

Liam Bogucki

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Western University
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Education

MSc in Biology

2025 – Present

Western University, Department of Biology, London, ON, Canada

Thesis: Adding Biological Soil Crust Representation to the CLASSIC Terrestrial Biosphere Model to Improve Dryland Carbon Flux Predictions

BSc Honours Specialization in Synthetic Biology & Minor in Computer Science

2020 – 2025

Western University, Faculty of Science, London, ON, Canada

Peer-Reviewed Publications

Bogucki, L., Feldman, A., Moore, D.J.P., Amaral, C., Wang, L., Green, J., Babst, F., Ojima, D., Pervin, R., Reed, S., Smith, W.K., Zhang, W. and MacBean, N. (2026) Tropical and subtropical drylands dominate the interannual variability in global net terrestrial carbon flux irrespective of different global ecosystem classifications or geographic scales. *Environmental Research: Climate*, 5, 035049.

Manuscripts Submitted, Under Review, or In Revision

Pervin, R., Robeson, S., Barnes, M., Sitch, S., Walker, A.P., Poulter, B., Maignan, F., Sun, Q., Colligan, T., Zaehle, S., Mahmud, K., Anthoni, P., Arneth, A., Arora, V.K., Bastrikov, V., **Bogucki, L.**, Decharme, B., Delire, C., Falk, S., Ito, A., Kato, E., Kennedy, D., Knauer, J., O'Sullivan, M., Yuan, W. and MacBean, N. (2025) Importance of plant functional type, dynamic vegetation, and fire interactions for process-based modeling of gross carbon uptake across the drylands of western North America. In revision for *Biogeosciences*. <https://doi.org/10.5194/egusphere-2025-2841>.

Rumpl, A., Kowalski, D., Goodhew, J., Hirano, M., **Bogucki, L.**, Rosa, C., Lachance, M.A., Pyne, M. (2025) An Ehrlich-inspired retobiosynthesis of pharmaceutical scaffolds. In revision for *Nature Communications*. <https://doi.org/10.1101/2025.11.10.687684>.

Presentations

Bogucki, L., Reed, S., Litvak, M., Smith, W.K., Melton, J., Meyer, G. and MacBean, N. (2026) Adding Biological Soil Crust Representation to the CLASSIC Terrestrial Biosphere Model to Improve Dryland Carbon Flux Simulations. *Ecological Forecasting Initiative Annual Conference*, Toronto, ON, Canada (poster).

Bogucki, L., Reed, S., Litvak, M., Smith, W.K., Melton, J., Meyer, G. and MacBean, N. (2026) Adding Biological Soil Crust Representation to the CLASSIC Terrestrial Biosphere Model to Improve Dryland Carbon Flux Simulations. *COHERENT-C / CLASSIC 5th Annual Workshop*, Victoria, BC, Canada (poster).

Bogucki, L., Feldman, A., Moore, D.J.P., Amaral, C., Wang, L., Green, J., Babst, F., Ojima, D., Pervin, R., Reed, S., Smith, W.K., Zhang, W. and MacBean, N. (2025) The Dominant Role of Drylands in Global Net Carbon Flux Interannual Variability Persists With Different Dryland Biome Classifications. *American Geophysical Union Annual Fall Meeting*, New Orleans, LA, USA (oral).

Bogucki, L. (2025) Recent and upcoming advances in the understanding of terrestrial ecosystem processes through dynamic global vegetation models. *University Students' Council EnviroUSC & GreenSort Case Competition*, London, ON, Canada (oral).

Bogucki, L., Feldman, A., Moore, D.J.P., Amaral, C., Wang, L., Green, J., Babst, F., Ojima, D., Pervin, R., Reed, S., Smith, W.K., Zhang, W. and MacBean, N. (2025) Tropical drylands dominate global net carbon flux interannual variability irrespective of different biome definitions and geographic scales. *Biology Graduate Research Forum*, London, ON, Canada (oral).

Bogucki, L. and MacBean, N. (2024) Drylands or Tropical Forests: Identifying the Dominant Contributor to Interannual Carbon Flux Variation Across Multiple Definitions. *Western Student Research Conference*, London, ON, Canada (poster).

Bogucki, L. and MacBean, N. (2024) Drylands and Tropical Forests: Determining Which Region Contributes More to Interannual Carbon Flux Variability Across Different Definitions. *Undergraduate Student Research Internship Conference*, London, ON, Canada (poster).

Bogucki, L., Lye, H., Tran, C. Demars, M., Rahman, T., Butler, J., Tarulli, C., Clarke, J., Syed, A., Ruml, A., and Pyne, M. (2024) Development of Bioengineered *Saccharomyces cerevisiae* for the Biosynthesis of Ephedrine & Related Alkaloids. *Ontario Biology Day*, Toronto, ON, Canada (oral).

Presentation Contributions

Pervin, R., Robeson, S., Barnes, M., Sitch, S., Walker, A.P., Poulter, B., Maignan, F., Sun, Q., Colligan, T., Zaehle, S., Mahmud, K., Anthoni, P., Arneeth, A., Arora, V.K., Bastrikov, V., **Bogucki, L.**, Decharme, B., Delire, C., Falk, S., Ito, A., Kato, E., Kennedy, D., Knauer, J., O'Sullivan, M., Yuan, W. and MacBean, N. (2025) The Role of Biogeographic Processes in TRENDY DGVM Simulations of Gross Carbon Uptake Across Western North American Drylands. *American Geophysical Union Annual Fall Meeting*, New Orleans, LA, USA (talk).

MacBean, N., Pervin, R., **Bogucki, L.**, Naderi, C., Barnes, M., Robeson, S., Mahmud, K., Moore, D.J.P., Reed, S., Smith, W.K., Poulter, B., Wang, L., Feldman, A., Maignan, F., Sitch, S., Walker, A., Zaehle, S. and TRENDY v11 Modelers (2024) Playing the Dryland Model Detective: Exploring the Current Status of Dryland Contributions to Global Carbon Cycling *American Geophysical Union Annual Fall Meeting*, Washington, D.C., USA (talk).

Awards & Recognitions

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| ▪ Fluxcourse Scholarship – 1,500 (United States Dollar) | 2026 |
| ▪ Canada Graduate Research Scholarship (Master's) – 27,000 (Canadian Dollar) | 2026 – 2027 |
| ▪ Queen Elizabeth II Scholarship in Science & Technology
(declined to accept scholarship above) – 15,000 (Canadian Dollar) | 2026 – 2027 |
| ▪ Ontario Graduate Scholarship – 15,000 (Canadian Dollar) | 2025 – 2026 |
| ▪ Dean's Honour List Western University | 2024 – 2025 |

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| ▪ Dean's Honour List Western University | 2023 – 2024 |
| ▪ Dean's Honour List Western University | 2022 – 2023 |
| ▪ Western University Scholarship of Distinction – 2,500 (Canadian Dollar) | 2020 – 2021 |

Academic & University Service

Western University Society of Graduate Students Designated Representative, Western President's Advisory Committee on Environment and Sustainability	2026 – Present
Sustainability Coordinator, Western University Society of Graduate Students	2026 – Present
Member, Western University Department of Biology Working Group on Global Change Biology Curriculum Planning	2025 – Present
Member, Western University Society of Graduate Students Grad Club Committee	2025 – Present
Member, Western University Society of Graduate Students Sustainability Committee	2025 – Present
Member, Western University Society of Graduate Students Social Committee	2025 – Present

Teaching

Teaching Assistant BIO 3425G "Global Change Biology" Department of Biology, Western University, London, ON, Canada	2026
Teaching Assistant BIO 2483A "Ecology" Department of Biology, Western University, London, ON, Canada	2025

Professional Memberships

American Geophysical Union	2025 – Present
Ecological Forecasting Initiative	2026 – Present
Canadian Ecological Forecasting Initiative	2026 – Present

Professional Development

Fluxcourse, A 2-week course on ecosystem flux measurement and modelling	2026
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Community & Volunteer Activities

Volunteer, Western University Society of Graduate Students May Welcome BBQ	2026
Volunteer, Western University Society of Graduate Students Ice Cream Social	2026
Organizer & MC, Earth's Greatest Enemy Community Film Screening	2026

Judge , Western University Student Research Conference	2026
Judge , Thames Valley Science & Engineering Fair	2026
Volunteer , Grad Life Glow Bowling at Fleetway	2026
Volunteer , Western University Society of Graduate Students Winter Grad Life Party	2026
Organizer , Greenwashing Town Hall with Dr. Wren Montgomery	2025
Judge & Keynote Speaker , EnviroUSC & GreenSort Case Competition – Western University	2025
Trivia Cohost , Western University Society of Graduate Students Fall Orientation Week	2025
Volunteer , Thames Valley Science & Engineering Fair	2025
Volunteer , Western University Integrated Science Halloween Event	2023