Roxane Maranger

Full Professor

Département des sciences biologiques

Université de Montréal

CP 6128, suc. Centre-ville

Montréal, QC Canada, H3C

Phone : 514-343-7779 FAX : 514-343-2293

Email : r.maranger@umontreal.ca

## Personal

Citizenship: Canadian

Languages: English and French written and spoken

Civil status: married with 3 children

**Research Interests**

Aquatic ecosystem ecologist; biogeochemical cycling of C, N, and P at multiple scales; ecoservices; water quality, scarcity and human health; eutrophication; nutrient loading from watersheds; landuse; impact of community structure on ecosystem function; integrated ecosystemic approach to landscape design; stakeholder-engaged research for sustainability; social-ecological innovation

## Education

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| --- | --- |
| 1999 | Ph.D. Environmental Science, Université du Québec à Montréal, Montréal QC, Canada  |
| 1995 | M.Sc. in Biology, Université du Québec à Montréal, Montréal QC, Canada |
| 1992 | B.Sc. in Biology minor is Drama and Theatre, McGill University, Montréal QC, Canada  |

**Professional Experience1,2**

|  |  |
| --- | --- |
| 2015-***present*** | Full Professor, Département des sciences biologiques, Université de Montréal, Montréal QC, Canada |
| 2011-***present*** | Scientific Director, Station Biologique des Laurentides, Université de Montréal Field Station, Faculté des Arts et Sciences |
| 2008- 2015 | Associate Professor, Département des sciences biologiques, Université de Montréal, Montréal QC, Canada |
| 2003- 2008 | Assistant Professor, Département des sciences biologiques, Université de Montréal, Montréal QC, Canada |
| 2000 - 2002  | Postdoctoral Research Associate, Cary Institute of Ecosystem Studies, Millbrook NY, USA  |

*1See below delays in research: scientifically inactive from Jan 1999-Jan 2000, Feb 2002-Aug 2003, Oct 2003-Sept 2004.*

*2Sabbatic Leave 2011, 2018*

# Postgraduate Experience and Professional Activities

*Committees and Leadership*

2018***-present:*** President-Elect for the Association for the Sciences of Limnology and Oceanography (ASLO); ASLO is an international society with over 4500 members from 60 countries worldwide. It is unique in scope in that it serves an aquatic scientific community that includes both the fresh and saltwater community.

2017***-present:*** Member of the NSERC Discovery Ecology and Evolution evaluation committee.

2016***-present****:* PI and founder of RéseauLab Laurentides a stakeholder-engaged social-ecological innovation system for sustainability in the Laurentian Region of QC.

2016-***present***: Member of the Scientific Steering Committee of Future Earth Coasts, Core project of Future Earth and formerly a joint project of International Geosphere-Biosphere Program and International Human Dimensions Program, Executive Office in Cork, Ireland.

2015-***present***: Member of the Scientific Steering Committee of the Center for Analysis and Synthesis of Biodiversity (CESAB), Aix en Provence, France.

2018: Co-conceptualizer and co-organizer of the Art of Hosting event, There is No Planet B. This collaboration between Marange and PercoLab explored how the social innovation and open science movement can merge can serve a novel social ecological innovation process, Station Biologiques des Laurentides, St-Hippolyte, QC. September 17-20.

2017-2018: Board of Directors, Canadian Institute of Ecology and Evolution (CIEE) Synthesis Center, UBC, Vancouver, BC

2017-2018:Co-chair of the organizing committee for the Advancing the Science of Limnology and Oceanography (ASLO) summer meeting, Water Connects!, Victoria BC, June 2018.

2016-2018: Board of Directors, Lake PulseNet, NSERC strategic Network grant focusing on freshwaters and anthropogenic change, Theme 4.

2015-2018: Member of the selection committee of the Ruth Patrick Award, Advancing the Science of Limnology and Oceanography (ASLO).

2014-2018: Appointed as international Scientific Steering committee member to the Conseil Scientifique of the Centre National de Recherche Scientifique (CNRS) of France, representing the Institut National en Écologie et Environnement (INÉE), Paris, France.

2014*-*2017: Member of The Sustainability Dialogues for Canada Initiative. This is a Pan-Canadian effort to work with stakeholders to identify key issues of concern under a climate change scenario.

2010-2016: Comité de direction du GRIL; GRIL-UdeM internal Director. Responsible for many new initiatives that have reinvented the GRIL, namely the co-directed student scholarship program.

2015: co-organizer and co-designer of Future Earth Montreal Forum Event held at the Société des Arts Technologiques, Montréal April 20, 2015

2014-2015: Member of Future Earth Implementation Team, Montreal Global Hub. Working with an international team of collaborators to structure and implement the Future Earth Secretariat.

2011-2014: Joint Aquatic Science Meeting (JASM) Organizing co-chair: Advancing the Science of Limnology and Oceanography (ASLO) representative for the first joint meeting of the following four societies: ASLO, SFS (Society of Freshwater Science), SWS (Society of Wetland Science) and PSA (Phycological Society of America). There were over 3000 participants, making this the largest meeting ever for inland water research. Portland OR May 2014.

2013-2014: Future Earth Bid: co-author and co-conceptualizer of the bid for the International Global Secretariat, Montreal Hub. Future Earth will be a new global sustainability research program that will integrate and collaborate with several of the large Global Environmental Change (GEC) programs including IGBP, WCRP, Diversitas and IHDP. Press release of formal acceptance on July 2, 2014.

2013-2014: External evaluator for a Limnology position at the University of Uppsala, Sweden.

2013-2014: Member of selection committee for the new Executive Director of Advancing the Science of Limnology and Oceanography (ASLO).

2010-2013: Member of the Board of Directors for the ASLO: Elected Member at Large. During my mandate, ASLO was going through a major transformation. I was Chair of the Early Career Committee. I was responsible for all EC activities, defined this demographic for strategic planning and created operational guidelines for this charge. During my mandate I created Yentsch-Schindler Award to honour the achievements of an outstanding, well-rounded EC scientist.

2012-2014: Chair of the Yentsch-Schindler Award committee and member of the ASLO awards standing committee, fidelity committee and emerging workshop committee.

2008-2009: Awards committee Chair for the Rigler and Peter’s Awards for a senior and junior Canadian Limnologist respectively.

2007-2009: Vice-president (francophone) of the Canadian Society of Limnologists.

2007: Entertainment committee for the International Society of Limnology meeting SIL, Montreal August 8-12.

2006-2007: Program co-chair for the 2007 CCFFR-SCL meeting in Montreal, January 8-11, 2007.

Regularly volunteer to judge posters and talks at meetings.

*Workshops participation and coordination; Conference session organization*

2018: Session Chair: “Aquatic Ecological Stoichiometry Across Scales”, Water Connects! ASLO, Victoria BC, June 10-15.

2018: Workshop on an integrative understanding of the role of submerged aquatic vegetation. St-Paulin, QC, May 15-17.

2018: Invited workshop participant, An assessment of coastal assessments, Our Coastal Futures, Future Earth Coasts, Cork, Ireland, March 26-29.

2018: State of the St-Lawrence Workshop, St-Paulin, QC, Feb 5-7.

2017: VITALS: Ventilation, Interactions and Transports Across the Labrador Sea Workshop and final meeting, Halifax NS. November 5-7.

2017: Canadian Wildlife Foundation (CWF) Scientific Bioblitz; co-PI of a 4-day event that saw over 200 experts in various disciplines to. Event was supported by the CWF. Ours was one of 10 sites selected across the country for a scientific biodiversity blitz and the only one ran through a university. Held at the Station de Biologie des Laurentides.

2017: Session Chair: “Enough C plumbing: other biogeochemical cycles and coupled biogeochemical cycles from mountains to the sea”, Aquatic Science Meeting ASLO, Honolulu HI, Feb 26- March 3.

2016: VITALS: Ventilation, Interactions and Transports Across the Labrador Sea Workshop and planning meeting, Halifax NS. October 27-28.

2016: Workshop coordinator for the establishment of ReseauLab Laurentides, a stakeholder-engaged research program for Sustainable development in the Laurentian region of QC, Station Biologiques des Laurentides, St-Hippolyte, QC. October 17-18.

2016: Workshop participant as Scientific Steering committee member of Future Earth Coasts “Our Coastal Futures”, Taipei, Taiwan July 21-26.

2016: Workshop guest and participant “Postdocs of synthesis centers: planning for the future”, CESAB, Aix en Provence, France, April 25-29.

2016: Coordinator and co-conceptualizer of the workshop entitled “Ateliers sur la connectivité des espaces vertes: enjeux et la science communautaire”, Station Biologiques des Laurentides, St-Hippolyte, QC. April 1-2.

2015: Invited participant to the strategic development of more transdisciplinary approaches at the Institut National en Écologie et Environnement, CNRS, Paris, France, Nov 9.

2015: VITALS: Ventilation, Interactions and Transports Across the Labrador Sea Workshop and planning meeting, Halifax NS. October 19-22.

2015: Invited participant for the strategic planning of the Spherical Institute, joint venture to create a transdisciplinary center for environmental and sustainability research communication using immersive technologies between the Buckmisnster Fuller Institute and the Société des Arts et Technologie, Bear Island, Maine, July 26-August 1.

2015: Invited participant as Future Earth representative of the Scientific Steering committee meeting of Land Ocean Interactions of the Coastal Zone (LOICZ)/ Future Earth Coasts project, Cork, Ireland, June 8-12.

2015: Session co-chair “Nutrient cycling in wetlands and aquatic ecosystems”, American Geophysical Union, Joint Assembly Meeting, Montreal, QC, May 3-7.

2015: Panelist on the “Future Earth and Sustainability Science: Managing Trans-disciplinarity” session. 5th International Conference on Sustainability Science, Tokyo, Japan Jan 22-24.

2014: Panelist on the “Future of Arctic Research” session. Presented “Future Earth: a new global sustainability program and synergistic opportunities for Arctic research.” Arctic Change Conference, Ottawa, Dec 8-12.

2014: Workshop participant, “Sustainable Development Research: the need for a multiyear commitment” organized by the Chief Scientist of Québec, Dr. Rémi Quirion during the Economic Summit of the Americas, Montréal QC, June 11.

2014: Session co-chair: “Water resources, resilience and sustainability”, JASM, Portland, Oregon, May 18-23.

2014: Future Earth Global Hub Bid conceptualization and writing workshop; Montreal, QC, February 24-28.

2013: Future Earth Bidder’s conference: Member of the Montreal delegation sent to compete for the Future Earth Global Secretariat, Gressy, France November 12-14.

2013: Workshop on the Future of Ecosystem Science, Invited participant, National Socio-Environmental Synthesis Center (SESYNC), Annapolis MD, October 1-2.

2013: Session co-chair: “Nitrogen transformations by coastal sediments”, Aquatic Science Meeting ASLO, New Orleans, LA, February 18-22.

2013: Coordinator of “How to write a winning grant”, Ocean Science Meeting, Aquatic Science Meeting ASLO, New Orleans, LA, February 18-22.

2012: Workshop Participant: A Pan-Arctic view of the most rapidly changing ecosystem on earth. Co-lead with Dolors Vaqué Institut Ciences del Mar (ICM) on microbial ecological synthesis, Motovun, Croatia, October 22-26.

2012: CarBBAS Brainstorming Workshop (CarBraW): Working group on C cycling in the Boreal, Station des Laurentides, St-Hippolyte QC, September 26-27.

2012: Session co-Chair: 1) “Nitrogen Limitation in Freshwater - Is Nitrogen Reduction Ecologically Meaningful and Economically Feasible?” and 2) “Changes in the Biogeochemistry and Primary Productivity of the Western Arctic and Subarctic Seas: Regional Processes and Large-Scale Connectivity” Aquatic Science Meeting ASLO, Otsu, Japan, July 9-13.

2012: Coordinator of “Meet the Journal Editors”, Ocean Science Meeting, ASLO Early Career Workshop, Otsu, Japan July 9-13.

2012: IPY APECS (Association of Polar Early Career Scientists) Workshop: guest panellist in Early Career workshop : How to design a University Course. April 22-23.

2012: Co-sponsor and organizer of “The Ladder of Success” Early Career workshops by COSEE, Ocean Science Meeting, Salt Lake City UT, Feb. 18-20.

2012: Member of organizing committee for the coordination of an Early Career workshop jointly with Mel Briscoe (VP Consortium of Ocean Leadership) and TOS (The Oceanography Society), Salt Lake City UT, Feb. 18-20.

2011: Polar Marine Gordon Conference, session convener: Biogeochemical Complexity in Polar Oceans, Ventura CA, March 9-13.

2011: Coordinator of “Beyond Imagination: Thinking Big in Science” Early Career workshop, American Society for Limnology and Oceanography (ASLO), San Juan Puerto Rico, Feb 13-18

2010: Creation of Canadian Field Research Network (CFRNet) during a workshop on the future of field stations in Canada, Joker’s Hill, University of Toronto field station, November 21-23.

2010: Redefining the GRIL; workshop designed to restructure the GRIL scientifically, main conceptualizer and organizer, Station Biologique des Laurentides, St Hippolyte QC, March 3-6.

2010: International Water Association (IWA) DIPCON Diffuse Pollution and Eutrophication Abstract selection committee, Mont Ste-Anne QC, Sept.

2010: Session co-chair: “Can N fixation reverse N limitation in Aquatic ecosystems?” ASLO-Ocean Sciences Portland Oregon, February 21-26.

2009: Circumpolar Flaw Lead Final Workshop participant and speaker, November.

2009: Session co-chair: “Biological Oceanography” ASLO, Nice, France January 25-30.

2008: Denitrification Research Coordination Network-NSF funded, Workshop on Denitrification methods, Horn Point Laboratory, Cambridge MD May 27-30.

2007: Circumpolar Flaw Lead coordination workshop, Quebec City, April 28-30

# 2006: DRCN-NSF Denitrification Modeling Across Terrestrial, Freshwater and Marine Systems, Cary Institute of Ecosystem Studies, Millbrook NY, Nov 28-30. (co PI with J.H. Harrison on the role of lakes and reservoir in global N retention).

2004: Réseau d’évaluation et de surveillance écologiques : L’état et l’évolution de l’écosystème du Lac St-Pierre. Québec, QC, December.

2001: Understanding Ecosystems: The Role of Quantitative Models in Observation, Synthesis, and Prediction. Institute of Ecosystem Studies, Millbrook, NY, May

2000: Dissolved Organic Matter (DOM) in aquatic environments. Cary Institute of Ecosystem Studies, Millbrook, NY, May.

1993: Canada-Japan Saroma-ko Lagoon-Resolute Passage Study (SARES project), Institut Maurice-Lamontagne, Mont-Joli, Québec, September.

**University Service**

Scientific Director of Université de Montréal field station « Station Biologique des Laurentides (SBL) ». Many improvements to the site have been made at the SBL since my directorship, particularly in terms of operations. In terms of scientific development, I am leading a regional stakeholder engaged research program that includes several young UdeM Faculty. (2011- ***present***)

Equipment committee (2008-***present***)

Internal director of the Groupe Interuniversitaire en Limnologie et Environnement Aquatique (GRIL, 2010-2016)

Member of the Strategic Planning for Research Committee for the Faculty of Arts and Sciences (2012 -2016)

Member of the strategic advisory committee of Université de Montréal; Chaired by University President Dr. Guy Breton (2014-2016)

Search committee member for Aquatic Ecophysiologist position (2015- 2016)

Member of the Strategic Planning committee Département des sciences biologiques (2011-2015)

Chair of search committee for Limnologist/Aquatic Resource Management position (2014- 2015)

Planning committee for the Research Day in Environment and Sustainable Development; UdeM, École Polytechnique, HEC. Guest speaker on Future Earth Opportunities (event held June 6, 2014)

Strategic Planning committee for the creation of the Campus Montreal Sustainable Development Institute EDDEC « Environnement, Développement Durable et Économie Circulaire ». I worked with others on the committee to define the institute’s functional role and its mission and vision statements. This endeavor represents a collaboration of three major French Montreal Universities: UdeM, Haute Ecole Commerciale (HEC) and École Polytechnique. (2013-2015)

Workshop on the visioning of a multi-institutional sustainability institute. I coordinated, with Dr F. Bouchard (Philosophy) a trans-disciplinary workshop with over 35 participants from UdeM, HEC and Polytechnique at the university field station I direct. This activity helped mobilize the creation of EDDEC (May 2013)

Member of the search committee for the CRC Tier 1 Chair in Aquatic Resource Management (2012-2013)

Chair of search committee for the Aquatic Microbial Ecologist position (2011)

Chair of search committee for the Ecological Modeling position. Coordinated all activities (\*Established new procedure for interviewing candidates that was accoladed by the FAS and has served as new departmental model). Chair of both independent searches 2009 and 2010.

Station Biologique des Laurentides action plan committee (2010)

Departmental representative for the Groupe de reflexion de l’institut en environnement et développement durable GriEDD (2010-2012)

Graduate student scholarship and student affairs committee (2009-2011)

Weekly aquatic and ecology seminar series coordinator (2009-2012)

Public and International Relations committee (2004-2010)

Library committee (2008-2010)

Department visioning committee (ad hoc) (2006-2007)

Responsible for the successful *Doctorat Honoris Causa* applicant Dr. Daniel Pauly 2007. Coordinated visit and departmental seminar to honour him.

Initiator and coordinator of a Biogeochemical Seminar series between the departments of Biology, Chemistry and Geography (2006-2007). This coordination effort has led to greater interactions among Departments and has translated into an effort to create a Biogeochemistry axis in a professional Master’s Program on Sustainable Development.

*Research Cruises*

2018: The State of the St-Lawrence aboard the R/V Lampsilis (16 days)

2016: VITALS: Ventilation, Interactions and Transports Across the Labrador Sea aboard the R/V Hudson May (30 days)

2015: VITALS: Ventilation, Interactions and Transports Across the Labrador Sea aboard the R/V Hudson May (30 days)

2014: Mn cycling and influences on N transformations in the St-Lawrence Estuary R/V Coriolis September (8 days)

2014: VITALS: Ventilation, Interactions and Transports Across the Labrador Sea aboard the R/V Hudson May (30 days)

2013: Microbial transformations in the St-Lawrence Estuary R/V Coriolis July (5 days)

2011: C and N cycling in the St-Lawrence Estuary R/V Coriolis June (5 days)

2010: Hypoxia in the St-Lawrence Estuary R/V Coriolis July (14 days)

2009: C and N cycling in the St-Lawrence Estuary R/V Coriolis May-June (7 days)

2007-2008: CFL Circumpolar Flaw Lead Study is a year-long study in the Canadian Arctic aboard the R/V Amundsen (October-August). Representation from my lab has been aboard for over half the allotted cruise time and our measurements have been ongoing thanks to a collaborative exchange with Carlos Pedros-Alio (Instituto des Ciences del Mar, Barcelona, Spain). Part of Team 7, led by Jean Eric Tremblay (U. Laval) working on C and nutrient fluxes.

2007: C and N cycling in the St-Lawrence Estuary R/V Coriolis May (7 days)

2006: C and N cycling in the St-Lawrence Estuary R/V Coriolis June and August (7 days each cruise)

1995: Latitude 95, Trans-Atlantic, R/V Hesperides of the Spanish Armada, March-April.

1994: Palmer Long Term Ecosystem Research Project (LTER), Antarctic Peninsula, R/V Polar Duke, Jan-Feb.

**Reviewer**

Science, Proceedings of the National Academy of Sciences, Limnology and Oceanography, Ecosystems, Hydrobiologia, Marine Biology, Aquatic Microbial Ecology, Microbial Ecology, Biogeochemistry, Journal of Environmental Quality, Aquatic Botany, Applied and Environmental Microbiology, Marine Chemistry, EOS, Archive für hydrobiologie.

FQRNT PDF grants evaluator for Ecosystem Ecology committee (2006), NSERC Steacie Award. NSERC Discovery Ecology and Evolution evaluation committee (2018-2020), CESAB grants (2016)

**Member**

Association for the Sciences of Limnology and Oceanography (ASLO), Canadian Society for Limnologists (CSL), Ecological Society of America (ESA), Groupe de Recherche Interuniversitaire en Limnologie et Environnement Aquatique (GRIL), Societas Internationalis de Limnologiae (SIL), Global Lakes Observatory Network (GLEON)

# Awards & Fellowships

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| --- | --- | --- |
| Postgraduate | 2000 - 2002 | Natural Sciences and Engineering Research Council of Canada Postdoctoral Fellowship (PDF) |
|  | 2000 | Top ten scientific discoveries in Québec in Environment: *Québec Science*  |
|  | 1999 - 2001 | Fonds pour la Formation de Chercheurs et l’Aide à la Recherche (FCAR), Postdoctoral Fellowship (B3), declined |
| Graduate | 1997 -1998 | Fondation UQAM, Doctoral level |
|  | 1997 | UQAM PAFARC, Doctoral level, declined  |
|  | 1994 - 1997 | FCAR, Scholarship B2 01A, Doctoral level |
|  | 1993 | UQAM PAFARC, Master’s level  |

**Research funding**

|  |  |  |  |
| --- | --- | --- | --- |
| **Grant Agency** | **Title** | **Years** | **Total Value** |
| NSERC-RTI | Nutrient analyzer for aquatic platform *(P.I.: Maranger)* | 2018 | $106 000(3 coPIs) |
| RMQ- Shiptime | Biogeochemistry of the fluvial St-Lawrence (*P.I.: F. Guillemette, UQTR*) | 2018 | 160000(12 coPIs) |
| NSERC-Strategic Network | Lake Pulse Net: Assessing the health of Canadian Lakes (P.I.: *Y. Huot, Sherbrooke University*) | 2017-2021 | 5M(9 co-PIs) |
| FQRNT Centre | Groupe de Recherche Interuniversitaire en Limnologie (*P.I.: B. Beisner, UQAM*)  | 2017-2022 | $3.6 M(>30 PIs) |
| NSERCDiscovery | Biological nitrogen uptake and microbial transformations in aquatic ecosystems under conditions of rapid environmental change | 2013-2020 | $ 264 0001 |
| NSERC Create | ÉcoLacs- Programmation formation en écologie lacustre et fluvial (*P.I. P. Magnan, UQTR*) | 2014-2019 | $1.35M(10 coPIs) |
| CCAR-NSERC | Ventilation, Interactions and Transports Across the Labrador Sea (VITALS) (P.I.: *P. Myers, University of Alberta*) R/V Hudson and collaboration with Bedford Institute of Oceanography (Bio) and DFO. | 2013-2017 | $142 000(10 coPIs) |
| FQRNT-ISI | Ecosystem services of wetland plants in lake St-Pierre: impact of degradation on survival of perch. (*P.I. P. Magnan, UQTR*) | 2014-2016 | $300 000(12 coPIs) |
| NSERC Shiptime | Manganese cycling in the sediments of the St-Lawrence Estuary (*P.I. A. Mucci, McGill University*) | 2014 | $150 000(4 coPI) |
| NSERC Shiptime | Microbial community structure and biogeochemical cycling in the St Lawrence Estuary aboard the R/V Coriolis (P.I.: *D. Walsh, Concordia University*) | 2012 | $120 000(4 coPIs) |
| NSERC Shiptime | Carbon and N dynamics in the St Lawrence Estuary aboard the R/V Coriolis (P.I.:*Y. Gélinas, Concordia University*) | 2011 | $100 000(4 coPIs) |
| FQRNT Centre | Groupe deRecherche Interuniversitaire en Limnologie (Internal UdeM director and one of the five main grant co-authors P.I.: *P. Magnan, UQTR*)  | 2011-2016 | $2.4 M(>30 PIs) |
| FQRNT Team | The influence of denitrification and grazer recycling on N fixation and toxicity in cyanobacteria (P.I.: *R. Maranger*) | 2009-2011 | $168 000 (2 coPIs) |
| CFI Leading Edge Fund | EQUAL: Water Quality facility University of Regina *(P.I.: Peter Leavitt)* | 2009 | 2.9 M(+9 coPIs) |
| NSERCDiscovery | N metabolism in Lakes and Rivers  | 2008-2012 | $78 800 |
| NSERC-RTI | Microbalance (P.I.: *M. Amyot*) | 2008 | $16 000(3 coPIs) |
| NSERC-IPY | Circumpolar Flaw Lead (CFL) Study, R/V Amundsen (P.I.*: Dave Barber, University of Manitoba*) | 2007-2009 | $55 0002(40+ coPIs) |
| NSERC-shiptime | Carbon and N dynamics in the St Lawrence Estuary aboard the R/V Coriolis *(*P.I.*:Y. Gélinas, Concordia University)* | 2007 | $76 000 (4 coPIs) |
| NSERC-RTI | Scintillation Counter (P.I.*: R. Maranger*)  | 2006 | $37 191(2 coPIs) |
| NSERC-RTI | HPLC *(P.I.: M. Amyot)* | 2006 | $76 000(3 coPIs) |
| NSERCDiscovery | Microbial nitrogen metabolism in rivers | 2005-2007 | $49 500 |
| CFI | New Opportunities Fund: Laboratory in aquatic microbial N metabolism | 2005 | $228 1053 |
| NSERC-RTI | Oxygen Sondes *(P.I.: A. Cattaneo)*  | 2005 | $25 000(3 coPIs) |
| UdeM  | Start-up funds | 2004- | $100 000 |
| FQRNT (QC) | Strategic Professor (contribution to salary) | 2003-2009 | $200 000 |
| FQRNT (QC) | Établissement de Nouveaux ChercheursOperating grant | 2003-2006 | $45 000  |
| FQRNT (QC) | Établissement de Nouveaux Chercheurs – Equipment grant  | 2003 | $50 000 |

1three year extension due to committee service.

2approximate amount allotted to me to fund student, research and travel for 3 years. Overall grant approximately $5M.

3includes funding from other contributors.

# Teaching Experience

*Course instructor* Sciences biologiques, Université de Montréal

BIO2091 and BIO2050: Undergraduate research projects 2 on average annually

BIO3831: Oceanography 2005- annually

BIO3721: Microbial Ecology 2006- annually

BIO3843: Limnology field course 2006, 2008-2012, 2016- annually

BIO4000: (Graduate Level) Science communication 2008

BIO6009: (Graduate Level) Independent Studies Projects; for various topics related to graduate training; 7 since 2008

BIO6009: (Graduate Level) Ecological Stoichiometry 2006

BIO6008: (Graduate Level) Microbial N Pathways 2007

*International Teaching* (Gradual Level)

2014: Graduate course instructor, Aquatic biogeochemistry – From genes to ecosystems unravelling the functional role of microorganisms in nutrient cycles. Department of Biology and Botany, University of Minas Gerais, Belo Horizonte, Brazil (November 3-5). Co-ordinated with Dr Alessandra Giani.

2014: Invited lecturer in an International graduate course on *Impact of Climate Change in Aquatic Ecosystems.* Theme: Climate warming and aquatic ecosystems: from organisms to ecosystems and from ecosystems to organisms. Department of Biology, Lund University, Sweden (September 29-October 3) Co-organized by Drs D. Conley, E. Kritzberg and C. Brönfman.

2012: Invited lecturer in an International graduate course on *Impact of Climate Change in Aquatic Ecosystems.* Theme: Impacts of climate change on the biogeochemical cycling of N and C; Department of Biology, Lund University, Sweden (February 6-10) Co-organized by Drs D. Conley, E. Kritzberg and C. Brönmark.

*Teaching Assistant* Sciences biologiques, UQAM

BIO8091: Biostatistics, Master’s level 1995

BIO6870: Freshwater Ecology Bachelor’s level 1993 - 1996

# *Course Lectures*

2017: Nitrogen cycling in freshwaters: 100 years after Haber Bosch, EcoLac graduate class

2016: Le cycle global de l’azote. B.Sc. level ecology class UdeM, BIO1803

2010-2013: Le cycle de C en Arctique. B.Sc. level ecology class UdeM, BIO1803

2008: Le cycle global de l’azote. B.Sc. level ecology class UdeM, BIO1803

1993-1996: The biotic and abiotic factors that affect the species distribution of stream invertebrates. B.Sc. level aquatic ecology course, UQAM, BIO6870

1995: The role of viruses in controlling bacterial and algal populations and in nutrient cycling in lakes. B.Sc. level aquatic management course, UQAM, BIO6701

1994: Correlation analysis, M.Sc. level biostatistics course, UQAM, BIO8091

**Graduate and Undergraduate Supervision**

*Ph.D. Students:*

2017-present: Stephanie Shousha (UdeM supervisor JF Lapierre; co-supervisor)

2015- present: Morgan Botrel (NSERC-Vanier and FQRNT scholar)

2013- present: Richard LaBrie (FQRNT scholar)

2014- 2018: Jean-Olivier Goyette (FQRNT scholar)

2011-2015: Maciek Bratosiewicz (INRS- supervisor Isabelle Laurion; co-supervisor)

2009-2014: Dan Nguyen (FQRNT scholar)

2008-2012: Damian Grundle (University of Victoria, supervisor Kim Juniper, co-advisor)

2005-2011: Laure Tall

2005-2010: Helen Baulch (NSERC scholar, Trent University, supervisor Peter Dillon; co-advisor) *\*Governor General’s award*

*M.Sc. Students:*

2017-present: Lisa Galantini

2017-present: Daphnée Lecours-Tessier (UdeM supervisor T Poisot; co-supervisor)

2017-present: Philippe Major (FQRNT scholar; supervisor: J Talbot, Geography Dept, co-supervisor)

2016-present: Charles Charrier Tremblay

2016-present: Antoine Prince (supervisor: J Franssen, Geography Dept, co-supervisor)

2011-15: Stéphanie Massé (NSERC and FQRNT scholar)

2011-14: Marie Pier Hébert

2011-14: Cynthia Soued

2012-13: Jean-Olivier Goyette (switched to Ph.D.) *\*best MSc thesis Chapitre St-Laurent*

2010-13: Marie-Ève Monchamp *\*best MSc thesis Chapitre St-Laurent*

2009-12: Morgan Botrel

2008-09: Dan Nguyen (FQRNT scholar, switched to PhD)

2006-09: Jacqueline Kowarzyk

2006-08: Gabriel Maltais-Landry (NSERC scholar) *\*selected as best Master’s thesis at the University Level; best MSc thesis Chapitre St-Laurent*

2006-08: Catherine Blanchet

*M.Sc. Student internships (guided project and over 4 months in residence):*

2018: Nikita Jost (Montpellier University)

*Graduate student opportunities:*

I actively advocate my students to be involved in local organizing committees, public outreach events but also facilitate global educational and inter-institutional research exchanges. Listed below are particularly exceptional opportunities afforded to some of my graduate students.

2018 M Botrel (PhD) did a three-month internship with Emily Bernhardt and Justin Wright at Duke University to elaborate on the development of a framework on wetland plant functional effect traits. September-November, Durham, NC.

2017 JO Goyette (PhD) did a two-month internship with Drs Josette Garnier and Gilles Billen of the CNRS at Université de Paris 5 to work on hydrogeochemical modelling of agriculturally impacted rivers. March-May, Paris, France.

2016 R LaBrie (PhD) passed one month at the University of Moncton with Luc Tremblay and one month at Florida State University in the Mag Lab of Robert Spence.

2014 JO Goyette (PhD) was one of two students selected as Université de Montréal deleguate to attend the *World Student Environmental Network Global Summit*, June 30- July 5, Stellenbosh, South Africa

2013 JO Goyette (MSc) had a two month internship in the lab of Dr Robert W. Howarth, Department of Ecology and Evolution, Cornell University to learn the NANI (Net Anthropogenic Nitrogen) Model. September-October, Ithaca NY.

2012-2013 JO Goyette (MSc) was selected to work on the multidisciplinary Great Lakes Futures Project in collaboration with several researchers from the US states bordering the great lakes and from universities in southern Ontario, September-September.

2011 D Nguyen (PhD) had a four-month internship with Dr. Carlos Pedros-Alio at the Institute Sciences del Mar where he learned various molecular techniques, February-May, Barcelona, Spain.

2011 M Botrel (MSc) had a three-month internship with Dr. Mark Altabet in the Department of Estuarine and Oceanographic sciences at the University of Massachusetts at Dartmouth, MA where she learned techniques in stable isotopic geochemistry, March- May, Amherst MA.

2011 ME Monchamp (MSc) had a three-month internship with Dr. Richard Villemur Institut Armand Frappier where she learned DNA extraction to look for NifH and microsystin genes, January-March, Laval QC.

2010 ME Monchamp (MSc) had a three-month internship with Dr. Frances Pick Ottawa University where she learned techniques in microcystin toxin extraction and HPLC characterization of different congener types, October-December, Ottawa ON.

2010 D Nguyen (PhD) was one of 16 international students selected to participate in the Betty and Gordon Moore foundation funded course on “Microbial Oceanography: genomes to biomes” at C-MORE (Center for Microbial Oceanography: research and education) from May 31-July 10, Honolulu, HI.

2008 L Tall (PhD) worked collaboratively with Dr. Nina Caraco at the Cary Institute of Ecosystem Studies (IES) and spent the equivalency of two months at the IES over the year. Millbrook, NY.

2006 G Maltais-Landry (MSc) trained in the laboratories of Drs Peter Groffman and Jon Cole at the Cary Institute of Ecosystem Studies (IES) on Gas Chromatography and interpretation of greenhouse gas emissions from aquatic systems. Millbrook, NY.

*B.Sc. Students (BIO2091 Undergraduate research projects):*

2017: Pauline Mouche, Oriane Besset

2015-2016: Audréanne Loiselle (honor’s)

2013: Marion Gabelli, Philippe Galipeau St-Pierre, Amélie Rossi

2011: Marie-Pier Hébert, Cynthia Soued, Delphine Latini

2010: Jean-Olivier Goyette, Emilie Vessière

2009: Camille Poirier, Audrey Campeau

2008: Nicolas Ducasse

2006-2007: Dan Nuyen (honor’s),

2006: Dan Nuyen (honor’s), Geneviève Dion-Morin, Jacqueline Kowarzyk

2005: Julie Duhamel, Catherine Blanchet, Natassia Della Vecchia

*Stage de milieu de travail (BIO2020 Undergraduate research training):*

2017: Lisa Galantini

2016: Sophie Bédard, student from Université de Sherbrooke, spent 4 months in my lab for a Major exchange

2014: Antoine Carouée

2011: Jean-Olivier Goyette

2010: Supriya Tandan

2007: Alexandre Beaudoin, student from Université de Sherbrooke, spent 4 months in my lab for a Major exchange

*Undergraduate Research Scholars (NSERC):* Rebecca Chevrier (2014), Richard LaBrie (2013), Stéphanie Massé (2010), Morgan Botrel (2007), Véronique Ducharme Riel (2007), Gabriel Maltais-Landry (2005)

*Summer research assistants:* Lisa Galantini (2017), Philippe Maisonneuve (2017), Stephanie Shousha (2016), Charles Charrier Tremblay (2016), Audréanne Loiselle (2015), Aurélie Filion (2014), Philippe Galipeau St-Pierre (2013), Sara Dupont (CÉGEP student, 2012), Jean-Olivier Goyette (2011, 2010), Jacqueline Kowarzyk (2006), Genevieve Dion-Morin (2006), Dan Nguyen (2006), Catherine Blanchet (2005),Melissa Laniel (2005)

*Graduate advisory committee member (students not from UdeM otherwise noted):* Francis Letendre (Ph.D. 2018), Naíla Barbosa da Costa (Ph.D. 2017), Eva Delmas (Ph.D. 2016), Yann Lalièvre (Ph.D. 2015), Christelle Leung (Ph.D. 2014), Iffis Bachir (Hijri, Ph.D. 2013), Alice Roy-Bolduc (Hijri, Ph.D. 2013-2016), David Levêsque (Cattaneo, Ph.D. 2010-2015), Steve Dagenais (Morse, Ph.D. 2010-), Javier Luque (Cameron, M. Sc. 2010-2012), Christelle Leung (Angers, M.Sc. 2010-2012), David Levêsque (Cattaneo, MSc 2009-2010), Ariane Bouffard (Amyot, M.Sc. 2006-2008), Frédérique Cyr (Angers, M.Sc. 2005-2007), Jean-François Lapierre (delGiorgio Ph.D. UQAM 2008-2013), Edith Cusson (Pinel-Alloul, 2007-2011), Vincent Gagnon (Brisson, MSc 2005-2007, Ph.D 2008-2012), Virginie Roy (Amyot, 2006-2008), Marie Eve Talbot (Boisclair, PhD. 2006-ABA), Julie Lecomte (Hijri, M.Sc. 2007-2011), Véronique Ducharme Riel (Paul delGiorgio, M.Sc. UQAM 2008-2010) Julie Corriveau (Eric VanBochove, INRS été, 2006-2010), Julie Auclair (Richard Villemur, IAF-INRS 2008-2011).

*Thesis and Qualifying Exam Committees* (excluding students I direct andc co-direct)

Yann Lelièvre 2018. Ph.D. thesis defense, Dépt des sciences biologiques, UdeM (Legendre)

Eva Delmas 2017. Ph.D. qualifying exam, Dépt des science biologiques, UdeM (Poisot)

Saeed Harati 2017. Ph.D. qualifying exam, Dépt de géographie, UdeM (Perez)

Olivier Levasseur 2016. Ph.D. thesis defense, Dean’s representative, Dépt de physiques, UdeM (Stafford)

Steve Dagenais-Bellefeuille 2016. Ph.D. thesis defense, Dépt des sciences biologiques, UdeM (Morse)

Ariane Denis-Blanchard 2015. M.Sc. thesis, Dépt des sciences biologiques, UdeM (Carignan)

Maciek Bratosiewicz 2015. Ph.D. thesis defense, INRS été, Québec (Laurion)

David Levêsque 2015. Ph.D. thesis defense, Dépt des sciences biologiques, UdeM (Cattaneo)

Sophie Chavret 2013. Ph.D. thesis defense, Laval University (Lovejoy)

François Guillemette 2012. Ph.D. thesis defense, Dépt des sciences des sciences biologiques, UQAM (del Giorgio)

Tania Perron 2012 : Ph.D. qualifying exam, Dépt des science biologiques, UdeM (Amyot)

Julie Corriveau 2010. Ph.D. thesis defense, INRS été, Québec (Van Bochove)

Julie Auclair 2009. Ph.D. qualifying exam, Institut Armand Frappier (IAF) (Villemur)

Mark McCarthy 2009 Ph.D. qualifying exam, Dépt des sciences des sciences biologiques, UQAM (Bird)

Benoît Cloutier-Hurteau 2008, Ph.D. thesis, représentante de la FES, UdeM Dépt de Géographie (Courchesne)

Mohammad Alkhatib 2008, Ph.D. qualifying exam, Dépt des sciences des sciences biologiques, UQAM (delGiorgio-Lehmann)

Marie Eve Garneau 2008, Ph.D. thesis defense, Laval University (Vincent)

Kathleen McMeekin 2008, M.Sc. thesis Sc. Env., UQAM (Beisner-Planas)

Delphine Marchand 2007, M.Sc. thesis, Dépt des sciences biologiques, UQAM (delGiorgio)

Annie Bourbonnais 2007, M.Sc thesis, Dépt des sciences de la terre, UQAM-GEOTOP (Lehmann)

Laëtitia Lioussanne 2007, Ph.D. thesis defense, Dépt des sciences biologiques, UdeM (St-Arnaud)

Le Duing Lang 2007, M.Sc. thesis, Dépt des sciences biologiques, UdeM (Lapointe)

Vincent Gagnon 2007, M.Sc. thesis, Dépt des sciences biologiques, UdeM (Brisson)

Norman Labbé 2007, Ph.D. thesis defense, Institut Armand Frappier (IAF) (Villemur)

Julie Corriveau 2006, Ph.D. qualifying exam, INRS été, Québec (Van Bochove)

Maria Lorena Longhi 2005, Ph.D. qualifying examen, Dépt des sciences biologiques, UQAM (Beisner)

*Postdoc collaborators*

Nicolas St-Gelais Fortin 2017-present: Postdoc collaborator working on stakeholder engaged programming and data synthesis to protect water quality by developing a lake vulnerability index. Part of Lake Pulse.

Bérangère Péquin 2016-2017: Postdoc collaborator working on microbial community dynamics and the use of Metagenomic approaches in different water masses of Labrador Sea. Part of VITALS.

Dan Nguyen 2014-2015: Postdoc collaborator working on C cycling in Lac St-Pierre. Currently undergraduate program officer, currently responsible for the undergraduate biology program in the Département des sciences biologiques, Université de Montréal.

Davi Gasperini 2012-2013: Postdoc colloborator working on N acquisition by different phytoplankton species in Brazilian Reservoirs. Currently a Professor at University of Sao Paolo, Sao Paulo, Brasil.

Aurélia Mouret 2011-2012: Postdoc collaborator with Denis Archambault and Gwenaëlle Chailloux of UQTR working on impacts of organism on N removal in sediments. Currently a Maître de Conférence in Angers, France.

**Public presentations, outreach and features in popular press**

2017 : Bioblitz- événement d’inventaire de la biodiversité des Laurentides. May-June, 2017, St-Hippolyte, Québec

2017: “ReseauLab Laurentides: une approche intégrée pour la gestion durable des Laurentides”. Ecocorridor- Laurentien, Assemblée Générale, May 28, 2017, ST-Hippolyte, Québec

2015: “Nitrogen in aquatic systems 100 years after Haber-Bosch: a Québec perspective”. Association des femmes de Lorraine, May 12, 2015, Lorraine, Québec

2014: Goyette J-O, Maranger R, Bennett E. Apports d’azote et de phosphore dans le bassin versant du Saint-Laurent depuis 100 ans : un outil d’aide à la décision pour une meilleure gestion environnementale. Poster presented at the Forum des Lacs du Québec, 11-13 June, Mont Tremblant.

2014: Future Earth; presentation at the Research Day in Environment and Sustainable Development de Campus Montréal (UdeM-Poly-HEC) (June 11)

2014: “Des biologistes traquent les bactéries qui tuent au Brésil”, Journal FORUM (May)

2013: Special Guest on “Finding Stuff Out” an educational TV program produced for TVO (TV Ontario) kids; I discussed issues related to water colour and water quality including access to safe drinking in developing countries (October)

2013: TV Ontario Radio Canada: Great Lakes Futures Project (January)

2013: Radio Canada: Great Lakes Futures Project (January)

## 2012: “L'Arctique absorbe moins de CO2 qu'on croyait”, Journal FORUM (January)

2011: “Arctique et les changements climatiques”, grade school presentation, École Katimavik, Montréal (June)

2009: “Eau source de vie”, grade school presentation, École Katimavik, Montréal (Avril)

## 2009: “L'aération des marais filtrants réduit de 90 % les GES” Journal FORUM (February)

2008: Interviewed on CBC Radio Daybreak, in reference to the use of floating islands to counter blue green algae (June)

2008: “Être océanographe en Arctique”, grade school presentation, École Katimavik, Montréal (June)

2008: Maltais-Landry G., Maranger R. Brisson J. **Des marais artificiels pour épurer les eaux usées.** Poster presented at the Forum des Lacs du Québec, 4-5 June, Ste. Adèle, QC.

2008: Tall L, Maranger R. L'azote: un élément clé dans l'eutrophisation des lacs. Poster presented at the Forum des Lacs du Québec, 4-5 June, Ste. Adèle, QC.

2008: Provided action plan for Armstrong Lake Cottage association (Sudbury, ON) to manage Eurasian Milfoil (May)

2008: CBC Radio One interview featured on Quirks and Quarks “Nitrogen dead Zones” based on Maranger et al. 2008 Nature Geoscience (February) <http://www.cbc.ca/quirks/archives/07-08/feb16.html>

2008: several citations and interviews in the popular press for Maranger et al. 2008 Nature Geoscience including Radio Canada Québec, Québec-Nord, CHNC Gaspésie, European Union Commission journal Science for Environmental Policy, La Presse, Le Soleil (Feb). Press release translated in multipe languages and posted on the www.

2008: “Désert de Glace: Voyage à bord du brise glace scientifique Amundsen dans la mer de Beaufort” IRBV, Montréal QC, January *\*presented by my graduate student G. Maltais-Landry*

2007-2008: As part of the CFL, my students (Nguyen and Maltais-Landry) and I have contributed to public outreach in the Arctic through community visits, schools on board and have contributed to dispatches describing the science and life on board, on the popular website [www.ipy-cfl.ca](http://www.ipy-cfl.ca).

2001: “Adding Iron to an Anemic Ocean: a Solution to Global Warming?” Institute of Ecosystem Studies, Millbrook NY, USA, April.

2000: Québec Science. (Jan): article on Maranger et al. 1998, Nature as top 10 Scientific discoveries in Quebec

## 1998: several citations in popular press for Maranger et al. 1998 Nature including New York Times, National Post, Info Science, December.

**Delays in Research**

*Extensive service:* I was seconded from my university for almost a year and a half to set-up the Future Earth Global secretariat (from Nov 2013-June 2015). From July 2014 until June, this was anywhere from 70 to 100%-time commitment. I continued most other responsibilities at my institution, but it did slow research.

*Laboratory and equipment delays:* Field based research program only began in June 2005. Laboratory facilities were only available to me in April 2005, and major lab equipment was only received in June 2006. Certain instruments were not operational until December 2006.

*Maternity leave:* I was scientifically inactive (not remunerated or affiliated with a lab) from Feb 2002 after the birth first child until Sept 2003. I assumed my current position at UdeM in Sept 2003 and gave birth to my twins in October 2003. I took a maternity leave until September 2004, when I resumed my current position full-time.

**Publications** graduate students or postdoc in my lab underlined; \*denotes student or postdoc collaborator

*Refereed journal articles (A: accepted, S: submitted in review)*

1. LaBrie R, Lapierre JF, **Maranger R.** Contrasting patterns of labile and semi-labile dissolved organic carbon from continental waters to the open ocean. (*S*: November 2018)
2. Massé S, Botrel M, Walsh D, **Maranger R.** Dynamics of ammonia-oxidizing prokaryotes in a seasonally ice-covered oligotrophic lake. (*S*: October 2018)
3. Bartosiewicz M, Przytulska A\*, Lapierre JF, Laurion I, Lehmann MF, **Maranger R.** Synergistic climate warming and shielding effects increases carbon burial in lakes. (*S:* November 2018)
4. Goyette JO, Bennett E, **Maranger R.** 2018. The influence of landscape features, dams, lakes, and climate on uncoupling nitrogen and phosphorus transport within watersheds. *Biogeochemistry* (*A: pending revisions*)
5. Goyette JO, Bennett E, **Maranger R.** Low phosphorus buffering capacity and long legacies in watersheds threaten water quality. *Nature Geoscience* https://doi.org/10.1038/s41561-018-0238-x
6. Elchyshyn L\*, Goyette JO, Saulnier-Talbot E, **Maranger R**, Nozais C, Solomon CT, Gregory-Eaves I. 2018. Quantifying the effects of hydrological changes on long-term water quality trends in temperate reservoirs: insights from a multi-scale, paleolimnological study. *Journal of Paleolimnology* doi.org/10.1007/s10933-018-0027-y
7. Kusmer AS\*, Goyette JO, MacDonald GK, E.M. Bennett EM, **Maranger R**, and PJA Withers. 2018. Watershed buffering of legacy phosphorus pressure at a regional scale: A comparison across space and time. *Ecosystems* doi.org/10.1007/s10021-018-0255-z
8. Lavoie R\*, Bouffard A\*, **Maranger R**, Amyot M. 2018. Global marine fisheries alter mercury cycling and human exposure. *Science Reports* *8: 6705* DOI:10.1038/s41598-018-24938-3
9. **Maranger R**, Jones SE, Cotner JB. 2018. Stoichiometry of carbon, nitrogen and phosphorus through the freshwater pipe. *Limnology and Oceanography Letters* DOI: 10.1002/lol2.10080
10. **Maranger R**., Cherrier J. 2018. Water Connects! ASLO Summer meeting 2018: The Logo and Theme. Limnology and Oceanography Bulletin 27: 25-26.
11. Cunha DGF, de Melo Lima VF; Néri AM, Maraféo GA, Miwa ACP, Calijuri MC, Bendassoli JA, Tromboni F, **Maranger R.** 2017. Ammonium and nitrate uptake by phytoplankton in tropical reservoirs. *International Journal of Hydrobiology* DOI: 10.1002/iroh.201701900.
12. Botrel M, Altabet M, Bristowe L\*, Gregory-Eaves I, **Maranger R.** 2017. Assimilation and nitrification in pelagic waters: insights using dual nitrate stable isotopes (δ15N, δ18O) in a shallow lake.  *Biogeochemistry* 135: 221-237.
13. Potvin C et al. (60 co-authors including **Maranger**) 2017. Stimulating a Canadian narrative for climate. FACETS 2: 131-149. doi:10.1139/facets-2016-0029.
14. Hébert MP, Beisner BE, **Maranger R.** 2017.Linking zooplankton to ecosystem function: toward an effect-trait classification framework. *Journal of Plankton Research Horizons* DOI: 10.1093/plankt/fbw068 *awarded David Cushing prize*
15. Goyette JO, Bennett E, Howarth, RW, **Maranger R.** 2016 Changes in anthropogenic nitrogen and phosphorus inputs in the St. Lawrence sub-basin over 110 years: impacts on riverine export. *Global Biogeochemical Cycles* 10.1002/2016GB005384 (ND, GRIL)
16. Glaz P\*, BartosiewiczM, **MarangerR**, Reichwaldt ES, Ghadouand A, Laurion I. 2016. Greenhouse gas emissions from waste stabilization ponds in Western Australia. *Water Research* DOI: 10.1016/j.watres.2016.05.060 (ND, GRIL)
17. Bartosiewicz M, Laurion I, **Maranger R.** 2016. Heat wave effects on oxygen, nutrients and global warming potential of a small lake. *Environ Sci Tech* 50: 6267-6275 (ND, GRIL).
18. Weathers KC, Groffman PM, Van Dolah E, Bernhardt E, Grimm N, McMahon K, Schimel J, Paolisso M, **Maranger R,** Baer S, Brauman K, Hinckley E. 2016. Frontiers in Ecosystem Ecology from a Community Perspective: The Future is Boundless and Bright. *Ecosystems* 19: 753-770.
19. Hébert MP, Beisner BE, **Maranger R.** 2016.A compilation of quantitative functional traits for marine and freshwater crustacean zooplankton. *Ecology* 97: 1081, DOI: 10.1890/15-1275.1 (FQRNT Team, GRIL).
20. Hébert MP, Beisner BE, **Maranger R.** 2016. A meta-analysis of zooplankton functional traits influencing ecosystem function. *Ecology* 97: 1069-1080, online doi: 10.1890/15-1084.1 (FQRNT Team, GRIL).
21. Soued C, del Giorgio PA, **Maranger R.** 2016 Patterns in N2O fluxes across boreal aquatic networks challenge global emission models. *Nature Geosciences* 9: 116-120 (ND, GRIL).
22. **Maranger R,** Vaqué D, Nguyen D**,** Hébert MP, Lara E\*. 2015. Pan-Arctic patterns of planktonic microbial abundance and processes: controlling factors and potential impacts of warming. *Progress in Oceanography* 139: 221-232 (ND).
23. Colatriano D\*, RamachandranA, YergeauE, **MarangerR**, GélinasY, Walsh DA. 2015. Metaproteomics of aquatic microbial communities in a deep and stratified estuary. Proteomics DOI: 10.1002/pmic.201500079 (ND).
24. Nguyen D, **Maranger R**, Balagué V, Coll M\*, Lovejoy C, Pedrós-Alió C. 2015. Winter diversity and expression of proteorhodopsin genes in a polar ocean*. ISME Journal* **9,** 1835–1845; doi:10.1038/ismej.2015.1 (NSERC-IPY, ND)
25. Botrel M, Gregory-Eaves I, **Maranger R.** 2014. Empirical analysis of factors regulating nitrogen stable isotopes variation (δ15N) of surface sediments from temperate lakes. *Journal of Paleolimnology* doi.10.1007/s10933-014-9802-6 (ND, FQRNT Team, GRIL)
26. Glibert PM, **Maranger R,** Sabota DJ, Boumann L. 2014. The Haber Bosch – Harmful Algal Bloom (HB-HAB) link. *Environmental Research Letters* **9** 105001 doi:10.1088/1748-9326/9/10/105001.
27. Monchamp ME, Pick FR, Beisner BE, **Maranger R.** 2014. Variation in microcystin concentration and composition in relation to cyanobacterial community structure. *PLoSOne* 9 (1) e85573 DOI: 10.1371/journal.pone 0085573. (FQRNT Team, GRIL)
28. Crowe SA\*, Canfield DE, Mucci A, Sundby B, and **Maranger R.** 2012. Anammox, denitrification and fixed-nitrogen removal in sediments from the Lower St. Lawrence Estuary. *Biogeosciences* 9: 1-13 (NSERC-Disc=ND, Start Up=SU)
29. Grundle D\*, **Maranger R**, Juniper SK. 2012. Upper water column nitrous oxide distributions in the NE subarctic Pacific, *Atmosphere-Ocean* DOI 0.1080/07055900.2012.727779. (ND)
30. Nguyen D, **Maranger R**, Gosselin M, Tremblay JE. 2012. Respiration and bacterial carbon dynamics in the Amundsen Gulf, Western Arctic. *Journal of Geophysical Research Ocean-Atmosphere*, 117, C00G16, doi:10.1029/ 2011JC007343. (NSERC IPY, ND)
31. Baulch HM\*, Schiff S, **Maranger R**, PJ. Dillon, Karlsson J. 2012.  Testing models of aquatic N2O flux for inland waters, *Canadian Journal of Fisheries and Aquatic Sciences* 69: 145-160 (ND; SU)
32. Baulch HM\*, Dillon PJ, **Maranger R,** Venkiteswaran JJ\*, Wilson H\*, SL Schiff. 2012. Night and day: Short-term variation in nitrogen chemistry and N2O emissions and implications of daytime sampling. *Freshwater Biology* 57: 509-525 (ND, SU)
33. Blanchet C, Maltais-Landry G, **Maranger R**. 2012. The role of aquatic plants as an indicator of N dynamics in lakes, *Water Science and Technology* 65: 1151-1157 (ND, SU)
34. Baulch HM\*, Dillon PJ, **Maranger R**, Schiff S. 2011. Diffusive and ebullitive fluxes of greenhouse gases from low order streams: are bubble-mediated fluxes important? Journal of Geophysical Research- Biogeosciences Volume: 116, DOI: 10.1029/2011JG001656
35. Baulch HM\*, Dillon PJ, Schiff S, **Maranger R.** 2011.Nitrous oxide emissions from streams. *Global Biogeochemical Cycles* Volume: 25, DOI: 10.1029/2011GB004047
36. Forest A\*, Tremblay JE, Gratton Y, Martin J, Gagnon J, Darnis G, Sampei M, Fortier L, Ardyna M, Gosselin M, Hattori H, Nguyen D, Maranger RJ, Vaqué D, Marrasé C, Pedrós-Alió C, Sallon A, Michel C, Kellogg C, Deming J, Shadwick E, Thomas H, Link H, Archambault P, Piepenburg D 2011. Biogenic carbon flows through the planktonic food web of the Amundsen Gulf (Arctic Ocean): A synthesis of field measurements and inverse modeling analyses. *Progress in Oceanography*, 91:410-436
37. Tall L, **Maranger R,** Caraco N2011.Denitrification hot spots: dominant role of invasive macrophyte Trapa natans in removing nitrogen from a tidal river. *Ecological Applications* 21: 3104-3114.
38. Nguyen D, **Maranger R** 2011. Respiration and bacterial carbon dynamics in Arctic sea ice. *Polar Biology*, 34 :1843-1855.
39. Thibodeau B\*, Lehmann M, Kowarzyk J, Mucci A, Gélinas Y, Gilbert D, **Maranger R,** Alkahati M\*. 2010. Benthic nutrient fluxes along the Laurentian Channel: Impacts on the N budget of the St. Lawrence marine system. *Estuarine, Coastal and Shelf Science 20: 195-205.*
40. Baulch H\*, Venkiteswaran J\*, Dillon P, **Maranger R.** 2010.Revisiting the application of open channel estimates of denitrification. *Limnology and Oceanography Methods 8: 202-215*
41. Blanchet FG\*, Legendre P, **Maranger R,** Monti D, Pepin P. 2010. Modeling the effect of directional spatial ecological processes at different scales. *Oikos*, DOI: 10.1007/s00442-010-1867-y.
42. Lehmann MF, Bender ML, Barnett B, Gélinas Y, **Maranger R**, Mucci A, Gilbert G. 2009. Aerobic respiration and hypoxia in the lower St. Lawrence Estuary: Constraints from stable isotope ratios of dissolved oxygen in the water column. *Limnology and Oceanography* 54: 2157-2169.
43. Harrison JH, **Maranger R,** Alexander R, Giblin A, Jacinthe PA, Mayorga E\*, Seitzinger S, Sobota D\*, Wollheim W. 2009. The Regional and Global Significance of Nitrogen Removal in Lakes and Reservoirs. *Biogeochemistry*. 10.1007/s10533-008-9272-x.
44. Maltais-Landry G, **Maranger R,**Brisson J, Chazarenc F\*. 2009. Greenhouse gas production and global efficiency of planted and artificially aerated constructed wetlands. *Environmental Pollution* 157: 748-754.
45. Maltais-Landry G, **Maranger R,**Brisson J, Chazarenc F\*. 2009. Seasonal variations of nitrogen transformation and retention in planted and artificially aerated constructed wetlands. *Water Research* 43: 535-545.
46. Maltais-Landry G, **Maranger R,** Brisson J. 2009. Effect of macrophytes and artificial aeration on nitrogen cycling and the flux of greenhouse gas from constructed wetlands *Ecological Engineering* 35: 221-229.
47. **Maranger R**, Caraco N, Duhamel J, Amyot M. 2008. Nitrogen transfer from sea to land via commercial fisheries. *Nature Geoscience* 2: 111-113.
48. **Maranger R,** Canham CD, Pace ML, Papaik MJ\*. 2006. Variable loading of Fe to lakes from different cover types in the watershed. *Limnology and Oceanography* 51: 247-256.

# Maranger R, Pace ML, del Giorgio PA, Caraco NF, Cole JJ. 2005. Longitudinal Spatial Patterns of Bacterial Production and Respiration in a Large River-Estuary: Implications for Ecosystem Carbon Consumption. *Ecosystems* 8: 318-330*.*

1. Canham CD, Pace ML, Papaik MJ\*, Primack AGB, Roy KM, **Maranger R,** Curran RP, Spada DM. 2004.A spatially-explicit watershed model for regional scale analysis of dissolved organic carbon in lakes. *Ecological Applications* 14(3): 839-854*.*
2. **Maranger R**, del Giorgio PA, Bird DF. 2002. Accumulation of viruses and damaged bacteria in lake water exposed to solar radiation. *Aquatic Microbial Ecology* 28: 213-227.
3. **Maranger R**, Bird DF, Price NM. 1998. Iron acquisition by photosynthetic marine phytoplankton from ingested bacteria. *Nature* 396: 248-251.
4. **Maranger R,** Bird DF. 1996. High concentrations of viruses in the sediments of Lac Gilbert, Québec. *Microbial Ecology* 31: 141-151.
5. **Maranger R,** Bird DF. (1995) Viral abundance in aquatic systems: a comparison between marine and freshwaters. *Marine Ecology Progress Series* 121: 217-226.
6. **Maranger R,** Bird DF, Juniper SK. (1994) Viral and bacterial dynamics in Arctic sea ice during the spring algal bloom near Resolute NWT, Canada. *Marine Ecology Progress Series* 111: 121-127.
7. **Maranger R,** Bird DF, Karl DM. (1994) Spatial distribution of viruses in the LTER-Palmer region. *Antarctic Journal of the United States* 29: 209-211. (not refereed)
8. Bird DF, **Maranger R,** Karl DM. (1993) Aquatic virus abundance near the Antarctic Peninsula. *Antarctic Journal of the United States* 28: 234-235. (not refereed)

*Book Chapters (peer-reviewed)*

1. Glibert PM, **MarangerR,** SobotaDJ, Bouwman L.Further evidence of the Haber Bosch – Harmful Algal Bloom (HB-HAB) link and the risk of suggesting HAB control through phosphorus reductions only *in* Just Enough Nitrogen. Perspectives on how to get there for regions with too much and too little nitrogen.  Sutton MA, Mason KE, Bleeker A, Hicks WK, Masson C, Raghuram N, Reis S, Bekunda M. (Eds.) Springer. (issue in preparation).
2. Duarte CM, Amthor J, DeAngelis D, Joyce LA, **Maranger R,** Pace ML, Pastor J, Running S. 2003. The limits to models in ecology in *The Role of Models in Ecosystem Science*, Cary Conference IX, Canham CD, Cole JJ, Lauenroth W. (eds). Princeton University Press, 437-451.
3. **Maranger R,** Pullin MJ. 2003. Elemental complexation by dissolved organic matter in lakes: implications for Fe speciation and the bioavailability of Fe and P. in *Aquatic Ecosystems: Interactivity of Dissolved Organic Matter*, Findlay SEG, Sinsabaugh RL. (eds) Academic Press. San Diego, pp 185-214.

**Currently in preparation with working drafts**

1. **Maranger R,** Day JW, Kuenzer C, Smith TF, Syvitski J. et al. Avoiding collapse of the coastal zone: A blue print for a sustainable future.
2. Fortin St Gelais N, Lapierre JF, Siron R, **Maranger R.** A novel approach to quantify the multiple dimensions of water quality and aquatic ecosystem services.
3. Goyette JO, Billen G, Garnier J, Bennett E, **Maranger R.** Changes in the nutrient-use efficiency in the agro-food system of the St. Lawrence Basin over the last century.
4. Péquin B, Fortin St-Gelais N, LaBrie R, **Maranger R.** Bloom timing explains succession of protistan functional community structure.

**Abstracts and Presentations (since 2008)**

*International meetings*

Botrel M, Hudon C, Biron P, **Maranger R.** Influence of climate variability on nitrate retention in a riverine submerged aquatic vegetation bed. Water Connects! Association for Sciences Limnology and Oceanography (ASLO), Victoria BC, June 10-15, 2018.

Fortin St Gelais N, Goyette JO, Siron R, Lapierre JF, **Maranger R.** A novel approach to quantify the multiple dimensions of water quality and aquatic ecosystem services. Water Connects! ASLO, Victoria BC, June 10-15, 2018.

Goyette JO, Bennett E, **Maranger R.** The influence of landscape features, dams, lakes, and climate on uncoupling nitrogen and phosphorus transport throughout the watershed. Water Connects! Association for Sciences Limnology and Oceanography (ASLO), Victoria BC, June 10-15, 2018.

LaBrie R, Lapierre JF, **Maranger R.** Contrasting patterns of labile and semi-labile dissolved. Water Connects! ASLO, Victoria BC, June 10-15, 2018.

**Maranger R**, Jones SE, Cotner JB. Stoichiometry of carbon, nitrogen and phosphorus through the freshwater pipe. Water Connects! ASLO, Victoria BC, June 10-15, 2018.

Péquin B, Fortin St-Gelais N, LaBrie R, **Maranger R.** Bloom timing explains succession of protistan functional community structure. World Conference on Marine Biodiversity. Montreal, QC, Canada, May 13-16, 2018.

Goyette JO, Bennett E, **Maranger R.** Rapid onset of legacy P accumulation in watersheds- long road to recovery.Programme in Ecosystem Change and Society II (PECS II), Oaxaca Mexico, November 7-10, 2017.

**Maranger R**. Making ecosystem science matter: stakeholder-engaged research through co-design and integrated social-ecological synthesis. PECS II, Oaxaca Mexico, November 7-10, 2017.

**Maranger R,** Goyette JO, Bennett E. Rapid onset of legacy P accumulation in watersheds- long road to recovery.Association for Sciences Limnology and Oceanography ASLO meeting, Honolulu HI, February 28- March 3 2017.

**Maranger R.** Damming the coasts: the ecoservice tradeoffs between reservoirs and deltas. ASLO meeting, Santa Fe NM, June 5-10 2016.

Goyette JO, Howarth RW, Bennett E, **Maranger R.** Climate patterns and legacies of anthropogenic inputs as drivers of Nitrogen and Phosphorus riverine exports. Catchment Science: Interactions of Hydrology, Biology & Geochemistry, Gordon Research Conference, Proctor Academy, Andover, NH, June 14-19 2015.

Goyette JO, Howarth RW, Bennett E, **Maranger R.** Changes in anthropogenic nitrogen and phosphorus inputs to the St-Lawrence basin over the last 100 years: impact on riverine export, American Geophysical Union, Joint Assembly Meeting, Montreal, QC, May 3-7, 2015.

Nguyen D, **Maranger R.** N influence on the bacterial C cycling of a large fluvial lake American Geophysical Union, Joint Assembly Meeting, Montreal, QC, May 3-7, 2015.

**Maranger R,** Soued C, del Giorgio PA. Patterns in N2O, CH4 and CO2 Flux: Are N and C gases coupled or not? Aquatic Sciences Meeting, ASLO, Granada, Spain, February 22-27, 2015.

Glibert PM, **Maranger R,** Sabota DJ, Boumann L. The Haber Bosch – Harmful Algal Bloom (HB-HAB) link. Aquatic Sciences Meeting, ASLO, Granada, Spain, February 22-27, 2015.

Goyette JO, Howarth RW, Bennett E, **Maranger R.** Change in anthropogenic Nitrogen inputs to the St-Lawrence Basin over the last 100 years. JASM, Portland, OR May 18-23, 2014.

Hébert MP, Beisner BE, **Maranger R.** Crustacean zooplankton functional traits; linking organisms to ecosystems. Joint Aquatic Sciences Meeting (JASM), Portland, OR May 18-23, 2014.

**Maranger R,** Massé S, Soued C, Botrel M, Walsh D, Galipeau P. Ammonium oxidation in small stratified lakes: when, where, who and what? JASM, Portland, OR May 18-23, 2014.

Soued C, del Giorgio PA, **Maranger R.** Cross-regional patterns of nitrous oxide fluxes from boreal freshwater networks. JASM, Portland, OR May 18-23, 2014.

**Maranger R,** Monchamp ME, Pick F, Beisner BE. Nitrogen forms influence microcystin concentration and composition via changes in cyanobacterial community composition. International Nitrogen Initiative Conference, Kampala, Uganda, November 18-22, 2013.

**Maranger R,** Soued C, Massé S, Galipeau P, del Giorgio PA, Walsh. Nitrous oxide emissions from lakes: the mysterious role of winter. Aquatic Microbial Ecology SAME13, Stresa, Italy, September 8-12, 2013.

Botrel M, Altabet MA, Gregory-Eaves I, **Maranger R**. Nitrification in shallow lakes using the dual stable isotopic composition of nitrate (δ15N, δ18O) Aquatic Science Meeting, Association for Sciences Limnology and Oceanography ASM- ASLO, New Orleans, LA, February 18-22, 2013.

**Maranger R**, Hébert MP, Beisner B, Guénard G\*. Crustacean zooplankton functional traits affect nutrient recycling in aquatic ecosystems. ASLO, New Orleans, LA, USA, 17-22, 2013.

Massé S**,** Walsh D, **Maranger R**. Seasonal changes of nitrification rates and ammonia oxidizing microbial communities in an oligotrophic lake. ASM- ASLO, New Orleans, LA, February 18-22, 2013.

Nguyen D, **Maranger R**, Balagué V, Coll M\*, Fernández-Gómez B\*, Lovejoy C, Pedrós-Alió C. Seasonal patterns in proteorhodopsin gene dynamics in the Arctic Ocean. ASM- ASLO, New Orleans, LA, February 18-22, 2013.

Soued C, del Giorgio PA, **Maranger R**. Nitrous Oxide (N2O) concentrations and fluxes across boreal rivers, lakes and wetlands. ASM- ASLO, New Orleans, LA, February 18-22, 2013.

Cornwell ER, Goyette JO**,** Sorichetti RJ. Biological and Chemical Contaminants in the Great Lakes-St. Lawrence River Basin. Great Lakes Futures workshop, University of Michigan, Ann Arbor MI, January 8-9,2013.

Vaqué D, **Maranger R**, Hébert MP, Nguyen D**,** Lara E\*, Duarte CM. Searching for the main factors in controlling microbial carbon fluxes in the Arctic Ocean. Pan Arctic Workshop, Motovun Croatia, October 18-22, 2012.

Grundle D\*, **Maranger R**, Juniper SK, Bronk D, Altabet MA. Upper water column nitrous oxide in the Subarctic Pacific: Present distributions and future scenarios. ASLO, Otsu, Japan, July 8-10, 2012.

**Maranger R,** Monchamp ME, Botrel M, Pick FR, Beisner BE, Villemur R. Cyanobacterial toxicity and N-fixation: Do they co-occur under high P and low DIN conditions? ASLO, Otsu, Japan, July 8-10, 2012.

**Maranger R,** Altabet M, Gilbert D, Mucci A Bristowe L\*, Sundby B. Oxygen and di-nitrogen (N2) dynamics in the hypoxic zone of the St-Lawrence Estuary Goldschmidt Conference, Montreal QC, Canada June 22-26, 2012.

Monchamp ME**,** Pick FR, Beisner BE, **Maranger R.** Microcystin composition is related to cyanobacterial species composition. Phycological Society of America (PSA), Charleston, SC, USA, June 19-23, 2012.

Pick FR, Zastepa A, Monchamp ME**,** Kingston, **Maranger R**, Blais JM, Wiedner C. Variations in the microcystin congener composition among temperate lakes. SETAC, Berlin, Germany May 20-24 2012.

**Maranger R,** Altabet M, Gilbert D, Mucci A Bristowe L\*, Sundby B. Oxygen and di-nitrogen (N2) dynamics in the hypoxic zone of the St-Lawrence Estuary, Ocean Science Meeting, Salt Lake City Utah, February 20-24 2012.

### Tall L. **Maranger R.** Net N2 fluxes in cyanobacterial mats: rates and controls in a large river ecosystem, North American Benthic Society meeting (NABS), Providence RI, May 22-26, 2011.

**Maranger R.** Biogeochemical Complexity in Sea Ice (and Seawater). Polar Marine Gordon Conference, Ventura CA, March 20-25, 2011 (invited).

Blanchet C., Maltais-Landry G. **Maranger R**. Variability in nitrogen content of submerged aquatic vegetation: utility as an indicator of N dynamics within and among lakes (Diffuse Pollution and Eutrophication, DIPCON International Water Association IWA), Ste-Anne de Beaupré, QC September 12-17, 2010.

Nguyen D, **Maranger R.** 2010. Respiration in the Arctic Ocean. Marine Microbes Gordon Conference, Tiltin NH, July 4-9, 2010.

McCarthy M, Fulweiler R, **Maranger R**. Can N fixation reverse N limitation in aquatic ecosystems? ASLO Portland OR, Feb 21-26 2010.

Nguyen D. **Maranger R.** Microbial respiration in the Amundsen Gulf of the Arctic Ocean, Advancing the Science of Limnology and Oceanography (ASLO), Portland OR Feb 21-26 2010.

**Maranger R,** Nguyen D, Tremblay JE, Maltais-Landry G. Temporal and spatial nitrous oxide dymanics in the Amundsen Gulf of the Arctic Ocean. Polar Marine Science Gordon Conference, Il Coccio Italy, March 15-20, 2009.

**Maranger R,**  Nguyen D, Tremblay JE, Maltais-Landry G. Nitrous Oxide concentrations in the Amundsen Gulf. Arctic Change, American Society of Limnology and Oceanography (ASLO), Nice, France Jan 25-30, 2009.

Nguyen D, **Maranger R.** How much C do bacteria respire in Arctic sea ice? Arctic Change, Quebec City QC, Dec 9-12, 2008.

Baulch HM, PJ. Dillon, **Maranger R**, Schiff S.  Diffusive and ebullitive fluxes of greenhouse gases from low order streams: are bubble-mediated fluxes important?  American Society of Limnology and Oceanography (ASLO), St. John's Newfoundland June 8-13, 2008.

Baulch HM, PJ. Dillon, **Maranger R**, Schiff S.  Ebullition vs. diffusion: Are bubbles a significant mode of N2O transport from low order streams?  Denitrification RCN meeting, Horn Point Laboratory, Cambridge MD, May 27-30, 2008.

Harrison JH, **Maranger R**.,Alexander R, Giblin A, Jacinthe PA, Mayorga E, Seitzinger S, Sobota D, Wollheim W. The Regional and Global Significance of Nitrogen Removal in Lakes and Reservoirs, Ecological Society of America (ESA), Millwaukee WI, August 3-8 2008.

Lehmann MF, Bender ML, Barnett B, Gélinas Y, Mucci A, **Maranger R**, Gilbert D. Aerobic respiration and hypoxia in the lower St. Lawrence Estuary: Constraints from stable isotope ratios of dissolved oxygen in the water column. American Society of Limnology and Oceanography ASLO joint Ocean Sciences Meeting (ASLO-AGU), Orlando, U.S, March 2-7 2008.

Nguyen D**, Maranger R.** How much C do bacteria respire in Arctic sea ice? Arctic Change, Quebec City QC, Dec 9-12, 2008.

Maltais-Landry G, **Maranger R**, Brisson J, Chazarenc F. Seasonal variations of nitrogen transformation and retention in planted and artificially aerated constructed wetlands. ASLO St. John's Newfoundland June 8-13, 2008.

Maltais-Landry G, **Maranger R**, Brisson J, Chazarenc F.  Greenhouse gas emissions and global efficiency of planted and artificially aerated constructed wetlands. Ecological Society of America (ESA), Milwaukee August 3-8 2008.

**Maranger R,**  Nguyen D, Tremblay JE, Maltais-Landry G. Nitrous oxide concentrations in the Amundsen Gulf of the Arctic Ocean. Arctic Change, Quebec City QC, Dec 9-14, 2008.

**Maranger R**, Harrison J, Baulch H. A global assessment of the role of lakes and reservoirs in nitrogen retention using an empirical approach. ASLO St. John's Newfoundland June 8-13, 2008.

Tall L, **Maranger R,** Caraco N. Impact of an invasive macrophyte, Trapa natans on nitrogen transformations in the Hudson River (New York). ASLO St. John's Newfoundland June 8-13, 2008.

Thibodeau B, Lehmann M, Chaillou G, Kowarzyk J, **Maranger R,** Gilbert D, Gélinas Y. A severe nitrogen deficit in the Lower St. Lawrence Estuary: The importance of benthic nitrate elimination. Ocean Sciences Meeting (ASLO-AGU), Orlando, U.S, March 2-7 2008.

*International Meetings from 2003-2007*

Baulch H, Dillon P, **Maranger R,** Schiff S. Nitrous oxide emissions from low order streams:  exploring potential environmental controls. Society of applied and theoretical Limnology SIL, Montreal, QC Canada, August 12-18 2007.

Blanchet C, **Maranger R.** Variability in the N content of submerged macrophytes across a trophic gradient. SIL, Montreal, QC Canada, August 12-18 2007.

Kowarzyk J, **Maranger R,** Thibodeau B, Lehmann, M. N2 and NO3- fluxes in Lower St Lawrence Estuary sediments: evidence of a tight nitrification-denitrification couple. SIL, Montréal, QC Canada, August 12-18 2007.

Maltais-Landry G, **Maranger R**, Brisson J. Effect of artificial aeration and macrophyte species on nitrogen cycling and gas flux in constructed wetland. Wetland Pollutant Dymanics and Control WETPOL Tartu, Estonia September 16-21, 2007.

Maltais-Landry G, **Maranger R**, Brisson J. Nitrogen transformations in constructed wetlands: effect of macrophytes species and artificial aeration. SIL Montréal, QC Canada, August 12-18 2007.

Tall L, **Maranger R,** Caraco N. Impact of an invasive macrophyte, Trapa natans on nitrogen transformations in the Hudson River (New York). SIL Montréal QC, Canada, August 12-18 2007.

**Maranger R,** Tall L, Blanchet C. N Budget for a large fluvial lake: Nitrous oxide emissions, denitrification and N fixation. DRCN Denitrification workshop, Institute of Ecosystem Studies, Millbrook NY, USA November 28-30 2006.

**Maranger R,** Tall L, Blanchet C. Bacterial transformations of Carbon and Nitrogen in lake St-Pierre a large fluvial lake in the St-Lawrence. ASLO, Victoria BC, June 8-12, 2006.

**Maranger R,** Canham CD, Pace ML, Papaik M\*. Variable loading of Fe to lakes from different cover types in the watershed**.** Ecological Society of America (ESA), Montréal QC, August 7-12, 2005

*National Meetings*

**Maranger R**. Making ecosystem science matter: stakeholder-engaged research through co-design and integrated social-ecological synthesis. MEOPAR annual meeting, Montreal QC, June 20-22, 2017.

**Maranger R**, LapierreJF, Poisot T, Fortin St-Gelais N, Dubé P, Franssen J, Talbot J. Making ecosystem science matter: stakeholder-engaged research through co-design and integrated social-ecological synthesis. Canadian Society of Ecology and Evolution, Victoria BC, May 7-11, 2017.

Goyette JO, Bennett E, **Maranger R.** Accumulation de P historique dans les sols et l’influence sur l’eutrophisation à long terme. ACFAS, May 10-13, 2017 *\*gagnant de la meilleure présentation*

Botrel M, Bédard S, **Maranger R.** Global historical trends in inland water submerged macrophytes. CCFFR-SCL Montreal, January 5-8, 2017

Goyette JO, Bennett E, **Maranger R.** A century of anthropogenic phosphorus inputs to the St. Lawrence basin: impact of P legacies on contemporary riverine export. CCFFR-SCL Montreal, January 5-8, 2017

LaBrie R, **Maranger R.** Marine cross-system meta-analysis of carbon bioavailability using regrowth experiments. CCFFR-SCL Montreal, January 5-8, 2017

**Maranger R.** Glibert P, Sabota D, Boumann L.The Haber-Bosch Harmful Algal Bloom (HB-HAB) link. CCFFR-SCL Ottawa, January 8-11, 2015

Goyette JO, Howarth RW, Bennett E, **Maranger R.** Changes in net anthropogenic N and P ratios to the St. Lawrence basin. CCFFR-SCL Ottawa, January 8-11, 2015

**Maranger R.** Nitrogen in aquatic systems 100 years after Haber-Bosch: a Québec perspective. Genomes to Biomes (CSEE-SSZ-SCL). Montréal QC, May 25-29, 2014 *Invited Keynote.*

Goyette JO, Howarth RW, Bennett E, **Maranger R.** Changes in net anthropogenic phosphorus inputs to the St. Lawrence basin over the last 100 years. Genomes to Biomes (CSEE-SSZ-SCL). Montréal QC, May 25-29, 2014

Hébert MP, Beisner BE, **Maranger R.** Crustacean zooplankton functional traits; linking organisms to ecosystems. Genomes to Biomes (CSEE-SSZ-SCL). Montréal QC, May 25-29, 2014

Massé S, Walsh D**, Maranger R.** Ammonia oxidation in a small oligotrophic lake. Genomes to Biomes (CSEE-SSZ-SCL). Montréal QC, May 25-29, 2014

Botrel M, **Maranger R**, Gregory-Eaves I. Explaining nitrogen stable isotopes (δ15N) variation of surface sediments, PALS (Quebec-Ontario paleolimnology symposium), Montréal, QC, May 23-26, 2011.

Botrel, M., **Maranger R**, Gregory-Eaves I. Explaining nitrogen stable isotopes (δ15N) variation of surface sediments, CCFFR-SCL meeting, Toronto ON, Jan 7-9, 2011

**Maranger R.** Une approche écosystémique comme base théorique pour la décroissance ACFAS. Montreal QC, Mai 2010. *Invited speaker*

Botrel M, Gregory-Eaves I, **Maranger R**. La régulation des isotopes stables d'azote dans les sédiments lacustres. ACFAS, Montréal QC, Mai 2010.

Nguyen D, **Maranger R**. Respiration dans l’Océan Arctique. ACFAS, Montréal QC, Mai 2010.

Nguyen D, **Maranger R**. Bacterial respiration in the Arctic Ocean. CFL workshop, Winnipeg MN, November 2009.

**Maranger R,**  Nguyen D, Tall L, Maltais-Landry G, Tremblay JE. Nitrous oxide dynamics in the Amundsen Gulf of the Arctic Ocean. CFL workshop, Winnipeg MN, November 2009.

Baulch H, Dillon PJ, **Maranger R** Nitrous oxide emissions from low order streams: contrasts between measured and modelled results. CCFFR-SCL Ottawa, January 9-11, 2009.

Kowarzyk J, **Maranger R**, Thibodeau B, Lehmann M. N2 and NO3- fluxes in Lower St Lawrence Estuary sediments: evidence of a tight nitrification-denitrification couple. CCFFR-SCL Ottawa, January 9-11, 2009.

Nguyen D**, Maranger R.** New data on microbial respiration in sea ice. CCFFR-SCL Ottawa, January 9-11, 2009.

Tall L, **Maranger R** Spatial and temporalvariability of N2O emissions and N budget for Lake St Pierre a fluvial lake in the St Lawrence. CCFFR-SCL Ottawa, January 9-11, 2009.

*National Meetings from 2003-2007*

Baulch H, Dillon P, **Maranger R.** Exploring the application of open-channel estimates of denitrification: further restrictions on use. CCFFR-SCL Montréal, January 4-6, 2007.

Blanchet C, **Maranger R.** Spatial heterogeneity of the N content in plants of Lake St-Pierre a fluvial lake in the St-Lawrence. CCFFR-SCL Montreal, January 4-6, 2007.

**Maranger R**, Caraco N, Duhamel J, Amyot M, Fish Food and Fertilizer: the role of commercial fisheries in the terrestrial and marine nitrogen cycle. CCFFR-SCL January 4-6, 2007

**Maranger R,** Tall L, Blanchet C. N Budget for a large fluvial lake: Nitrous oxide emissions, denitrification and N fixation. CCFFR-SCL, Montréal, Québec, January 4-6, 2007.

Maltais-Landry G, **Maranger R,** Brisson J. Effects of different macrophyte species and artificial aeration on nitrogen transformations and N2O gas fluxes in constructed wetlands. CCFFR- SCL Montréal, January 4-6, 2007.

Maltais-Landry G, **Maranger R,** Brisson J. Nitrogen transformations & N2O gas fluxes in constructed wetlands: effects of different macrophytes & artificial aeration. Society of Canadian Ecology and Evolution, SCEE Toronto, ON Canada, May 17-20, 2007.

Nguyen D, Kowarzyk J, **Maranger R.** Bacterial transformations of C and C quality in Lake St-Pierre a large fluvial lake in the St –Lawrence. CCFFR-SCL, Montréal, Québec, January 4-6, 2007.

Tall L, Caraco N, **Maranger R.** Impact of an invasive macrophyte, *Trapa natans* on nitrogen transformations in the Hudson River (New York). Société Canadienne de Limnologie CCFFR-SCL, Montréal, Québec, January 4-6, 2007.

*Local meetings*

Charrier Tremblay C, Botrel M, Lapierre JF, **Maranger R.** Stream functional units: heterogeneity in nutrient transformations across different reach types in a pristine and peri-urban catchment. Symposium du Département des sciences biologiques UdeM. Montreal QC, March 28-29, 2018.

Sousha S, Galantini L, **Maranger R.** Lapierre JF. Coupled C, N, and P dynamics across an anthropogenic in a Laurentian river. Symposium du Département des sciences biologiques UdeM. Montreal QC, March 28-29, 2018.

Charrier Tremblay C, Botrel M, Lapierre JF, **Maranger R.** Stream functional units: heterogeneity in nutrient transformations across different reach types in a pristine and peri-urban catchment. Symposium du GRIL. Orford QC, March 22-24, 2018.

Fortin St-Gelais N, Goyette JO, Lapierre JF, **Maranger R.** What does water quality mean to you? Symposium du GRIL. Orford QC, March 22-24, 2018.

Sousha S, Galantini L, **Maranger R.** Lapierre JF. Coupled C, N, and P dynamics across an anthropogenic in a Laurentian river. Symposium du GRIL. Orford QC, March 22-24, 2018.

Botrel M, Hudon C, Bolduc P\*, Bertolo A, Gagnon P, **Maranger R.** Cartographier la biomasse des macrophytes submergés par une combinaison de méthodes. Symposium du Département des sciences biologiques UdeM. Montréal QC, March 23, 2017

LaBrie R, **Maranger R.** Marine cross-system meta-analysis of carbon bioavailability using regrowth experiments. Symposium du GRIL. Orford QC, March 16-18, 2017.

Botrel M, Hudon C, Bolduc P\*, Bertolo A, Gagnon P, **Maranger R.** Mapping submerged macrophyte biomass using remote sensing and rapid ground truthing Symposium du GRIL. Orford QC, March 16-18, 2017

Goyette JO, Bennett E, **Maranger R.** Rapid onset of legacy P accumulation in watersheds - long road to recovery. Symposium du GRIL. Orford QC, March 16-18, 2017 *\*gagnant de la meilleure présentation*

LaBrie R, **Maranger R.** Marine cross-system meta-analysis of carbon bioavailability using regrowth experiments. Symposium du GRIL. Orford QC, March 16-18, 2017.

Lavoie R\*, Bouffard A\*, Maranger R, Amyot M. Global marine fisheries alter mercury cycling and exposure. Orford QC, March 16-18, 2017

Péquin B, LaBrie R, **Maranger R.** Dynamique de la communauté de protistes dans la Mer du Labrador. Symposium du GRIL. Orford QC, March 16-18, 2017.

Shousha S, Charrier Tremblay C, Prince A\*, Maranger R, Franssen J, Lapierre JF. Understanding hydrologic connectivity in headwater cathments of the Canadian Shield, QC. Symposium du GRIL. Orford QC, March 16-18, 2017.

Goyette JO, Bennett E, **Maranger R.** Accumulation de phosphore anthropique dans les bassins versants : seuil de saturation et legs aux générations futures. Forum de l’environnement UdeM. Montréal QC, February 9, 2017 *\*gagnant de la meilleure présentation*

Massé S, Walsh D**, Maranger R.** Ammonia oxidation in a small oligotrophic lake. Symposium du Département des sciences biologiques. Montréal QC, March 20, 2014. *\*best student poster presentation*

Massé S, Walsh D**, Maranger R.** Ammonia oxidation in a small oligotrophic lake. Symposium du GRIL. Saint-Hippolyte QC, February 19-22, 2014.

Jean-Olivier Goyette, Robert W. Howarth, Roxane Maranger. Changes in net anthropogenic nitrogen inputs to the St. Lawrence basin over the last 100 years. Symposium du GRIL. Saint-Hyppolyte, February 19-22, 2014.

Jean-Olivier Goyette, Emily R. Cornwell, Ryan J. Sorichetti. The Great Lakes Futures Project: biological and chemical contaminants in the Great Lakes and St. Lawrence basin from 1960 to 2060. Symposium du GRIL. Saint-Hyppolyte, 28 février au 2 Mars 2013.

Emily R. Cornwell\*, Jean-Olivier Goyette\*, Ryan J. Sorichetti\*. Biological and chemical contaminants in the Great Lakes and St. Lawrence basin. Great Lakes Futures Project Workshop. Ann Arbor, Michigan US, 7-8 janvier 2013.

Hébert MP, Beisner B, Guénard G\*, **Maranger R**. Crustacean zooplankton functional traits affect nutrient recycling in aquatic ecosystems. Symposium du GRIL St-Hippolyte QC, Feb 28- March 2, 2013.

Goyette JO**,** Cornwell ER, Sorichetti RJ. The Great Lakes Futures Project: biological and chemical contaminants in the Great Lakes and St. Lawrence basin from 1960 to 2060. Symposium du GRIL, St-Hippolyte QC, Feb 28- March 2, 2013. *\*best student presentation.*

Massé S**,** Walsh D, **Maranger R**. Seasonal changes of nitrification rates and ammonia oxidizing microbial communities in an oligotrophic lake. Symposium du GRIL St-Hippolyte Qc, Feb 28- March 2, 2013.

Soued C, del Giorgio PA, **Maranger R**. Nitrous Oxide (N2O) concentrations and fluxes across boreal rivers, lakes and wetlands. Symposium du GRIL, St-Hippolyte QC, Feb 28- March 2, 2013. *\*best student presentation.*

Monchamp M-E, Pick F., Villemur R., Beisner B., et Maranger R. Potentiel de fixation d’azote et production de microcytines par les cyanobactéries dans trios la tempérés, Symposium du Département de sciences biologiques de l'Université de Montréal, April 3, 2012.

Nguyen D, Maranger R, BalaguéV, CollM\*, Fernández-GómezB\*, LovejoyC, Pedrós-AlióC. Dynamique saisonnière du gène de la protéorhodopsine dans l’Océan Arctique. Symposium du Département de sciences biologiques de l'Université de Montréal, April 3, 2012.

Botrel M, Altabet MA, Gregory-Eaves I, R Maranger. Isotopic evidence for nitrogen cycling in three shallow lakes. Symposium du GRIL. St-Ferdinand. Québec, 8-10 mars 2012.

Hébert MP, Massé S, Soued C, Beisner BE, Del Giorgio PA, Walsh D, Maranger R. Nitrogen Cycle in Freshwaters : Importance of Nutrient Cycling by Zooplankton, Nitrification and N2O Production, Symposium du GRIL, St-Ferdinand, QC, March 8-10, 2012 (poster)

Monchamp M-E, Pick F, Villemur R, Beisner B, Maranger R. Potentiel de fixation d’azote et production de microcytines par les cyanobactéries dans trois la tempérés, Symposium du GRIL, St-Ferdinand, Québec, 8-10 March 2012.

Nguyen D, Maranger R, BalaguéV, CollM\*, Fernández-GómezB\*, LovejoyC, Pedrós-AlióC. Dynamique saisonnière du gène de la protéorhodopsine dans l’Océan Arctique. Symposium du GRIL, St-Ferdinand, QC, March 8-10 2012.

Botrel M, **Maranger R**, Gregory-Eaves I. Explaining nitrogen stable isotopes (δ15N) variation of surface sediments, Symposium du GRIL, St-Hippolyte, QC, Mars 2011.

Monchamp ME, **Maranger R**, Pick F, Beisner B, Villemur R. Nitrogen fixation and toxin production by cyanobacteria in three eutrophied lakes from the Eastern Townships of QC, Symposium du GRIL, St-Hippolyte, QC, Mars 2011.

Tall L. **Maranger R.** Net N2 fluxes in cyanobacterial mats: rates and controls in a large river ecosystem,Symposium du GRIL, St-Hippolyte, QC, Mars 2011.

Monchamp ME, **Maranger R**, Pick F, Beisner B, Villemur R. Fixation d’azote et productions de toxines par les cyanobactéries de trois lacs eutrophes. Symposium de Sciences biologiques de l’Université de Montréal, Mars 2011.

Goyette JO, **Maranger R**. Estimation des flux d’azote dans l’estuaire du St-Laurent en réponse aux conditions hypoxiques des eaux profondes. Symposium de Sciences biologiques de l’Université de Montréal, Mars 2011.

Botrel M, Gregory-Eaves R, **Maranger R**. La régulation des isotopes stables d'azote dans les sédiments lacustres.Symposium de Sciences biologiques de l’Université de Montréal, Janvier 2010.

Campeau A, **Maranger R**. Le rôle des différentes formes d’azote sur la fixation des cyanobactérie. Symposium de Sciences biologiques de l’Université de Montréal, Janvier 2010.

Nguyen D**, Maranger R.** Respiration dans l’Océan Arctique.Symposium de Sciences biologiques de l’Université de Montréal, Janvier 2010. *gagnant meilleure présentation*

Nguyen D**, Maranger R.** Role of bacterial respiration in C dynamics of the Amundsen Gulf of the Arctic Ocean. Symposium du GRIL, Duplessis-ville, Mars 2009.\**best student presentation*

Kowarzyk J, **Maranger R**, Thibodeau B, Lehmann M. N2 and NO3- fluxes in Lower St Lawrence Estuary sediments: evidence of a tight nitrification-denitrification couple. Symposium de Sciences biologiques de l’Université de Montréal, January 2009.\* *best student presentation*

Nguyen D**, Maranger R.** Role of bacterial respiration in C dynamics of the Amundsen Gulf of the Arctic Ocean. Symposium de Sciences biologiques de l’Université de Montréal, January 2009.

 Tall L, **Maranger R** Spatial and temporalvariability of N2O emissions and N budget for Lake St Pierre a fluvial lake in the St Lawrence. Symposium de Sciences biologiques de l’Université de Montréal, January 2009.

Blanchet C, **Maranger R.** Variability in the N content of submerged macrophytes across a trophic gradient. Symposium du GRIL, Harrington QC, March 2008.

Kowarzyk J, **Maranger R**, Thibodeau B, Lehmann M. N2 and NO3- fluxes in Lower St Lawrence Estuary sediments: evidence of a tight nitrification-denitrification couple. GRIL, Harrington QC, March 2008.

Maltais-Landry G, **Maranger R**, Brisson J. Transformations et rétention d’azote dans les marais filtrants. Symposium de Sciences biologiques de l’Université de Montréal, January 2008.

Maltais-Landry G, **Maranger R**, Brisson J. Transformations et rétention d’azote dans les marais filtrants. Symposium du GRIL, Harrington QC, March 2008.

Tall L, **Maranger R**, Caraco N. Impact d'une plante invasive, Trapa natans sur les transformations de l'azote dans la rivière Hudson NY. Symposium des Sciences biologiques, Université de Montréal, Jan. 2008 *\*best student presentation*

Thibodeau B, Lehmann M, Chaillou G, Kowarzyk J, **Maranger R**, Gilbert, D. and Gélinas, Y. A severe nitrogen deficit in the Lower St. Lawrence Estuary: The importance of benthic nitrate elimination. GEOTOP student meeting, Pohénégamook, Canada, February 2008.

*Local Meetings from 2003-2007*

Maltais-Landry G, **Maranger R**, Brisson J. Les effets de différentes espèces de macrophytes et de l’aération artificielle sur les transformations d’azote et les flux de protoxyde d’azote (N2O) au sein de marais filtrants. Symposium du GRIL à Harrington QC, March 2007.

Maltais-Landry G, **Maranger R,** Brisson J. Les effets de différentes espèces de macrophytes et de l’aération artificielle sur les transformations d’azote et les flux de protoxyde d’azote (N2O) au sein de marais filtrants. (Symposium de Sciences biologiques de l’Université de Montréal, January 2007).

Nguyen D, Kowarzyk J, **Maranger R**. Bacterial transformations of C and C quality in Lake St-Pierre a large fluvial lake in the St –Lawrence. Symposium du GRIL à Harrington QC, March 2007

Tall L, **Maranger R**, Caraco N. Impact d'une plante invasive, Trapa natans sur les transformations de l'azote dans la rivière Hudson (New York). GRIL Symposium du GRIL à Harrington QC, March 2007, *\*best student presentation*

Blanchet C, **Maranger R.** Spatial heterogeneity in the N content of the submerged macrophyte *Vallisenaria americana* in a large fluvial lake GRIL, Duplessis-ville, QC March 2006.

Tall L, **Maranger R.** Nitrous oxide emissions from Lac St-Pierre, a large fluvial lake in the St Lawrence River GRIL Duplessis-ville, QC March 2006.

Bouffard A, Amyot M, **Maranger R.** Le rôle de la pêche mondiale sur le cycle de Mercure. Symposium du Dépt. des sciences biologiques, Jan 2006.

Blanchet C, **Maranger R.** Hétérogénéité spatiale de la teneur en azote des plantes dans le lac St-Pierre, un lac fluvial du fleuve St-Laurent Symposium du Dépt. des sciences biologiques, Jan 2006

Tall L, **Maranger R.** Transformations microbiennes de l'azote dans le lac St-Pierre, une section du fleuve St-Laurent Symposium du Dépt. des sciences biologiques, Jan 2006.

**Abstracts and Presentations (selected from 22 in total before 2003)**

del Giorgio PA, **Maranger R,** Bird DF. Interactions between grazing and UV influence on the single-cell activity in lake bacterioplankton. ASLO, Victoria, British Columbia, June 10-14, 2002.

**Maranger R,** Pace ML, Caraco N, Cole JJ, del Giorgio PA. 2001 Consistent spatial patterns in bacterial production and growth efficiency in the Tidal Hudson River. ASLO, Albuquerque, New Mexico, February 12-16, 2001.

**Maranger R,** Bird DF, Price NM. Particulate iron acquisition by mixotrophic marine phytoplankton. Sixth European Marine Microbiology Symposium, Sitges, Spain, May 17-21, 1998.

**Maranger R,** del Giorgio PA, Bird DF, Prairie YT. The accumulation of viruses and dead bacteria in lake water exposed to ambient ultraviolet radiation. ASLO, Santa Fe, New Mexico, February 9-14, 1997.

Bird DF, **Maranger R,** Karl DM. The importance of bacterial consumption by algae. ASLO, Santa Fe, New Mexico, February 9-14, 1997.

**Maranger R,** Bird DF. 1995. The distribution of viruses in aquatic systems: a comparison between marine and freshwaters. CSL Annual Meeting, Ottawa, Ontario, January 6-7, 1995.

Maranger R, Bird DF, Juniper SK. 1995. Viral and bacterial dynamics in Arctic sea ice during the spring algal bloom near Resolute NWT, Proceedings of the NIRP XVI Symposium on Polar Biology Tokyo, Japan, December 1-3 1993.

Maranger, R., Bird, D.F., Juniper, S.K. 1994. Viral and bacterial dynamics in Arctic sea ice during the spring algal bloom near Resolute NWT, Canada. Ocean Sciences Meeting-ASLO, San Diego, California, February 21-25, 1994.

Maranger, R., Bird, D.F. 1993. The presence of viruses in the sediments: a profile of Lac Gilbert, Québec. CCFFR-CSL, Peterborough, Ontario, January 2-4, 1993.

# Invited Lectures (since 2008)

Make stoichiometry great again: coupled biogeochemical cycling through the freshwater pipe, Department of biology, Université de Montréal, October 2017.

**S**takeholder-engaged research through co-design and integrated social-ecological synthesis. Conseil Scientifique du CNRS, Paris, France, April 2016.

Nitrogen challenges in Quebec; impact of increasing use on coastal hypoxia. Deutsches Zentrum für Luft- und Ramfarht (DLR), German Aerospace Agency, Oberpfaffenhofen, Germany, April 2016.

Changement des apports en azote et du phosphore dans le bassin du Saint-Laurent: impact sur l’estuaire. Department of Geography, Université de Montréal, Geodiversity Symposium, February 2016

The challenges and opportunities in transdisciplinary research: a reflection for the INÉE. Institut National d’Écologie et Environnement du CNRS, Paris, France, November 2015.

Transdisciplinary Research: the good, the bad, the ugly, Université de Québec à Montréal, UQAM Ecology and Evolution Seminar series, Montréal QC, October 2015.

Nitrogen in aquatic systems 100 years after Haber-Bosch: a Québec perspective. Genomes to Biomes (CSEE-SSZ-SCL). Montréal QC, May 25-29, 2014 *Invited Keynote*

Changement des apports en azote dans le bassin du Saint-Laurent depuis 100 ans. Ministère du Développement durable, de l’Environnement, de la Faune et des Parcs Gouvernement du Québec (MDDEP) Quebec City QC, April 2014

Assessing cross-regional and seasonal N2O emissions from boreal freshwater networks. Joint Logan Club and Ottawa-Carleton Geoscience Centre Seminar Series, Ottawa University, Ottawa ON, January 2014.

Nitrogen cycling dynamics in the Hypoxic Zone of the St-Lawrence Estuary. Centre du St-Laurent, Environment Canada, Montréal QC, Décembre 2012.

The Canadian Nitrogen Trilogy: Tales of N cycling on Three Canadian Coasts. Université de Québec à Montréal, UQAM Midi Aquatique, Montréal QC, Novembre 2012.

Impacts of Climate Change on Carbon and Nitrogen cycling in the Arctic Ocean, Concordia University November 2011.

Proteorhodopsin gene expression in the Arctic Ocean and Mediterranean Sea, Instituto de Ciencas del mar (CSIC), Barcelona, Spain, June 2011. *presented by my graduate student Dan Nguyen*

The Arctic as an unexpected source of CO2 and N2O, Instituto de Ciencas del mar (CSIC), Barcelona, Spain, May 2011.

Influence of landuse and morphometry in determining 15N stable isotopic signature of lake sediments, University of Massachusetts at Dartmouth, MA, May 2011. *presented by my graduate student Morgan Botrel.*

Nitrous oxide dynamics and C cycling in the Arctic Ocean. Horn Point Laboratory, MD, October 2010.

The role of fish harvest in global biogeochemical cycles. Old Dominion University, Virginia, January 2010.

Nitrous oxide dynamics and C cycling in the Arctic Ocean. Cary Institute of Ecosystem Studies, Millbrook NY, Mars 2009.

Rôle des bactéries dans le cycle d’azote aquatique. Département de microbiologie et immunologie UdeM, Montreal, QC May 2008.

Impact d'une plante invasive, *Trapa natans* sur les transformations de l'azote dans la riviere Hudson. Institut de recherche en biotechnologie végétale, IRBV, Montréal, QC, April 2008, *presented by my graduate student L. Tall*

Variation spatial et temporelle dans le contenue d’azote des plantes aquatiques dans un gradient de nutriments. Institut de recherche en biotechnologie végétale, IRBV, Montréal, QC, April 2008, *presented by my graduate student C. Blanchet*

Spatial and temporal variability in N2O and N budget for Lake St Pierre, a fluvial lake of the St Lawrence River, Canada. Cary Institute of Ecosystem Studies, Millbrook NY, February 2008, *presented by my graduate student L. Tall*

# Invited Lectures (before 2008)

The role of bacteria, plants and fish in the aquatic N cycle. Department of biology, Ottawa University, Ottawa, ON, November 2007.

Fish, food and fertilizer: the role of commercial fisheries in the anthropogenic N cycle. Instituto de Ciencas del mar (CSIC), Barcelona, Spain, September 2007.

Rôle des bactéries, des plantes et des poissons dans le cycle d’azote aquatique. Institut de recherche en biotechnologie végétale, IRBV, Montréal, QC, November 2006.

Microbial C and N metabolism in lac St-Pierre a large fluvial lake in the St-Lawrence. GEOTOP McGill-UQAM, Earth Sciences McGill, Montréal QC, September 2006.

The relative role of fertilizer inputs and commercial fisheries harvest in the global marine and terrestrial N cycle. Institute of Ecosystem Studies, Millbrook, NY, March 2006.

Impact de la pêche globale sur le cycle global d’azote terrestre et marine. Université du Québec à Montréal, Série de séminaires : Axes Écologique, Montréal QC, February 2006.

Microbial C and N metabolism in lac St-Pierre a large fluvial lake in the St-Lawrence. Trent University. Peterborough ON, November 2005.

Le rôle des algues mixotrophes dans les cycles biogéochimiques océanique.

 Université Laval, Ste-Foy QC, April 2005.

A Spatially-Explicit Watershed-Scale Analysis of Fe Loading in Lakes of the Adirondack Region, NY.

 Université McGill, Montréal, QC, October 2003.

Les bactéries dans les cycles biogéochimiques aquatiques: de l'éprouvette à l’océan en passant par les rivières” Université de Montréal, Montreal QC, Dec 2002.

Heterotrophic Aquatic Bacteria and Elemental Cycling: an Fe link and a C sink” Dalhousie University, Halifax NS, Canada, June 2001.

Iron acquisition by mixotrophic phytoplankton from ingested bacteria: implications for Fe cycling in the sea. Institute of Ecosystem Studies, Millbrook NY, USA, March 2000.

Importance of iron acquisition and regeneration by mixotrophic phytoplankton in Fe limited regions of the sea. Netherlands Institute for Sea Research, Texel, The Netherlands Dec 1998.

Factors controlling viral abundance in lakes and oceans: similarities and differences. Centro de Estudio Avanzando de Blanes, Blanes, Spain, Oct. 1994.

Empirical relationships between virus abundance and measures of microbial biomass and productivity. Instituto de Ciences del mar (CSIC), Barcelona, Spain, Oct 1994.

Viral abundance and distribution in an aquatic cross-system comparison. Department of Biology, McGill University, Montréal QC, Sept. 1994.