



Melina de Souza Leite

ECOLOGIST AND DATA SCIENTIST

Department of Ecology, University of São Paulo, Brazil

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Education

PhD in Ecology

UNIVERSITY OF SÃO PAULO

- Outstanding Thesis Prize 2023 from the University of São Paulo
- Title: Embracing Variability: the use of mixed effects models in Ecology

Jun 2017 → Dec 2022

São Paulo, Brazil

MBA in Data Science and Analytics

UNIVERSITY OF SÃO PAULO

- Title: How to get the most out of forest data? Disentangling tree demography with multilevel models

Oct 2021 → Jul 2023

São Paulo, Brazil

MBA in Environmental Management

UNIVERSITY OF SÃO PAULO

- Title: Socio-economic factors and native vegetation cover on rural properties in the state of São Paulo, Brazil

Nov 2015 → Aug 2017

São Paulo, Brazil

MSc in Ecology

FEDERAL UNIVERSITY OF RIO DE JANEIRO

- Title: Spatial and activity patterns of the water opossum *Chironectes minimus* in Atlantic Forest rivers in southeastern Brazil

Mar 2007 → Jul 2009

Rio de Janeiro, Brazil

BSc in Biology

FEDERAL UNIVERSITY OF RIO DE JANEIRO

- Title: Ecology and conservation of the water opossum, *Chironectes minimus*, in Atlantic Forest rivers in the São João River Basin, Rio de Janeiro State

Mar 2003 → Feb 2006

Rio de Janeiro, Brazil

Professional Experiences

Staff Scientist in Ecology and Data Scientist

DEPARTMENT OF ECOLOGY, UNIVERSITY OF SÃO PAULO

Aug 2010 → Present

São Paulo, Brazil

Postdoctoral Researcher

BAYREUTH CENTER OF ECOLOGY AND ENVIRONMENTAL RESEARCH (BAYCEER), BAYREUTH UNIVERSITY

Oct 2023 → Feb 2024

Bayreuth, Germany

Visiting Researcher

INSTITUTE OF ENVIRONMENTAL SCIENCES (CML), LEIDEN UNIVERSITY

Jan 2023 → Mar 2023

Leiden, The Netherlands

Environmental Consultant

MANY COMPANIES

Jun 2009 → Jul 2010

Brazil

Teaching Experiences

LECTURER

Best practices and Open Science tools for Ecology

UNIVERSITY OF SÃO PAULO

- Graduate Program for Ecology. Block course, 1 week (30h).

Aug 2023 → Aug 2023

São Paulo, Brazil

Introduction to R for Environmental Consultancy

ARCADIS CONSULTANCY

- Course taught to biologists and the data science team.

May 2016 → Jun 2016

São Paulo, Brazil

Field course on Invertebrate Zoology and Ecology

FEDERAL INSTITUTE OF EDUCATION (IFRJ)

- Guest Lecturer in two field courses for bachelor/undergraduate students.

2011 → 2012

Rio de Janeiro, Brazil

TEACHING ASSISTANT

Design, Planning and Data Analysis in Ecology

UNIVERSITY OF SÃO PAULO

- Block course, taught once per year at the Graduate Program for Ecology

2018 → 2018

São Paulo, Brazil

The Atlantic Forest field course

UNIVERSITY OF SÃO PAULO

- Project reviewer of the block course for graduate students (master's and PhD) at the Graduate Program for Ecology

Jul 2015 → Jul 2015

São Paulo, Brazil

Teaching assistant at bachelor's/undergraduate courses

UNIVERSITY OF SÃO PAULO

- Ecology of plant populations and communities (2017)
- Virtual Ecology (2015, 2017)
- Bioclimatology (2024)

2015 - 2017 - 2024 →

São Paulo, Brazil

Undergraduate teaching assistant at bachelor's/undergraduate courses

FEDERAL UNIVERSITY OF RIO DE JANEIRO

- Ecology, two semesters 2005, including field work
- Vertebrate Zoology, one semester 2006, including field work

2005 → 2006
Rio de Janeiro, Brazil

Awards, fellowships and grants

The amounts in Brazilian Reais (R\$) were converted to US dollars at the time of the award.

Outstanding Thesis Prize 2023

UNIVERSITY OF SÃO PAULO

- Prize awarded to the best PhD thesis defended at the University of São Paulo in 2022, in the category staff scientist.

\$10,000 BRL (~\$2,000 USD)
Dec 2023 → Dec 2023

Research Fellowship

CAPES, BRAZIL

- Two months fellowship from the Internationalization Program of the University of São Paulo and CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior) to conduct research at Leiden University, The Netherlands.

\$5,030 EUR

Jan 2023 → Mar 2023

Research Grant

CAPES AND GRADUATE PROGRAM IN ECOLOGY, UNIVERSITY OF SÃO PAULO

- Grant to develop part of the PhD project at Leiden University, The Netherlands.

\$10,000 BRL (~\$2,000 USD)
Jan 2022 → Mar 2022

Language Course Scholarship

DAAD, GERMANY

- Scholarship from DAAD (Deutscher Akademischer Austauschdienst) to attend the Hochschulwinterkurs, an online German course (B2 level) at the University of Leipzig, Germany. It includes course fee (€ 1185,00) and general expenses (\$675 EUR).

\$1,860 EUR

Jan 2022 → Feb 2022

MBA Scholarship

UNIVERSITY OF SÃO PAULO, BRAZIL

- Scholarship to cover all course fees of the MBA in Data Science and Analytics at the University of São Paulo.

\$12,420 BRL (~\$2,600 USD)
Oct 2021 → Jul 2023

Predocctoral Fellowship

SMITHSONIAN INSTITUTION, USA

- Fellowship to work at the Laboratory of Quantitative Ecology, Smithsonian Environmental Research Center, Edgewater, USA, for 6 months.

\$18,080 USD

Sep 2020 → Feb 2021

Research Travel Grant

FORESTGEO, SMITHSONIAN INSTITUTION, USA

- Travel grant to develop the PhD project with the ForestGEO network at the University of Regensburg, Germany, for 2 months.

\$2,500 USD

Mar 2020 → May 2020

Research Grant

FAPESP, BRAZIL

- Researcher collaborator at the 2-years research funding. Title: Functional and Phylogenetic assembly of trees in Restinga forest. PI: A.A. de Oliveira (University of São Paulo).

\$60,000 USD

2017 → 2020

MBA Scholarship

UNIVERSITY OF SÃO PAULO, BRAZIL

- Scholarship to cover all course fees of the MBA in Environmental Management at the University of São Paulo.

\$16,200 BRL (~\$4,700 USD)
Nov 2015 → Ago 2017

Research Grant

FAPESP, BRAZIL

- Researcher collaborator at the 2-years research funding. Title: Ecological Detective tools, using imperfect detection models to investigate ecological questions. PI: P.I. Prado (University of São Paulo).

\$60,000 USD

2014 → 2016

Master's Scholarship

CNPQ, BRAZIL

- 2-years fellowship from Brazilian National Council for Scientific Development (CNPq) to work on my master's dissertation.

\$33,600 (~\$13,440 USD)

Mar 2007 → Mar 2009

Undergraduate Scientific Scholarship

CNPQ, BRAZIL

- 2-years fellowship from Brazilian National Council for Scientific Development (CNPq) to work on my bachelor's science project.

\$9,600 BRL (~\$4,800 USD)

Mar 2005 → Feb 2007

Publications

15 peer-reviewed publications (6 as first author); 4 manuscripts in preparation (2 as first/senior author); 3 Preprints; 5 repositories for datasets and code; 2 book chapters; 3 pieces of science outreach (2 reports for magazines, 1 for newspaper); 8 pieces of media coverage.

Google Scholar Citations (May 2024): 424; H-index 10; i10-index 10.

PEER-REVIEWED ARTICLES

- Leite, M. de S.**, McMahon, S. M., Prado, P. I., Davies, S. J., Oliveira, A. A. de, ..., Visser, M.D & Hülsmann, L. (2024). Major Axes of Variation in Tree Demography across Global Forests. *Ecography*, e07187.
- Hülsmann, L., Chisholm, R. A., Comita, L., Visser, M. D., **Leite, M. de S.**, ... Hartig, F. (2024). Latitudinal Patterns in Stabilizing Density Dependence of Forest Communities. *Nature*, 1–8.
- Leite, M. de S.**, Boesing, A. L., Metzger, J. P., & Prado, P. I. (2022). Matrix Quality Determines the Strength of Habitat Loss Filtering on Bird Communities at the Landscape Scale. *Journal of Applied Ecology*, 59(11), 2790–2802.
- Oberpriller, J., **Leite, M. de S.**, & Pichler, M. (2022). Fixed or Random? On the Reliability of Mixed-Effects Models for a Small Number of Levels in Grouping Variables. *Ecology and Evolution*, 12(7), e9062.
- Barros, C. dos S. de, Pistón, N., Delciellos, A. C., & **Leite, M. de S.** (2021). Is Oecologia Australis Promoting Gender Equality in Its Review Process? *Oecologia Australis*, 25(3), 642–647.

- Locosselli, G. M., Brienens, R. J. W., **Leite, M. de S.**, Gloor, M., Krottenthaler, S., Oliveira, A. A. de, Barichivich, J., Anhuf, D., Ceccantini, G., Schöngart, J., & Buckeridge, M. (2020). Global Tree-Ring Analysis Reveals Rapid Decrease in Tropical Tree Longevity with Temperature. *Proceedings of the National Academy of Sciences*, 117(52), 33358–33364.
- Leite, M. de S.**, Silva Junior, J. A. D., Calaboni, A., Igari, A. T., Leite, M. D. S., Silva Junior, J. A. D., Calaboni, A., & Igari, A. T. (2020). Socioeconomic factors and native vegetation cover in rural landscapes in São Paulo state, Brazil. *Ambiente & Sociedade*, 23.
- Lira, P. K., **Leite, M. de S.**, & Metzger, J. P. (2019). Temporal Lag in Ecological Responses to Landscape Change: Where Are We Now? *Current Landscape Ecology Reports*, 4(3), 70–82.
- Acosta, A. L., d'Albertas, F., **Leite, M. de S.**, Saraiva, A. M., & Walter Metzger, J. P. (2018). Gaps and Limitations in the Use of Restoration Scenarios: A Review. *Restoration Ecology*, 26(6), 1108–1119.
- Leite, M. de S.**, Galliez, M., Queiroz, T. L., & Fernandez, F. A. S. (2016). Spatial Ecology of the Water Opossum *Chironectes Minimus* in Atlantic Forest Streams. *Mammalian Biology*, 003
- Fernandez, F. A. S., Galliez, M., **Leite, M. de S.**, Queiroz, T. L., & Palmeirim, A. F. (2015). Natural History of the Water Opossum *Chironectes Minimus*: A Review. *Oecologia Australis*, 19(1), 47–62.
- Palmeirim, A. F., **Leite, M. de S.**, Santos-Reis, M., & Fernandez, F. A. S. (2014). Habitat Selection for Resting Sites by the Water Opossum (*Chironectes Minimus*) in the Brazilian Atlantic Forest. *Studies on Neotropical Fauna and Environment*, 49(3), 231–238.
- Leite, M. de S.**, Queiroz, T. L., Galliez, M., de Mendonça, P. P., & Fernandez, F. A. S. (2013). Activity Patterns of the Water Opossum *Chironectes Minimus* in Atlantic Forest Rivers of South-Eastern Brazil. *Journal of Tropical Ecology*, 29(03), 261–264.
- Leite, M. de S.**, Tambosi, L. R., Romitelli, I., & Metzger, J. P. (2013). Landscape Ecology Perspective in Restoration Projects for Biodiversity Conservation: A Review. *Perspectives in Ecology & Conservation (Natureza & Conservação)*, 11(2), 108–118.
- Galliez, M., **Leite, M. de S.**, Queiroz, T. L., & Fernandez, F. A. S. (2009). Ecology of the Water Opossum *Chironectes Minimus* in Atlantic Forest Streams of Southeastern Brazil. *Journal of Mammalogy*, 90(1), 93–103.

BOOK CHAPTERS

- Leite, M. de S.**, Silva Junior, J. A. D., Calaboni, A., & Igari, A. T. (2021). Variações no percentual de vegetação nativa em imóveis de povos indígenas, quilombolas e comunidades locais tradicionais no Estado de São Paulo. In M. C. da Cunha, S. B. Magalhães, & C. Adams (Eds.), *Povos Tradicionais e Biodiversidade no Brasil: Vols. Parte II Seção 5: Os territórios indígenas e tradicionais protegem a biodiversidade?* (p. 134).
- Calaboni, A., **Leite, M. de S.**, Campanha, J. S., Oliveira, C. E. de, Resende, R. U., Pavanelli, J. M. M., Tambosi, L. R., & Igari, A. T. (2020). ODS 15 – Vida Terrestre – Histórico, Governança e Perspectivas Para Conservação Dos Ecossistemas Terrestres Na Macrometrópole Paulista. In K. Frey, P. H. C. Torres, P. R. Jacobi, & R. C. F. Ramos (Eds.), *Objetivos Do Desenvolvimento Sustentável: Desafios Para o Planejamento e a Governança Ambiental Na Macrometrópole Paulista* (pp. 235–261). Editora UFABC.

SCIENCE OUTREACH

- Galliez, M., **Leite, M. de S.**, Fernandez, F. A. S., Queiroz, T. L., Palmeirim, A. F., Avelato, H. L., & Mendonça, P. P. (2011). Cuida d'água *Chironectes Minimus*. *MG BIOTA*, 4(3), 56–60.2.
- Leite, M. de S.**, Galliez, M., Queiroz, T. L., & Fernandez, F. A. S. (2010). Cúica D'água. In *Ficha Dos Seres Volume 3 - Reserva Biológica União*.
- Fernandez, F. A. dos S., Galliez, M., **Leite, M. de S.** & Queiroz, T. L. (2007). O Gambá Que Inventou o Submarino. *Ciência Hoje*, 39(234), 70–72.

Talks

INVITED TALKS

On the Demography of Threatened Trees

PLANT ECOLOGY SEMINAR AT BAYCEER

2023
University of Bayreuth, Germany

Open Data in Ecology

LECTURE AT THE GRADUATE COURSE ON OPEN SCIENCE

2023
University of Goiás, Brazil

Fixed or random? On the reliability of mixed-effects models for a small number of levels in grouping variables

LECTURE AT THE GRADUATE COURSE ON MIXED-EFFECTS MODELS

2022
University of São Paulo, Brazil

Open Data: what is it and what's in it for me?

ECOENCONTROS SEMINAR AT THE DEPARTMENT OF ECOLOGY

2022
University of São Paulo, Brazil

Major axes of variation in tree demography across global forests

ECOENCONTROS SEMINAR AT THE DEPARTMENT OF ECOLOGY

2022
University of São Paulo, Brazil

Effects of matrix quality on the (dis)assembly of bird communities in fragmented landscapes

ECOENCONTROS SEMINAR AT THE DEPARTMENT OF ECOLOGY

2019
University of São Paulo, Brazil

Mixed models in Ecology: using GLMMs to separate processes that assemble biological communities

LECTURE AT THE GRADUATE COURSE ON MIXED-EFFECTS MODELS

2018
University of São Paulo, Brazil

SELECTED TALKS

Organizing global forests: Disentangling the contributions of species, space, and time to tree demography

INTECOL CONFERENCE

2022

Geneva, Switzerland

The dominant role of taxonomy in global forests: Disentangling the major contributions to tree demography

FORESTGEO SEMINAR

2021

Online

Seeing the forest for the trees: Disentangling the contribution of species, space and time to the variability in tree vital rates

FESTIVAL OF ECOLOGY CONFERENCE

2020

Online

Matrix quality modulates habitat loss filtering across scales on bird assemblages in fragmented landscapes

LABORATORY OF THEORETICAL ECOLOGY

2020

University of Regensburg, Germany

Applications of Mixed-Effects models in Ecology

LABORATORY OF LANDSCAPE ECOLOGY AND CONSERVATION

2017

University of São Paulo, Brazil

Other Professional Experiences

JURY MEMBER

1 PhD Defense

GRADUATE PROGRAM OF ECOLOGY

2023

University of São Paulo, Brazil

STUDENT'S COMMITTEE MEMBER

1 MSc dissertation

GRADUATE PROGRAM OF ECOLOGY

2022 - 2024

University of São Paulo, Brazil

2 MSc dissertations

GRADUATE PROGRAM OF ECOLOGY

2023 - 2025

University of São Paulo, Brazil

EDITORIAL

EcoEvoRxiv PrePrint Server

PREPRINT MODERATOR

2024 - Now

Oecologia Australis

ASSISTANT EDITOR IN STATISTICS

2020 - Now

COMMITTEE WORK

Staff representative

COMMITTEE OF PERMANENT AFFIRMATIVE ACTIONS OF THE GRADUATE PROGRAM OF ECOLOGY

2024

University of São Paulo, Brazil

Staff representative

COUNCIL OF THE DEPARTMENT OF ECOLOGY

2022 - 2024

University of São Paulo, Brazil

Staff representative

COMMITTEE OF CULTURE AND OUTREACH OF THE INSTITUTE OF BIOSCIENCES

2015

University of São Paulo, Brazil

REVIEWER OF SCIENTIFIC PAPERS

Journal of Biogeography (2; 2021,2022); **Biota Neotropical** (1; 2020); **Oecologia Australis** (3; 2014,2019,2021); **Studies of Neotropical Fauna and Environment** (1; 2018); **Mammalia** (1; 2010); **Biotemas** (2; 2010)

AFFILIATION IN SCIENTIFIC ORGANIZATIONS

ABECO

BRAZILIAN ASSOCIATION FOR ECOLOGICAL SCIENCE AND CONSERVATION

2020-2024

SBPC

BRAZILIAN SOCIETY FOR THE ADVANCEMENT OF SCIENCE

2020-2024

BES

BRITISH ECOLOGICAL SOCIETY

2020-2022

SORTEE

SOCIETY FOR OPEN, RELIABLE, AND TRANSPARENT ECOLOGY AND EVOLUTIONARY BIOLOGY

2021-2024

Language skills

Portuguese

Native speaker

English

TOEFL ITP TOTAL SCORE (2022): 647 OF 677

Advanced/C1

Spanish

Intermediate/B2

Computational skills

Daily

R, RMARKDOWN/QUARTO, GIT, GITHUB, BASH ON MacOS/LINUX SERVERS FOR HIGH-PERFORMANCE COMPUTING

Often

QGIS, ARCGIS

Seldom

PYTHON, HTML, CSS, LATEX

Specialized training

SCHOOLS, WORKSHOPS AND FIELD COURSES

IX Southern-Summer School on Mathematical Biology

ICTP-SAIRF (40H)

2020

São Paulo, Brazil

School on Community Ecology: from principle to patterns

ICTP-SAIRF (40H)

2020

São Paulo, Brazil

Smithsonian CTFS-ForestGEO Analytical Workshop

SINGAPORE NATIONAL UNIVERSITY (2 WEEKS, 104H)

2019

Singapore

Field Course: Ecology of the Pantanal

FEDERAL UNIVERSITY OF MATO GROSSO DO SUL (1 MONTH)

2008

Mato Grosso do Sul, Brazil

Filed Course: Ecology of the Amazon Forest

INSTITUTE OF AMAZONIAN RESEARCH (INPA) (1 MONTH)

2007

Amazonas, Brazil