Mathilde Jutras

Professor of oceanography at ISMER-UQAR

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Education

2018 – 2023 **PhD - McGill University**,
Earth and Planetary Sciences, Marine biogeochemistry and physical oceanography.
Maternity leave May 2021 – May 2022

2014–2016 **M.Sc. - McGill University**,
Atmospheric and Oceanic Sciences, Physical oceanography.

2011–2014 **B.Sc. - Université de Montréal**,
Physics.

Training courses

Summer 2023 **Participant**, *IOCCP – ICOS OTC Training Course on a Suite of Biogeochemical Sensors*, Kristineberg Marine Station, Sweden.

Summer 2023 **Participant**, *GO-BGC/BGC-Argo Science Workshop*, University of Massachusetts Boston, USA.

Experience

Research

June 2025 – **Assistant professor**, *Institut des sciences de la mer, Université du Québec à Rimouski*, Rimouski, QC, Physical and biogeochemical oceanography.

Sept 2023 – May 2025 **Postdoctoral researcher**, *University of Hawaii at Manoa*, Honolulu, HI, USA,
Marine biogeochemistry.
Supervision by Pr. Seth Bushinsky. Drivers of biogeochemical changes in ocean carbon and oxygen in the Pacific Ocean using data from Argo float profilers and other datasets.
- Analyze in situ biogeochemical observations
  - BGC-Argo;
  - Global datasets;
  - Argo-derived circulation products;
- Develop simple models that provide insight on complex phenomena;
- Develop scripts for an operational float data processing tool;
- Mentor undergraduate students for research projects.

June 2018 – Aug 2023 **PhD student**, *McGill University*, Montreal, QC,
Marine biogeochemistry and physical oceanography.
Supervision by Pr. Alfonso Mucci and Pr. Carolina Dufour. Causes of deoxygenation in the St. Lawrence EStuary: from local eutrophication to circulation changes in the western North Atlantic.
- Analyze in situ physical and biogeochemical observations:
  - Global datasets;
  - Ship-based data;
  - Argo, floats and drifter data;
  - Satellite-derived eddy products.
- Analyze output from general circulation models:
  - GLORYS12V1 ocean reanalysis;
  - GFDL CM2.6 high resolution ocean model;
  - CMIP6 models.
- Carry Lagrangian tracking experiments on ocean reanalysis.
- Machine Learning classification of Lagrangian tracks.
- Develop simple biogeochemical models.
- Field measurements of biogeochemical variables.

Jan – May 2018 **Research professional**, *École nationale d'administration publique*, Montreal, QC,
Environmental governance.
Assisting the building of the Cité-ID LivingLab on Urban Resilience and research in urban environmental governance. Survey-based research projects, science writing and synthesizing, building collaborations.

May – Dec 2017 **Research assistant - MITACS**, *École nationale d'administration publique*, Montreal, QC,
Environmental governance.
Supervision by Pr. Marie-Christine Therrien. Study of the interactions between actors working for adaptation to climate change and the development of resilience in Montreal. Social Network Analysis, interviews.

2015 – 2016 **Masters student**, *McGill University*, Montreal, QC,
Physical oceanography.
Supervision by Pr. Bruno Tremblay. Sea ice physics. Impact of ice on energy transfers between the atmosphere and the ocean.
- Add an ocean component to an existing sea ice model;
- Run and analyze global circulation models (MITgcm);
- Compare those analyses with field data.

May – July 2014 **Research professional**, *LOCEAN-IPSL, Université Pierre-et-Marie-Curie*, Paris, France,
Physical oceanography.
Supervision by Dr. Martin VanCoppenolle. Thermodynamics of snow-ice in Antarctica
- Develop a simple model of the thermodynamics of snow-ice formation;
- Design and carry laboratory experiments to test the validity range of the model.

Field expeditions

March 2020 **Odyssée Saint-Laurent 2020**, *NGCC Amundsen*, St. Lawrence Estuary and Gulf.
Retrieval of biogeochemical data

June 2019 **SECO.net program**, St. Lawrence Estuary and Gulf.
Onland analysis of pH

Feb. 2019 **Odyssée Saint-Laurent 2019**, *NGCC Amundsen*, St. Lawrence Estuary and Gulf.
Retrieval of biogeochemical data

June 2018 **PhD Project**, *RV Coriolis II*, St. Lawrence Estuary and Gulf.
Retrieval of biogeochemical data

Summer 2015 **Floating University**, *RV Polarstern*, Fram strait, expedition PS93.1.
Familiarization with Arctic field research

Supervision

Summer 2025 **Undergraduate student supervision**, *ISMER-UQAR*, Rimouski, QC,
Supervision of M. Benoît for a summer project on the detection of extreme events in the Gulf of St. Lawrence using historical data.

Summer 2025 **Undergraduate student supervision**, *ISMER-UQAR*, Rimouski, QC,
Supervision of S. Huot for a summer project on assessing the mixing of Labrador Current and Gulf Stream waters on the Eastern American continental shelf..

Winter 2023 – Spring 2025 **Undergraduate student supervision**, *University of Hawaii at Manoa*, Honolulu, HI, USA,
Supervision of L. Ogando for an undergraduate research project aiming at creating an atlas of water masses based on observational products.

Summer 2022 **Undergraduate student supervision**, *McGill University*, Montreal, QC,
Supervision of L. Talbot for a summer research project on the variability in the pathways of floats and drifter data. Her work is included as a contribution to two of my papers.

Summer – Fall 2020 **Undergraduate student supervision**, *McGill University*, Montreal, QC,
Supervision of V. Pavlovik for a summer and course research project on Lagrangian tracking experiments in the Labrador Current.

Teaching

Oct 2024 **Invited lecturer**, *McGill University*, Montréal, QC,
ATOC-568: Ocean Physics (graduate level).
Lecture on the influence of physics on marine biogeochemistry.

Feb 2024 **Invited lecturer**, *University of Hawaii at Manoa*, Honolulu, HI, USA,
OCN 623: Chemical oceanography (graduate level).
Lecture on coastal biogeochemistry and animation of a paper discussion session.

January 2023 **Instructor**, *McGill University*, Montreal, QC,
Data wrangling in Python.
2 hours workshop, offered through the Computational and Data Systems Initiative at the Faculty of Science

Oct 2022 **One-course lecture**, *McGill University*, Montreal, QC,
ATOC-182: Introduction to Ocean Sciences.
Lecture on ocean deoxygenation.

Fall 2020 – 2023 **One-course exercise**, *McGill University*, Montreal, QC,
ATOC-568: Ocean Physics (graduate level).
Development and animation of an exercise on T-S diagrams and Optimum-Multiparameter analysis.

Proposal writing

2025 **co-PI on a NSERC Transformation competition proposal**, *NSERC*.

2025 **co-PI on a FRQNT proposal for the maritime sector**, *FRQNT*.

2024 **Lead of a National Science Foundation (NSF) Chemical Oceanography proposal**, *NSF, USA*.

2023 **Lead writer of a proposal for a IAPSO Best Practice Study Group**, *IAPSO*.

Reviewing

2025 **Reviewer for Biogeosciences**, *AGU*.

2025, 2023 and 2020 **Reviewer for the Journal of Geophysical Research: Oceans**, *AGU*.

2023 **Reviewer for Frontiers in Marine Science**, *Frontiers*.

2023 **Reviewer for Communications Earth & Environment**, *Comms Env*.

2022 **Reviewer for the journal Geophysical Research Letters**, *AGU*.

2020 **Reviewer for the Long Island Sound Study (LISS) extra-mural research program**, *Sea Grant*.

2020 **Reviewer for the IPCC Sixth IPCC report**, *IPCC*.

Scholarships and awards

Grants

2025 **Undergraduate Student Research Awards**, *NSERC*, Funding for two undergraduate summer interns on projects titled *Mélange entre le Gulf Stream et le courant du Labrador sur le plateau continental, à partir de donnés* and *Analyse des masses d'eau sur le plateau continental nord-américain*, 12 000$.

2024 **Undergraduate Research Opportunities Program**, *University of Hawaii at Manoa*, Funding of an undergraduate research project under my supervision titled *A tool for visualizing the 3-dimensional structure of ocean pathways and biogeochemical changes*, 4730$.

Sholarships

2023-2025 **Postdoctoral scholarship**, *Natural Sciences and Engineering Research Council of Canada (NSERC)*, University of Hawaii at Manoa, 90 000$.

2023-2025 **Postdoctoral scholarship - complement for foreign stays**, *Fonds de recherche du Québec - Nature et technologie (FRQNT)*, University of Hawaii at Manoa, 10 000$.

2019-2023 **Alexander Graham Bell Canada Graduate Scholarship PGS D**, *Natural Sciences and Engineering Research Council of Canada (NSERC)*, McGill University, 105 000$.

2019-2023 **Réal-Decoste Ouranos Scholarships program**, *Fonds de recherche du Québec - Nature et Techologie (FRQNT)*, McGill University, 60 000$.

2018 **Hydro-Quebec Fellowship**, *Hydro-Quebec*, McGill University, 15 000$.

2014-2015 **Canada Graduate Scholarships-Master's (CGS M)**, *NSERC*, McGill University, 17 500$.

2014-2016 **Master's Research Grant (B1)**, *FQRNT*, McGill University, 15 000$.

2014 **CMOS Scholarship Supplement to NSERC**, *CMOS*, McGill University, 5000$.

2014-2015 **Lorne Trottier Science Accelerator Fellowships**, *Lorne Trottier*, McGill University, 5000$.

2013 **CREATE Training Program undergraduate summer scholarship**, *CREATE - NSERC*, Dalhousie University, NS, 8000$.

2011 **Marie-Curie scholarship, mentored by Hubert Reeves**, *Physics department*, Université de Montréal, 4500$.

Awards

2025 **Award for student media presence.**, *Québec-Océan*.

2024 **D.W. Ambridge Award**, *McGill University*, 1500$.
Prize for graduating PhD student

2024 **Amoung the 10 scientific discoveries of the year**, *Québec Science*.
For my paper titled *Large-scale control of the retroflection of the Labrador Current* (2023), Nature Communications.

2021 **Outstanding Student Presentation Award**, *AGU*, AGU 2020
Estuary: From biogeochemistry to circulation
Award for the presentation titled *How waters feeding the eastern A concentrations in the St. Lawrence Estuary*.

2019 **Early career award: Natural resources**, *ACFAS*, McGill University, 5000$.

Outreach and social implication prizes

2018 **Winner of the Oceans Youth Innovation Challenge**, *G7 and government of Canada*, G7 Ocean Meeting, Halifax.
Presentation of an innovative idea to address environmental problems related to the oceans to the environment ministers at the 2018 G7 Summit un Charlevoix, Canada, and attendance of the meeting.

Communications

Journal publications

- **Jutras, M.**, Bushinsky, S.M., Cerovečki, I., Briggs, N. (2025). *Mixing Accounts for More Than Half of Biogeochemical Changes Along Mode Water Ventilation Pathways*, Geophysical Research Letters, 52, e2024GL113789, doi: 10.1029/2024GL113789
- Rousseau, S., Lavoie, D., **Jutras, M.**, Chassé, J. (2025). *Transit Time of Deep and Intermediate Waters in the Gulf of St. Lawrence*, Ocean Modelling, 195 (102526), doi: 10.1016/j.ocemod.2025.102526.
- **Jutras, M.**, Planat, N., Dufour, C.O. (2024). *Machine Learning-based clustering of oceanic Lagrangian particles: identification of the main pathways of the Labrador Current*, Journal of Advances in Modelling Earth Systems (JAMES), 16(7), doi: 10.1029/2023MS003902
- Wallace, D. W. R., **Jutras, M.**, Nesbitt, W., Donaldson, A. (2023). *Can green hydrogen production be harnessed to mitigate the development of hypoxia in the ocean? An example from the Gulf of St. Lawrence.*, Mitigation and Adaptation Strategies for Global Change, 28:56, doi: 10.1007/s11027-023-10094-1
- **Jutras, M.**, Dufour, C., Mucci, A., Talbot, L.C. (2023). *Large-scale control of the retroflection of the Labrador Current*, Nature Communications, *14*, 2623, doi: 10.1038/s41467-023-38321-y
- **Jutras, M.**, Mucci, A., Chaillou, G., Nesbitt, W. & D. Wallace (2023). *Temporal and spatial evolution of bottom-water hypoxia in the St Lawrence estuarine system.*, Biogeosciences, 20(3), 839-849.
- **Jutras, M.**, Dufour, C., Mucci, A., Cyr, F., Gilbert, D. (2020). *Temporal changes in the causes of the observed oxygen decline in the St. Lawrence Estuary.* Journal of Geophysical Research: Oceans, 125(12), e2020JC016577, doi.org/10.1029/2020JC016577

- **Jutras, M.**, Mucci, A., Sundby, B., Gratton, Y. & Katsev, S. (2020). *Nutrient cycling in the Lower St. Lawrence Estuary: response to environmental perturbations.* Estuarine, Coastal and Shelf Science, 239, 106715, doi.org/10.1016/j.ecss.2020.106715
- Therrien, M. C., **Jutras, M.**, & Usher, S. (2019). *Including quality in Social network analysis to foster dialogue in urban resilience and adaptation policies.* Environmental Science & Policy, 93, 1-10, doi.org/10.1016/j.envsci.2018.11.016
- Therrien, M. C., Matyas, D., Usher, S., **Jutras, M.**, & Beauregard-Guérin, I. (2018). *Enabling strategies and impeding factors to urban resilience implementation: a scoping review.* Journal of Contingencies and Crisis Management, 28(1), 83-102., doi.org/10.1111/1468-5973.12283
- **Jutras, M.**, Vancoppenolle, M., Lourenço, A., Vivier, F., Carnat, G., Madec, G., Rousset, C., Tison, J.-L. (2016). *Thermodynamics of slush and snow-ice formation in the Antarctic sea-ice zone*. Deep Sea Research Part II: Topical Studies in Oceanography, 131, 75-83, doi.org/10.1016/j.dsr2.2016.03.008

Academic publications

- **Jutras, M.** *Physical and biogeochemical drivers of deoxygenation in the Gulf and Lower St. Lawrence Estuary*. (2023). PhD thesis, McGill University.
- **Jutras, M.** *Energy transfers in the ice and surface Arctic Ocean at inertial and sub-inertial frequencies*. (2016). Master's thesis, McGill University.

Reports

- **Jutras, M.**, Usher, S., & Therrien, M. C. (2018). *Cartographie des acteurs impliqués dans l'adaptation aux changements climatiques et le développement de la résilience à l'échelle du territoire de l'île de Montréal.*, Public report for the Ouranos organization.

Other contributions

- Translation of a script for MTM-SVD analysis from Matlab to Python. Freely available at `github.com/mathildejutras/mtm-svd-python`

Oral presentations

2025 ***Invited, Geotop annual congress**, *Montreal, QC*.
Major marine biogeochemical changes... in an ocean near you

2025 ***Invited, midis-conférences of Sciences de la Terre et de l'atmosphère department of UQAM**, *Montreal, QC*.
Major marine biogeochemical changes... in an ocean near you

2025 ***Invited, McGill Atmospheric and Oceanic Sciences departmental seminars**, *Montreal, QC*.
Major marine biogeochemical changes... in an ocean near you

2024 **University of Hawaii seminars**, *Honolulu, HI, USA*.
Diving with mode waters: understanding the biogeochemical evolution of subducting water masses

2024 **Southern Ocean Carbon and Climate Observations and Modeling project (SOCCOM) annual meeting**, *Princeton, NJ, USA*.
Disentangling the causes of observed changes in biogeochemical variables along ventilation pathways

2024 **GO-BGC scientific meetings**, *virtual*.
What really explains the changes in biogeochemical properties along ventilation pathways?

2024 ***Invited, DRAKKAR Ocean Modelling Workshop**, *Grenoble (virtual participation)*.
Keynote presentation: Lagrangian simulations and machine learning to study the retroflection of the Labrador Current

2023 ***Invited, UBC Webinar series**, *Virtual*.
The physical and biogeochemical drivers of deoxygenation in the Lower St Lawrence Estuary and Gulf

2023 **CMOS (Canadian Meteo. and Oceano. Society) Congress**, *Virtual*.
Sudden oxygen decline in the recently hypoxic waters of the St. Lawrence Estuary

2023 **Acfas annual congress, Colloquium *De la terre à la mer : hypoxie et apports de nutriments et de matière organique dans le continuum du Saint-Laurent***, *Université-de-Montréal*.
Chute marquée des concentrations d'oxygène dissous dans les eaux profondes de l'estuaire maritime du Saint-Laurent entre 2019 et 2022

2023 ***Invited, UQAM special seminar**, *UQAM*.
Les causes biogéochimiques et physiques de la désoxygénation dans l'estuaire et le Golfe du Saint-Laurent

2022 ***Invited, Marine Environmental Observation, Prediction and Response Network (MEOPAR)'s annual network meeting: State of Ocean Deoxygenation in Canada**, *Virtual*.
Deoxygenation in Eastern Canada

2022 ***Invited, Woods Hole Oceanographic Institute Physical Oceanography seminar series**, *Woods Hole, MA*.
Remote control of the retroflection of the Labrador Current

2022 ***Invited, UBC Physical Oceanography seminars**, *Virtual*.
Classification of Lagrangian trajectories in the Labrador Current with a Machine Learning algorithm

2022 **The state of ocean deoxygenation research in Canada Workshop**, *Virtual*.
Deoxygenation research at McGill: connecting the St. Lawrence Estuary and the western North Atlantic

2022 **Liège Colloquium on ocean dynamics and GO2NE oxygen conference**, *Liège, Belgium*.
Temporal variations in the causes of oxygen decline in the Lower St. Lawrence Estuary: from local eutrophication to regional ocean circulation

2021 **Acfas conference**, *Virtual*.
Évaluation de l'eutrophisation dans l'estuaire maritime du Saint-Laurent: un modèle-à-boîtes des flux de nutriments et une reconstruction des masses d'eaux parentales

2021 **European Geophysical Union (EGU) annual conference**, *Virtual*.
Variability of the circulation in the western North Atlantic and its impact on deep-water oxygen concentrations in the St. Lawrence Estuary and in the Slope Sea: evidence from observations

2021 ***Invited, NOAA webinar series**, *Virtual*.
Variability of the circulation in the western North Atlantic affects deepwater oxygen concentrations in the St. Lawrence Estuary and in the Slope Sea

2021 **OCB (Ocean Carbon and Biogeochemistry) webinar series**.
Changes through time in the causes of oxygen decline in the St. Lawrence Estuary: From biogeochemistry to circulation

2021 **Quebec-Ocean annual meeting**.
Les causes physiques et biogéochimiques de la désoxygénation des eaux profondes de l'estuaire maritime du Saint-Laurent

2020 **American Geophysical Union (AGU) annual conference**, *Outstanding Student Presentation Award (OSPA) recipient*.
How waters feeding the eastern American continental slope affect oxygen concentrations in the St. Lawrence Estuary

2021 ***Invited – Ouranos seminars**.
Désoxygénation de l'estuaire maritime du Saint-Laurent: Variation temporelle des causes

2020 **CMOS (Canadian Meteo. and Oceano. Society) Congress**.
Changes in the circulation pattern in the Northwest Atlantic: Impact on the deoxygenation of the deep waters in the Lower St. Lawrence Estuary

2019 **Intern. Union of Geodesy and Geophysics (IUGG) Congress**, *Montreal, QC*.
A simple box model of nutrient fluxes and oxygen consumption rates in the Lower St. Lawrence Estuary

2019 ***Invited – Chapitre Saint-Laurent annual conference**, *Orford, QC*.
Un modèle à boîte simple des flux de nutriments et de la consommation d'oxygène dans l'estuaire maritime du Saint-Laurent

2015 ***Invited speaker of the outreach section – FAMOS (*Forum for Arctic Modeling & Observational Synthesis*)**, *Cape Cod, MA*.
Snow Ice Formation Experiment

2015 **CMOS Congress**, *Whistler, BC*.
Thermodynamics of snow-ice formation on sea ice

Posters

2025 **Quebec-Ocean annual scientific meeting**, *Montreal, QC*.
Jutras, M., Bushinsky, S., Cerovecki, I., Koenig, D., Nachod, Z. *Nouveaux estimés des tendances biogéochimiques marines globales*

2025 **Ouranos annual meeting**, *Montreal, QC*.
Jutras, M., Wallace, D., Handmann, P. *Causes, conséquences, et mitigation de la désoxygénation du Saint-Laurent*

2024 **Pathways Connecting Climate Changes to the Deep Ocean Workshop**, *Virtual*.
Jutras, M., Bushinsky, S., Cerovecki, I. *Disentangling the causes of observed changes in biogeochemical variables along ventilation pathways*

2023 **Quebec-Ocean annual meeting**, *Rivière-du-Loup, QC*.
Jutras, M., Mucci, A., Chaillou, G., Nesbitt, W.A., Wallace, D., Dufour, C. *Abrupt decline in the deep water oxygen concentrations of the Lower St. Lawrence Estuary between 2019 and 2022*

2022 **CMOS Congress**, *Virtual*.
Jutras, M., Planat, N., Dufour, C., Mucci, A., *Classification of Lagrangian trajectories in the Labrador Current with a Machine Learning algorithm*

2022 **Ocean Sciences Meeting**, *Virtual*.
Jutras, M., Dufour, C., Mucci, A., Planat, N., *Subarctic control of the retroflection of the Labrador Current*

2021 **CMOS Congress**, *Virtual, presented by Carolina Dufour*.
Jutras, M., Dufour, C., Mucci, A., *Controls and variability of the retroflection of the Labrador Current*

2019 **Intern. Union of Geodesy and Geophysics (IUGG) Congress**, *Montreal, QC*.
Jutras, M., A. Mucci, C. Dufour, D. Gilbert, *Temporal changes in the relative contributions of Labrador Sea and Gulf Stream waters to the Gulf of St. Lawrence*

2018 **American Geophysical Union annual conference**, *Washington, DC*.
Jutras, M. *et al.*, *A simple box model of nutrient fluxes in the St. Lawrence Estuary*

2018 **Quebec Ocean annual meeting**, *Rivière-du-Loup, QC*.
Jutras, M., *et al.*, *Examen des causes de la désoxygénation de l'estuaire et du Golfe du Saint-Laurent*

2018 **Quebec Ocean annual meeting**, *Rivière-du-Loup, QC*.
Jutras, M. *et al.*, *Un modèle à boîtes simple des nutriments dans l'estuaire maritime du Saint-Laurent*

Organization of conference sessions

2023 **CMOS conference**, *Virtual*,
Session titled *Lagrangian perspectives on ocean transport and mixing*.
Co-conveynor

2023 **CMOS conference**, *Virtual*,
Session titled *Recent advances in ocean biogeochemistry in Canada*.
Organizer and co-conveynor

2021 **CMOS conference**, *Virtual*,
Session titled *The North Atlantic Ocean: Circulation, physical processes, and interactions with biogeochemistry*.
Organizer and co-conveynor

Non-peer reviewed contributions and outreach

- Mucci, A., Chaillou, G., **Jutras, M.** *Why the St. Lawrence estuary is running out of breath*, June. 15, 2022, The Conversation.
- Arsenault, J., Talbot, J., **Jutras, M.** *Mobilité académique post-pandémie : les profs vont-ils recommencer à voyager ?*, March. 29, 2022, La conversation.
- **Jutras, M.** *Sensibilisation sensible : les voyages en avion des scientifiques*, Dec. 16, 2020, ACFAS Magazine.
- **Jutras, M.** *Rethinking the way we fly*, May 31, 2021, Canadian Meteorological and Oceanographic Society (CMOS) Bulletin.

Media

- Interviewed for an article on ocean reoxygenation, Freitag, Aug. 14, 2024.
- Interview for the radio show *Jimmy et Neutron*, CISM, March 21, 2024.
- 10 discoveries of the year by the Québec Science magazine. *Le courant du Labrador est détourné surtout par le vent*, Anctil, G., Nov. 11, 2024, Québec Science.
- Interview on the radio show *Au coeur du monde* to talk about deoxygenation of the Gulf of St. Lawrence, Radio-Canada Gaspésie-Îles-de-la-Madeleine, Jan. 22, 2024.
- Interview on the radio show *Le Réveil* to talk about reoxygenation of the Gulf of St. Lawrence, Radio-Canada Île-du-Prince-Édouard, Jan. 18, 2024.
- Interview on the radio show *Le Réveil* to talk about reoxygenation of the Gulf of St. Lawrence, Radio-Canada Nouvelle-Écosse et Terre-Neuve, Jan. 18, 2024.
- Interview on the radio show *Bonjour la Côte* to talk about deoxygenation of the Gulf of St. Lawrence, Radio-Canada Côte-Nord, Jan. 15, 2024.
- Interview for the article *Le réchauffement de l'eau menace-t-il la pêche ?*, Perreault, M., Sept 17, 2023, La Presse.
- Interview on the radio show *Island Morning* to talk about the warming of the Gulf of St. Lawrence waters, CBC Prince Edward Island, Aug. 24, 2023.
- Interview on the radio show *Même le week-end* to talk about the warming of the Gulf of St. Lawrence waters, 98,5 fm, Aug. 20, 2023.
- Interview for the article *Oceanographers say warming waters in the Gulf of St. Lawrence* affecting animal life, Lowrie, M., The Canadian Press, Aug. 17, 2023.
- Featured in my university's newsroom. *What controls the pathways of the Labrador Current?*, McGill University newsroom, June 28, 2023.
- Interview for the radio show *All in a day* to talk about the sudden decline in oxygen concentrations in the St. Lawrence Estuary in 2020, May 16, 2023, CBC Montreal.
- Interview for the radio show *Quebec AM Today* to talk about the sudden decline in oxygen concentrations in the St. Lawrence Estuary in 2020, May 15, 2023, CBC Quebec.
- Interview for the podcast Balad'eau, episode on hypoxia in the St. Lawrence Estuary, 2023, Quebec-Ocean.
- Participation on the radio show *Feu Vert*: *Pas de ralentissement en vue pour la circulation dans l'Atlantique*, Dec. 15, 2022, Radio-Canada.
- Participation on the radio show *Feu Vert*: *Mieux former les personnes élues sur la crise climatique*, Nov. 13, 2022, Radio-Canada.
- Opinion letter asking for a climate training for Quebec's elected members of the parliament: *Une formation sur le climat pour tous les élus*, Oct. 11, 2022, Le Devoir.
- Citation of my research in the article *Chute abrupte d'oxygène dans les eaux du Saint-Laurent*, Shields, A., 25 Nov. 2021, Le Devoir.
- Interview for the article *Des pistes de solution pour réduire la détérioration du Saint-Laurent*, Manuguerra-Gagné, R., May 5, 2021, Radio-Canada.ca
- **Jutras, M.** *L'émerveillement candide du siècles des Lumières*, Sept. 12, 2020, Le Devoir.
- Interview at the radio show *L'oeuf ou la poule* at CHOQ.ca, UQAM's student radio, June 2019.

Extra-scholar activities

February 2025 **Invited panelist**, *Panel of science communication*, Winter school on sea ice at ISMER-UQAR.

2023–2024 **Sitting member**, *Board of director of Fonds de recherche du Québec - Nature et Technologie*.

2020–2024 **Member, president for year 2023-2024**, *Comité intersectorial étudiant of the Fonds de recherche du Québec*.

Student committee of the Fonds de Recherche du Québec (Québec's governmental research funding agency). Advice the scientist in chief of Québec and the boards of directors of the different funds on topics related to the next generation of researchers (students and postdocs). Participate in events of Quebec's research and academic ecosystem.

Tasks: Conduct consultations of the next generation of researchers, through focus groups and surveys, on a variety of topics. Perform scientific and grey literature reviews. Consult members of the academic community. Develop recommendations for the FRQ. Write reports. Organize events, such as panels and webinars, for the next generation of researchers. Manage the operations of the committee, which includes numerous working groups. Ensure a healthy and productive environment.

List of reports deposited to the FRQ boards of directors:

- Environmental responsibility in Research: Findings, Solutions and Impacts, 2023.
- Deconstructing excellence: plurality, diversity, and evaluation issues, 2022.
- Next Generation Researchers in Research Groups Funded by Fonds de recherche du Québec, Developing and Enhancing their Potential, 2021.

Lists of publications in academia-focused magazines:

- La relève et l'écoresponsabilité en recherche : entre préoccupations et ambitions, *Acfas magazine*, Nov. 28, 2023.
- Réduire l'impact environnemental de la recherche : une responsabilité partagée, *Affaires Universitaires*, 27 Sept 2023.
- Le comité intersectoriel étudiant : la « bibitte » du Scientifique en chef du Québec, *Acfas magazine*, 17 Oct 2022.

March 2024 **Invited panelist**, *Connexions carrières : L'écologisation de votre carrière*, Virtual panel organised by Parlons Sciences.

2022–2023 **Sitting member**, *Committee on ethics and scientific integrity of the Fonds de recherche du Québec - Nature et Technologie*.

2022–2023 **Member**, *Predicted Ocean working group, Canadian United Nations Ocean Decade initiative*, Represent the voice of the next generation of researchers.

2022 **Instigator**, *Initiative to offer a climate training to provincial deputies*.

The initiative led to the adoption of a motion to put in place such a training. The training took place in spring and fall 2023. Article on the initiative, article on the adoption, article on the training.

2020–2022 **Departmental representative**, *Adams Club (EPS student association)*.

Make the link between graduate students and the EPS department. Attend departmental meetings. Regular meetings with the department's chair.

2019– **Founder**, *Responsible Research initiative*.

Initiative to encourage Quebec's academics to reduce the impact of their work-related travel. `recherche-resp-research.github.io/index-eng.html`. Presentations given at the following locations:

- Polytechnique Montréal
- Bureau canadien de l'éducation internationale
- Syndicat général des professeurs et professeures de l'Université de Montréal
- Fédération québécoise des professeures et professeurs d'université
- Chaire de recherche en partenariat sur l'attractivité et l'innovation en tourisme, Université Laval
- Centre Lemaire en gestion durable, Université de Sherbrooke (virtual presentation)
- Institut des sciences de l'environnement, Université du Québec à Montréal
- Géotop, Université du Québec à Montréal
- Loyola Sustainability Research Center, Concordia University
- CIRAIG research institute, Université de Montréal
- Anthropology department, Université de Montréal
- Geography department, Université de Montréal
- Earth and Planetary Sciences department, McGill University
- Atmospheric and Oceanic Sciences department, McGill University

Languages

English **Fluent**

French **Fluent (native language)**

Spanish **Basic conversation**

Personal interests

- Human relationship with Nature and its protection
- Hiking, camping
- Skiing
- Reading Nature writing