

MATTEO RIZZUTO

Schmitz Lab
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RESEARCH APPOINTMENTS

- PostDoctoral Associate, *Schmitz Lab*** JUL. 2022–PRESENT
School of the Environment, Yale University, New Haven, CT, United States
- Visiting Assistant in Research, *Schmitz Lab*** FEB.–APR. 2019
School of the Environment, Yale University, New Haven, CT, United States
- Research Assistant, *Pawar Lab*** JAN.–MAR. 2016
Imperial College London-Silwood Park, Ascot, UK
- Research Assistant, *Tsaobis Baboon Project*** JUN.–OCT. 2015
Zoological Society of London, London, UK
- Research Assistant, *Roe & Red deer in Trentino & Technology Project*** JUN.–SEPT. 2013
Trento, Italy
- Graduate Intern, *Piedmont Wolf Project*** JUN.–DEC. 2011
Maritime Alps Nature Park, Entraque (CN), Italy
- Undergraduate Intern, *Ethology Lab*** JUN. 2008–MAR. 2009
University of Turin, Turin, Italy

EDUCATION

- Doctor of Philosophy, *Biology*** 2016–2021
Ecosystem Ecology Lab, Memorial University of Newfoundland and Labrador
St. John's, NL, Canada
- Thesis: From elements to landscapes: the role of terrestrial consumers in ecosystem functioning
- Supervisor: Dr. Shawn J. Leroux
- Master of Research (Distinction), *Ecology, Evolution, and Conservation*** 2013–2014
Pawar Lab, Imperial College London at Silwood Park, Ascot, UK
- Master of Science, *Evolution of Animal and Human Behaviour*** 2009–2012
University of Turin, Turin, Italy
- Bachelor of Science (Honours), *Biology*** 2004–2009
University of Turin, Turin, Italy

PUBLICATIONS

- Peer Reviewed* († stands for equal contribution)
- Heckford, T.R., Leroux, S.J., Vander Wal, E., **Rizzuto, M.**, Balluffi-Fry, J., Richmond, I.C., Wiersma, Y.F. Foliar elemental niche responses of balsam fir (*Abies balsamea*) and white birch (*Betula papyrifera*) to differing community types across geographic scales. *Ecology and Evolution* **2022**(12), e9244. DOI: [10.1002/ece3.9244](https://doi.org/10.1002/ece3.9244)

- Little, C.J.[†], **Rizzuto, M.**[†], Luhning, T.M., Monk, J.D., Nowicki, R.J., Paseka, R.E., Stegen, J.C., Symons, C.C., Taub, F.B., Yan, J.D.L. (2022) Movement with Meaning: Integrating Information into Meta-Ecology. *Oikos* **2022**(8). DOI: [10.1111/oik.08892](https://doi.org/10.1111/oik.08892) *Editor's Choice*
- Balluffi-Fry, J., Leroux, S.J., Wiersma, Y.F., Richmond, I.C., Heckford, T.R., **Rizzuto, M.**, Kennah, J.L., Vander Wal, E. (2022) Integrating plant stoichiometry and feeding experiments: state-dependent forage choice and its implications on body mass. *Oecologia* **198**(3), 579–591. DOI: [10.1007/s00442-021-05069-5](https://doi.org/10.1007/s00442-021-05069-5)
- Richmond, I.C., Balluffi-Fry, J., Vander Wal, E., Leroux, S.J., **Rizzuto, M.**, Heckford, T.R., Kennah, J.L., Riefesel, G.R., Wiersma, Y.F. (2022) Individual snowshoe hares manage risk differently: integrating stoichiometric distribution models and foraging ecology. *Journal of Mammalogy* **103**(1), 196–208. DOI: [10.1093/jmammal/gyab130](https://doi.org/10.1093/jmammal/gyab130)
- Heckford, T.R., Leroux, S.J., Vander Wal, E., **Rizzuto, M.**, Balluffi-Fry, J., Richmond, I.C., Wiersma, Y.F. (2022) Spatially explicit correlates of plant functional traits inform landscape patterns of resource quality. *Landscape Ecology* **37**, 59–80. DOI: [10.1007/s10980-021-01334-3](https://doi.org/10.1007/s10980-021-01334-3)
- **Rizzuto, M.**, Leroux, S.J., Vander Wal, E., Richmond, I.C., Heckford, T.R., Balluffi-Fry, J., Wiersma, Y.F. (2021) Forage stoichiometry predicts the home range size of a small terrestrial herbivore. *Oecologia* **197**(2), 327–338. DOI: [10.1007/s00442-021-04965-0](https://doi.org/10.1007/s00442-021-04965-0) *Winner, Prof. Ilkka Hanski Award 2021*
- Ellis-Soto, D.[†], Ferraro, K.M.[†], **Rizzuto, M.**, Briggs, E., Monk, J.D., and Schmitz, O.J. (2021) A methodological roadmap to quantify animal-vectored spatial ecosystem subsidies. *Journal of Animal Ecology* **90**(7), 1605–1622. DOI: [10.1111/1365-2656.13538](https://doi.org/10.1111/1365-2656.13538) *Winner, Sidnie Manton Award 2021*
- Richmond, I.C., Leroux, S.J., Vander Wal, E., Heckford, T.R., **Rizzuto, M.**, Balluffi-Fry, J., Kennah, J., Wiersma, Y.F. (2020) Temporal variation and its drivers in the elemental traits of four boreal plant species. *Journal of Plant Ecology* **14**(3), 398–413. DOI: [10.1093/jpe/rtaa103](https://doi.org/10.1093/jpe/rtaa103)
- Balluffi-Fry, J., Leroux, S.J., Wiersma, Y.F., Heckford, T.R., **Rizzuto, M.**, Richmond, I.C., Vander Wal, E. (2020) Quantity-quality trade-offs revealed using a multiscale test of herbivore resource selection on elemental landscapes. *Ecology and Evolution* **10**(24), 13847–13859. DOI: [10.1002/ece3.6975](https://doi.org/10.1002/ece3.6975)
- **Rizzuto, M.**, Leroux, S.J., Vander Wal, E., Wiersma, Y.F., Heckford, T.R., Balluffi-Fry, J. (2019) Patterns and potential drivers of intraspecific variability in the body C, N, and P composition of a terrestrial vertebrate, the snowshoe hare (*Lepus americanus*). *Ecology and Evolution* **9**(24), 14453–14464. DOI: [10.1002/ece3.5880](https://doi.org/10.1002/ece3.5880)
- **Rizzuto, M.**, Carbone, C., and Pawar, S. (2018) Foraging constraints reverse the scaling of activity time in carnivores. *Nature Ecology and Evolution* **2**(2), 247–253. DOI: [10.1038/s41559-017-0386-1](https://doi.org/10.1038/s41559-017-0386-1) *Cover Story*

In Progress

- **Rizzuto, M.**, Leroux, S.J., Schmitz, O.J., Vander Wal, E., Wiersma, Y.F., Heckford, T.R. Animal-vectored nutrient flows across resource gradients influences the nature of local and meta-ecosystem functioning. In review, *The American Naturalist*, manuscript id: 61395.
- McLeod, A.M., Leroux, S.J., **Rizzuto, M.**, Leibold, M.A., Schiesari, L. Integrating ecosystem and contaminant models to study the spatial dynamics of contaminants. In review, *The American Naturalist*, manuscript id: 60949.

Outreach

- Wiersma, Y.F., Catto, N., Deal, C., Edinger, E., Evans, R., Geissinger, E., Hearn, C., Sun Lim, K., McCann, N., MacDonald, K., Meyer, A., Prosser, J., Quinn, D., Richmond, I.C., **Rizzuto, M.**, Roncal, J., Swain, M. (2020). The classroom goes virtual—experiences at Memorial University. *Blog post*, URL: nllandscapeecology.com
- Cagnacci, F., Rocca, M., Nicoloso, S., Ossi, F., Peters, W., Mancinelli, S., Valent, M., **Rizzuto, M.**, Hebblewhite, M. (2013). Il progetto 2C2T. *Il Cacciatore Trentino*, 93, 4–15.

CONFERENCE
PRESENTATIONS

Talks

- **Rizzuto, M.**, Leroux, S.J., Schmitz, O.J., Vander Wal, E., Wiersma, Y.F., Heckford, T.R. *Going against the flow: non-diffusive organismal movement influences local and meta-ecosystem functioning*. “Vital Connections in Ecology” Ecological Society of America Virtual Annual Meeting, Long Beach, CA, USA. 2–6 AUG. 2021
- **Rizzuto, M.**, Leroux, S.J., Vander Wal, E., Wiersma, Y.F., Heckford, T.R., Balluffi-Fry, J. *Ontogeny and Ecological Stoichiometry of Snowshoe hares (*Lepus americanus*) in the Boreal Forests of Newfoundland*. Canadian Society for Ecology and Evolution Annual General Meeting, Guelph, ON, Canada. 18–21 JUL. 2018
- **Rizzuto, M.**, Carbone, C., and Pawar, S. *Bio-mechanical constraints on foraging reverse the scaling of activity rate among carnivores*. Canadian Society for Ecology and Evolution Annual General Meeting, St. John's, NL, Canada. 7–11 JUL. 2016

Posters

- **Rizzuto, M.**, Leroux, S.J., Vander Wal, E., Wiersma, Y.F., Heckford, T.R., Balluffi-Fry, J. *Beyond Diffusion: Animal-Mediated Nutrient Transport at Different Spatial Scales*. “Unifying Ecology Across Scales” Gordon Research Seminar and Conference, Biddeford, ME, USA. 21–27 JUL. 2018

HONORS &
AWARDS

- Professor Ilkka Hanski Award 2021
Awarded by the Editorial Board of the journal Oecologia to the best student-authored paper in animal ecology
- Mitacs Research Training Award, Mitacs Canada 2020
- First Place, H5P Maker Session, Centre for Innovation in Teaching and Learning, Memorial University of Newfoundland and Labrador 2019

- Mitacs Globalink Research Award, Mitacs Canada 2018
- Dean's Doctoral Award, 2016–2018
Memorial University of Newfoundland and Labrador
- Graduated with Distinction, Imperial College London 2014
- Erasmus-LLP Scholarship, University of Turin 2010

TEACHING EXPERIENCE

Guest Lecturer, *Department of Biology*

Memorial University of Newfoundland and Labrador, St. John's, NL, Canada

- *Models in Biology* WINTER 2020

Teaching Assistant, *Department of Biology*

Memorial University of Newfoundland and Labrador, St. John's, NL, Canada

- *Principles of Ecology* FALL 2018
- *Principles of Biology* WINTER 2017

Undergraduate Teaching Assistant, *Department of Life Sciences*

Imperial College London, London, UK

- *Ecology* SPRING 2015
- *Behavioral Ecology* WINTER 2015
- *Introduction to Biological Statistics* FALL 2014

Graduate Teaching Assistant, *Department of Life Sciences*

Imperial College London-Silwood Park, Ascot, UK

- *Statistics* FALL 2014
- *Macroecology and Climate Change* FALL 2014

SERVICE

Manuscript reviewer for *Biological Conservation*, *Science of the Total Environment*, and *Ecology and Evolution*.

PROFESSIONAL DEVELOPMENT

Courses

- **Becoming a More Equitable Educator: Mindsets and Practices,** MAR.-JUN. 2020
MIT Teaching Systems Lab
Attended online at edX.org
- **Teaching Skills Enhancement Program,** SEPT.-AUG. 2020
Centre for Innovation in Teaching and Learning
Memorial University of Newfoundland and Labrador, St. John's, NL, Canada

Workshops

- **Reproducible Research through Open Science,** 11 JUNE 2020
Canadian Institute for Ecology and Evolution & NSERC-CREATE "Living Data Project"
Attended online at osf.io
- **Teaching Inclusively & Equitably Online,** 21 MAY 2020
American Society for Engineering Education & NSF INCLUDES Aspire Alliance
Attended online through Blackboard Collaborate Ultra

	- H5P Maker Session, 24 OCT. 2019 <i>Centre for Innovation in Teaching and Learning</i> Memorial University of Newfoundland and Labrador, St. John's, NL, Canada
	- Community of Inquiry Coffee Break: Open Access, 23 OCT. 2019 <i>Centre for Innovation in Teaching and Learning</i> Memorial University of Newfoundland and Labrador, St. John's, NL, Canada
	- Open Access and Scholarly Publishing, 22 OCT. 2019 <i>Centre for Innovation in Teaching and Learning</i> Memorial University of Newfoundland and Labrador, St. John's, NL, Canada
	- Four Things to Consider for Graduate Student Teaching, 8 NOV. 2018 <i>Enhanced Development of the Graduate Experience</i> Memorial University of Newfoundland and Labrador, St. John's, NL, Canada
	- AARMS CRG Software Carpentry Workshop, 27 MAY 2017 <i>The Carpentries</i> Memorial University of Newfoundland and Labrador, St. John's, NL, Canada
VOLUNTEER EXPERIENCE	Communications Officer, Biology Graduate Student Association 2019–2020 Memorial University of Newfoundland and Labrador, St. John's, NL, Canada Chair, Biology Graduate Student Association 2018–2019 Memorial University of Newfoundland and Labrador, St. John's, NL, Canada Seminar Coordinator, Biology Graduate Student Association 2017–2018 Memorial University of Newfoundland and Labrador, St. John's, NL, Canada Youth Educator, OASI-Operazione Mato Grosso 2000–2013 Turin, Italy Team Leader, XX Winter Olympic and IX Paralympic Games 2005–2006 Turin, Italy
PROFESSIONAL AFFILIATIONS	- Ecological Society of America 2021–2022 - Canadian Society of Ecology and Evolution 2016–2021
CONFERENCES ATTENDED	- “Vital Connections in Ecology” 2–6 AUG. 2021 Ecological Society of America, Virtual Annual Meeting, Long Beach, CA, USA - “Unifying Ecology Across Scales” 21–27 JUL. 2018 Gordon Research Seminar and Conference, Biddeford, ME, USA - <i>Annual General Meeting</i> 18–21 JUL. 2018 Canadian Society for Ecology and Evolution, Guelph, ON, Canada - <i>Annual General Meeting</i> 7–11 JUL. 2016 Canadian Society for Ecology and Evolution, St. John's, NL, Canada - <i>From Energetics to Macro Ecology: Carnivore Responses to Environmental Change</i> 14–15 NOV. 2013 Zoological Society of London, London, UK

- *Euroscience Open Forum* 2–7 JUL. 2010
Turin, Italy
- *XIX Congress of the Italian Primatological Society* 1–3 APR. 2009
Asti, Italy

SOFTWARE PROFICIENCY **Languages:** R, Python, Bash, Wolfram Mathematica, L^AT_EX, HTML, CSS
Software: VCS (Git, GitHub), RStudio, Atom, Sublime Text, QGIS, Inkscape, Gimp, File Maker Pro
Platforms: macOS, Windows

- CERTIFICATES**
- Wilderness and Remote First Aid 2016–2019
Canadian Red Cross, St. John's, NL, Canada
 - WHMIS and Lab Safety 2017
Memorial University of Newfoundland, St. John's, NL, Canada
 - Basic Outdoor First Aid 2014
Marlin Training Ltd., London, UK
 - International English Language Testing System, grade 8.5 2013
British Council, Turin, Italy
 - International Computer Driving Licence 2007
University of Turin, Turin, Italy

INTERESTS Backpacking, Hiking, Photography, Yoga