

**JULIE MESSIER**

ASSISTANT PROFESSOR  
 BIOLOGY DEPARTMENT · UNIVERSITY OF WATERLOO  
 WATERLOO · ON · CANADA · N2L 3G1  
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**RESEARCH INTERESTS** 

Plant ecology; functional traits; leaf, root, wood and whole-plant traits; phenotypic integration; plant ecophysiology; trait-climate relationships; plant adaptive strategies; biological scales; intraspecific variation; community ecology

**RESEARCH POSITIONS**

Position	Institution	Department	Dates
Assistant Professor	University of Waterloo, ON	Biology	2018 – present
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	27 published, 5 submitted
Invited Seminars	25, including 1 plenary talk
Conference Presentations and Posters	21 talks; 7 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**

>11,200 citations, h-index 19 ([Google Scholar](#), Mar 2026) Orcid ID: 0000-0003-1637-6793

**SUBMITTED**

- Rossi C, B Gendreau-Berthiaume & **J Messier**. 2026. *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**. 2024. *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 & **J Messier**. Submitted. *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
- Kambach S, U Jandt, [...], **J Messier**<sup>7</sup> et al. In Review. *Habitat-specific trends in taxonomic, functional, and phylogenetic diversity in European plant communities during the last 100 years*. Nature Communications. NCOMMS-25-57443-T. doi.org/10.21203/rs.3.rs-7002324/v1
- Everest J, [...] **J Messier**<sup>1</sup> et al. In Review. *Functional diversity of tundra vascular plants over space and time*. Global Ecology and Biogeography. GEB-2025-0521.R1

**PUBLISHED / IN PRESS**

- (27) **Messier J** †, S Henry †, CM Caruso, N Isabel, P Lenz, B Marquis, WC Parker and I Aubin. In Press. *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**<sup>6</sup> et al. 2026. *Urban forests as essential infrastructure for climate resilience and biodiversity: A call to policymakers*. Plants, People, Planet. 8(1):14–19.
- (25) Esperon-Rodriguez M, A St-Denis, **J Messier**<sup>1,5</sup>, 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**<sup>1,4,6</sup>, [...] et al. 2025. *Plant diversity dynamics over space and time in a warming Arctic*. Nature. 642: 653-661. 32 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. *Plant species and community changes over 40 years of warming are associated with biomass allocation and root traits*. *Ecology* 105(10): e4389. 7 citations  
 \* Featured on [Waterloo News](#), Radio-Canada's [Dans La Mosaïque](#) radio show and [Le Devoir](#) newspaper article\*
- (22) Maitner, B., A Halbritter, R Telford, T Strydom, J Chacon-Labelle, C Lamanna, L Sloat, A Kerkhoff, **J Messier**<sup>4,7</sup>, 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. 39 citations  
 \* top 10% of most-viewed 2023 papers in *Methods in Ecology and Evolution* \*
- (21) [Aragon L](#), **J Messier**<sup>1,3,4,5,6</sup>, 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. 11 citations
- (20) Díaz, S, J Kattge, [...], **J Messier**<sup>7</sup>, [...] *et al.* 2022. *The global spectrum of plant form and function: enhanced species-level trait dataset*. *Scientific Data* 9(1): 1-18. 93 citations.
- (19) Wuest, SE, ND Pires, S. Luo, F Vasseur, **J Messier**<sup>4,6</sup>, U Grossniklaus & PA Niklaus. 2022. *Increasing plant group productivity through latent genetic variation for cooperation*. *PLOS Biology* 20(11): e3001842. 24 citations  
 \* Covered in [15 news outlets](#); Associated [primer article](#) \*
- (18) Vasseur, F, D Cornet, G Beurrier, **J Messier**<sup>4,6,7</sup>, 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. 27 citations
- (17) Higham, TE, LA Ferry, L Schmitz, DJ Irschick, S Starko, PSL Anderson, PJ Bergmann, HA Jamniczky, LR Monteiro, D Navon, **J Messier**<sup>1,5</sup>, 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. 72 citations
- (16) O'Connor, MI, D Barneche, AL González, **J Messier**<sup>1,6</sup>. 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**<sup>7</sup> [...] *et al.* 2020. *TRY plant trait database - enhanced coverage and open access*. *Global Change Biology* 26(1): 119– 188. **2,023 citations**
- (14) Muscarella, R, **J Messier**<sup>6,7</sup>, 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. 21 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. 36 citations  
 \* Featured in the *American Journal of Botany* September 2018 [Highlights](#) \*
- (12) Walker AP, ML McCormack, **J Messier**<sup>1,5,6</sup>, I Myers-Smith, SD Wullschleger. 2017. *Trait covariance: the functional warp of plant diversity?* *New Phytologist*, 216(4): 976–980. 39 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. **222 citations**  
 \* Featured on the *Journal of Ecology* [Blog](#) \*
- (10) Vellend M, L Baeten, A Becker-Scarpitta, V Boucher-Lalonde, J McCune, **J Messier**<sup>5,6</sup>, I Myers-Smith, & DF Sax. 2017. *Plant biodiversity change across scales during the Anthropocene*. *Annual Review of Plant Biology*, 68: 563–586. **318 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. **285 citations**
- (8) Siefert A, [...] **J Messier**<sup>1,4,6</sup>, 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. **1172 citations**  
 \* Highly Cited Paper in Web of Science (“top 1% of the academic field of Environment/Ecology”) \*
- (7) Niu K, **J Messier**<sup>4,6</sup>, JS He & MJ Lechowicz. 2015. *The effects of grazing on trait diversity and niche differentiation in Tibetan alpine meadows*. *Ecosphere*, 6(9): 1–15. 55 citations
- (6) Laughlin D & **J Messier**. 2015. *Fitness of multidimensional phenotypes in dynamic adaptive landscapes*. *Trends in Ecology and Evolution*, 30(8): 487–496. **341 citations**
- (5) Violle C, BJ Enquist, BJ McGill, L Jiang, C Albert, C Hulshof, V Jung, & **J Messier**<sup>6</sup>. 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**<sup>1,6</sup>. 2012. *The return of the variance: intraspecific variability in community ecology*. *Trends in Ecology and Evolution*, 27 (4): 244–252. **2,032 citations**  
 \* Highly Cited Paper in Web of Science (“top 1% of the academic field of Environment/Ecology”) \*
- (3) Kattge J, [...], **J Messier**<sup>7</sup> [...] et al. 2011. *TRY – a global database of plant traits*. *Global Change Biology*, 17(9): 2905–2935. **3,034 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. **1,033 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. 14 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) <i>Plenary Speaker</i> , 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

(21) <b>J. Messier</b> <i>et al.</i> 2025 Canadian Society for Ecology & Evolution, Sherbrooke (CA)	08.07.2025
(20) <u>M. Galarneau</u> , <b>J. Messier</b> <i>et al.</i> 2025 Canadian Society for Ecol. & Evol., Sherbrooke (CA)	09.07.2025
(19) <u>M. Galarneau</u> , <b>J. Messier</b> <i>et al.</i> 2025 Ontario Ecology Ethology & Evolution, Ottawa (CA)	15.05.2025
(18) <u>S. Henry</u> , <b>J. Messier</b> <i>et al.</i> 2024 Canadian Society for Ecology and Evol., Vancouver (CA)	28.05.2024
(17) <b>J. Messier</b> , <u>T. Sarin</u> <i>et al.</i> 2024 Ontario Ecology Ethology & Evolution, Waterloo (CA)	04.05.2024
(16) <u>S. Henry</u> , <b>J. Messier</b> . 2024 Ontario Ecology Ethology & Evolution, Waterloo (CA)	04.05.2024
(15) <u>T. Sarin</u> , <u>S. Henry</u> , B. Marquis & <b>J. Messier</b> . Ontario Biology Day. Toronto (CA)	23.03.2024
(14) <b>J. Messier</b> & <u>J. Daniel</u> . 2023 Ontario Ecology Ethology & Evolution. London (CA)	26.05.2023
(13) <b>J. Messier</b> & <u>J. Daniel</u> . 2022 Ecological Society of America. Montreal (CA)	16.08.2022
(12) P.-L. Chagnon & <b>J. Messier</b> . 2022. Ecological Society of America. Montreal (CA)	18.08.2022
(11) <u>L. Aragon</u> & <b>J. Messier</b> . 2022. Ecological Society of America. Montreal (CA)	18.08.2022
(10) <u>N. Vuong</u> & <b>J. Messier</b> . 2022. Canadian Botanical Society. Rouyn-Noranda (CA)	06-10.06.2022
(9) <u>C. Rossi</u> & <b>J. Messier</b> . Canadian Botanical Society. Rouyn-Noranda (CA)	06-10.06.2022
(8) <u>L. Aragon</u> , <b>J. Messier</b> <i>et al.</i> 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**. 39<sup>th</sup> New Phytologist Symposium: Trait covariation. Exeter (UK). 27.06.2017  
 (4) **J. Messier**. Canadian Society Ecology & Evolution. Victoria (Canada). 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

- (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** 39<sup>th</sup> 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 - <a href="#">Outstanding Publication award</a> (for Messier <i>et al.</i> 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 - <a href="#">Robert W. Hoshaw Memorial Scholarship</a>
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 – <a href="#">STEM Chateaubriand Fellowship</a>

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
<b>1. Yovanny Duran Barajas</b>	PhD student	Supervisor	05.2026 – present
<i>Research Project: Mechanisms of plant trait variation and covariation across scales</i>			
<b>2. Simon Nadeau</b>	MSc student	Co-supervisor with A. Maheu (UQO)	05.2024 – present
<i>Research Project: Assessing the determinants of water use efficiency in deciduous trees.</i>			
<b>3. Hanna Hickey</b>	MSc student	Supervisor	01.2024 – present
<i>Research Project: Shifts in variation and covariation of wood anatomical traits with ontogeny in trees</i>			
<i>Awards (x4): 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</i>			
<b>4. Harsimran Kaur</b>	Volunteer	Supervisor	01.2026 - present

## COMPLETED SUPERVISION

Trainee	Degree / Position	Role	Period	Current Position
<b>5. Madison Delaney</b>	Volunteer	Supervisor	01.2026 – 04.2026	BSc student, UW
<b>6. Magalie Galarneau</b>	MSc student	Supervisor	09.2023 – 12.2025	Nature Interpreter – Royal Botanical Garden
<i>Research Project:</i> Trait diversity and resistance to drought in temperate tree communities				
<i>Awards (x3):</i> Queen Elizabeth II – Ontario Graduate Scholarship in Science and Technology 2025-2026; E.B. Dumbroff Award 2025; Hynes Memorial Graduate Scholarship in Ecology 2024				
<b>7. Abdullah Junaid Khan</b>	Volunteer	Supervisor	10-2025 – 12.2025	BSc student, UW
<b>8. Nicholas Pianosi</b>	Research Assistant & BSc Honor Research	Supervisor	08.2022 – 04.2025	N.A.
<i>Research Project:</i> Investigating the Effects of Root Trait on Community Productivity in Temperate Trees Under Drought				
<b>9. Anna Miller-Buzau</b>	Volunteer	Supervisor	09.2024 – 12.2024	BSc student, UW
<b>10. Sabina Henry</b>	MSc student	Supervisor	09.2022- 12.2024	Grand River Rocks
<i>Research Project:</i> Assessing the adaptive potential of Black Spruce populations to climate change				
<b>11. Valérie Ledoux</b>	Research Assistant (full time)	Supervisor	05-2024 – 12.2024	Lake Simcoe Region Conservation Authority
<b>12. Tanya Sarin</b>	BSc Honors research & Research Assistant	Supervisor	03.2022 – 12.2024	MSc student, McGill
<i>Research Project:</i> Climatic and ontogenetic drivers of intra-individual trait variation in black spruce needles.				
<i>Awards:</i> NSERC - Undergraduate Student Research Award 2023				
<b>13. Kelly Tran</b>	Research Assistant (part time)	Supervisor	01.2023 – 12.2023	Operations lead at Pioreactor
<b>14. Nicole Byrne</b>	Research Assistant (part time)	Supervisor	09.2023 -12.2023	BSc student U.Guelph
<b>15. Catherine Zhang</b>	Research Assistant (part-time)	Supervisor	01.2023 – 05.2023	MSc student, McGill
<b>16. Jonathan Hernes</b>	Research Assistant (part time)	Supervisor	09.2022-01.2023	BSc student, UW
<b>17. Lina Aragon</b>	MSc	Supervisor	01.2020 – 09.2022	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

<b>18. Reshani Abayasekara</b>	Research Assistant (part time)	Supervisor	09.2021 – 08.2022	MSc student, U. Toronto
<b>19. Victoria Stapells</b>	Research Assistant & (full- & part-time)	Supervisor	01.2022- 08.2022	BSc student, UW
<b>20. Jahanvi Chauhan</b>	Research assistant, (full-time)	Supervisor	05.2022 – 08.2022	BSc student, UW
<b>21. Leila Forsyth</b>	Lab manager	Supervisor	05.2021 – 05.2022	Toronto and Region Conservation Authority
<b>22. Cynthia Nomane</b>	Research Assistant (part-time)	Supervisor	09.2021 – 04.2022	BSc Student
<b>23. Émilie Seyer-Lamontagne</b>	MSc student (abandoned)	Co-supervisor	05.2019 – 01.2022	Lab Analyst, Canadian Food Inspection Agency
<b>24. Ramisa Sekander</b>	Research assistant, (full-time)	Supervisor	10.2021 – 12.2021	BSc Student
<b>25. Christina Rossi</b>	BSc Honors research & Research Assist.	Supervisor	09.2019 – 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 – 2<sup>nd</sup> Best Poster Award; 2021 Ecological Society of America, Student section – Conference Award

<b>26. Natalie Vuong</b>	BSc Honors research & Research Assist.	Supervisor	03.2019 – 09.2021	Self-employed
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*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

<b>27. Jody Daniel</b>	Postdoc (part time)	Supervisor	06.2020 – 12.2021	Data Scientist, PartnerRE
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*Research Project:* Can functional traits predict growth of tree saplings?

<b>28. Arunemathi Shanmugam</b>	Research Assistant (part-time)	Supervisor	05.2021 - 08.2021	BSc Student
<b>29. Justin Yu</b>	Research Assistant (full time - Coop)	Supervisor	01.2021 – 04.2021	BSc Student

18. Reshani Abayasekara	Research Assistant (part time)	Supervisor	09.2021 – 08.2022	MSc student, U. Toronto
19. Victoria Stapells	Research Assistant & (full- & part-time)	Supervisor	01.2022- 08.2022	BSc student, UW
20. Jahanvi Chauhan	Research assistant, (full-time)	Supervisor	05.2022 – 08.2022	BSc student, UW
21. Leila Forsyth	Lab manager	Supervisor	05.2021 – 05.2022	Toronto and Region Conservation Authority
22. Cynthia Nomanee	Research Assistant (part-time)	Supervisor	09.2021 – 04.2022	BSc Student
23. Émilie Seyer-Lamontagne	MSc student (abandoned)	Co-supervisor	05.2019 – 01.2022	Lab Analyst, Canadian Food Inspection Agency
24. Ramisa Sekander	Research assistant, (full-time)	Supervisor	10.2021 – 12.2021	BSc Student
30. Nicola Lopes	Volunteer (part time)	Supervisor	09.2020 – 12.2020	Litigation Assistant, Verbanac Lawyers
31. Margreeta Murphy	Undergraduate independent study	Graduate supervisor	2013	Safety officer, University of Arizona
32. – 57.	25 other field and lab assistants	Graduate supervisor	2011-2017	Various

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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)

- 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 - W2023
- 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 – “ <i>Building Your Career</i> ”	Panelist

## NATIONAL RESPONSIBILITIES &amp; LEADERSHIP

Period	Name	Role
<b>Canadian</b>		
F2024 – present	Canadian Society for Ecology and Evolution (CSEE)	<b>Head</b> of Newsletter Committee; <b>Head</b> 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 &amp; LEADERSHIP

Period	Name	Role
S2025 – present	2026 World Biodiversity Forum; Symposium “Functional diversity in space and time: measurements, models and experiments to advance trait-based ecology”	Symposium Co-organizer
2010 – present	Ecology, Ecology Letters, Folia Geobotanica, Functional Ecology, Global Ecology and Biogeography, Nature, Nature Communications, New Phytologist, Oecologia, Oikos, PLOS ONE, Tree physiology	Peer 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 CONTRIBUTION

- *Le Devoir*. News article by Pauline Gravel «Quelles espèces végétales parviennent à s'adapter au réchauffement du climat ? » 11.2024
- Radio-Canada (Toronto). « Dans La Mosaïque » radio interview. 09.2024
- *Waterloo News*. Press release by Katie McQuaid. “Which species will survive the global change challenge?” 09.2024
- Télé Franco-Ontarienne (TFO). TV interview for International Day of Women in Science. 02.2023

## ADJUNCT APPOINTMENTS

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

## PROFESSIONAL AFFILIATIONS

- Associate member, [Centre for Forest Research](#), Québec
- [Interdisciplinary Center for Climate Change](#) (IC<sup>3</sup>), 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