JULIE MESSIER

ASSOCIATE PROFESSOR
BIOLOGY DEPARTMENT · UNIVERSITY OF WATERLOO
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RESEARCH INTERESTS

Plant ecology; functional traits; phenotypic integration; trait-climate relationships; plant performance; climate adaptation; plant adaptive strategies; biological scales; intraspecific variation; community ecology; Christmas trees; urban trees and forests

RESEARCH POSITIONS

Position	Institution	Department	Dates
Associate Professor	University of Waterloo, ON	Biology	2026 - present
Assistant Professor	University of Waterloo, ON	Biology	2018 – 2026
Postdoctoral Fellow	Université de Sherbrooke, QC & Centre National de Recherche Scientifique (CNRS), France	Sciences Biologiques, & Centre d'Écologie Fonctionnelle et Évolutive	2016-2018

EDUCATION

Degree	Discipline	Institution	Date
PhD	Ecology & Evolutionary Biology	University of Arizona	2015
MSc	Biology	McGill University	2009
BSc	Biology	Université du Québec à Montréal	2006

CONTRIBUTIONS

SUMMARY OF CONTRIBUTIONS

Type	Number of contributions
Peer-reviewed publications	28 published, 4 submitted
Invited Seminars	25, including 1 plenary talk
Conference Presentations and Posters	23 talks; 9 posters
Reports	1
Book Chapters	1
Open Access Datasets	5
Invited International Workshop	2

Description of contributions
Students directly under Dr. Messier's supervision are underlined. Co-first authorship indicated by †. Superscripts indicate Dr. Messier's role (detailed when middle author only) 1=conceptualization, 2= data collection, 3=data analysis, 4= data interpretation, 5=primary writing, 6= editing, 7= data contribution.

PEER-REVIEWED PUBLICATIONS

>11,400 citations, h-index 19 (Google Scholar, Apr 2026) Orcid ID: 0000-0003-1637-6793

SUBMITTED / IN REVISION

- Rossi C, B Gendreau-Berthiaume & **J Messier.** In Revision. *Eccentric trees, biased estimates: sampling design reduces error in basal area increment estimates under stem and pith eccentricity*. PONE-S-26-27340, doi.org/10.32942/X28639
- Aragon L, Rada F, McCormack L, Messier C & **Messier J**. Submitted. *Tree seedlings show extensive plastic response to water deficit and heat, but it is insufficient to fully mitigate growth decline.* Plant Cell & Environment 9631643, EcoEvoRxiv: doi.org/10.32942/X2GK7G
- Galarneau M, Messier C, Gendreau-Berthiaume B, McCormack L, Williams L & **Messier J.** In Revision. *Selection Effects associated with leaf area and stomatal density drive productivity of young temperate tree communities under different water exclusion treatments*. Functional Ecology. FE-2026-00320
- Everest J, […] **J Messier** [1] *et al*. In Revision. *Functional diversity of tundra vascular plants over space and time.* Global Ecology and Biogeography. GEB-2025-0521.R1

PUBLISHED / IN PRESS

(29) Cazzaniga, SG, Lauber, T., […], **J Messier** [7] *et al.* 2026. *Mycorrhizal strategy of non-native plants varies with biome and disturbance.* Nature Ecology and Evolution 1-14. doi.org/10.1038/s41559-026-03144-9

(28) Kambach S, U Jandt, […], **J Messier** [7] *et al.* 2026. *Habitat-specific trends in taxonomic, functional, and phylogenetic diversity in European plant communities during the last 100 years.* Nature Communications. 17(1):4208. doi.org/10.21203/rs.3.rs-7002324/v1

(27) **Messier J** †, S Henry †, CM Caruso, N Isabel, P Lenz, B Marquis, WC Parker and I Aubin. 2025. *Selection for fewer, water- and carbon-conservative needles in black spruce trees under warm, dry climates.* Annals of Botany. DOI: 10.1093/aob/mcaf332

† co-first author, equal contribution

(26) Esperon-Rodriguez M, […] **J Messier** [6] *et al*. 2026. *Urban forests as essential infrastructure for climate resilience and biodiversity: A call to policymakers.* Plants, People, Planet. 8(1):14–19. 1 citation

(25) Esperon-Rodriguez M, A St-Denis, **J Messier** [1, 5], R Gallagher, MG Tjoelker & C Messier. 2025. *An integrative Urban Tree Risk Index as a novel framework for risk assessment: A case study of Montreal, Canada*. Urban Forestry & Urban Greening. 129025. 1 citation

(24) Criado MG, I.H. Myers-Smith, **J Messier** [1, 4, 6], [...] *et al.* 2025. *Plant diversity dynamics over space and time in a warming Arctic*. Nature. 642: 653-661. 40 citations

*Covered in 33 news outlets, including The Guardian, World Economic Forum, CBC Canada & Time News *

(23) **Messier J**, A Becker-Scarpitta, Y Li, **C** Violle & M Vellend. 2024. *Root and biomass allocation traits predict changes in plant species and communities over four decades of global change.* Ecology 105(10): e4389. 7 citations

* Top Viewed Article in Ecology (top 10% of 2024 papers by views within 12 months of publication)

* Featured on Waterloo News, Radio-Canada's Dans La Mosaique radio show and Le Devoir newspaper article*

(22) Maitner, B., A Halbritter, R Telford, T Strydom, J Chacon-Labella, C Lamanna, L Sloat, A Kerkhoff, **J Messier** [4,7], N Rasmussen, F Pomati, E Merz, V Vandvik & B Enquist. 2023. *On estimating the shape and dynamics of phenotypic distributions in ecology and evolution*. Methods in Ecology and Evolution. 14(10): 2592–2610. 44 citations

* top 10% of most-viewed 2023 papers in Methods in Ecology and Evolution *

(21) Aragon L, **J Messier** [1,3,4,5,6], N Atuesta-Escobar & E Lasso. 2023. *Tropical shrubs living in an extreme environment show convergent ecological strategies but divergent ecophysiological strategies*. Annals of Botany. 131(3): 491-502. 13 citations

(20) Díaz, S, J Kattge, [...], **J Messier** [7], [...] *et al.* 2022. *The global spectrum of plant form and function: enhanced species-level trait dataset*. Scientific Data 9(1): 1-18. **119** citations.

(19) Wuest, SE, ND Pires, S. Luo, F Vasseur, **J Messier** [4,6], U Grossniklaus & PA Niklaus. 2022. *Increasing plant group productivity through latent genetic variation for cooperation*. PLOS Biology 20(11): e3001842. 26 citations

* Covered in 15 news outlets; Associated primer article *

(18) Vasseur, F, D Cornet, G Beurier, **J Messier** [4,6,7], L Rouan, J Bresson, M Ecarnot, M Stahl, S Heumos, M Gérard, H Reijnen, P Tillard, B Lacombe, A Emanuel, J Floret, A Estarague, S Przybylska, K Sartori, LM Gillespie, E Baron, E Kazakou, D Vile & C Violle. 2022. *A perspective to plant phenomics: coupling deep learning and near-infrared spectroscopy*. Frontiers in Plant Science. 13: 836488. 32 citations

(17) Higham, TE, LA Ferry, L Schmitz, DJ Irschick, S Starko, PSL Anderson, PJ Bergmann, HA Jamniczky, LR Monteiro, D Navon, **J Messier** [1,5], E Carrington, SC Farina, KL Feilich, LP Hernandez, MA Johnson, SM Kawano, CJ Law, SJ Longo, CH Martin, PT Martone, A Rico-Guevara, SE Santana & KJ Niklas. 2021. *Linking ecomechanical models and functional traits to understand phenotypic diversity*. Trends in Ecology and Evolution 36(9): 860-873. 74 citations

(16) O'Connor, MI, D Barneche, AL González, **J Messier** [1,6]. 2020. *Unifying Ecology Across Scales: Progress, Challenges and Opportunities*. Frontiers in Ecology and Evolution 8(381): 610459. 3 citations

(15) Kattge, J, G Bonisch, [...], **J Messier** [7] [...] *et al*. 2020. *TRY plant trait database - enhanced coverage and open access*. Global Change Biology 26(1): 119– 188. **2,159 citations**

(14) Muscarella, R, **J Messier** [6,7], R Condit, SP Hubbell, J-C Svenning. 2018. *Effects of biotic interactions on tropical tree performance depend on abiotic conditions*. Ecology 99(12): 2740-2750. 24 citations

(13) **Messier, J**, C Violle, BJ Enquist, MJ Lechowicz & BJ McGill. 2018. *Similarities and differences in intrapopulation trait integration of trees: consistent hydraulic relationships amidst widely different integration patterns*. American Journal of Botany. 105(9): 1477–1490. 41 citations

* Featured in the American Journal of Botany September 2018 Highlights *

(12) Walker AP, ML McCormack, **J Messier** [1,5,6], I Myers-Smith, SD Wullschleger. 2017. T*rait covariance: the functional warp of plant diversity?* New Phytologist, 216(4): 976–980. 42 citations

(11) **Messier J**, MJ Lechowicz B, J McGill, C Violle, & BJ Enquist. 2017. *Interspecific integration of trait dimensions at local scales: the plant phenotype as an integrated network.* Journal of Ecology, 105(6): 1775-1790. **239 citations**

* Featured on the Journal of Ecology Blog *

(10) Vellend M, L Baeten, A Becker-Scarpitta, V Boucher-Lalonde, J McCune, **J Messier** [5,6], I Myers-Smith, & DF Sax. 2017. *Plant biodiversity change across scales during the Anthropocene.* Annual Review of Plant Biology, 68: 563-586. **336 citations**

* Highly Cited Paper in Web of Science *("top 1% of the academic field of Plant & Animal Science")* *

(9) **Messier J**, BJ McGill, BJ Enquist & MJ Lechowicz. 2017. *Trait variation and integration across scales: Is the leaf economic spectrum present at local scales?* Ecography, 40(6): 685–697. **305 citations**

(8) Siefert A, [...] **J Messier** [1,4,6], and 44 others. 2015. *A global meta-analysis of the relative extent of intraspecific trait variation in plant communities*. Ecology Letters, 18(12): 1406–1419. **1138 citations**

* Highly Cited Paper in Web of Science ("*top 1% of the academic field of Environment/Ecology*") *

(7) Niu K, **J Messier** [4,6], JS He & MJ Lechowicz. 2015. *The effects of grazing on trait diversity and niche differentiation in Tibetan alpine meadows.* Ecosphere, 6(9): 1-15. 56 citations

(6) Laughlin D & **J Messier**. 2015. *Fitness of multidimensional phenotypes in dynamic adaptive landscapes*. Trends in Ecology and Evolution, 30(8): 487–496. **359 citations**

(5) Violle C, BJ Enquist, BJ McGill, L Jiang, C Albert, C Hulshof, V Jung, & **J Messier** [6]. 2012. *Viva la variance! A reply to Nakagawa & Schielzeth.* Trends in Ecology & Evolution, 27(9): 475 – 476. 9 citations

(4) Violle C, BJ Enquist, BJ McGill, L Jiang, C Albert, C Hulshof, V Jung, & **J Messier** [1,6]**.** 2012. *The return of the variance: intraspecific variability in community ecology*. Trends in Ecology and Evolution, 27 (4): 244-252. **2,082 citations**

* Highly Cited Paper in Web of Science ("*top 1% of the academic field of Environment/Ecology*") *

(3) Kattge J, [...], **J Messier** [7] [...] *et al*. 2011. *TRY – a global database of plant traits.* Global Change Biology, 17(9): 2905-2935. **3,136 citations**

* Highly cited paper in Web of Science ("*top 1% of the academic field of Environment/Ecology*") *

(2) **Messier J**, BJ McGill & MJ Lechowicz. 2010. *How do traits vary across ecological scales? A case for trait-based ecology*. Ecology Letters, 13(7): 838–848. **1,055 citations**

* Received "Outstanding Publication" Award from ESA Early Career Ecologist & Ecology Letters *

* Highly cited paper in Web of Science ("*top 1% of the academic field of Environment/Ecology*") *

(1) **Messier J**, D Kneeshaw, M Bouchard & A de Römer. 2005. *A comparison of gap characteristics in mixedwood old-growth forests in eastern and western Quebec.* Canadian Journal of Forest Research, 35(10): 2510-2514. 15 citations

NON PEER-REVIEWED PUBLICATIONS

Reports

(1) Forsyth, L & **J Messier.** 2022. *Defining the intraspecific co-variation of adaptive traits along climatic stress gradients.* Report for Natural Resources Canada.

Book Chapters

(1) Kneeshaw DD, E Lauzon, A de Römer, G Reyes, G, J Belle-Ile, **J Messier** & S Gauthier. 2008. Ch.9. *Appliquer les connaissances des régimes de perturbations naturelles pour développer une foresterie qui s'inspire de la nature dans le sud de la péninsule Gaspésienne*. pp.204-225. In Gauthier, S. *et al*. (Eds) Aménagement forestier écosystémique en forêt boréale: pour une foresterie qui s'éduque de la dynamique naturelle des forêts. Presses de l'Université du Québec. 568 pp. 5 citations

Open Access DataSets

(5) Black Spruce Individual-Level Trait Data. 2025. 5,172 values: 12 variables (11 traits, 1 performance metric) on 431 trees from 7 provenances and 3 sites. https://doi.org/10.5281/zenodo.15571506. 12 views, 16 downloads. (Used in Messier, Henry *et al.* 2026. Annals of Botany)

(4) Mont Mégantic Individual-Level Trait Data. 2019. 18,560 values: 29 variables (14 traits, 4 environmental variables, 11 covariates) on 640 individuals from 74 species. https://doi.org/10.5281/zenodo.3258342. 170 views, 41 downloads. (Used in Messier *et al.* 2024. Ecology)

(3) Mont Saint-Hilaire Individual-Level Trait Data. 2018. 16,340 values: 43 variables (17 traits, 20 environmental variables, 6 covariates) on 380 individuals from 24 species. https://doi.org/10.5281/zenodo.1247232. 425 views, 31 downloads. (Used in Messier *et al.* 2018. American Journal of Botany)

(2) Mont Saint-Hilaire Species-Level Trait Data. 2017. 480 values: 20 traits on 24 species. https://doi.org/10.5281/zenodo.268390. 491 views, 73 downloads. (Used in Messier *et al.* 2019. Journal of Ecology)

(1) Panama Leaf-Level Trait Data. 2007. 11,460 values: 6 traits on 1,910 leaves from 119 species and 3 sites. https://doi.org/10.5281/zenodo.2649463. 114 views, 12 downloads. (Used in Messier *et al.* 2017 Ecography; Messier et al. 2010. Trends in Ecology and Evolution; also reused in multiple high-impact syntheses, e.g. #15)

PRESENTATIONS

Invited Seminars

(25) Tree Canada and Canadian Institute of Forestry, Webinar (Canada) 23.04.2026
(24) Symposium on Trait Variation and Integration, Jülich (Germany) 22.10.2025
(23) University of Wageningen, Wageningen (Netherlands) 16.10.2025
(22) DIVERSE Project, workshop on Trait-Based Ecology for HQP (Canada) 18.08.2025
(21) University of Sherbrooke, Sherbrooke (Canada) 18.12.2024
(20) University of Guelph, Guelph (Canada) 29.02.2024
(19) University of Toronto, Scarborough (Canada) 06.10.2022
(18) *Plenary Speaker*, North American Plant Phenotyping Network, Athens & virtual (USA) 25.02.2022
(17) Queen's University (virtual), Kingston (Canada) 16.04.2021
(16) University of Georgia (virtual), Athens (USA) 29.03.2021
(15) Université du Québec en Outaouais (virtual), Gatineau (Canada) 03.12.2020
(14) Université du Québec à Trois-Rivières, Trois-Rivières (Canada) 07.04.2020
(13) University of Guelph, Guelph (Canada) 16.01.2020
(12) Laurier University, Waterloo (Canada) 10.01.2020
(11) University of Toronto, Toronto (Canada) 15.11.2019
(10) University of Maine, Orono (USA) 11.10.2019
(9) Université du Québec à Montréal, Montréal (Canada). 03.04.2019
(8) Institut de Recherche en Biologie Végétale, Montréal (Canada). 01.12.2017
(7) University of Waterloo, Waterloo (Canada). 09.11.2017
(6) Early Career Perspectives on Future Earth. INTECOL webinar. 16.08.2017
(5) University of Leipzig, Leipzig (Germany). 22.06.2017
(4) University of Aarhus, Aarhus (Denmark). 12.06.2017
(3) Centro de Recerca Ecològica i Aplicacions Forestals, Barcelona (Spain). 17.02.2017
(2) University of Zurich, Zurich (Switzerland). 31.01.2017
(1) University of Sherbrooke, Sherbrooke (Canada). 22.04.2016

Conference talks

(23) **J. Messier**. 2026. International Boreal Forest Research Association Québec (Ca) 26.08.2026
(22) H. Hickey, **J. Messier** *et al.* 2026. Canadian Society for Ecology & Evolution. Toronto (Ca) 13.05.2026
(21) **J. Messier** *et al.* 2025. Canadian Society for Ecology & Evolution. Sherbrooke (Ca) 08.07.2025
(20) M. Galarneau, **J. Messier** *et al.* 2025 Canadian Society for Ecol. & Evol. Sherbrooke (Ca) 09.07.2025
(19) M. Galarneau, **J. Messier** *et al.* 2025 Ontario Ecology Ethology & Evolution. Ottawa (Ca) 15.05.2025
(18) S. Henry, **J. Messier** *et al.* 2024 Canadian Society for Ecology and Evol. Vancouver (Ca) 28.05.2024

(17) **J. Messier**, T. Sarin, S. Henry *et al.* 2024 Ontario Ecol. Ethology & Evol. Waterloo (Ca) 04.05.2024
(16) S. Henry, **J. Messier**. 2024 Ontario Ecology Ethology & Evolution. Waterloo (Ca) 04.05.2024
(15) T. Sarin, S. Henry, B. Marquis & **J. Messier**. Ontario Biology Day. Toronto (Ca) 23.03.2024
(14) **J. Messier** & J. Daniel. 2023 Ontario Ecology Ethology & Evolution. London (Ca) 26.05.2023
(13) **J. Messier** & J. Daniel. 2022 Ecological Society of America. Montreal (Ca) 16.08.2022
(12) P.-L. Chagnon & **J. Messier**. 2022. Ecological Society of America. Montreal (Ca) 18.08.2022
(11) L. Aragon & **J. Messier**. 2022. Ecological Society of America. Montreal (Ca) 18.08.2022
(10) N. Vuong & **J. Messier**. 2022. Canadian Botanical Society. Rouyn-Noranda (Ca) 06-10.06.2022
(9) C. Rossi & **J. Messier**. Canadian Botanical Society. Rouyn-Noranda (Ca) 06-10.06.2022
(8) L. Aragon, **J. Messier** *et al.* Ecological Society of America. Virtual 2-6.08.2021
(7) N. Vuong, **J. Messier** *et al.* Bryophytes & Lichen. Rouyn-Noranda (Ca) 06-09.07.2021
(6) **J. Messier**. Canadian Society Ecology & Evolution. Fredericton (Canada). 19.08.2019
(5) **J. Messier**. 39th New Phytologist Symposium: Trait covariation. Exeter (UK). 27.06.2017
(4) **J. Messier**. Canadian Society Ecology & Evolution. Victoria (Ca). 08.05.2017
(3) **J. Messier**. Gordon Research Seminar: Unifying Ecology Across Scales. Biddeford (USA). 24.07.2016
(2) **J. Messier**. Joint BES/SFE Annual Meeting. Lille (France). 11.12.2014
(1) **J. Messier**. Ecological Society of America Annual Meeting. Sacramento (USA). 13.08.2014

Conference Posters

(9) S. Nadeau, **J. Messier** & A. Maheu. Canadian Geophysical Union. Halifax (Ca) 24.05.2026
(8) **J. Messier.** Canadian Society of Ecology and Evolution. Toronto (Ca) 12.05.2026
(7) S. Nadeau, A. Maheu & **J. Messier**. DIVERSE Annual General Meeting. Gatineau (Ca) 28.10.2025
(6) C. Rossi & **J. Messier**. Canadian Society for Ecology and Evolution. Virtual 16.08.2021
(5) C. Rossi & **J. Messier**. Ecological Society of America. Virtual 05.08.2021
(4) C. Rossi, A. Trant & **J. Messier**. Women in Science UW Symposium. Waterloo, (CA) 03.03.2020
(3) **J. Messier** Gordon Research Conf: Unifying Ecology Across Scales. Biddeford (USA). 22.07.2018
(2) **J. Messier** 39th New Phytologist Symposium: Trait covariation. Exeter (UK). 27.06.2017
(1) **J. Messier** Gordon Research Conf.: Unifying Ecology Across Scales. Biddeford (USA). 24.07.2016

Invited Workshops

Integrative EcoMechanics - NSF Rules of Life, Portland (USA). 17-19.03.2019
Arctic Functional Diversity - Danish National Foundation, Aarhus (Denmark). 12-16.06.2017

RESEARCH FUNDING

Total funding to Messier: $579,353 CAD
Total obtained including collaborations: $596,353 CAD

Investigators	Funding Agency – Program (Research Purpose)	Total	Per Annum	Project Period
J. Messier	NSERC – Discovery Grant (plant trait-based climate response)	$196,000	28,000	04.2020 - 03.2027

J. Messier & N. Isabel	Association Canadienne Française pour le Savoir (ACFAS) (trait selection in Black spruce from warming climate)	$5,000	NA	05.2022 – 05.2023
J. Messier	Canadian Fund for Innovation – John R. Leaders Fund (plant phenotyping, wood anatomy, NIR phenomics)	$160,000	NA	03.2020 - 12.2025
J. Messier	Ontario Research Fund – Small Infrastructure Fund (plant phenotyping, wood anatomy, NIR phenomics)	$160,000	NA	03.2020 - 12.2025
J. Messier	Canadian Forest Service – Research Contract (plant phenotyping, wood anatomy, NIR phenomics)	$20,000	NA	10.2021 - 03.2022
J. Messier	UW Sustainability Office – Sustainability Action Fund (Growth Chamber)	$25,853	NA	08.2021 - 02.2022
J. Messier	NSERC – Discovery Launch Supplement	$12,500	NA	04.2020 - 03.2021
R. Petrone & 6 others	UW Water Institute – Seed Grant (Tree-level forest ecohydrology)	$17,000	NA	2020

ESTABLISHED RESEARCH PLATFORMS AND NETWORKS

- IDENT–Ripon; temperate tree diversity plantation
  - Long-term Experimental plantation of 3-species mixtures of >5,000+ trees, along drought gradient
  - With UQO collaborators
- FunTree; core team member, DIVERSE pan-Canadian forest resilience network
  - Coordinated collection and processing of >800 wood cores from >40 collaborators in 200 sites across Canada
  - With NRCan, UQO & UQAM collaborators
- Provenance trials; NRCan black spruce
  - With NRCan collaborators

RECOGNITIONS, AWARDS & FELLOWSHIPS (LIFETIME)

Year	Award information

2018	National Science & Engineering Research Council (NSERC) – Postdoctoral Fellowship, 2 yrs
2017	Ecology Letters & ESA - Outstanding Publication award (for Messier *et al.* 2010. Ecology Letters)
2017	Quebec Center for Biodiversity Sciences - Excellence Award
2016	Quebec Center for Biodiversity Sciences - Excellence Award
2016	Fond Québécois Nature et Technologies (FQRNT) - Postdoctoral Fellowship, 2 yrs
2015	U. of Arizona, EEB department - Robert W. Hoshaw Memorial Scholarship
2015	U. of Arizona College of Science - Galileo Circle Fellowship
2014	U. of Arizona College of Science - Galileo Circle Fellowship
2014	Embassy of France in the U.S.A – STEM Chateaubriand Fellowship
2014	McGill University - Delta Upsilon Memorial Scholarship
2014	U. of Arizona (Institute of the Environment & GPSC) - Travel Award
2013	U. of Arizona (Institute of the Environment & GPSC) - Travel Award
2012	U. of Arizona (Institute of the Environment & GPSC) - Travel Award
2009	Organization for American Studies (OAS) - Academic Studies Scholarship, 2 yrs
2009	NSERC - Canada Graduate Scholarship PhD (CGS D), 3 yrs
2009	FQRNT - PhD Scholarship, 3yrs – Declined
2008	FQRNT - MSc Scholarship, 1yr
2007	NSERC - Canada Graduate Scholarship MSc (CGS M), 2 yrs
2007	Organisme Québec-Amérique Jeunesse - PRAXIS Scholarship
2007	STRI – Short-Term Research Fellowship
2007	McGill University - Neo aid-in-research grant
2006	NSERC - Undergraduate Student Research Award
2006	Université du Québec à Montréal (UQÀM), Biology department – 'Prix Distinction', graduated at the top of 2006 Biology class
2005	UQÀM - International Travel Scholarship
2005	Hydro-Québec - Research Initiation Scholarship
2005	NSERC - Undergraduate Student Research Award
2004	NSERC - Undergraduate Student Research Award
2003	FAQDD - Collegial Scholarship

TEACHING & SUPERVISION

CURRENT SUPERVISION

Trainee	Degree / Position	Role	Period
1. Yovanny Duran Barajas	PhD student	Supervisor	05.2026 – present
Research Project: Mechanisms of plant trait variation and covariation across scales			
2. Caleb Edwards	PhD student	Supervisor	09.2026 – present
Research Project: Effects of climate on intraspecific trait variation in Canadian trees			
3. Simon Nadeau	MSc student	Co-supervisor with A. Maheu (UQO)	05.2024 – present
Research Project: Assessing the determinants of water use efficiency in deciduous trees.			

4. Harsimran Kaur	Volunteer, research assistant, honor's thesis	Supervisor	01.2026 - present
Research Project: *Using chlorophyll concentration as a proxy for leaf senescence*			
5. Blake Hills	Honor's thesis	Supervisor	09.2026 - present
Research Project: *Comparison of methods for establishing water deficit gradients*			

COMPLETED SUPERVISION

Trainee	Degree / Position	Role	Period	Current Position
6. Hanna Hickey	MSc student	Supervisor	01.2024 – 08.2026	Technician, Nature Conservancy
Research Project: Shifts in variation and covariation of wood anatomical traits with ontogeny in trees *Awards (x5):* 3rd best-talk award at 2026 CSEE annual conference; Canada Queen Elizabeth II – Ontario Graduate Scholarship in Science and Technology 2025-2026; Graduate Student Scholarship – Masters (CGS-M) 2024-2025; E.B. Dumbroff Award 2024; Ram and Lekha Tumkur Memorial Graduate Scholarship 2025				
7. Madison Delaney	Volunteer	Supervisor	01.2026 – 04.2026	BSc student, UW
8. Magalie Galarneau	MSc student	Supervisor	09.2023 – 12.2025	Nature Interpreter – Royal Botanical Garden
Research Project: Trait diversity and resistance to drought in temperate tree communities *Awards (x3):* Queen Elizabeth II – Ontario Graduate Scholarship in Science and Technology 2025-2026; E.B. Dumbroff Award 2025; Hynes Memorial Graduate Scholarship in Ecology 2024				
9. Abdullah Junaid Khan	Volunteer	Supervisor	10-2025 – 12.2025	BSc student, UW
10. Nicholas Pianosi	Research Assistant & BSc Honors Thesis	Supervisor	09.2022 – 07.2025	Technician, Archaeology research associates
Research Project: Investigating the Effects of Root Trait on Community Productivity in Temperate Trees Under Drought				
11. Anna Miller-Buzau	Volunteer	Supervisor	09.2024 – 12.2024	BSc student, UW
12. Sabina Henry	MSc student	Supervisor	09.2022- 12.2024	Lands Guardian, Michipicoten First Nations
Research Project: Assessing the adaptive potential of Black Spruce populations to climate change				
13. Valérie Ledoux	Research Assistant (full time)	Supervisor	05-2024 – 12.2024	Lake Simcoe Region Conservation Authority
14. Tanya Sarin	Research Assistant & BSc Honors thesis	Supervisor	03.2022 – 12.2023	MSc student, McGill

Research Project: Climatic and ontogenetic drivers of intra-individual trait variation in black spruce needles.

Awards: NSERC - Undergraduate Student Research Award 2023

15. Kelly Tran	Research Assistant (part time)	Supervisor	01.2023 – 12.2023	Operations lead at Pioreactor
16. Nicole Byrne	Research Assistant (part time)	Supervisor	09.2023 -12.2023	BSc student U.Guelph
17. Catherine Zhang	Research Assistant (part-time)	Supervisor	01.2023 – 05.2023	MSc student, McGill
18. Jonathan Hernes	Research Assistant (part time)	Supervisor	09.2022-01.2023	BSc student, UW
19. Lina Aragon	MSc	Supervisor	01.2020 – 12.2022	PhD student, U. Miami

Research Project: Seedlings of temperate tree species show plastic responses to water deficit and heat stress, but they do not prevent decline in growth.

Awards (x3): UW Biology department's E.B. Dumbroff Award in Plant Sciences 2020; Conference Award by Plant Population Ecology section of Ecological Society of America; Best presentation award by Physiological Ecology section of Ecological Society of America 2021

20. Reshani Abayasekara	Research Assistant (part time)	Supervisor	09.2021 – 08.2022	MSc student, U. Toronto
21. Victoria Stapells	Research Assistant & (full- & part-time)	Supervisor	01.2022- 08.2022	BSc student, UW
22. Jahanvi Chauhan	Research assistant, (full-time)	Supervisor	05.2022 – 08.2022	BSc student, UW
23. Leila Forsyth	Lab manager	Supervisor	05.2021 – 05.2022	Toronto and Region Conservation Authority
24. Cynthia Nomanee	Research Assistant (part-time)	Supervisor	09.2021 – 04.2022	BSc Student
25. Émilie Seyer-Lamontagne	MSc student (abandoned)	Co-supervisor	05.2019 – 01.2022	Lab Analyst, Canadian Food Inspection Agency

Research Project: Diversité fonctionnelle des ectomycorhizes dans les sapins baumiers et variation intraspécifique

26. Ramisa Sekander	Research assistant, (full-time)	Supervisor	10.2021 – 12.2021	BSc Student

27. Christina Rossi	BSc Honors thesis & Research Assist.	Supervisor	03.2019 – 09.2021	PhD student, WLU

Research Project: How does stem eccentricity affect estimation of basal area increment?

Awards (x4): NSERC 2019 & 2020 Undergraduate Student Research Award; 2020 UW Women in Science Research Symposium – 2nd Best Poster Award; 2021 Ecological Society of America, Student section – Conference Award

28. Natalie Vuong	BSc Honors thesis & Research Assist.	Supervisor	03.2019 – 09.2021	Free-lancing, graphic design

Research Project: Do tree physiological traits drive the abundance of epiphytic bryophytes & lichens?

Awards (x2): NSERC Undergraduate Student Research Award 2021; Ecological Society of America annual conference – Inclusivity Grant 2021; Canadian Botanical Association annual conference – Honorable Mention for talk 2021

29. Jody Daniel	Postdoc (part time)	Supervisor	06.2020 – 12.2021	Data Scientist, PartnerRE

Research Project: Can functional traits predict growth of tree saplings?

30. Arunemathi Shanmugam	Research Assistant (part-time)	Supervisor	05.2021 - 08.2021	BSc Student
31. Justin Yu	Research Assistant (full time - Coop)	Supervisor	01.2021 – 04.2021	BSc Student
32. Nicola Lopes	Volunteer (part time)	Supervisor	09.2020 – 12.2020	Litigation Assistant, Verbanac Lawyers

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SOLE INSTRUCTOR, UNIVERSITY OF WATERLOO

BIOL352. Population and Community Ecology (class size of 60)

- W2026
- Sole-developed the course

BIOL451. Advanced Ecology & Evolution (class size 9 to 30)

- F2026, F2025, F2024, F2023, F2022, F2021 & F2020
- Sole-developed the course

BIOL359. Evolution – Online (class size 175-300)

- S2025, S2024, S2023, S2021 & S2020

BIOL692. Writing Scientific Papers in Ecology and Evolution (class size 4-5)

- S2025, W2023
- Sole-developed the course

BIOL680. Special Topics in Biology (class size 1)

- W2026

BIOL499. Honor's Thesis

- A. Miller-Buzza W2025
- N. Pianosi: F2024 – W2025
- T. Sarin: S2023 - F2023
- N. Vuong: F2020 - W2021
- C. Rossi: F2019 - W2020

LEADERSHIP, SERVICE & OUTREACH (SINCE 11.2018)

DEPARTMENTAL RESPONSIBILITIES

Period	Name	Role
W2026 – Present	Biology Executive Committee	Committee member
F2022 – W2026	Biology Graduate Studies Committee	Committee member
F2022 – S2023	Biology Graduate Scholarship Committee	Committee member
F2019 – F2022	Biology Seminar Committee	Co-organizer - with 2 others
F2019 – W2020	Chair Renewal/Nomination Committee	Committee member

UNIVERSITY RESPONSIBILITIES & LEADERSHIP

Period	Name	Role
F2022 – present	Faculty of Environment Council	Science representative
S2019 – present	EcoEvo Journal Club (cross-departmental, graduate & undergraduate), University of Waterloo	Founder & sole lead
W2019 – present	Graduate Supervisory Committee – 7 MSc; 6 PhDs	Committee member
F2021	UW Faculty Orientation – "*Building Your Career*"	Panelist

NATIONAL RESPONSIBILITIES & LEADERSHIP

Period	Name	Role
Canadian		
F2024 – present	Canadian Society for Ecology and Evolution (CSEE)	**Head** of Newsletter Committee; **Head** of EDI Committee; Elected Council Member
S2024 - F2024	R. Trejo. Doctoral Dissertation Defense, University de Montréal (Qc)	External Examiner
F2019 – W2022	NSERC Selection Committee (Ecology & Evolution; PDF & PGS-D)	Committee member

INTERNATIONAL RESPONSIBILITIES & LEADERSHIP

Period	Name	Role
2010 - present	New Phytologist, Trends in Plant Science, Ecology, Ecology Letters, Folia Geobotanica, Functional Ecology, Global Ecology and Biogeography, Nature, Nature Communications, New Phytologist, Oecologia, Oikos, PLOS ONE, Tree	Peer Reviewer

	physiology	
S2025 – W2026	2026 World Biodiversity Forum; Symposium "Functional diversity in space and time: measurements, models and experiments to advance trait-based ecology"	Symposium Co-organizer
S2026	German Research Foundation (DFG)	External Grant Reviewer
S2024	Austrian Science Fund (FWF)	External Grant Reviewer
S2023	A. Catling. Doctoral Dissertation Defense, University of Queensland (Australia)	External Examiner
2018 - 2019	Frontiers in Ecology and Evolution (Journal) -Special Issue on "Unifying Ecology Across Scales"	Guest Associate Editor
2016 - 2018	Gordon Research Seminar - Unifying Ecology Across Scales	Chair

MEDIA COVERAGE

- *Le Devoir*. News article by Pauline Gravel «Quelles espèces végétales parviennent à s'adapter au réchauffement du climat ? » 09.11.2024
- Radio-Canada ICI Première (90.3 FM in Toronto). « Dans La Mosaïque » radio interview. "Étude : Adaptation des écosystèmes face aux changements climatiques" 27. 09.2024
- *Waterloo News*. Press release by Katie McQuaid. "Which species will survive the global change challenge?" 18.09.2024
- Télé Franco-Ontarienne (TFO). TV interview for International Day of Women in Science. 11.02.2023

ADJUNCT APPOINTMENTS

Université du Québec en Outaouais. Habilitation à la co-supervision / Adjunct appointement F2024 - present

PROFESSIONAL AFFILIATIONS

- Associate member, Centre for Forest Research, Québec
- Interdisciplinary Center for Climate Change (IC^3), University of Waterloo
- Water Institute, University of Waterloo
- Canadian Society for Ecology and Evolution (CSEE), Canada
- Ecological Society of America (ESA), USA
- British Ecological Society (BES), England
- Canadian Society for Plant Biologists (CSPB), Canada