Relevant Experience (Non-course related)

McGill University Montreal, Canada
Research Assistant May 2024 – August 2026
Supervisors: Geneviève D'Avignon (genevieve.davignon@usherbrooke.ca), Université de Sherbrooke and Irene Gregory-Eaves (irene.gregory-eaves@mcgill.ca); McGill University
Description: Tracking Exotic and Endemic Mosquitos using Inland Waters and Genomics (TEEMING) intends to create a community science program to detect exotic mosquito species using environmental DNA (eDNA) from inland waters. I contributed to TEEMING through eDNA lab work, protocol writing/editing, data analysis, and manuscript writing.

McGill University Montreal, Canada
Sustainability Fellow September 2025-December 2025
Supervisor: Irene Gregory-Eaves (irene.gregory-eaves@mcgill.ca)
Description: As a sustainability fellow, I developed new class content for an introductory McGill biology class. Additionally, we developed new assignments to increase the accessibility of the class.

McGill University Computation and Data Systems Initiative Montreal, Canada
Learning Assistant August 2024
Supervisor: Tim Elrick (tim.elrick@mcgill.ca); McGill University
Description: The Computational and Data Systems Initiative (CDSI) aims to provide free classes and workshops to McGill students who wish to learn skills in computing, data science and artificial intelligence. In my role, I explained class materials, ran labs, and provided support to the professor.

McGill University Montreal, Canada
Research Internship May 2023 - August 2023
Supervisor: Irene (Rene) Gregory-Eaves (Email: irene.gregory-eaves@mcgill.ca); McGill University
Description: This project combined analyses of sediment elemental composition, chlorophyll *a,* and subfossil cladoceran communities to assess the environmental history of three highly modified Canadian lakes from Ontario and Quebec over the past ~300 years. I spearheaded this project and contributed to its conceptualization, lab work, statistical analyses, and writing.

Scientific Achievements

King, L.*, MacKeigan, P., Garner, R. E., **Aucoin, M.**, Beisner, B. E., Domaizon, I., Smol, J. P., Gregory Eaves, I. (2025). Long-term trends in plankton communities of mesotrophic lakes along a land-use gradient in eastern Canada. *Anthropocene*. Refereed Publication – Published. (data analysis, data collection, writing/editing).

Pham, J. *, Taranu, Z. E., **Aucoin, M.**, Rabinovitch, Z., Paquette, C., Beisner, B. E., Gregory-Eaves, I. (2025). Temporal dynamics of ecological networks: deciphering changes in cladoceran assemblages over the past ~ 150 years in response to land-use development. *Journal of Plankton Research*. https://doi.org/10.1093/plankt/fbaf047. Refereed Publication – Published. (writing/editing, data analysis, data collection).

Aucoin, M. *, Rabinovitch, Z., Phams, J., Zilkey, D., Gregory-Eaves, I. (2025). Long-term changes in three eastern Canadian lake records with different land use histories: a multiproxy study. *Journal of*

Paleolimnology. 10.1007/s10933-025-00371-1 Refereed Publication – Published. (co-conceptualized project, lead data analysis, lead lab work, lead presentation, writing/editing).

Aucoin, M., Gregory-Eaves I., Walsh D., Ludwig A., Huot, Y., D'Avignon, G. (2026). Optimization of eDNA sample processing for the detection of mosquito eDNA. Group de Recherche Interuniversitaire en Limnologie. Poster presentation. (conceptualized project, data analysis, lab work, lead presentation).

Aucoin, M. *, Rabinovitch, Z., Phams, J., Zilkey, D., Gregory-Eaves, I. (2025). Long-term changes in three eastern Canadian lake records with different land use histories: a multiproxy study. American Fisheries Quebec Symposium. Oral presentation. (co-conceptualized project, lead data analysis, lead lab work, lead presentation).

Aucoin, M. *, Rabinovitch, Z., Phams, J., Zilkey, D., Gregory-Eaves, I. (2024). Erosion and rising primary production correlate with shifts in cladoceran community composition across three eastern Canadian lake records. Quebec-Ontario Paleolimnology Symposium. Poster presentation. (coconceptualized project, lead data analysis, lead lab work, lead presentation).

Pham, J. *, Taranu, Z., **Aucoin, M.**, Rabinovitch, Z., Paquette, C., Beisner, B., and Gregory-Eaves, I. (2024). Temporal dynamics of ecological networks: Deciphering changes in cladocerans assemblages over the past ~150 years in response to land-use development. Association for the Science of Limnology and Oceanography (ASLO) Aquatic Meeting. Oral presentation. (data collection, data analysis, lab work).

Relevant Experience (Course related)

ENVR 490 - Independent Research Project: TEEMING; Sediment eDNA Montreal, Canada
Sept 2024 – December 2024

Supervisor: Irene (Rene) Gregory-Eaves (Email: irene.gregory-eaves@mcgill.ca); McGill University
Description: This project was a continuation of my summer research internship in 2024. My project evaluated the capacity of sedimentary eDNA in comparison to water samples to store mosquito eDNA.

BIOL 468 - Independent Research Project: Canadian Cladocera Assemblages Montreal, Canada
Sept 2023 – April 2024

Supervisor: Irene (Rene) Gregory-Eaves (Email: irene.gregory-eaves@mcgill.ca); McGill University
Description: This research was a continuation of my summer 2023 research internship described above. We combined analyses of biological and geochemical proxies to assess the environmental history of three highly modified Canadian lakes from eastern Canada to determine how they have responded to stressors.

Mentorship Experience

Concordia University Montreal, Canada
Teaching Assistant Sept 2026 – Present
Class: BIOL 227, Lab Studies in Biodiversity

Prep Academy Tutors Montreal, Canada
Science Tutor Sept 2025 – Present
Classes: Biology, Chemistry, Statistics, and general science

Other achievements (professional, social, etc.)

McGill Students for the Open Door Montreal, Canada
President April 2023 – April 2025
Description: At McGill Students for the Open Door, we organized volunteers to Montreal homeless shelters and encouraged McGill students to help in their community. We set up clothing drives and fundraisers to contribute to Montreal shelters and ran events to collect food and clothing for shelters.