





EARTH SCIENCES

A MESSAGE FROM THE CHAIR

Another academic year has come to an end, and what a year it's been! On March 18th, all students, staff, and faculty left campus due to Covid-19. With much hard work from our instructors, all courses were quickly moved to an online format. Unfortunately, our three spring field courses were cancelled and although we'd hoped to be able to offer them in late summer/early fall, this won't be possible. Our two 4th year/graduate field courses normally offered at the end of August have been cancelled as well. Some instructors are preparing to have themselves recorded in the field in the event that we still cannot offer in person field camps by May 2021. As we prepare for online offerings of our courses in the fall, the hybrid method of instruction at Western means that we will be able to teach our upper year labs in person with proper social distancing and PPE measures



in place. Some faculty, staff, and graduate students have begun to slowly return to the university to conduct essential research. As I sit here in my office on my designated day of department supervision, I see no one lingering in the corridors, and all members who are here working are doing so according to the safety guidelines set out by the University, Faculty of Science, and Department of Earth Sciences. I sincerely hope that every member of our department, including our alumni, are staying safe, with good mental health.

During the week of March 9th, the Department hosted external and internal reviewers who assessed our undergraduate and graduate programs. Both reviews were generally favorable, with our strengths highlighted in terms of our learning outcomes for students, competence of the faculty members, excellent leadership, well designed program content, and high quality of student research. Over the next year, we will be developing a strategic plan, especially with respect to faculty renewal, as we have lost and will continue to lose people in key research areas to retirement. Faculty member Gail Atkinson retired in January 2020. We will miss Gail's cleverness and wit, and dedication to making things fair, clear and sensible! Although we miss her already, we're also happy that she made her (maybe?) permanent move to BC. Burns Cheadle is officially retired on July 1 2020. It's an awful time to hold a retirement party, and thus Burns will have to wait a while for a proper send-off! Happily, our petroleum geology guru will be staying in London for many years to come. In April 2020 we also lost our Technical Specialist, Barry Price, to retirement. Barry had been at Western for 50 years!! We were lucky to have him in our department for so many years and wish him a very happy retirement.

In the coming months, the Department will be making strides towards increasing equity, diversity and inclusion (EDI) in our unit. We've begun working with our graduate and undergraduate students to thoughtfully take action in this respect. The first step was a meeting with concerned graduate students at which we discussed ways in which EDI could be enhanced. Examples are to invite more speakers to our colloquium speaker series who identify as members of underrepresented groups; and increased outreach to London's Black, Indigenous and People of Color communities. For now, I wish you all well and as happy a summer as it can be under the circumstances.

Patricia Corcoran, Department Chair





Richard W. Hutchinson Geoscience Collaborative Suite

The Grand Opening Event for the Richard W. Hutchinson Geoscience Collaborative Suite took place on September 30th 2019. This was a closed event for the Department of Earth Sciences' faculty, staff, students, alumni and donors to celebrate the official opening of the suite to researchers and individuals interested in working on the Dana and Suffel Collections. From myself and all of us here in the Department, we would like to sincerely thank everyone who made this event possible, and to those who joined us, especially those alumni and donors who travelled long distances attend. It was great to be able to meet so many alumni and I look forward to working alongside you in the future.

During the Fall 2019 and Winter 2020 terms, I supervised a team of 21 work-study students in moving the remainder of the Suffel Collection out of our previous storage space in Somerville House. Our goal for the term was to have all of the Suffel Collection moved into NCB by the end of April 2020. The on campus work was moved online due to COVID-19 on March 18th and the Richard W. Hutchinson Geoscience Collaborative Suite was closed. However, my students were such an amazing, hard-working team that by our closure on March 18th, they had moved all but 30 boxes of Suffel Collection rocks out of Somerville House. There are only 117 boxes out of approximately 1300 left to be unpacked and put away. This is amazing and would never have been possible without an incredible team of hard working and passionate students who I am very thankful for being able to work with over the past 8 months.

Although the Richard W. Hutchinson Geoscience Collaborative Suite is closed, I've been using this time to continue working on digitizing the Suffel Collection card catalog. Half of the collection data had been digitized previously by students and over the past two months I have digitized approximately 5000 records, but there are still about 10,000 to go.

This closure means that we currently cannot estimate when we will be able to fully open to the public or for bookings of the suite. We will update everyone with more information when we can. I hope that everyone stays safe and healthy during this unprecedented time!

Alysha McNeil

Geoscience Collections Curator





International Field School

In November 2019, 14 undergraduate and graduate students, 2 instructors, and 3 alumni/donors went to South Africa for the ES 4452Z/9600Y International Geoscience Field course. We embarked on an amazing journey visiting world renown outcrops and mine sites, and gained practical field experience. We also had the opportunity to experience South African culture by interacting with South African locals and students, and visiting world heritage sites, museums and a game reserve (the Cradle of Humankind, Apartheid Museum, Rhino and Lion Nature Reserve). We visited three cities in South Africa; Pretoria, Barberton and Lydenburg. Fascinating tours of the Cullinan Diamond Mine and the Sheba Mine gave us a great opportunity to better understand how the mines function. With assistance from 2 professors from the University of Pretoria and plenty of hands-on experience with the outcrops, we learned about the Kaapvaal Craton geology. This took place when we explored the extraordinary outcrops of the Vrederfort Impact Crater, Barberton Greenstone Belt, and Bushveld Complex. On our last day, the graduate students put together a Canadian Symposium presenting Canadian geological wonders to the geology students at the University of Pretoria. Aside from all the cool rock samples we brought home (e.g. chert with microfossils, BIF, chromite), we not only gained some knowledge on the South African geology, history and culture but also created close bonds with each other and the people we met in this beautiful country.

Jasmine, 3rd Year Geology Student













Impact Cratering Field School

The Impact Cratering Short Course and Field School lead by Dr. Gordon Osinski brought graduate students to Sudbury Ontario, the site of the planet's second-largest impact crater. Students were given the opportunity to study impact melt rocks, impact breccia, shatter cones, impact-induced hydrothermal alteration, and more.

The field course started off strong with an invitation to Killarney National Park's "Stars over Killarney 2019" event in celebration of 2019 being the United Nations year of Indigenous Languages. With collaboration from the park's Wiikwemkoong partners at Point Grondine and Science North, it was a weekend full of Indigenous astronomy and cultural learning. The group arrived late Saturday night to experience the incredible view of the stars through a variety of telescopes and learned about the Indigenous constellations.

Our first field location was a quick drive away to a well exposed outcrop full of shatter cones on the main road into Laurentian University. For many students this was their first experience seeing shatter cones, an important shock feature of impact craters! The Sudbury Breccia, an enigmatic breccia found in metre scale to millimetre scale throughout the Sudbury impact structure, was the focus of the course's Field Research Project. Our first introduction to the breccia was on day two of the course, just southwest of Sudbury

in the town of Lively, outcropping at a local recreation center. It was clear that this breccia was unusual and intriguing to say the least! The next few days were spent in the northern region of Sudbury, including the towns of Chelmsford and Onaping, exploring the crater fill sediments of the Whitewater Group and the complex geological evolution of the Onaping Formation. The last three days in Sudbury were spent working on our field research projects. Groups of students were assigned locations across Sudbury with the goal of mapping the occurrence of Sudbury Breccia.

Overall, the Impact Cratering Short Course and Field School of 2019 can only be described to me in one word: Impactful.

Tabetha, M.Sc. Geology Student









Regional Field Geology



Nova Scotia - Fall 2019

Geophysics Field School

The Geophysical Field School 2019 consisted of performing geophysical surveys at two field sites. The objective of the survey at the first site, a farm field located near the Bonnerchere River in Ontario, was to determine relevant information for the development of a wastewater treatment plant. The second survey took place at a test site in Calabogie, Ontario with a goal to assess accessibility and economic feasibility of mineral extraction. We used a combination of techniques to study the sites including electromagnetic, magnetic, seismic (reflection and refraction), electrical resistivity, and induced polarization surveys. We were tasked with designing our own surveys in groups based on preliminary site information. Then, a field site visit, data collection, and subsequent data analysis gave us a chance to refine the survey designs for the next field day. The field course consisted of a diverse group of students (geologists, geophysicists, and engineers) from Western and Queen's University which made it a fun learning environment.

Jahnavi - M.Sc. Geophysics Student











Alumni Relations & Development Update

First and foremost, I hope this finds you all safe and healthy. These are certainly unprecedented times. Despite my team's move to remote work on March 17, we have been very busy reaching out to our alumni and remaining as engaged as possible. I am pleased to announce the addition to our team of Erin Azzopardi as Senior Development Officer. Erin joined us on March 11. Many of you may have had the pleasure of meeting Erin as she attended the PDAC Alumni Reception. Kate Huner and I are thrilled to have her join our team.

Fundraising:

Richard W. Hutchinson Geosciences Collaborative Suite I am very pleased to confirm that thanks to a very generous gift of \$100,000 from Dean McDonald and Carol Ellis, we have moved even closer to fulfilling our fundraising goal to complete the outfitting of the Suite. We are still in need of approximately \$30,000 to complete the fundraising for what we need and it would be wonderful to see others join Dean and Carol in taking us to the finish line. We will ensure proper recognition of any gifts received. If you can help, please contact me.

Other fundraising priorities:

Although we are still focusing efforts to complete the fundraising for the Suite, we are continuing to raise funds to support our stellar field school program. We are also still working toward fully funding the Robert Hodder Chair in Economic Geology. We wish to thank Keith Barron for his ongoing generous support of this Chair on a term basis. We could not have done this without you Keith!

Student Relief Fund:

Western remains committed to the health and well-being of our students, faculty, staff and campus community as the situation around the COVID-19 pandemic continues to evolve. We know this is an especially challenging and disruptive time for our students, some of whom are facing significant challenges as they navigate the unexpected and far-reaching implications of COVID-19.

For those asking how they can help, we have launched the Student Relief Fund to provide critical resources to those students who find themselves with urgent expenses related to travel, access to technology, health and wellness and other unforeseen circumstances. We have seen tremendous support for the fund from our alumni community, faculty, staff and members of the public.

To make a gift to the Student Relief Fund, you may visit the link below or contact me.
https://www.westernconnect.ca/site/SPageNavigator/StudentReliefFundLanding.html?
autologin=true&s src=WB&s subsrc=FY1920MARSRFQ40MWBSRFXXXALOW1

Alumni Events

We hosted our annual alumni event at the PDAC in March. Despite the onset of COVID-19, we had a terrific turnout. With the current COVID situation, we are not sure what our future events will look like at this time but I will keep you apprised. The University made a decision to move the 2020 Homecoming event to a virtual experience. As Science confirms a plan for our Homecoming activities in consultation with our University Advancement office, I will keep you apprised of any science related activities you may be interested in attending virtually.

If you have any questions about this update, please feel free to contact me at the coordinates below. Stay home, stay safe.

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Geoball 2020

On March 6th, 2020 the Department of Earth Sciences celebrated the annual Geoball, a formal event, where faculty, undergraduate, graduate students, and friends/family joined in a night of reflecting on the past academic year. This year, the Outcrop Club worked hard to make the event inclusive and bring Geoball back to its original venue at the Windermere Manor, Grand Hall. Here, 100+ attendees enjoyed some fine dining, dancing, prizes, and most importantly speeches given by students and faculty members. Dr. Patricia Corcoran gave an inspiring speech about her life's journey and shed some light on how to keep on keeping on. Dr. Burns Cheadle also spoke wonderfully while reflecting on his time at Western University over the past decade, giving advice to the future generation of geoscientists. Lastly, Russel Ashton, a master's student, also gave a very funny and insightful speech speaking to the students about the uniqueness in everyone's journey in geoscience. Overall, Geoball was a huge success. It was heart-warming to see everyone come together and enjoy each other's company over some food, drinks, cheesy geology puns, and memories. Thank you to all of the Outcrop Club executive team for your enthusiasm and dedication in making this event as great as possible. Thank you to all of the speakers for taking their time to share some memories and thoughtful advice. Lastly, thank you to all who attended and for making it a memorable night!

Hanna Rzyszczak, Outcrop Club President 2019-2020

















Women in Geoscience

Each Friday afternoon the department hosts a colloquium lecture throughout the Fall and Winter terms. Typically the lecture is very scientific about a particular topic within Earth Sciences - the intent of the colloquium - but can be difficult to inspire or engage all our departmental members across our breadth of Earth Science interests. So instead, on Friday October 18th, the departmental Graduate Geoscience Society (GGS) hosted a female-faculty-only speaker panel spanning all professorial levels. A brief introduction highlighted some key gender-based statistics, including that Canadian female faculty earn 96% of their male counterpart's salary. We highlighted our department has 7 of 24 faculty members identify as female (29%) which is above the national average of 17% in Canadian Earth Science departments. Each panelist then gave a brief account of the path they took in becoming professors including tales of encouragement and/or challenges. Questions from the audience (and collected anonymously beforehand) included career/life (aka motherhood) balance, dealing with imposter syndrome, and perceived gender inequality issues. The event was a success in attracting a higher than usual crowd and included non-departmental university members, but also in hopefully re-starting conversations about diversity, equity, and inclusion in Earth Sciences.

Sheri Molnar, Assistant Professor



In the attached image, the panel included Drs. Sheri Molnar (Assistant Professor), Roberta Flemming (Professor), Patricia Corcoran (Associate Professor and Departmental Chair), and Liz Webb (Associate Professor).

Award Winners - Congratulations!

Undergraduate

Aleksis Dreimanis Prize - *Brittany Brasier*

Robert & Ruth Lumsden Scholarship in Earth Science - Daniel Uzdravis, Paris Cassidy, Jasmine Nieva, Robert Reed, Swapnil Sharma, Raymond Yang, Melanie Kawaja

Dr. Harvey Hunter Memorial Award - Jack Hostrawser

JP Bickell Mining Foundation Scholarship Geophysics Scholarship for

Excellence - Armin Buijs

Norman B. Keevil Award in Earth Sciences - Charlotte Alexander

Canadian Society of Petroleum Geologists Student Industry Award -

Magdalena Kapron

Brandon J. Papp Prize - Theresa Mcclenaghan

Carodocian Prize in Geochemistry - Randi Sayer

Gordon Dixon Memorial Award - Magdalena Kapron

Charles Southworth Memorial Award in Paleontology - *Anthony Carelli*

Roma Fence Group of Companies Scholarship in Mining and Mineral

Exploration - *Keelan Kells*

Charles M. Carmichael Prize - Kerri Campbell

Graduate

Alan D. Edgar Award in Petrology - Stephanie Kobylinski

Arcangelo Rea Family Foundation Graduate Scholarship -

Ian Arturo; Zohreh Ghorbani

G. Gordon Suffel Fellowship for Graduate Studies in Applied Economic

Geology - Stephanie Kobylinski

Faculty of Science TA Award - Meryem Berrada

Geophysics Travel Scholarship - Chimira Andres; Meryem Berrada; Meredith Fyfe

J. Malcolm Slack Earth Sciences Award - Lindsay Blythe

Robert & Ruth Lumsden Graduate Fellowship - Joshua Littleton

Robert & Ruth Lumsden Graduate Award in Earth Sciences -

Jordan Siewnarine

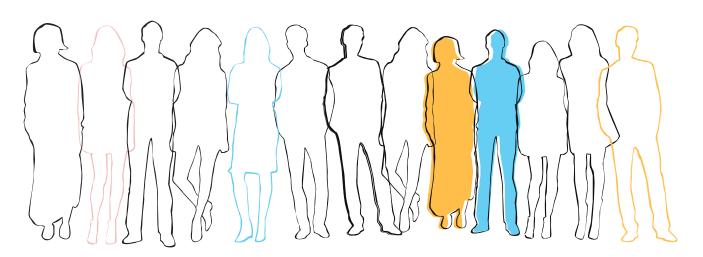
Chimira Andres

Elisa Dong

Sara Belontz

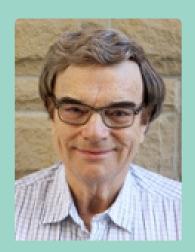
Congrats Graduates!

Congxi Zhu - M.Sc. Geology Zhiguo Guo - M.Sc. Geology Bidong Zhang - Ph.D. Geology Sid Kothari - M.Sc. Geophysics Carolina Rodriguez - M.Sc. Geology **Arwa Zourob** - M.Sc. Geology Giancarlo Jones - Ph.D. Geology Brendt Hyde - Ph.D. Geology Abdullah Aseri - Ph.D. Geology Xi Lu - Ph.D. Geology Jay Nigim - M.Sc. Geology Joanna Holmgren - Ph.D. Geophysics Christy Caudill - Ph.D. Geology Jen Newman - Ph.D. Geology Cassandra Marion - Ph.D. Geology Sameer Ladak - M.Sc. Geology **Denis Vida** - Ph.D. Geophysics





Gail AtkinsonRetired
January 2020



Barry Price Retired May 2020



Retired
July 2020

Thank You For Your Service!





We wish **Audrey Bouvier** & **Tony Withers** the best on their new adventure at the Bavarian Research Institute of Experimental Geochemistry and Geophysics at the University of Bayreuth in Germany. They continue to hold positions as Adjunct Professors at Western.





Both **Claire Motera** and **Bernie Dunn** have now retired from their current roles but are continuing to work part-time in the department with our researchers

