

# Laura Logozzo, PhD

Post-doctoral Fellow, University of Lethbridge

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## Education

PhD	<b>Yale University, School of the Environment</b> <b>Committee:</b> Peter Raymond (Advisor), James Saiers, Timothy Eglinton, Benjamin Twining <b>Thesis:</b> “ <i>Dissolved Organic Matter Dynamics in a Large Temperate River</i> ”	Aug 2017-May 2023
MS	<b>CUNY City College, Department of Earth and Atmospheric Sciences (EAS)</b> <b>Advisor:</b> Maria Tzortziou <b>GPA:</b> 4.0/4.0 <b>Thesis:</b> “ <i>Microbial Degradation of Marsh-Exported Carbon</i> ”	Aug 2015-May 2017
BS	<b>Macaulay Honors College at CUNY City College, EAS</b> <b>GPA:</b> 3.838/4.0 <b>Honors/awards:</b> Summa cum laude, Ward medal (top grade point average) in Geology	Aug 2011-May 2015

## Research Experience & Collaborations

<b>University of Lethbridge, Department of Biological Sciences</b> <i>Post-doctoral Fellow</i>	Lethbridge, AB, Canada (Hybrid) Dec 2022- <i>present</i>
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Supervisor: Matthew Bogard

- Evaluate the effects of agriculture on greenhouse gas emissions and carbon storage in 30+ wetlands of the Canadian prairies
- Determine whether effluent release shifts a model restored wetland from a net sink to a net source of greenhouse gas emissions

### NSF Watershed Rules of Life Project

*Collaborator*

New Haven, CT  
Aug 2019-Jun 2020

PI: Peter Raymond, Co-PIs: Byron Crump, Colin Gleason

- Led sampling campaigns for dissolved carbon, microbial DNA/RNA, and greenhouse gas concentrations in order to link watershed-scale biogeochemical cycling to microbial processes

### ETH Zürich, Department of Earth Sciences

*Visiting Researcher*

Zürich, Switzerland  
May 2019

Supervisors: Timothy Eglinton, Peter Raymond

- Prepared dissolved organic carbon samples for radiocarbon measurement using wet chemical oxidation

### Yale University School of the Environment

*Lab Technician*

New Haven, CT  
Aug 2018-Oct 2020

Supervisor: James Saiers

- Measured groundwater samples for dissolved organic and inorganic carbon concentrations

*Lab Manager*

Aug 2018-Mar 2020

Supervisor: Peter Raymond

- Managed lab supplies, procedures, and environmental health and safety protocols

### U.S. Geological Survey (USGS), New England Water Science Center

*Volunteer & Collaborator*

Hartford, CT  
Aug 2017-Dec 2019

Supervisor: Jon Morrison

- Calibrated, cleaned, and maintained water quality sondes at two USGS stream gauges

**Smithsonian Environmental Research Center**

Research Fellow

Edgewater, MD

Jun-Aug 2016

Supervisors: Patrick Neale, Patrick Megonigal, Maria Tzortziou

- Determined the bio- and photo-availability of dissolved organic carbon exported from tidal marshes using lab experiments and estuarine transect measurements

Research Intern

Jun-Aug 2015

Supervisor: Patrick Neale

- Estimated dissolved organic and inorganic carbon lateral fluxes at a tidal marsh-estuary interface

**City College of New York, Department of Earth and Atmospheric Sciences**

Undergraduate Research Assistant

New York, NY

Jan 2014-May 2015

Supervisors: Pengfei Zhang, Stephanie DeVries

- Conducted soil lab experiments and bacterial culturing to determine the effects of antibiotics on nitrifying bacteria

Undergraduate Research Assistant

May 2014-Apr 2015

Supervisors: Steven Kidder

- Estimated titanium concentrations in quartz using CL imagery, to inform whether titanium can be used as an indicator of the temperature and pressure at which quartz forms

**University of New Hampshire & Abisko Naturvetenskapliga Station**

Durham, NH and Abisko, Sweden

Northern Ecosystems Research for Undergraduates (NERU) program

Jun-Aug 2014

Supervisors: Ruth Varner, Joel Johnson

- Linked sediment characteristics to methane emissions in sub-arctic lakes and thaw ponds

**Peer-Reviewed Publications**

\* Denotes mentee

Published/In Revision

11. Chan, C.N.\*, Gushulak, C., Leavitt, P., **Logozzo, L.A.**, Finlay, K., Bogard, M.J. In Revision. *Whole-ecosystem experimental eutrophication causes contrasting effects on emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O in agricultural ponds*. Environmental Science and Technology.
10. Zhou X., **Logozzo, L.A.**, Johnston, S.E., Zink, L., Bogard, M.J. In Revision. *Composition and bioreactivity of dissolved organic matter leachates from end members in a mountain to prairie transitional river valley*. Journal of Geophysical Research: Biogeosciences
9. **Logozzo, L.A.**, Hosen, J.D., McArthur, J.\*, Raymond, P.A. (2023) *Distinct drivers of two size fractions of operationally dissolved iron in a temperate river*. Limnology & Oceanography. doi: [10.1002/lno.12338](https://doi.org/10.1002/lno.12338)
8. Maavara, T., Brinkerhoff, C., Hosen, J.D., Aho, K.S., **Logozzo, L.A.**, Saiers, J., Stubbins, A., Raymond, P.A. (2023) *Watershed DOC uptake occurs mostly in lakes in the summer and in rivers in the winter*. Limnology and Oceanography. doi: [10.1002/lno.12306](https://doi.org/10.1002/lno.12306)
7. **Logozzo, L.A.**, Martin, J.W., McArthur, J.\*, Raymond, P.A. (2022) *Contributions of Fe(III) to UV-vis absorbance in river water: A case study on the Connecticut River and argument for the systematic tandem measurement of Fe(III) and CDOM*. Biogeochemistry. doi: [10.1007/s10533-022-00937-5](https://doi.org/10.1007/s10533-022-00937-5)
6. Aho, K.S., Fair, J.H., Hosen, J.D., Kyzivat, E.D., **Logozzo, L.A.**, Weber, L.C., Yoon, B., Zarnetske, J., Raymond, P.A. (2022) *An intense precipitation event causes a temperate forested drainage network to shift from N<sub>2</sub>O source to sink*. Limnology and Oceanography. doi: [10.1002/lno.12006](https://doi.org/10.1002/lno.12006)
5. Aho, K.S., Fair, J.H., Hosen, J.D., Kyzivat, E.D., **Logozzo, L.A.**, Rocher-Ros, G., Weber, L.C., Yoon, B., Raymond, P.A. (2021) *Distinct concentration-discharge dynamics in temperate streams and rivers: CO<sub>2</sub> exhibits chemostasis while CH<sub>4</sub> exhibits source limitation due to temperature control*. Limnology and Oceanography. doi: [10.1002/lno.11906](https://doi.org/10.1002/lno.11906)

4. Maavara, T., **Logozzo L.A.**, Stubbins, A., Aho, K.S., Brinkerhoff, C., Hosen, J.D., Raymond, P.A. (2021) *Does photomineralization of dissolved organics matter in temperate rivers?*. Journal of Geophysical Research: Biogeosciences. doi: [10.1029/2021JG006402](https://doi.org/10.1029/2021JG006402)
3. Aho, K.S., Hosen J.D., **Logozzo L.A.**, McGillis, W.R., Raymond, P.A. (2021) *Highest rates of gross primary productivity maintained despite CO<sub>2</sub> depletion in a temperate river network*. Limnology & Oceanography Letters. doi: [10.1002/lol2.10195](https://doi.org/10.1002/lol2.10195)
2. **Logozzo, L.A.**, Tzortziou, M., Neale, P. Clark, B. (2021) *Photochemical and microbial degradation of chromophoric dissolved organic matter exported from tidal marshes*. Journal of Geophysical Research: Biogeosciences. doi: [10.1029/2020JG005744](https://doi.org/10.1029/2020JG005744)
1. DeVries, S., Loving, M., **Logozzo, L.A.**, Zhang, P., Block, K. (2020) *The Effects of Trace Narasin on the Biogeochemical N-Cycle in a Cultivated Sandy Loam*. Science of the Total Environment. doi: [10.1016/j.scitotenv.2020.137031](https://doi.org/10.1016/j.scitotenv.2020.137031)

#### In prep

4. **Logozzo, L.A.**, Eglinton, T., Haghipour, N., Maavara, T., Aho, K.S., Hosen, J.D., Raymond, P.A. In prep. *Tracing the radiocarbon bomb-pulse from the atmosphere to riverine dissolved organic carbon*. Target Journal: Ecosystems
3. **Logozzo, L.A.**, Soued, C., Badiou, P., Bortolotti, L., Page, B., Kowal, P., Kalyn, H., Bogard, M.J. In prep. *Do different agricultural land use regimes alter the cycling of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O in wetlands of the Canadian Prairie Pothole Region?* Target journal: Global Biogeochemical Cycles

### **Reports**

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1. **Logozzo, L.A.**, Bogard, M.J., Tilley M., Flanagan, L.B. (2023) *Frank Lake and Little Bow River Water Quality Report*.

### **Invited Talks**

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5. Logozzo, L.A. (2023) *Dissolved organic matter dynamics in a large temperate river*. Invited Talk. Water Institute of Sustainable Environments Seminar Series. Lethbridge, AB, Canada.
4. Logozzo, L.A. (2023) *Do different agricultural land use regimes alter the cycling of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O in wetlands of the Canadian Prairie Pothole Region?* Invited Talk. ECCC-CAAF Research Team Annual Meeting. Zoom.
3. Logozzo, L.A. (2021) *Dissolved organic carbon and iron dynamics in the Connecticut River*. Invited Talk. YSE First Year Doctoral Seminar. New Haven, CT, USA
2. Logozzo, L.A. (2021) *The mobilization of aged dissolved organic carbon in a large temperate river*. Invited Talk. ETH Zürich, LIP AMS Seminar. Zoom.
1. Logozzo, L.A. (2021) *Dissolved organic carbon cycling in rivers and estuaries*. Invited Talk. CUNY City College, Earth and Environmental Sciences Seminar. Zoom.

### **Conference Presentations (First Author Only)**

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12. Logozzo, L.A., Woodman, S.G., Bain, H.D., Fernando, W.O.K., Flanagan, L.B., Bogard, M.J. (Expected) *Using a whole ecosystem budget to explore whether effluent release shifts a model restored wetland from a net carbon sink to source*. Talk. AGU Fall Meeting. San Francisco, CA, USA.
11. Logozzo, L.A., Soued, C., Badiou, P., Bortolotti, L., Page, B., Kowal, P., Kalyn, H., Bogard, M.J. (2023) *Do different agricultural land-use regimes alter the cycling of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O in wetlands of the Canadian Prairie Pothole Region?* Talk. Society of Canadian Aquatic Sciences. Montreal, QC, Canada.
10. Logozzo, L.A., Martin, J.W., McArthur, J., Raymond, P.A. (2022). *Fe(III) Contributions to UV-vis Absorbance in the Connecticut River Watershed: an Argument for the Tandem Measurement of CDOM and Fe(III)*. Talk. Joint Aquatic Sciences Meeting. Grand Rapids, MI, USA.
9. Logozzo, L.A., Raymond, P.A. (2021). *The mobilization of aged dissolved organic carbon in the Connecticut River*. Poster. YSE Climate Day. Zoom.
8. Logozzo, L.A., Raymond, P.A. (2020) [\*Seasonal variability in dissolved iron and dissolved organic matter in the Connecticut River\*](#). Talk. YSE Research Conference. Zoom.
7. Logozzo, L.A., Raymond, P.A. (2019) [\*The Coupled Cycling of Dissolved Iron and Dissolved Organic Matter in the Connecticut River\*](#). Poster. YSE Research Conference. New Haven, CT, USA. **Best poster award winner.**

6. Logozzo, L.A., Raymond, P.A. (2019) *The Coupled Cycling of Dissolved Iron and Dissolved Organic Matter in the Connecticut River*. Talk. ASLO Aquatic Sciences Meeting. San Juan, Puerto Rico.
5. Logozzo, L.A., Tzortziou, M., Neale, P. (2017) [\*Dissolved Organic Matter Fate in Estuaries: Spatial Variations in Bioavailability and Photoreactivity\*](#). Poster. ASLO Aquatic Sciences Meeting. Honolulu, HI, USA.
4. Logozzo, L.A., Neale, P., Tzortziou, M., Nelson, N., Megonigal, P. (2016) [\*Tidal Marshes as Pulsing Systems: New Estimates of Marsh-Carbon Export and Fate\*](#). Talk. AGU Ocean Sciences Meeting. New Orleans, LA, USA.
3. Logozzo, L.A., Kidder, S. (2015) *A model for mapping titanium concentrations in quartz using blue-wavelength cathodoluminescence and c-axis plunge*. Poster. Jeffrey Steiner Memorial Symposium. New York, NY, USA.
2. Logozzo, L.A., Devries, S., Zhang, P. (2015) *The effects of antibiotics on the nitrifying bacteria *Alcaligenes faecalis**. Poster. Jeffrey Steiner Memorial Symposium. New York, NY, USA. **Best poster award winner.**
1. Logozzo, L.A., Perry A., Wik, M., Thornton, B., Crill, P., Johnson, J., Varner, R. (2014) [\*Linking Sediment Characteristics to Methane Emission Potential in Subarctic Lakes\*](#). Poster. AGU Fall Meeting. San Francisco, CA, USA

## Workshop Participation

"Wetlands as Nature-Based Climate Change Solutions," ECCC-CAAF funded project	May 2023
Highwood Little Bow River Management Plan – Public Advisory Committee	Mar 2023

## Fellowships & Grants

University of Lethbridge Postdoctoral Fellow Dissemination Grant	\$1000 CAD	2023
Society of Canadian Aquatic Sciences Early Career Travel Award	\$150 CAD	2023
Yale Graduate Student Assembly Conference Travel Fund Award	\$750 USD	2022
NASA Connecticut Space Grant Graduate Research Fellowship	\$8000 USD	2019
<i>"Illuminating riverine dissolved organic carbon dynamics and export using carbon age"</i>		
Yale Graduate Student Assembly Conference Travel Fund Award	\$500	2019
Yale Institute of Biospheric Studies RFP Grant	\$3950 USD	2018
ASLO Aquatic Sciences Meeting Student Travel Fund	\$500 USD	2017
Smithsonian Graduate Student Fellowship	\$8000 USD	2016
<i>"Microbial degradation of marsh-exported carbon"</i>		
NOAA-CREST Graduate Student Fellowship	\$36,000 USD	2015-2017

## Teaching & Mentoring

Mentorship of:

• Jessica Dowling (BSc)	Sep 2023-present
• Sara Valizadeh (PhD)	Jun 2023-present
• Ilyanna Janvier (MSc)	Dec 2022-present
• Mariya Denny (MSc)	Dec 2022-present
• Chun Ngai Chan (PhD)	Dec 2022-present
• Johnae McArthur (BSc)   New Haven Promise Internship	Jun-Aug 2018
• Jocelyn Mendez (BSc)   Smithsonian Internship Program	Jun-Aug 2016

Teaching Fellow (Yale University):

• The Physical Science of Climate Change	Spring 2021
• Watershed Cycles and Processes	Fall 2019 & Fall 2020
• Multivariate Statistics for the Environmental Sciences	Spring 2019

Workshops:

- [\*"Publication-Ready Figure Making using R ggplot2"\*](#) Laura Logozzo and Sam Woodman (2023) Water Institute for Sustainable Environments Seminar Series, University of Lethbridge

- “*Microsoft Excel Basics*” Laura Logozzo (2020) Watershed Cycles and Processes, Yale University. Primary Instructors: Peter Raymond and James Saiers

Guest Lecturing:

- “*Biogeochemistry of Inland Waters II*” (Fall 2023) Biogeochemistry, University of Lethbridge. Primary Instructor: Matthew Bogard

## Professional Service & Volunteering

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Reviewer for:

<i>Water Research</i>	2023-present
<i>Limnology and Oceanography</i>	2023-present
<i>Journal of Geophysical Research: Global Biogeochemical Cycles</i>	2023-present
<i>Biogeosciences</i>	2022-present
<i>Biogeochemistry</i>	2021-present
<i>Hydrological Processes</i>	2021-present
<i>Global Biogeochemical Cycles</i>	2020-present

Water Institute for Sustainable Environments Seminar Series, <b>Co-organizer</b>	Oct 2023-present
Meeting of the Minds Conference, University of Lethbridge, <b>Poster Presentation Judge</b>	March 2023
Yale Graduate Student Health Advisory Committee, <b>Member</b>	2019-2021
Yale Graduate Student Assembly Representative, <b>Elected Member</b>	2019-2021
YSE Student Affairs Committee Member, Student Life Division, <b>Member</b>	2018-2019
YSE PhD Student Interest Group, <b>Co-chair</b>	2018-2019

## Grant & Award Reviewing

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University of Lethbridge Graduate Scholarships Adjudication Committee	August 2023
MITACS Accelerate Research Proposal	April 2023

## Professional Affiliations

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American Geophysical Union  
 Association for the Sciences of Limnology and Oceanography  
 Society of Canadian Aquatic Sciences

## Press

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[“Exploring the Depths of Water's Role in Climate Change”](#) (2022) *Canopy Magazine*  
[“New Haven Promise Inspires New ‘Champions’ for the Environment”](#) (2018) *Yale School of the Environment*