

DR. NAGISSA MAHMOUDI

McGill University
Department of Earth and Planetary Sciences
3450 University Street
Montreal, Quebec H3A 0E8

nagissa.mahmoudi@mcgill.ca
(514) 398 - 2722
<http://www.geomicromcgill.com>

PROFESSIONAL EXPERIENCE

- | | |
|-------------|--|
| Since 2018 | Assistant Professor , Dept. of Earth & Planetary Sciences, McGill University |
| 2014 - 2018 | Postdoctoral Research Fellow , Advisor: Ann Pearson
Dept. of Earth & Planetary Sciences, Harvard University |
| 2013 - 2014 | Postdoctoral Research Associate , Advisor: Terry C. Hazen
Dept. of Civil and Environmental Engineering, University of Tennessee, Knoxville |

EDUCATION

- | | |
|-------------|---|
| 2008 - 2013 | McMaster University, Hamilton, ON, Canada
Ph.D., Environmental Geochemistry
Dissertation Advisor: Greg F. Slater |
| 2003 - 2007 | University of Toronto, Toronto, ON, Canada
B.Sc., Integrative Biology |

RESEARCH GRANTS (All values are in CAD unless otherwise noted)

- | | |
|-------------|--|
| 2024 - 2025 | Heising-Simons Foundation
<u>Title:</u> Radiant Beginnings: Understanding the impact of solar flux on the evolution of heterotrophic microbial life
<u>Role:</u> PI; Co-PI: Nick Cowan (McGill)
<u>Total:</u> \$60,000 USD |
| 2023 - 2025 | Heising-Simons Foundation
<u>Title:</u> The Power is in the Poop: Experimental Investigation of Microbially-Generated Organics as a Biosignature for Ocean Worlds
<u>Role:</u> PI; Co-PI: Morgan Cable (NASA Jet Propulsion Lab)
<u>Total:</u> \$100,000 USD (\$50,000 USD to N. Mahmoudi) |
| 2023 - 2026 | NOVA - FRQNT-NSERC program for early-career researchers
<u>Role:</u> Lead PI; Co-PI: Maya Bhatia* (UAlberta), Erin Bertrand (Dalhousie); Co-I: Roxane Maranger (UMontreal)
<u>Title:</u> The fate of marine carbon in the changing Arctic coastal ocean
<u>Total:</u> \$225,000 (\$110,000 to N. Mahmoudi) |
| 2021 - 2026 | Genome Canada Large-Scale Applied Research Project (LSARP)
<u>Title:</u> GENICE II – Reimagining monitored natural attenuation as an oil spill response plan in the Arctic
<u>Role:</u> Co-Investigator; Lead PIs: Gary Stern (UManitoba), Eric Collins |

	(UManitoba) <u>Total:</u> \$6,740,151 (\$1,026,167 to N. Mahmoudi)
2020 - 2025	U.S. National Science Foundation (NSF) Chemical Oceanography <u>Title:</u> Hydrothermal and microbial controls on organic carbon mobilization from Guaymas Basin sediments <u>Role:</u> International Co-Investigator; Lead PI: Suni Shah Walter (UDelaware) <u>Total:</u> \$538,390 USD (\$75,000 USD to N. Mahmoudi)
2020 - 2025	New Frontiers in Research Fund (NFRF) Exploration Grant <u>Title:</u> Resolving microbial carbon transformations in a warming world <u>Role:</u> Lead PI; Co-Is: Brett Walker (UOttawa), Joelle Pelletier (UMontreal) <u>Total:</u> \$250,000 (\$160,000 to N. Mahmoudi)
2020-2023	Fonds de recherche du Québec - Nature et technologies (FRQNT) New Researchers Grant <u>Title:</u> Microbial carbon cycling in coastal ecosystems <u>Role:</u> Lead/Sole PI <u>Total:</u> \$90,000 (\$20,000/year operational, \$50,000 equipment grant)
2019 - 2025	Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant <u>Title:</u> Microbial carbon cycling in marine environments: linking micro-scale processes to global carbon dynamics <u>Role:</u> Lead/Sole PI <u>Total:</u> \$137,500
2019 - 2024	Canada Foundation for Innovation (CFI) - John R. Evans Leaders Fund <u>Title:</u> Microbial carbon cycling in marine environments: linking micro-scale processes to global carbon dynamics <u>Role:</u> Lead/Sole PI <u>Total:</u> \$600,000
2019 - 2020	McGill Sustainability Systems Initiative <u>Title:</u> Microbial controls on carbon sequestration in urban salt marshes sediments <u>Role:</u> Lead PI; Co-I: Gail Chmura (McGill) <u>Total:</u> \$9800 (\$9000 to N. Mahmoudi)

AWARDS AND HONORS

2024	Geological Society of America (GSA) Geobiology and Geomicrobiology Division Pre-tenure Excellence Award
2023	Scialog Fellow, Signatures of Life in the Universe Initiative, bestowed by Research Corporation for Science Advancement (RCSA)
2022	SiYuan-Ocean Emerging Leaders, International Center of Deep-Life Investigation (IC-DLI)
2019	Kavli Frontiers of Science Fellow, bestowed by U.S. National Academy of

	Sciences
2016 - 2018	National Science Foundation (NSF) - Center for Dark Energy Biosphere Investigations (C-DEBI), Postdoctoral Fellowship, \$220,000 USD
2014 - 2016	Natural Sciences and Engineering Research Council of Canada (NSERC) Postdoctoral Fellowship (PDF), \$90,000
2011 - 2013	Natural Sciences and Engineering Research Council of Canada (NSERC) Graduate Fellowship (CGS D), \$70,000
2012	Dr. Dennis Shaw Memorial Award, \$500
2011 - 2012	L'Oreal-UNESCO for Women in Science Fellowship, \$5000
2011 - 2012	Natural Sciences and Engineering Research Council of Canada (NSERC) Michael Smith Foreign Study Supplement to visit University of South Australia, \$6000
2011	Ontario Graduate Scholarship, \$15,000
2011	Graduate Student Associate Travel Assistance Grant, \$500
2010	Ontario Graduate Scholarship, \$15,000
2008 - 2010	Natural Sciences and Engineering Research Council of Canada (NSERC) Graduate Scholarship (PSG M), \$34,600
2008	Ontario Graduate Scholarship, \$15,000
2007	NSERC Undergraduate Research Award, \$5700

CAREER INTERRUPTIONS

- (1) Maternity leave: I took a 9-month maternity leave from September 2020 to May 2021.
- (2) COVID-19 Pandemic (2020-2022): The onset of the pandemic led to the immediate closure of my laboratory facilities (March to June 2020), which had only been operational since September 2019 following extensive renovations. This closure halted critical experimental work and delayed the progression of key projects. Upon re-opening, graduate students and postdocs were forced to work in shifts to allow for physical distancing. Experiments planned for this period were postponed or greatly reduced in scope thereby delaying publication submissions. Additionally, several of our projects, which relied on acquiring seawater or sediment samples, experienced significant setbacks due to the cancellation of research cruises.

REFERRED PUBLICATIONS (underline indicates a student/postdoc in my research group)

- (24) Baumser L, L Potts, BD Walker & **N Mahmoudi**. (2024). Picky Eaters: Carbon isotopic evidence for the uniform bioavailability of riverine dissolved organic matter to a model marine microorganism. *Geophysical Research Letters*, in review.

- (23) McNichol SM, F Sanchez-Quete, SK Loeb, A Teske, SR Shah Walter, **N Mahmoudi**. (2023) Dynamics of carbon substrate competition among heterotrophic microbes. *The ISME Journal*, wrac018.
- (22) **Mahmoudi N**, AD Steen, GP Halverson, KK Konhauser. Earth before Exoenzymes. (2023) *Nature Geoscience*, 16, 845–850.
- (21) **Mahmoudi N** & RC Wilhelm. (2023) Can we manage microbial systems to enhance carbon storage? *Environmental Microbiology*, 1–8.
- (20) Rico K, M Schad, AA Picard, A Kappler, KK Konhauser, **N Mahmoudi**. (2023) Resolving the fate of trace metals during microbial remineralization of phytoplankton biomass in precursor banded iron formation sediments. *Earth and Planetary Science Letters*, 607, 118068.
- (19) Mindorff LM, **N Mahmoudi**, S Hepditch, V Langlois, S Alam, R Martel, JME Ahad. (2023) Biodegradation of diluted bitumen in shallow groundwater systems. *Environmental Pollution*, 322, 121170.
- (18) Stern RA, **N Mahmoudi**, CO Buckee, AT Schartup, P Koutrakis, ST Ferguson, EM Sunderland. (2021) The Microbiome of Size-Fractionated Airborne Particles from the Sahara Region. *Environmental Science & Technology*, 55(3), 1487-1496.
- (17) Miller JI, SM Techtmann, D Joyner, **N Mahmoudi**, JL Fortney, J Fordyce, O Pelz, TC Hazen. (2020) Microbial Communities across Global Marine Basins Show Important Compositional Similarities by Depth. *mBio*, 11(4).
- (16) **Mahmoudi N**, SH Hagen, TC Hazen, AD Steen. Patterns in extracellular enzyme activity and microbial diversity in deep-sea Mediterranean sediments. (2020) *Deep Sea Research Part I*, 103231.
- (15) **Mahmoudi N**, TN Enke, SR Beaupre, AP Teske, OX Cordero, A Pearson. (2020) Illuminating microbial species-specific effects on organic matter remineralization in marine sediments. *Environmental Microbiology*. 22(5):1734-1747.
- (14) LaRowe DE, S Arndt, JA Bradley, ER Estes, A Hoarfrost, SQ Lang, KG Lloyd, **N Mahmoudi**, WD Orsi, SR Shah Walter, AD Steen, R Zhao. The fate of organic carbon in marine sediments - new insights from recent data and analysis. (2020) *Earth-Science Reviews*, 103146.
- (13) Orcutt BN, J Bradley, WJ Brazelton, EJ Estes, JM Goordial, JA Huber, RM Jones, **N Mahmoudi**, JJ Marlow, S Murdock, M. Pachiadaki. (2019) Impacts of Deep-Sea Mining on Microbial Ecosystem Services. *Limnology & Oceanography*, 65: 1489-1510.

From here up, work was generated and/or written at McGill.

- (12) Miller JI, SM Techtmann, JL Fortney, **N Mahmoudi**, D Joyner, J Liu, S Olesen, E Alm, A Fernandez, P Gardinali, TC Hazen. (2019) Rapid Anoxic Oil Hydrocarbon Degradation by Caspian Sea Microbial Communities. *Frontiers in Microbiology*, 10, 995.
- (11) **Mahmoudi N**, SR Beaupre, AD Steen, A Pearson. (2017) Sequential bioavailability of sedimentary organic matter to heterotrophic bacteria. *Environmental Microbiology*, 19(7): 2626-2644.
- (10) Techtmann SM, **N Mahmoudi**, KT Whitt, MF Campa, JL Fortney, DC Joyner, TC Hazen. (2017) Comparison of Thaumarchaeotal Populations from Four Deep Sea Basins. *FEMS Microbiology Ecology*, 93: 1-10.

- (9) Beaupre SR, **N Mahmoudi** & A Pearson. (2016) IsoCaRB: A novel bioreactor system to characterize the lability and natural carbon isotopic (¹⁴C, ¹³C) signatures of microbially-respired organic matter. *Limnology & Oceanography Methods*, 14:10: 668-681.
- (8) Hazen TC, RC Prince, **N Mahmoudi**. (2016) Marine Oil Biodegradation. *Environmental Science & Technology*, 50(5), 2121-2129.
- (7) **Mahmoudi N**, MS Robeson, HF Castro, JL Fortney, SM Techtmann, DC Joyner, CJ Paradis, SM Pfiffner, TC Hazen. (2015) Microbial community composition and diversity in Caspian Sea sediments. *FEMS Microbiology Ecology*, 91: 1-11.
- (6) Brewer S, SM Techtmann, **N Mahmoudi**, D Niang, S Pfiffner, TC Hazen. (2015). Co-extraction of DNA and PLFA from soil samples. *Journal of Microbiological Methods*, 115: 64-66.
- (5) **Mahmoudi N**, TM Porter, AR Zimmerman, RR Fulthorpe, GN Kasozi, BR Silliman, GF Slater. (2013) Rapid degradation of Deepwater Horizon spilled oil by indigenous microbial communities in Louisiana salt marsh sediments. *Environmental Science & Technology*, 47(23): 13303-13312.
- (4) **Mahmoudi N**, L Burns, S Mancini, RR Fulthorpe, GF Slater. (2013) Assessing microbial carbon sources and potential PAH degradation using natural abundance radiocarbon analysis. *Environmental Pollution*, 175: 125-130.
- (3) **Mahmoudi N**, GF Slater, AL Juhasz. (2013) Assessing limitations for PAH biodegradation in long-term contaminated soils using bioavailability assays. *Water, Air, & Soil Pollution*, 224(2): 1411.
- (2) **Mahmoudi N**, GF Slater, RR Fulthorpe. (2011) Comparison of commercial DNA extraction kits for isolation and purification of bacterial and eukaryotic DNA from PAH-contaminated soils. *Canadian Journal of Microbiology*, 57(8):623-8.
- (1) **Mahmoudi N**, M Modanu, Y Brandt, MCB Andrade. (2008) Subtle Pedipalp Dimorphism: A reliable method for Sexing Juvenile Spiders. *Journal of Arachnology*. 36: 513-517.

INVITED SEMINARS & TALKS (All listed are in person unless otherwise noted)

- (33) *American Chemical Society* (ACS) Spring Meeting, New Orleans, LA (Mar 2024) Invited Speaker
- (32) University of Guelph, School of Environmental Sciences, Guelph, ON (Mar 2024)
- (31) Carleton University, Department of Earth Science, Ottawa, ON (Nov 2023)
- (30) Stanford University, Doerr School of Sustainability, Palo Alto, CA (Apr 2023)
- (29) Université de Montréal, Département des Sciences Biologiques, Montreal, QC (Apr 2023)
- (28) *GRC Geobiology Conference*, Ventura, CA (Nov 2022) Invited Speaker
- (27) Dartmouth College, Department of Earth Science, Hanover, NH (Oct 2022)
- (26) University of Delaware, School of Marine Science & Policy (virtual) (Apr 2022)
- (25) Shanghai Jiao Tong University, Shanghai, China (virtual) (Oct 2022)
- (24) Keynote speaker, *GEOTOP* Student Meeting (Mar 2022) (virtual)

- (23) California Institute of Technology (Caltech), Department of Environmental Science & Engineering, Pasadena, CA (Feb 2020)
- (22) University of Nevada, Las Vegas (UNLV), School of Life Sciences, Las Vegas, NV (Feb 2020)
- (21) *Geobiology Society Conference*, Banff, AB (Jun 2019) Invited Speaker
- (20) University of Toronto Mississauga (UTM), Department of Chemical & Physical Sciences, Mississauga, ON (Nov 2019)
- (19) Rice University, Department of Earth, Environmental & Planetary Sciences, Houston, TX (Oct 2019)
- (18) Cornell University, Department of Ecology & Evolutionary Biology, Ithaca, NY (Apr 2019)
- (17) McGill Space Institute (MSI), Montreal, QC (Apr 2019)
- (16) University of Toronto, Department of Earth Sciences, Toronto, ON (Feb 2019)
- (15) National Research Council (NRC) of Canada, Montreal, QC (Jan 2019)
- (14) Université du Québec à Montréal (UQAM), Department of Biological Sciences, Montreal, QC (Nov 2018)
- (13) *International Center for Deep Life Investigation (ICDLI) Inaugural Symposium*, Shanghai, China. (Nov 2018) Invited Speaker
- (12) Goldschmidt Geochemistry Conference, Boston, MA (Aug 2018)
- (11) McGill University, Department of Earth & Planetary Sciences, Montreal, QC (Jan 2017)
- (10) Center for Dark Energy Biosphere Investigations (CDEBI) Annual Meeting, Marina, CA. (Nov 2017) Invited Speaker
- (9) University of Michigan, Department of Earth & Planetary Sciences, Ann Arbor, MI (Nov 2016)
- (8) Tulane University, Department of Global Environmental Science, New Orleans, LA (Nov 2013)
- (7) University of Tennessee, Centre for Environmental Biotechnology, Knoxville, TN (May 2013)
- (6) ExxonMobil Upstream Research Company, Houston, TX (Apr 2013)
- (5) American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (Aug 2012)
- (4) *Goldschmidt Geochemistry Conference*, Montreal, QC. (Aug 2012)
- (3) University of South Australia, Center for Environmental Risk Assessment & Remediation, Adelaide, SA (Feb 2012)
- (2) *American Geophysical Union (AGU) Fall Meeting*, San Francisco, CA. (Dec 2011)
- (1) *13th International Symposium on Microbial Ecology (ISME)*, Seattle, WA. (Aug 2010)

CONFERENCE PROCEEDINGS & POSTERS

*indicates presenter, underline indicates Mahmoudi lab student/postdoc

- 2024 Sanger A*, GP Halverson, KO Konhauser, AD Steen, N Mahmoudi. Quantifying the distribution of exoenzymes across diverse microbial metabolisms. *Northeast Geobiology Meeting*, New Haven, CT. Oral Presentation.
- McNichol SM*, F Sanchez-Quete, SK Loeb, A Teske, SR Shah Walter, **N Mahmoudi**. Microbial Gladiators: Unraveling the dynamics of carbon substrate competition among heterotrophic microbes. *Northeast Geobiology Meeting*, New Haven, CT. Poster.
- Sanger A*, GP Halverson, KO Konhauser, AD Steen, N Mahmoudi. Earth before Exoenzymes: resolving the early evolution of microbial heterotrophy. *GRC Geobiology Meeting*, Galveston, TX. Poster.
- McNichol SM*, F Sanchez-Quete, SK Loeb, A Teske, SR Shah Walter, **N Mahmoudi**. Microbial Gladiators: Unraveling the dynamics of carbon substrate competition among heterotrophic microbes. *GRC Geobiology Meeting*, Galveston, TX. Poster.
- 2023 Ahad JME, PR Gammon, JJ Jautzy, D Petts, **N Mahmoudi**, M Begum, LM Mindorff, AD Holt, RGM Spencer. Intra-site variability in organic matter biolability in a temperate bog: Implications for peatland carbon models. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, CA. Poster.
- Mahmoudi N***, A Sanger, GP Halverson, KO Konhauser, AD Steen. Earth before Exoenzymes: resolving the early evolution of microbial heterotrophy. *GRC Chemical Oceanography Meeting*, Manchester, NH. Poster.
- McNichol SM*, F Sanchez-Quete, SK Loeb, A Teske, SR Shah Walter, **N Mahmoudi**. Microbial Gladiators: Unraveling the dynamics of carbon substrate competition among heterotrophic microbes. *GRC Chemical Oceanography*, Manchester, NH. Poster.
- Rico KI*, M Schad, A Picard, A Kappler, KO Konhauser, **N Mahmoudi**. Combining trace metal geochemistry and experimental microbiology to explore the role of dissimilatory Fe (III) reducing bacteria in precursor Banded Iron Formations. *Goldschmidt Geochemistry Conference*, Lyon, France. Oral Presentation.
- 2022 Mindorff LM*, **N Mahmoudi**, JME Ahad. Evaluating the biodegradation of diluted bitumen and heavy conventional crude oil in soil mesocosms. *American Chemical Society (ACS) Spring Meeting*, San Diego, CA. Oral presentation.
- Rico KI*, M Schad, A Picard, A Kappler, KO Konhauser, **N Mahmoudi**. Resolving the fate of trace metals during microbial remineralization of phytoplankton biomass in precursor banded iron formation sediments. *2022 Midwest Geobiology Symposium*, Evanston, IL. Poster
- McNichol S, S Shah-Walter, **N Mahmoudi**. What energy sources support microbial life in the deep, hot, subsurface biosphere? Guaymas Basin Tectonics and Biosphere IODP Expedition 385 Science Post-cruise Meeting, San Giovanni Valdarno, Italy. Poster.

- Sanger A*, Zhong K, Strong K, Chan A, Collins E, Suttle C, **Mahmoudi N**. Picky Eaters: Quantifying taxon-specific viral lysis of marine microorganisms in the Arctic Ocean. *ArcticNet Annual Scientific Meeting*, Toronto, ON. Poster.
- Moguel RG, PM Douglas & **N Mahmoudi**. Evaluating the Effect of Increasing Temperature in the Production of Methane from Modern to Millennial Carbon Pools using Incubations of Canadian Thermokarst Lake Sediments. *American Geophysical Union (AGU) Fall Meeting*, Chicago, IL. Poster.
- 2021 Potts L*, X Xu, B Walker, N Mahmoudi. Investigating the bioavailability of terrestrial carbon to marine microorganisms using stable and radiocarbon isotopes. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, CA. Poster.
- 2017 **Mahmoudi N***, T Enke, SR Beaupre, A Teske, OX Cordero, A Pearson. Elucidating microbial species-specific effects on organic matter transformation in marine sediments. *American Geophysical Union (AGU) Fall Meeting*, New Orleans, LA. Poster.
- 2016 **Mahmoudi N***, SR Beaupre, AD Steen, A Pearson. IsoCaRB: A novel bioreactor system to characterize microbial carbon cycling and the lability of natural organic matter. *16th International Symposium on Microbial Ecology (ISME)*, Montreal, Canada. Poster.
- Mahmoudi N***, SR Beaupre, AD Steen, A Pearson. Sequential bioavailability of sedimentary organic matter to heterotrophic bacteria. *Gordon Research Conference (GRC) Organic Geochemistry*, Holderness, NH. Poster.
- Mahmoudi N***, SR Beaupre, AD Steen, A Pearson. Investigating microbial C cycling in sediments using the IsoCaRB system. *American Society for Microbiology (ASM) General Meeting*, Boston, MA. Poster.
- Mahmoudi N***, SR Beaupre, A Pearson. Microbial cycling of recalcitrant organic matter in marine sediments using natural isotope respirometry in a novel, carbon-free bioreactor. *Ocean Sciences Meeting*, New Orleans, LA. Poster
- 2015 Hagen S, **N Mahmoudi**, AD Steen*, TC Hazen. Quantifying Extracellular Enzyme Activity in Deep-Sea Sediment from the Central Mediterranean Sea Through the Use of Fluorometric Assays. *Southeastern Biogeochemistry Symposium*, Atlanta, GA. Poster.
- 2014 **Mahmoudi N***, MS Robeson, SM Pfiffner, SM Techtmann, JL Fortney, DC Joyner, TC Hazen. Sedimentary microbiomes in the Caspian Sea, *15th International Symposium on Microbial Ecology (ISME)*, Seoul, South Korea. Poster.
- Mahmoudi N***, MS Robeson, SM Pfiffner, SM Techtmann, JL Fortney, DC Joyner, TC Hazen. Diversity and function of microbial communities in the Caspian Sea, *American Society for Microbiology (ASM) General Meeting*, Boston, MA. Poster.
- 2012 Clay S*, **N Mahmoudi**, AR Zimmerman, BR Silliman, GF Slater. Investigation of petroleum residues and microbial PLFA in Barataria Bay sediments one year after the Deepwater Horizon oil spill. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, CA. Poster.
- 2009 **Mahmoudi N***, GF Slater, RR Fulthorpe. Comparison of commercial DNA

extraction kits for isolation and purification of bacterial and eukaryotic DNA from PAH-contaminated soils, *Canadian Society for Microbiology (CSM)*, Hamilton, ON. Poster.

TEACHING & ADVISING

Courses	Evolving Earth (ENVR 202) – Winter 2019, 2020, 2022, 2023 Microbiology of Earth Systems (EPSC 551) – Fall 2019, Fall 2021, Fall 2023 Astrobiology (EPSC 186) – Winter 2024
Postdoctoral	Dr. Richard LaBrie (2023 – present) Awarded Trottier Space Institute Postdoctoral Fellowship (\$60,000) Dr. Kathryn Rico (2019 – 2022) Awarded Wares Postdoctoral Fellowship (\$115,000)
Graduate	<i>Ongoing:</i> Sam McNichol (Sep 2021 – present, PhD Candidate) FRQNT Graduate Scholarship (\$25,000/year for 4 years) Alia Sanger (Sep 2022 – present, PhD Candidate) NSERC CGS M Graduate Scholarship (\$21,000 for 1 year) McGill Women in Science Graduate Scholarship (\$15,000/year for 2 years) Marcus Lin (Sep 2023 – present, MSc Candidate) McCall MacBain Scholarship, (\$20,000 for 1 year) Momotaj Begum (Sep 2023 – present, PhD Candidate) Research Affiliate Program (RAP) scholarship by Natural Resources Canada, \$28,000/year, 2023 – 2026) <i>Completed:</i> Lea Baumser (2021 – 2023, MSc) Lindsey Potts (2019 – 2021, MSc) Trottier Accelerator Fellowship, \$5000 for 2019-2020 Leah Mindorff (2019 – 2022, MSc) David Stewart Memorial Fellowship, \$10,000 for 2019-2020 Research Affiliate Program (RAP) scholarship by Natural Resources Canada, \$17,500/year, 2019-2021
Undergrad	Samantha Loutet (Sept 2022 – present), Major: Earth System Science Tom Shimkus (Sep 2021 – April 2022), Major: Microbiology Emily Perry (Dec 2019 – March 2020), Major: Earth Sciences Aelicia Schmitt (May 2020 – August 2020), Major: Biochemistry Douglas Szeto (Jan 2020 – May 2020), Majors: Computer Science, Biology Emilie Lafleche (Jan 2020 – May 2020), Major: Planetary Sciences
Other	Dr. Thi Hao Bui, Laboratory Manager Fernando Sanchez Quete, Research Technician

PROFESSIONAL ENGAGEMENT & SERVICE ACTIVITIES

Outreach	<p>Dawson College, “Hot Science, Cool Talks” seminar series (2020, 2023)</p> <p>Presented my research to ~250 CEGEP students to introduce the importance of microorganisms in shaping our environment.</p> <p>Interviewed for student-run podcast entitled “Not Yet a Dr” to discuss my research in the deep sea for an episode focused on the search for life beyond Earth. (Feb 2021)</p>
Selected Press	<p>I have been interviewed as an expert for the following publications:</p> <p><i>Mysterious Deep-Ocean Creatures May Help Combat Climate Change</i>. Bloomberg News (Feb 16, 2022)</p> <p><i>These microbes may have survived 100 million years below the seafloor</i>. New York Times (June 28, 2020)</p> <p><i>When the Permafrost Melts</i>, La Presse (July 19, 2020)</p>
Chair	<p>Session entitled “Microbial Metabolisms and Biogeochemical Processes in Earth’s Subsurface” at AGU Fall Meeting, December 2019</p> <p>Science Organizing Committee member for Lunar and Planetary Institute’s The First Billion Years: Habitability conference, Big Sky Montana, September 2019.</p> <p>Session entitled “Reconstructing the Co-evolution of Early Life and its Environment: From Molecules to Models, and Analogues to Isotopes” at Goldschmidt Geochemistry Conference, Aug 2018</p> <p>Session entitled “Old Stuff Doing Good: Soils and Recalcitrant Organic Matter” at Gordon Research Conference (GRC) Organic Geochemistry meeting, July 2016</p>
Workshops	<p>Deep Sea Mining Impacts on Microbial Ecosystem Services, Bigelow Laboratory for Ocean Sciences, East Boothbay, Maine. Apr 18-19, 2018.</p> <p>Microorganisms and Organic Carbon in the Marine Subsurface, Knoxville, Tennessee. March 12-13, 2018.</p> <p>Sloan Foundation Deep Carbon Observatory (DCO) Early Career Summit, Catania, Italy. Aug 28-Sep 2, 2017.</p> <p>Moore Foundation Early Career Ocean Summit, Kona, Hawaii. Jan 17-21 2017.</p> <p>Thermal Analysis of Natural Organic Matter workshop, Woods Hole Oceanographic Institute (WHOI). Sep 14-15, 2016. <i>Invited Speaker</i>.</p> <p>Radiocarbon short course, Keck Carbon Accelerator Mass Spectrometer facility University of California, Irvine. July 11-15, 2011</p> <p>Argonne Soil Metagenomics Workshop & Meeting, Chicago, Illinois. Oct 3 -5, 2012</p>
Peer Review	<p>Invited Panel Reviewer for NASA Exobiology Program, 2016, 2017, 2018, 2019, 2021, 2022, 2023</p> <p>Invited as Panel Reviewer for Department of Energy (DOE) Biological and Environmental Research (BER), 2019</p>

	Invited committee member for NSERC Ship Time Program, 2021, 2022
	Reviewer for Nature Communications, ISME Journal, Marine Chemistry, Proceedings of the Royal Society B, Environmental Science & Technology, Environmental Microbiology, BMC Microbiology, Geochimica et Cosmochimica Acta, Journal of Contaminant Hydrology, Environmental Pollution, Science of the Total Environment, Marine Pollution Bulletin
University Service	Faculty of Science Committee on Student Standing, 2019 – present Science Equity and Climate Committee (SECC), 2019 – present Leong Fellowships Committee (Faculty of Science), 2024 Faculty hiring committee, External Member, Geography, 2023 McGill Soup and Science (2019, 2021, 2022) “Microbial processes in coastal and marine environments” Science panel for incoming students on career paths, 2022, 2023
Departmental Service	Undergraduate curriculum committee, 2022 EPS Wares Postdoctoral Fellowship Committee Member, 2019 EPS Chair’s Advisory Committee Member, 2019 – present EPS Departmental Seminar Series Committee Member, 2018, 2019, 2023 Graduate Scholarship Committee Member, 2018, 2019 EPS Graduate Admissions Committee, 2018, 2019
Editorship	Associate Editor, <i>Geobiology</i> Associate Editor, <i>Frontiers in Extreme Microbiology</i>
Professional organizations	Member, American Geophysical Union (AGU) Member, International Society for Microbial Ecology (ISME) Member, Geochemical Society (GS)