Africa, before that, ten years in WCSB. Time really does fly when you're having fun (it's true!). No looking back. I love being retired!

**Jenny Byron (BSc Geol 2002)** moved to Boston when Ash went back into cancer drug discovery after he graduated with a PhD from McMaster University. Golder had an opening and Jenny was able to transfer to the Massachusetts office where she manages a GIS team for the New England offices, supporting

mining, geotechnical, and environmental projects with GIS analysis, 3D modelling and visualization. 2020 derailed a lot of our traveling plans, but **Angela Ford (BSc Geol 1999)** and Jenny went on a fantastic desert geology vacation, right before the world shut down or rather as Angela was flying home! They spent an amazing road trip driving from Phoenix to Quartzsite (this spelling annoyed Angela significantly), Joshua Tree, Death Valley, Hoover Dam, Grand Canyon, visiting all the National Parks and geeking out over the spectacular rocks, cacti, and wildlife. Jenny: I still use the website you built on Sudbury geology in my Tectonics class - Rob!



**Scott LaRue (BSc Geol 2018)** is working on a wind farm project in New Mexico and writes that the geology in this state and the surrounding area of Colorado and Utah is breathtaking to say the least.

**Melody (Myers) Christie (BSc Geol 1998)** is a Senior Research Officer and runs a consultancy at Griffith University in Brisbane Australia. She has moved into pathogen detection in water using molecular techniques, identification of bacteria in wastewater (both micro and molecular) and plant pathology (*Ascochyta rabiei* infection of chickpea).

**Stu Clow (BSc Envs 2012)** moved back to Nova Scotia from Alberta to complete an MBA, top of his class! He has been working for Bell Canada in a team lead role, managing call centre agents doing customer service for business



customers. The work is challenging, but he gets great feedback from his agents on his leadership style, collaboration, and inquisitive problem-solving skills (things he developed in part in Acadia E&ES).

**Tim Crowell (BSc Geol 2006)** is based in Calgary leading Golder's Prairies and North Hydrogeology department, a 30-person groundwater team focused primarily on mining and oil and gas but doing a lot of other water-supply projects for towns, ski hills, etc. It continues to be very interesting work working on large scale drilling and testing programs in the mining/O&G sectors. Golder sold out to WSP in 2020, so has grown from an employee-owned 8000-person to a public-60,000 person company with many exciting changes ahead. Tim grew up near to Oak Island and has always been fascinated by it. He writes, "when the TV show started years ago I was hooked (much to my wife's chagrin as she isn't as interested!) as it hit close to home not only from living near there, but, the drilling/geophysics/water quality investigations etc.! I have enjoyed seeing Dr. Spooner on there and the Acadia representatives. I always joked I wanted to take vacation all summer and go volunteer to work with him!

**Adrian Davis (BSc Geol 2006)** is now registered to become an Environmental Professional (EP) and works as a consultant through his new company, XplorEv Geological Services of Harvey, NB. The main focus is writing up reports of work, managing drill programs, core logging, soil sampling, data keeping, and eventually, to become an environmental consultant for the area. After working out west at various mines, he moved back to New Brunswick in 2016, to live in Harvey, closer to his family roots. He is a councillor for the Village of Harvey, a volunteer board member with the Fredericton Community Kitchens, volunteer geologist with Quartermain Earth Science Centre, Geoscience Councillor for APEGNB, and has been volunteering with Harvey Community Hospital Foundation in delivering groceries and meals on wheels. In his spare time, Adrian enjoys being part of the Harvey Regional Heritage & Historical Association, Harvey Improvement Association, geology, rock/mineral collecting, hiking, spending time with family, being on the water,

photography, studying politics, and attempting to get a green thumb.

**Dwight DeMerchant (BSc Geol 2011)** returned to the Maritimes after several years in oil and gas geology, and has completed the GIS/Remote Sensing diploma at CoGS. He plans to return to New Brunswick this summer.

**Frank Dennis (MSc 1988)** semi-retired as managing director of Dunallan HSE Solutions Ltd., and lives in Nottingham, England, where his partner Esther works at the British Geological Survey. He is enjoying improving his tennis skills, and still takes on occasional contracts.

**Roland d'Eon (BSc Geol 1996)**, after 19 years of teaching in Hong Kong, returned to Pubnico in 2019. He is now the Executive Director of le Village historique acadien de la Nouvelle-Écosse in West Pubnico.

**Brian Eddy (BSc Geol 1989)** is a research scientist with NRCan, Corner Brook, developing a collaborative multi-disciplinary research framework for Adaptive Management and Cumulative Effects of natural resource projects. He reports that, like the partnership between Acadia and CoGS, they are about to start a partnership between MUN/Grenfell and the College of the North Atlantic in a Masters in Applied Geomatics (MAG) program. As a side project, he serves on a committee to help the Aspiring CABOX Geopark in western Newfoundland, hoping that in a couple of years the Bay of Islands ophiolite complex and environs will be added to the growing list of global UNESCO Geoparks for education, research and tourism.

**Randal Evans (BSc Envs 2012) and Shaun Todd (BSc Geol 2012)** live in Sudbury where Shaun is working as an exploration geologist with Glencore and Randal as a hydrogeologist with Golder. Their daughter, Abigail, was born in February.

**Kayla (Boyd) Giovannini (BSc Geol 2015)** was married in 2019 and now has an 11-year old step-daughter and an infant son. She works as the Watershed Technician for the City of Dawson Creek, BC.

**Josh Goss (BSc Geol 2006)** completed his MFA 2012 at Southern Illinois University Carbondale and is now a Colorado-based professional artist

who, through the use of heat and pressure, seeks to relate the sublime nature of geological time to the human perception. He recently completed several large scale public art projects. He is happily married to Lena, a German designer, who he met when studying in Sweden and they have a one year old baby boy, Milton. For a peek at some of Josh's work, see [www.joshuagoss.com](http://www.joshuagoss.com) and images below.

**Dan Hagan (BSc Geol 2003)** is Senior Project Manager/Geologist at Greenview Environmental, and has moved to Baxters Harbour. He works in environmental geoscience, focused on waste management, contaminated sites, asset management, and municipal engineering projects.

**Eileen Haskett (BSc Biol/Geol 2015)** completed an MSc in Biology at Acadia, then moved to Bocas del Toro, Panama a short-term fellowship doing marine biology with the Smithsonian Tropical Research Institute. She is now doing STEM-related public outreach/education work for Smithsonian stations in Panama City and Bocas del Toro and working for an NGO called Bocas Surf Crew.

**Chris Helmer (BSc Geol 1997)** is still living Kitchener with his girlfriend Alona and her children. Having just celebrated the 4th anniversary of his hydrogeology consulting business, Chris has been thrilled to experience unexpected growth during the pandemic – apparently Southern Ontario is a good place to be working in the development industry. Lots of staycationing planned this summer, and with three trips already booked for 2022 Chris and his family are looking forward to making up for lost time when the travel restrictions are (hopefully) lifted.

**Bruce Hudgins (BSc Geol 1983) and John Wightman (BSc Geol 1960, MSc 1970)** were recognized by PDAC with the [Viola R. MacMillan Award](#) as part of a team at Atlantic Gold for their role in the development of the Touquoy open pit mine and the consolidation of other gold deposits near Moose River, NS, after the gold potential of the area had been unrecognized for decades.

**Jessie Legate (BSc Envs 2000)** is teaching in Halifax and describes himself as a disc golf enthusiast.

**Linda Lusby (retired 2011)** enjoys her paradise in St. Bernard, Digby County, gardening, reading, looking after ten dogs, and keeping up with environmental issues in local, regional and world communities. After a spell of operations to insert metal rods, screws and wires to hold her together, she has finally given up on the idea of a motorcycle, and is awaiting arrival of a new red, racy soft-top convertible Mazda Miata.

**Matt MacLeod (BSc Envs 1999)** completed his MSc in Geology at Calgary under Dr. Gerry Osborn (who was also Ian Spooner's PhD supervisor) graduating in 2003. There, he studied lake sediment in Otokomi Lake, Glacier National Park, Montana, to reconstruct the climate of the past 14,000 years. Following his masters he did dentistry at Dalhousie, followed by a residency program in paediatric dentistry at the Hospital for Sick Children in Toronto. He then moved on the Orthodontic program, completing the MSc in Orthodontics in 2011 and moved back to Nova Scotia in with my wife, Marla MacAulay (Acadia Biology class of 2003). He lives and practises orthodontics in Kentville where my wife is also practices periodontics. They have two daughters Lauren (9) and Leah (6) who both enjoy piano and dance. Being a lifelong skateboarder Matt started a community non-profit, The Kentville Skatepark Association, to raise funds for a destination skatepark in Kentville, due to be completed in 2021.

**Tim Marsh (BSc Geol 1988)** was appointed president of the Nova Scotia Federation of Agriculture. He is a dairy farmer along in Poplar Grove, NS, milking 90 Holsteins. Tim's maintains a passion for geology and soils as the Chair of Nova Scotia Soils and Crop Association and as the Nova Scotia rep on the Soil Conservation Council of Canada. Tim and his wife Shelley still search for agate in the Bay of Fundy – now taking their grandchildren!

**Katie McCulloch (BSc Geol 2016)** is an exploration geologist with Anaconda Mining at their Goldboro, NS, site.

**Rian Mizzi (BSc Envs 2021)** has only just graduated, but after learning about the inner workings of venture capital he realized he had all the tools to fix some glaring environmental issues. He co-founded Drinkable Water Solutions Inc. (or just Drinkable), along with

Anita Taylor (from Dal), and Robert Afari (SMU,) about 2 years ago and now have hired Acadia students in Business and Computer Science. They are building a handheld microsensor device to detect ppb level contamination in drinking water at very little cost. Working with researchers at Cape Breton University, they have been incubated at Dal's Emera idea hub, and are participating in the UNB accelerator, Energia Ventures, which provided \$50,000 through NBIF. You can check out their website at [www.Drinkable.tech](http://www.Drinkable.tech).

**Alicia Moning (MSc Geol 2019) and Alex Squires (BSc Geol 2016, MSc Geol 2019)** have been working for New Found Gold Corp in Gander, NL. We have both been core logging geologists and Alicia recently was promoted to project geologist. They are happy to be back on the East Coast.



*We like that sweatshirt, Alex!*

**Brent Murphy (MSc Geol 1989)** is Senior Vice President, Environmental Affairs with Seabridge Gold, having moved from Yellowknife to Littleton, Colorado in 2018. He and MaryLou are gradually relocating to a “retirement home” in New Brunswick, but Brent continues to work part-time from the US, focusing more on company strategic matters and mentoring staff. They were pleased to announce the births of two grand-daughters over the past two years.

**Jason O’Connell (BSc Geol 2001)**, after graduating in 2001, did an MBA at Dalhousie, moved to Toronto and took a job as an Equity Research Analyst at the Bank of Montreal where he covered mining stocks. Following that he went to Franco-Nevada, a gold royalty company

with investments in various mines and oil and gas projects globally. He worked in the business development group acquiring various assets and moved around various functions within the company. He is now SVP of Energy and runs the oil and gas business.

**Carli Owens (BSc Envs 2003)** is an associate with Christianson TDS in Portage la Prairie, Manitoba. She has served on the Manitoba Bar Association for 12 years and was elected as president of the Association for 2020-2021. She asserts that her interest in law stems from her classes with [Professor Emerita] “Linda Lusby who was a lawyer and a very neat lady who did a lot of work on the regulation of GMOs.”

**Molly Patrick (BSc Envs 2004)** currently lives in Atlanta, Georgia and work for the US Centers for Disease Control and Prevention. She has been there for 10 years, hard to believe! Her public health work still has an environmental element, where her background in environmental science and environmental engineering (pursued after finishing at Acadia) are an asset. She started off working on international/humanitarian emergency response, working with a water, sanitation and hygiene focused team doing a lot of water quality and waterborne disease prevention work. For the past three years, she has worked with a team that works in healthcare settings focusing on environmental infection control. She still looks forward to getting back to home base in Nova Scotia.

**Clayton Peskleway (MSc Geol 1996)** works for Newmont Corporation at the gold mine in Chapleau, Ontario.

**Meng Qiu (BSc Chem/Envs 2016)** completed her MFA at NS College of Art and Design with focus on jewelry design and metalsmithing and the preliminary gemology certificate with the Canadian Gemological Association.

**Sara (Akin) Sanderson (MSc Geol 2012)** made a career transition out of the oil and gas industry and has moved into a role at Jacobs as an Environmental Consultant, located in Melbourne. Although it’s quite different to petroleum geoscience, she really enjoys learning about renewable energy projects, and how to help transition different industries to more sustainable activities. She notes that she is glad she took that EIA class with Dr. Spooner 10



years ago! The Sandersons have decided to stay in Australia for the foreseeable future.

**Hannah Sinclair (BSc Chem/Geol) and David Maguire (BSc Geol)** got engaged in March. Hannah teaches IB Chemistry and senior Science at Kings-Edgehill School, Windsor, NS, and David now works from home as Operations Manager for Zūm Rails, a Financial Tech company based in Montreal. Tobias, the puppy, likes having him home.



*David and Hannah at Wolfville Harbour*

**Crystal Smith (BSc Geol 2018)** was spotted in the Pictou Advocate prospecting for gold with Northern Shield.

**Ryan Smith (BSc Envs 2001)** writes that he has drifted a long way down the river from environmental science! After Acadia he completed a MSc in Renewable Resources at the University of Alberta, studying water quality in mountain streams (where his housemate was Zabrina Gibbons, a fellow ENVS grad). After a few years consulting in the oil and gas industry he completed the MD program at the U of Calgary, then residency at the University of Western Ontario in anesthesiology and perioperative medicine. He is now an anesthesiologist at Hamilton Health Sciences and faculty at McMaster, after returning to Canada last year from Vanderbilt University Medical Center in Nashville. He and his wife Meghan have two daughters and live in Dundas, ON. Both the girls are committed science geeks - Amelia is a dedicated mineralogist, a kindred spirit of Sandra Barr, while Isabel is keeping her

options open and may wander down Tom Herman's biology path.

**Peter Stewart (BSc Geol 1982)** and his partner Kathy are consultants to the mining/exploration industry. They live in her family home in Dundas, Ontario, a scenic town nestled in the Niagara Escarpment at the westernmost end of Lake Ontario. I named my company, The Valley Geological Services Inc. as Dundas occupies the Dundas Valley, and being a Berwick boy, this name also incorporates my Annapolis Valley background. While I move closer and closer to retirement, I am able to enjoy the many memories derived over 40 years of work and travel, including to several exotic locales such as Australia, Thailand, Morocco, Ecuador, Argentina, Bulgaria, without regret. I wanted to see the world after growing up in Berwick and becoming a geologist allowed me to accomplish more than I could have reasonably expected. Niagara Falls are about an hour from Dundas and I enjoy showing off the Niagara River area in day trips from Dundas (there's more than just the Falls), especially to any who have never seen it before. I invite fellow Acadia classmates for my guided tour of the Niagara River and Escarpment if they are ever in this area.

**Julie (White) Thomas (BSc Geol/Biol 2002)**, after 15 years in the UNB research office, switched gears and is now the Director of Risk Management at UNB. She lives in Douglas, near Fredericton, on Currie Mountain (part of the Royal Road Basalt of the Mabou Group... see she's still got it!) with her husband Josh Thomas (BBA 2001), and their brood has expanded to include four children - Jessica (15), Emily (13), Wyatt (7) and Theresa (4). She alternates between being a hockey mom from Aug-May and a soccer mom from May-August and loves every minute of it!

**Rebecca Tompkins (BSc Geol 2017)** teaches Science in Fort St. John, BC, taking over from alumnus Troy Boyd ('89).

**Miguel Vaccaro (BSc Geol 2020)** got a job with DGI geoscience, and soon got the opportunity to see some of those famous Rocky Mountains mentioned in the Structural Geology course - the Three Sisters, Mt. Rundle, etc. The drive from Calgary to Jasper was breathtaking! He was planning to go to Senegal next and wrote "I am very excited about my future as a

geologist, and already have gotten a great taste of the experiences the science can offer! I would love for more students to be excited about what even a new graduate can experience!”

**Shyann (Leblanc) Watters (BSc Geol 1992)** is a Math teacher in New Brunswick and joined up with Alice (Dickinson) Walker for some in-province touring around Bathurst last summer and to share notes on their teaching experiences. She tells us her students are still shocked when she tells them she took Geology, but stresses it was a gateway to something else and that our

first chosen path may not always be the path that continues.

**Robin Westland (BSc Geol 2010)** successfully passed her PhD exam last August. While not in geology, she incorporated rocks and minerals and her passion for them throughout the thesis, “It is *I* Who Am Transforming: Mining, Capitalism, and the Conscious Earth” It is very interdisciplinary...geology, philosophy, geography, psychology”. Robin now works as a Social Policy Advisor for the Tr’ondek Hwech’in First Nation in Dawson City, Yukon.

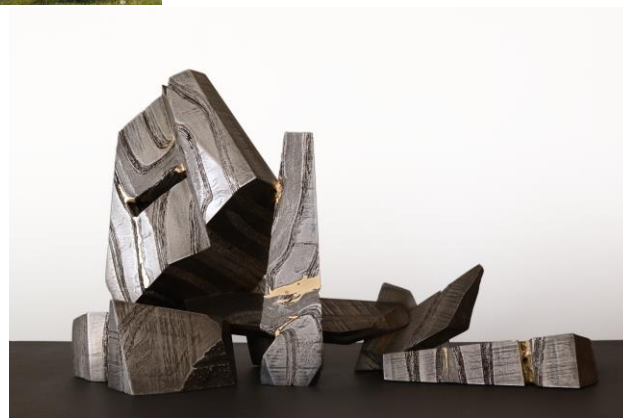
### Some blacksmith work by Josh Goss:



Range, 2020, Peak View Skate Park, Greeley, Colorado. See <http://www.joshuagoss.com/news/> for details of the installation.

I think Josh must have been having nightmares about structural geology when he crafted this one.

Lots more examples of subduction, graben and half-graben, and block faulting in metal at <http://www.joshuagoss.com/category/portfolio/>



### Final Thoughts

As we ease back into a “normal” life with the benefit of vaccinations, we repeatedly hear the refrain “rely on the science”. Let’s hope that continues in many walks of life – other crises in climate and pollution, responsible use of resources, fair treatment of all communities. We hope you, as science graduates, can echo that refrain far and wide! We also wish you all the best for the summer (or winter for those “down under”), and look forward to hearing from many of you again.