



University
of Manitoba

Clayton H. Riddell Faculty of
Environment, Earth, and Resources

Vol. 2 | Issue No. 1
Winter | 2024

NEWSLETTER | ANNIVERSARY EDITION

*One planet,
many perspectives.*

*One Faculty,
many facets.*



Fun Fact:

- The Assiniboine River got its name from the Assiniboine People, and is translated from Ojibwe as “one who roasts using stones.”

Assiniboine River

Cover image collage credit: Nick Lupky



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Background image credit: Nick Lupky

Faculty News



- The Society of Earth Science and Environmental Students (**SESES**) got a new logo.

- **Nicole Laurila, Emily Mazur, and Kelly Pokorny** were recently hired to join the Dean's Office staff.

- The Ed Leith Cretaceous Menagerie got a new Tyndall Stone exhibit, courtesy of DMCI student, **Gjana Miller**, and **Dr. Kirstin Brink**.

- **Dr. Nicola Koper** has been appointed as Dean of the Faculty of Environment at UNBC.

Congratulations, **Nicola**!
The faculty wishes you
success on your new path.

- **Dr. Stephan Pflugmacher Lima (Dean)** hosted the first presentation from the new Water Workshop series.

- Undergraduate student **Kristo Oktaviano** won first prize at the 2023 Undergraduate Research Showcase.

- **Dr. Alex Crawford** was appointed as Assistant Professor in the Department of Environment & Geography.

- **Emma Ausen** received the Distinguished Master's Thesis Prize.

- Undergraduate student **Andrea Sutherland** won the Governor General's Silver Medal for outstanding achievement.

- **Dr. Jill Oakes** has achieved retirement. Congratulations, **Jill** - the faculty will miss you and your dedication!

- A new joint Field Course in Italy was created from the Departments of Environment & Geography, and Earth Sciences.



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Looking to share a story of your own on UM Today?

UM Today



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UM Today News



Dr. Kirstin Brink was recognized as one of 2023's most fascinating Manitobans.



UM Today News



Dr. Dorte Dahl-Jensen received the prestigious BBVA Foundation Frontiers of Knowledge award.



UM Today News



Wayne Chan made headlines when he cracked the 'secret code' found inside a 19th-century antique dress.



UM Today News



Āramāt Pathway 9 facilitated a conversation at the Natural Resources Institute.



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Images provided by: Dr. Kristina Brown

New Profiles

DR. KRISTINA BROWN

Dr. Brown received her B.Sc. in Biology and Earth and Ocean Sciences at the University of Victoria and her Ph.D. in Oceanography at the University of British Columbia. She was a Coastal Ocean Institute Postdoctoral Scholar at Woods Hole Oceanographic Institution, a CCAR-GEOTRACES Postdoctoral Fellow at the University of British Columbia and an NSERC Visiting Fellow at Fisheries and Oceans Canada. Dr. Brown was a research scientist at Fisheries and Oceans Canada before joining the University of Manitoba Department of Environment and Geography as a Canada Research Chair in Arctic Marine Biogeochemistry in the Centre for Earth Observation Sciences.

Arctic coastal ecosystems are under stress from warming and increased fluxes of freshwater and land derived carbon, compromising the Arctic Ocean's status as an important global sink for atmospheric carbon dioxide (CO_2). Dr. Brown's research investigates the influences of freshwater source (sea ice melt, rivers), location (regional variability), and timing (temporal variability) on carbon cycle processes along the Canadian Arctic Archipelago coastline. The long term goal of her research is to characterize and quantify carbon exchange processes that set the CO_2 sink status of the coastal Arctic Ocean and ultimately contribute to regional ecosystem models that can be used to inform Indigenous and Northern community adaptation to Arctic coastal change.



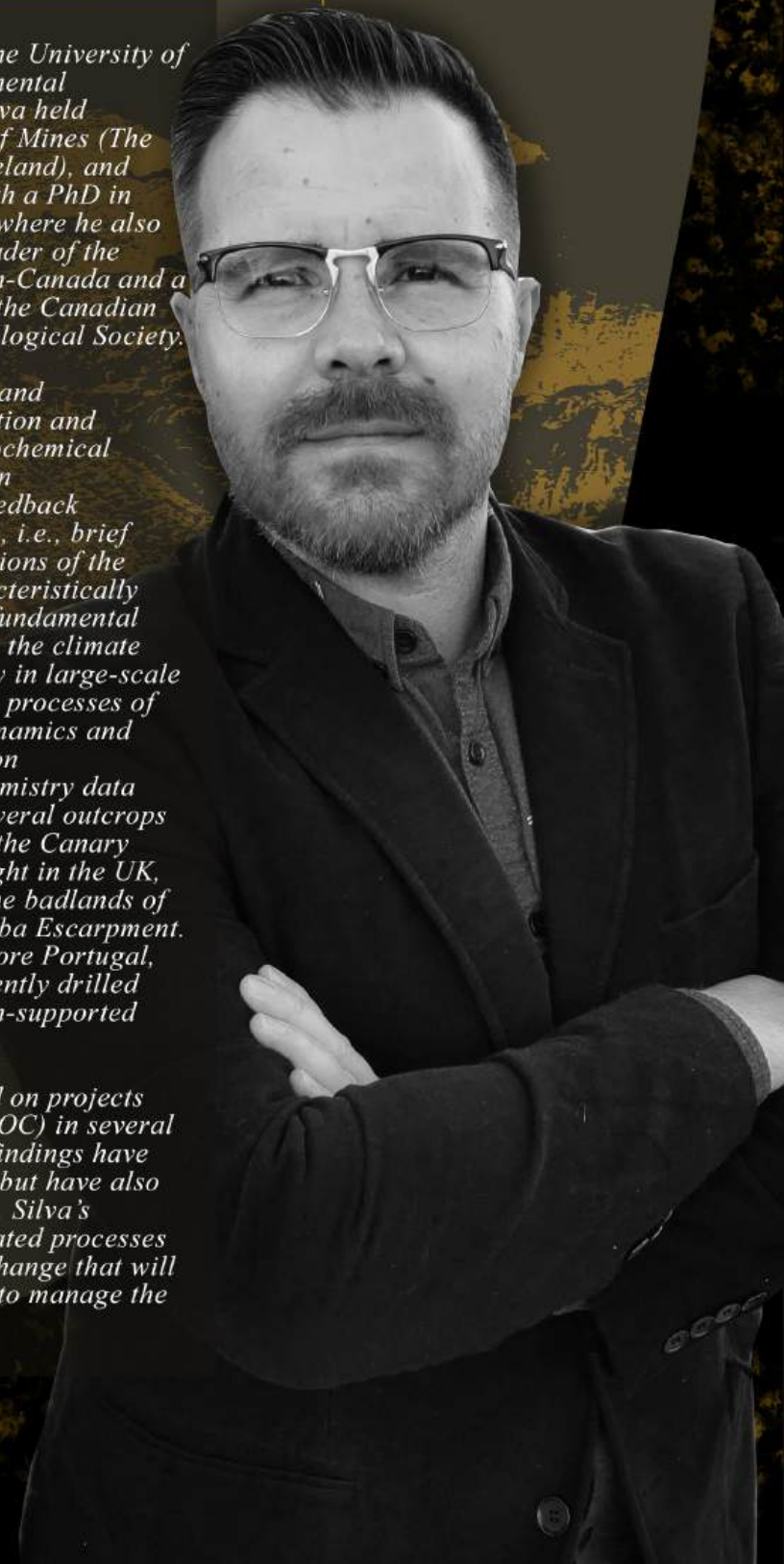
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*Images provided by: Dr. Ricardo L. Silva***DR. RICARDO L. SILVA**

Before joining the Department of Earth Sciences at the University of Manitoba as an Assistant Professor in Paleoenvironmental Sedimentology in January of 2022, Dr. Ricardo L. Silva held postdoctoral appointments at the Camborne School of Mines (The University of Exeter, UK), Trinity College Dublin (Ireland), and Dalhousie University (NS). He graduated in 2013 with a PhD in Geology from the University of Coimbra (Portugal), where he also completed his BSc in 2008. Silva is currently a co-leader of the International Continental Scientific Drilling Program-Canada and a councillor in the Geological Association of Canada, the Canadian Sedimentology Research Group, and the Atlantic Geological Society.

*Silva's research laboratory, the **Basin, Environment, and straTigraphY — BETY Lab** — focuses on the production and preservation of organic matter and associated biogeochemical cycles in Deep Time. Silva is particularly interested in understanding the complex chain of processes and feedback mechanisms leading to oceanic anoxic events (OAEs), i.e., brief intervals in the Earth's history where significant portions of the oceans were deoxygenated and deposition was characteristically rich in organic matter. His research has established fundamental principles on the response of terrestrial vegetation to the climate extremes linked with OAEs, the impact of productivity in large-scale carbon cycle perturbations, oceanic and sedimentary processes of carbon storage, and links between internal planet dynamics and environmental disruption. His work primarily relies on sedimentology, stratigraphy, and sedimentary geochemistry data collected from outcrops and cores. He has studied several outcrops from western and central Portugal, the Asturias and the Canary Islands in Spain, the Dorset Coast and the Isle of Wight in the UK, the Central and High Atlas Mountains of Morocco, the badlands of Dinosaur Provincial Park of Alberta, and the Manitoba Escarpment. He has also extensively investigated cores from offshore Portugal, Ireland, Nova Scotia, and Newfoundland and the recently drilled International Continental Scientific Drilling Program-supported Prees-2 core in the western UK.*

Recently, Silva has conceptualized and taken the lead on projects investigating the role of dissolved organic carbon (DOC) in several Phanerozoic carbon cycle perturbations. His initial findings have not only demonstrated the feasibility of these studies but have also emphasized the need for further research in this area. Silva's research program at UM will uncover new ocean-related processes and feedback mechanisms related to environmental change that will benefit researchers and policymakers in their efforts to manage the oceans and better forecast the future of our planet.





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Background image supplied by Adobe Stock.

The Goose is Loose!

The **Canadian Goose** was selected as the mascot for our 20th-Anniversary Newsletter for multiple reasons.

Not only do they fly in flocks, but some choose to return to the University of Manitoba campus every year.

The Clayton H. Riddell Faculty of Environment, Earth, and Resources is proud to celebrate the accomplishments and research of its students, staff, alumni, and faculty! We encourage everyone to spread their wings and fly far - but don't forget to check-in at home every once in a while!

If you have a species you would like to see featured on a future issue, let us know!
Contact nick.lupky@umanitoba.ca to inquire.



Image provided by Nick Lupky

Fun Fact:

Did you know? In the Spring, geese will sometimes choose the planters at the Wallace Building entrance to nest their eggs.

See if you can spot any this Spring!

Illustration by Nick Lupky.

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Contact Us



Want to stay up to date on all the news coming from the Clayton H. Riddell Faculty of Environment, Earth, and Resources? Scan the QR code and send an email request to be added to our upcoming **Community & Partnership Mailing List** - launching later this year!

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ceosinfo@umanitoba.ca



*'Wallace Building' Image provided
by Nick Lupky*



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*Dr. Russel Hiebert**January 26, 1980 - March 4, 2023*

"Good afternoon, my name is Jeff Young, and I worked with Russel in the Department of Rocks and Science-y Things. Actually, like Russel, I am a geologist, who was lucky enough to work with him in the Department of Earth Sciences at the University of Manitoba. Although, I like the name "Department of Rocks and Science-y Things". I'm here to share some of my (or should I say our) stories and thoughts about Russel with Rebekah, his two daughters Hope and Lucy, and the rest of his family.

First, I would like those that knew Russel through geology by working with him, going to school with him or were a student of Russel's to raise your hand. We are all here because he made a positive impact on our lives, and we have a deep affection and respect for Russel. We are here to support Russel's family.

Russel started university in 1999. I did not know him at the time, and I do not know if he planned on a career in rocks at the time. Like many students I suspect he probably fell in love with geology after taking a course in his first year. We could say the rest is history, but that would be omitting a significant part of his life. In his second year he would have had to get through what we call our "gateway courses", of which I teach one of them. To be successful in these courses you need to work long hours and pay attention to detail. Russel passed those challenges with flying colours because of an outstanding work ethic and a willingness to leave no stone unturned (so to speak). In 2002 he took field school, which at the time was three weeks long. Under extremely difficult conditions, including 19 days of snow that ranged from light flurries to white out conditions, he thrived and excelled at the challenge. He would not be deterred from success. The capstone course of his undergraduate career was the honours thesis working under the supervision of Norm Halden. It is the honours thesis where he got to enjoy some of the things, I think he enjoyed the most. Those things included being on the rocks and dropping face down with a hand lens to exam the detailed story the rocks told him. Examining rocks in thin section under a microscope and the electron microprobe, which allowed him to tease out more of their stories. And then discussing those stories with others, which would ultimately lead to disagreements, a typical characteristic of geologists. It was really the start of a career in academia.

In 2003, Russel migrated to the Maritimes and a master's program at Acadia University working with a tight-knit group of graduate students under the guidance of Sandra Barr. He had the ability and opportunity to choose any program, anywhere, but picked one that probably fit him the best. One where he could take on a project that would allow him to highlight his work ethic, his growing enthusiasm for geology and his excellent observational and organizational skills. He completed his master's in less than two years and was ultimately nominated by Dr. Barr for the national Leopold Gelinis Award for the best MSc thesis in Petrology and Mineralogy. While in the Maritimes he spent a lot of time at conferences and field trips to become an "expert" in Appalachian geology. Unfortunately, as a flatlander, he was not accustomed to the challenges of the sea and was known to spend most of his time curled up in the fetal position when traveling the ocean blue.

After Acadia, Russel spent almost five years working in mineral exploration with FNX in Sudbury. To those around him it was his kind-hearted nature, his work ethic, attention to detail and teaching ability that made him stand out most. He helped summer students gain confidence by guiding them in a complicated industry. Russel would light up at the opportunity to explain things that would normally be well over the head of his young assistants. He was always eager to share his knowledge and promote discussion on anything geology related. In 2010 he left FNX to return to academia and the PhD program at the University of Manitoba. While Russel completed his PhD in 2017 he took on sessional teaching before landing a contract position as an instructor of rocks and science-y things. Since then, he has taught more than nine different courses representing a wide range of sub-disciplines and over all four years of undergraduate study. This not an easy task. While he has shared his passion for geology with the next generation of students, he has also shared his humour."

Image provided by: Jennifer Hollar and the Department of Earth Sciences -Speech written by Jeff Young, 2023

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Hieber

(cont'd.) "Russel, Karen Ferreira, and I worked together over the past few years. We would start many days with an informal morning meeting over a cup of tea or coffee, and then touching base throughout the day. Even Covid lockdowns could not stop us as we made time for weekly Zoom meetings. These meetings were a chance for us to discuss life at the university, what was happening in the industry and the world at large, student progress and, most importantly, new ideas and aspirations.

Last month when I found out that his position was to be made into a full-time permanent instructor, I immediately headed to his office to congratulate him. I am not sure where Russel was planning on going when he started his career in geology, but now our shared vision of new courses, potential field trips and the rebuilding of the Star Lake Field Station would become possible. There would be no more term contracts and an unknown future. Russel represented an important link to our departmental history. I was looking forward for him to replace me as the "connective tissue" between generations. I was looking forward to him finding his home as I had.

We believe Russel found significant success in his career persevering to do what he wanted to do most. But we also think his most significant accomplishment was marrying Rebekah. It was clear that Russel loved his family. When Russel spoke of Rebekah, it was unfailingly positive. Lucy's and Hope's photos and artwork prominently decorated his office. In these difficult times that you now face Russel and his values will remain a rock and a foundation. Rebekah, you are brave and strong. We admire your courage and extend our sympathy to all of you."

Edited to fit page.





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Image provided by Emma Ausen and the Centre for Earth Observation Science

Featured Courses

Participants boarded the RV William Kennedy.



ARCTIC COASTAL OCEANOGRAPHY

GEOG 4670 | ENVR 4000 | GEOG 7400

The Centre for Earth Observation Science (**CEOS**) has a new Field Course, based in Churchill, Manitoba. During the week-long course, undergraduate and graduate students experienced what it is like to be an oceanographer, while also touring the Polar Bear Capitol of the World. This course was based out of the Churchill Northern Study Centre, a scientific study center on the subarctic tundra.

The week began with lectures focused on oceanography, Arctic ocean circulation, microbiology, chemistry, and marine biology. These lectures built the foundation for understanding oceanographic research techniques used at sea. Students developed their own hypothesis related to freshwater effects on the ocean environment which could be tested using data collected onboard the **RV William Kennedy**.

In this field course, students sampled from sites along the Churchill River estuary. Students used CTDs, a rosette water sampler, and a Secchi disk to examine changing oceanographic variables. They collected data on salinity, temperature, CDOM and more along the freshwater to saltwater gradient leaving from the Churchill River into the Hudson Bay system.

Students interested in registering for this course next year should watch for course announcements in early May. This course is a 3 credits from instructors **Drs. C.J. Mundy, Jens Ehn, Eric Collins, and Kristina Brown**.

Scan me!



Want to learn more about
the faculty, or meet with
an advisor?

INNOVATION
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ARCTIC
RESEARCH
FOUNDATION



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*Follow us on Instagram for
frequent news updates!*



@riddellfaculty

DECISION-MAKING FOR SUSTAINABILITY

ENVR 4000

This is an opportunity to learn about our system of government, how it has emerged and how policy and legislation decisions get made inside that system, specifically in the context of the pillars of sustainability.

We will explore the need for and value of citizen and interest group engagement in societal decision-making. Students will be introduced to and will practise techniques, skills and behaviours that emphasize relationship-building and reduce energy-sapping conflict.

*This intensive, five-day course is presented in a professional, shared learning environment with significant time devoted to student interactions, numerous role-plays and a number of guest presenters currently working in related fields. Course runs from **April 29th - May 3rd, 2024.***

Contact **Heather Fast** (Heather.Fast@umanitoba.ca) for more information.

On Campus

• Hey UM Alumni... It's been a long time!



<https://umanitoba.ca/community/alumni/alumni-update-your-contact-information>

Remember those unforgettable days on campus? Now you can stay connected to all the amazing opportunities that come from being a UM alum – like being the first to hear about UM news, lifelong learning opportunities, exclusive benefits and money-saving perks.

*Update your email address and you'll be entered to win a **\$1,000 flight voucher** – just for staying in touch!*



Images provided by Adobe Stock.



*We are inspired by the interwoven systems that
combine to form conditions that support life on Earth*

*- Clayton H. Riddell Faculty of Environment,
Earth, and Resources "Brand Story" (Est. 2003)*

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Fun Fact:

*In the early 1900s, Canadian Geese were
nearing extinction from habitat loss and
hunting. Due to conservation efforts, this is
no longer the case.*

Red River

Fun Fact:

*The Red River Settlement is the birthplace
of the Red River Métis Nation and the
province of Manitoba. They formed during
the Red River Resistance of 1869-1870.*



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