Dr. Cécilia Barouillet (Ph.D.)

Researcher & Lecturer

Aquatic Ecology, Inland Waters, Paleolimnology, molecular ecology and ecosystem services.

enviroSPACE, University of Geneva, Bd. Carl Vogt 66, 1211 Geneva 4, Switzerland
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Personal skills	Approachable, Motivated, Flexible, Open-minded, Responsible, Curious, Organized
Scientific skills	Aquatic ecology, limnology, paleolimnology, data analysis, field work
Languages	French (First language) - English (Bilingual) - Spanish (Beginner)

POSITIONS

2023-2026	**Postdoctoral Researcher** University of Geneva, Laboratory enviroSPACE, Switzerland
2020-Today	**Vice-president,** in charge of the communication and publication, International Society of Limnology (SIL)
2023-2025	**Member of the organisation committee for the Journée Romande de la Géoinformation** ASIT, Lausanne, Switzerland
2020-2023	**Postdoctoral Researcher** Centre Alpin de Recherche sur les Réseaux Trophiques et Ecosystèmes lacustres, Institut National de Recherche pour l'Agriculture, l'alimentation et l'environnement, Thonon-les-bains, France
2020-2022	**Member of the organizing board of the sedaDNA society & Coordinator of the African sedaDNA working group**
Fall 2019	**Head Teaching Assistant** Queen's University, Canada
2014-2019	**Teaching Assistant** Queen's University, Canada

ACADEMIC QUALIFICATIONS

2016-2019	**PhD** (Enrolled directly from a M.Sc.) Queen's University, Kingston (ON), Canada
2014-2016	**M.Sc. Research** Queen's University, Kingston (ON), Canada
2011-2014	**Licence BOPE** (Biologie des Organismes, des Populations et des Ecosystems) Université Paul-Sabatier Toulouse III - Toulouse, France

RESEARCH HIGHLIGHT

Barouillet C., D. Debroas, E. Capo, J-P. Jenny, P. Sabatier, I. Domaizon. Multifaceted biodiversity changes of lake microeukaryote communities in response to nutrient enrichment and climate change. **Oikos**, https://doi.org/10.1002/oik.11616

Keck F., T. Peller, R. Alther, C. **Barouillet**, R. Blackman, E. Capo, T. Chonova, M. Couton, L. Fehlinger, D. Kirschner, M. Knüsel, L. Muneret, R. Oester, K. Tapolczai, H. Zhang, F. Altermatt. 2025. The global human impact on biodiversity. **Nature**, https://doi.org/10.1038/s41586-025-08752-2

FULL PUBLICATION LIST AVAILABLE IN ANNEXE

Hobbies:
Climbing, Dance, Ski touring, hiking, oil painting, drawing, piano, reading, philosophy.

ANNEXE

This annexe contains the following information:

ANNEXE

PEER REVIEWED PUBLICATIONS

2025

- **Barouillet** C., D. Debroas, E. Capo, J-P. Jenny, P. Sabatier, I. Domaizon. Multifaceted biodiversity changes of lake microeukaryote communities in response to nutrient enrichment and climate change. Oikos, https://doi.org/10.1002/oik.11616
- **Barouillet** C., M. Gros. The International Society of Limnology (SIL) Partners with ASLO for a Joint Conference: Widening Opportunities in Aquatic Research. Limnology & Oceanography Bulletin, lob.70006. https://doi.org/10.1002/lob.70006
- Keck F., T. Peller, R. Alther, C. **Barouillet**, R. Blackman, E. Capo, T. Chonova, M. Couton, L. Fehlinger, D. Kirschner, M. Knüsel, L. Muneret, R. Oester, K. Tapolczai, H. Zhang, F. Altermatt. The global human impact on biodiversity. Nature, https://doi.org/10.1038/s41586-025-08752-2
- Bazin S., I. Domaizon, C. **Barouillet**, V. Frossard, A. Sentis. Seasonal variations in planktonic food web structure affect stability by shifting the distribution of energy fluxes. Oikos e11528, https://doi.org/10.1002/oik.11528
- Jenny J-P., C. **Barouillet**, I. Domaizon, D. Etienne, I. Gregory-Eaves, O. Desgué-Itier, A. Lami, E. Messager, P. Sabatier, J. Rotschi. Increasing carbon burial over recent decades despite re-oligotrophication in deep peri-alpine lake Aiguebelette, France. Journal of Paleolimnology, 73, https://doi.org/10.1007/s10933-025-00358-y
- Soares, L.M.V., M. Thouillot, V. Frossard, O. Desgué-Itier, C. **Barouillet**, Y. Baulaz, J-C. Clément, I. Domaizon, J-M. Dorioz, C. Goulon, J. Guillard, S. Jacquet, E. Réalis, V. Tran Khac, J-P. Jenny. Expanding the European water Framework Directive indicators to address long-term climate change impacts on lakes using mechanistic lake models. Ecological Indicators, 172, https://doi.org/10.1016/j.ecolind.2025.113220
- Picard M., J. Von Eggers, K.A. Brasell, D. Yan, J. Klaminder, I.G. Alsos, C. **Barouillet**, Y. Cheng, R. Dommain, K. Dulias, L. Duxbury, M.E. Edwards, S.G. Pastor, D. Harning, S.M. Hudson, G. Huston, S. Kaynar, L. Kurte, M. Leunda, M.L.D. Lopez, B. Moguel, F. Olajos, V. Pérez, A. Revéret, D.P. Rijal, J. Rydberg, C. Schwörer, K.R. Stoof-Leichsenring, Z.E. Taranu, G. Thomson-Laing, A. Thorpe, R. Tiedemann, L.V. Nogales, Y. Wang, S.A. Wood, E. Capo. Using DNA archived in lake sediments to reconstruct past ecosystems, in: Encyclopedia of Quaternary Science. Elsevier, pp. 673–690. https://doi.org/10.1016/B978-0-323-99931-1.00171-9
- Cavoy V., J. Guillard, C. **Barouillet**, O. Anneville, N. Sharaf, C. Gillet, C. Goulon. Early-life temperature drives recruitment success in Eurasian perch (Perca fluviatilis) populations. Prepint, bioRXiv, https://doi.org/10.1101/2025.11.04.686284

2024

- **Barouillet** C., J.D. González-Trujillo J. Geist, G.M. Gíslason, H. Grossart, K. Irvine, S.C. Jähnig, P.J. Boon. Freshwater conservation: Lost in limnology? Aquatic Conservation 34, https://doi.org/10.1002/aqc.4049
- **Barouillet** C., K.R. Laird, B.F. Cumming, B.P. Finney, D.T. Selbie. Assessment of anthropogenic impacts on the trophic dynamics of Babine Lake: Implications for the production of sockeye salmon. Journal of Great Lakes Research, 50, https://doi.org/10.1016/j.jglr.2024.102395
- Soares, L.M.V., O. Desgué-Itier, C. **Barouillet**, C. Casenave, I. Domaizon, V. Frossard, N.G. Hairston, A. Lami, B.J. Lemaire, G. Saulnier, F. Soulignac, B. Vinçon-Leite, J-P, Jenny. Unraveling Lake Geneva's hypoxia crisis in the Anthropocene. Limnology and Oceanography Letters, lol2.10435. https://doi.org/10.1002/lol2.10435

2023

- **Barouillet** C., I. Domaizon, E. Capo. Protist DNA from Lake Sediments, in: Capo, E., Barouillet, C., Smol, J.P. (Eds.), Tracking Environmental Change Using Lake Sediments, Developments in Paleoenvironmental Research. Springer International Publishing, Cham, pp. 175–203. https://doi.org/10.1007/978-3-031-43799-1_6

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PEER REVIEWED PUBLICATIONS

2023

- Capo, E., C. **Barouillet**, J.P. Smol. (Eds.), 2023a. Tracking Environmental Change Using Lake Sediments: Volume 6: Sedimentary DNA, Developments in Paleoenvironmental Research. Springer International Publishing, Cham. https://doi.org/10.1007/978-3-031-43799-1
- **Barouillet** C., M-E. Monchamp, S. Bertilsson, K. Brasell, I. Domaizon, L. S Epp, A. Ibrahim, H. Mejbel, E. Canisius Nwosu, J. K. Pearman, M. Picard, G. Thomson-Laing, N. Tsugeki, J. Von Eggers, I. Gregory-Eaves, F. Pick, S. A. Wood, E. Capo. Investigating the effects of anthropogenic stressors on lake biota using sedimentary DNA. Freshwater biology, 00, https://doi.org/10.1111/fwb.14027
- Capo, E., C. **Barouillet**, J.P. Smol. Using Lake Sedimentary DNA to Reconstruct Biodiversity Changes, in: Capo, E., Barouillet, C., Smol, J.P. (Eds.), Tracking Environmental Change Using Lake Sediments, Developments in Paleoenvironmental Research. Springer International Publishing, Cham, pp. 1–8. https://doi.org/10.1007/978-3-031-43799-1_1

2022

- **Barouillet** C., V. Vasselon, F. Keck, L. Millet, D. Etienne, D. Galop, D. Rius and I. Domaizon. Paleoreconstructions of ciliate communities reveal long-term ecological changes in temperate lakes. Scientific Reports 12, https://doi.org/10.1038/s41598-022-12041-7

2021

- Laird, K. R., **Barouillet**, C., Cumming, B. F., Perrin C. J., and D. T. Selbie. 2021. Influence of glacial turbidity and climate on diatom communities in two Fjord Lakes (British Columbia, Canada). Aquatic Sciences 83, https://doi.org/10.1007/s00027-020-00767-3

2019

- **Barouillet**, C. 2019. Long-term response of sockeye salmon (Oncorhynchus nerka) nursery lakes to climate and watershed management activities in British Columbia (Canada). PhD, Queen's University
- **Barouillet**, C., B.F. Cumming, K.R. Laird, C.J. Perrin and D.T. Selbie. 2019. Influence of glacial flour on the primary and secondary production of Sockeye Salmon nursery lakes: a comparative modern and paleolimnological study. Canadian Journal of Fisheries and Aquatic Sciences 76, https://doi.org/10.1139/cjfas-2018-0372

RESEARCH PROJECTS

2023-2026 NCCS-Impact, Impact of Climate Change on Ecosystem Services- Project lead and coordinator for the Aquatic Ecosystems work package.

2022-2023 Pole RD Ecla, Axe 1 Caractérisation et évaluation de l'état et des trajectoires des milieux lacustres, de leur biodiversité, et de leur fonctionnement – Mieux comprendre et caractériser le rôle des micro-prédateurs dans les réseaux trophiques lacustres – co-lead & co-writing with Dr. Isabelle Domaizon

2020-2022 Pole RD Ecla, Axe 2a Surveillance, impact et adaptation au changement climatique – Réponse à long-terme de la diversité des communautés lacustres : diagnose des impacts climatiques et anthropiques locaux via l'application ADN sédimentaire – co-lead & co-writing with Dr. Isabelle Domaizon

2016-2019 PSC Northern Fund 2016 – Babine Lake, BC, Sockeye Salmon nursery ecosystem structure, functioning and productive capacity: an integrated limnological, paleolimnological, and fisheries assessment – Doctoral project, supervised by Dr. Brian F. Cumming, Dr. Kathleen R. Laird & Dr. Daniel T. Selbie

2014-2016 Bridge River Water Use plan – Seton Lake aquatic productivity monitoring – Master and Doctoral project supervised by Dr. Brian F. Cumming, Dr. Kathleen R. Laird & Dr. Daniel T. Selbie

ANNEXE

CO-AUTHORED THESIS

The response of Cladocera assemblages and size structure to multiple stressors in three Kawartha Lakes (Ontario) over the last 200 years. Shirui Li. MSc Thesis. Defended in 2021.

MENTORSHIP OF UNDERGRADUATE THESIS

2018-2019 Haley Richardson – What factors are causing a shift in Daphnia composition in the Adirondack Park (New York, USA)?

2017-2018 Madeleine Stein - Understanding changes in subfossil Cladocera in response to multiple stressors at Pigeon Lake

2016-2017 Sydney Hennessy - Assessment of regional changes in cladoceran zooplankton assemblages since pre-industrial times from reference lakes from the Experimental Lakes Area (Ontario, Canada)
Aimee Bertin - In search of a climate signal: changes in cladoceran assemblages since preindustrial times in minimally-impacted Adirondack references lakes

LECTURES

2025 MUSE- module, Introduction to Aquatic Ecology : Introduction to bioindicators and eDNA in limnology

Geomatique 1 - Certificat de Géomatique

2024 MUSE- module, Introduction to Aquatic Ecology : Introduction to bioindicators and eDNA in limnology

Geomatique 1 - Certificat de Géomatique

2022 M2 ECOMONT - module "Ecologie à large echelle : Retro-observation et Ecologie spatiale". Rétro-observation et approches sedDNA en paléo-limnologie

Summer School UNITA - USMB et Università di Torino, « Lakes and rivers ecological monitoring» (Thonon-les-bains, France) Sedimentary fossils & genetic archives as a powerful tool to reconstruct long-term biological changes

2021 Stage Master USMB ECOMONT (Thonon-les-bains, France) Paleolimnology & sedimentary DNA: Reconstruct past environmental changes.

2019 BIOL335-Limnology and Aquatic Ecology (Queen's University, Kingston, Canada)
The effect of the Bridge River Diversion on the pelagic production of Seton Lake, a Sockeye Salmon nursery lake (British Columbia, Canada)

2018 Geography Course (University of Ottawa, Ottawa, Canada)
Long term environmental change in Freshwater Ecosystems

BIOL527-Community and Ecosystem Ecology (Queen's University, Kingston, Canada)
Perspective of graduate studies from a (veteran?) graduate student & sharing about my research

2017 BIOL303-Community and Ecosystem Ecology (Queen's University, Kingston, Canada)
Long term environmental change in Freshwater Ecosystems

ANNEXE

SEMINAR

2025 The sedimentary DNA approach: A window to the past and a tool for freshwater management and conservation
Aquatic Seminar, University of Geneva, Geneva, Switzerland

2022 Studying the long-term dynamic of freshwater ecosystems through sedimentary DNA research: a potential tool for management and conservation
Limnological Institute, Konstanz Universität, Konstanz, Germany

2021 Etude paléolimnologique de l'influence du climat et des perturbations anthropiques sur les frayères à saumon rouge en Colombie Britannique (Canada)
UMR CARRTEL, Thonon-les-bains, France

CONGRESSES PRESENTATIONS & POSTERS

2025
- NCCS-impact: ecosystem services project team - NCCS-impact Program Meeting, Liebefeld, Bern

2024
- **Barouillet** C., Björnsen A. , Fischer, Kramer K., Stöckli S., Röthlin R. NCCS-impact: Impact of climate change on ecosystem services in Switzerland - Forum Klima Schweiz, Zentrum Paul Klee, Bern (Poster)

2022
- **Barouillet** C., Gonzalez Trujillo J.D., Geist J., Gíslason G.M., Irvine K., Boon P.J. Summary of the workshop: "Limnology at the crossroads: its role in freshwater conservation and management?" – SIL (International Society of Limnology), Berlin, Germany
- **Barouillet** C., Nwosu E., Capo E., Epp L., Domaizon I. Studying the long-term dynamic of freshwater ecosystems through sedimentary DNA research: a potential tool for management and conservation. – SIL (International Society of Limnology), Berlin, Germany
- Soares, L.M.V., Desgue-Itier, O., Domaizon, I., **Barouillet**, C., Jenny, J-P. Integration of lake modeling, paleolimnological records and in situ measurements towards the reconstruction of dissolved oxygen concentrations in peri-alpine lakes over 250 years (1850–2100). – IAL-IPA, Argentina (International Paleolimnological Association)
- Soares, L.M.V., Desgue-Itier, O., Domaizon, I., **Barouillet**, C., Jenny, J-P. Integrating lake modeling and paleolimnological records for long-term simulations of water quality in a deep peri-alpine lake. – SIL (International Society of Limnology), Berlin, Germany

2021
- **Barouillet** C., Vasselon V., François K., Millet L., Etienne D., Galop D., Rius D., and Domaizon I. Changes in ciliate communities reveal functional modification of lakes ecosystem over the last century.—SIL (International Society of Limnology) 2021, Online, Oral Presentation
- Rotschi J., Domaizon I., Gregory-Eaves I., Lami A., **Barouillet** C., Etienne D., Messager, E., Jenny J-P. The paradox of increasing long-term carbon sequestration in lake ecosystems despite reoligotrophication: the case of four large French perialpine lakes—SIL (International Society of Limnology) 2021, Online, Oral Presentation
- **Barouillet** C., Rotschi J., Jenny J., Lami A., Etienne D., Domaizon I. Reconstructing the long-term dynamic of pigmented communities in freshwater ecosystems using qPCR.—EGU (European Geosicences Union) 2021, Online, Oral Presentation
- Rotschi J., Domaizon I., Gregory-Eaves I., Lami A., **Barouillet** C., Etienne D., Messager, E., Jenny J-P. The paradox of increasing long-term carbon sequestration in lake ecosystems despite reoligotrophication: the case of four large French perialpine lakes —EGU (European Geosicences Union) 2021, Online, Oral Presentation

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CONGRESSES PRESENTATIONS & POSTERS

2019

- **Barouillet** C., Meyer-Jacob, C., Mushet, G.R., Hennessy, S., Bertin, A., Cumming, B.F. Dissolved organic Carbon concentrations exert a stronger control on the cladoceran community composition of boreal lakes than warming.—ASLO 2019 Joint Meeting (Puerto Rico, USA), Oral Presentation
- **Barouillet** C., Meyer-Jacob, C., Mushet, G.R., Hennessy, S., Bertin, A., Cumming, B.F. Dissolved organic Carbon concentrations exert a stronger control on the cladoceran community composition of boreal lakes than warming. Brock University – The 11th Ontario Québec Paleolimnological Symposium (St Catherines, ON, Canada).
- **Barouillet** C., Bertin, A., Hennessy, S., Meyer-Jacob, C., Mushet, G.R., Cumming, B.F. Can we track the effect of warming on the cladoceran communities of minimally-impacted lakes? - Canadian Conference for Fisheries Research / Society of Canadian Limnologists annual meeting (London, ON, Canada), Oral Presentation

2018

- **Barouillet** C., D. T. Selbie, K. R. Laird, P. R. Leavitt, C. J. Perrin, and B. F. Cumming. Paleolimnological investigation of the impact of the bridge-river diversion on primary and secondary producers in Seton Lake.—Brock University – The 11th Ontario Québec Paleolimnological Symposium (St Catherines, ON, Canada)

2017

- **Barouillet** C., D. T. Selbie, K. R. Laird, P. R. Leavitt, C. J. Perrin, and B. F. Cumming. Paleolimnological investigation of the impact of the bridge-river diversion on primary and secondary producers in Seton Lake.—Canadian Conference for Fisheries Research / Society of Canadian Limnologists annual meeting (Montréal, QC, Canada), Oral Presentation.

2016

- **Barouillet** C., D. T. Selbie, K. R. Laird, P. R. Leavitt, C. J. Perrin, and B. F. Cumming. Paleolimnological investigation of the impact of the bridge-river diversion on primary and secondary producers in Seton Lake.— Queen's University – The 9th Ontario Québec Paleolimnological Symposium (Kingston, ON, Canada), Oral Presentation.
- **Barouillet** C., D. T. Selbie, K. R. Laird, P. R. Leavitt, C. J. Perrin, and B. F. Cumming. Paleolimnological investigation of the impact of the bridge-river diversion on primary and secondary producers in Seton Lake.—Lillooet – Workshop for the BC Hydro and SER Bridge River Diversion Monitoring Program-6. 2016, Oral Presentation.
- **Barouillet** C., K. R. Laird, B. F. Cumming, D. T. Selbie, P. R. Leavitt, and C. J. Perrin. Has the productivity of Seton Lake (British Columbia, Canada) changed since the development of a hydroelectric power project?— WatIF International Graduate Conference 2016 (Kingston, ON, Canada), Oral Presentation.
- **Barouillet** C., K. R. Laird, B. F. Cumming, D. T. Selbie, P. R. Leavitt, and C. J. Perrin. Paleolimnological investigation of the impact of the bridge-river diversion on primary and secondary producers in Seton Lake, a sockeye salmon lake in British Columbia (Canada).— ASLO 2016 Summer Meeting (Santa Fe, USA), Oral Presentation.

2016

- **Barouillet** C., K. R. Laird, B. F. Cumming, D. T. Selbie, P. R. Leavitt, and C. J. Perrin. Paleolimnological investigation of the impact of the bridge-river diversion on primary and secondary producers in Seton Lake, a sockeye salmon lake in British Columbia (Canada).— International Paleolimnology Symposium 2015 (Lanzou, China), Oral Presentation.
- **Barouillet** C., B. F. Cumming, D. Selbie, K. R. Laird and Peter R. Leavitt. Investigating the long-term influence of the Bridge-River Diversion on Sockeye Salmon nursery ecosystem productivity in Seton Lake, British Columbia: A comparative paleolimnological study.—Water Symposium (Kingston, ON, Canada), Oral Presentation.
- **Barouillet** C., B. F. Cumming, D. T. Selbie, K. R. Laird and Peter R. Leavitt. Paleolimnological Assessment of the Bridge River Diversion and Climate Change on Sockeye Salmon in Seton and Anderson lakes, British Columbia, Canada.—Canadian Conference for Fisheries Research / Society of Canadian Limnologists annual meeting (Ottawa, ON, Canada), Poster presentation.

ANNEXE

SESSION CONVENER

2022 Reconstructing eco-environmental dynamics from sediment records and ancient DNA
SIL2022 (International Society of Limnology), BERLIN, GERMANY
Chairs: Barouillet C., Belle S.

2022 Deciphering past aquatic ecosystem dynamics using sedimentary ancient DNA
JASM (Joint Aquatic Science Meeting), ONLINE
Chairs: Spanbauer T., Monchamp, M-E., Capo E., & Barouillet C.

2019 Impacts of climate change in Aquatic Ecosystems
2019, CCFFR-SCL, Western University, LONDON, ON, CANADA
Chairs: Barouillet C., & Cumming B. F.

WORKSHOP, SCIENTIFIC OUTREACH

2025 NCCS-impacts technical workshop Dashboard for cross-sectoral analysis of ecosystem services
WSL, Birmendorf, Switzerland
Organizer(s): Cécilia Barouillet

2024 NCCS-impacts technical workshop for ShinyApp Developpers
WSL, Birmendorf, Switzerland
Organizer(s): Cécilia Barouillet

2023 NCCS-impacts co-creation workshop with stakeholders for the project "Assessment of the impact of Climate Change on Aquatic Ecosystem Services in Switzerland"
Bern, Swizterland
Organizer(s): Cécilia Barouillet, Nina Kaczmarek, Astrid Björnsen, Anthony Lehmann, Sibylle Stoeckli

2022 Workshop – "Limnology at the crossroad: its role in freshwater conservation and management?"
SIL2022 (International Society of Limnology), BERLIN, GERMANY
Organizer(s): Phil Boon, Cécilia Barouillet, Juan-David Gonzalez Trujillo, Geist Jürgen, Gisli M. Gislason, Ken Irvine.

2021 Workshop - "Indigenous Relations in Research"
CCFFR-SCL Congress 2021 Virtual Workshop, ONLINE
Organizer(s): Emily Stewart, Kristen Coleman, Andrea Kirkwood, Cécilia Barouillet.

Symposium – 1st Symposium of the African sedaDNA working group
sedaDNA scientific society, ONLINE
Organizer(s): Cécilia Barouillet, Eric Capo.

2020 Worksohp - Science Communication: Beyond the Manuscript
CCFFR-SCL Congress 2020, HALIFAX, NS, CANADA
Organizer(s): Kristen Coleman, Cécilia Barouillet.

2019 Panel Discussion – Tips to get a job in Aquatic Sciences
CCFFR-SCL Congress 2019, Western University, LONDON, ON, CANADA
Organizer(s): Cécilia Barouillet, Kristen Coleman.