

# Curriculum Vitae

## Renato Augusto Ferreira de Lima

### Contact and personal information

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**Nationality** Brazilian (São Paulo)

**Languages** Portuguese (native), English, French (advanced), Spanish and Italian (basic oral skills)

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### Education

2009–2013 PhD in **Ecology**, Universidade de São Paulo (USP), São Paulo, Brazil.

2004–2007 MSc in **Forestry**, Escola Superior de Agricultura "Luiz de Queiroz" (ESALQ), Piracicaba, Brazil.

1999–2003 Bachelor in **Ecology**, Universidade Estadual Paulista (UNESP), Rio Claro, Brazil.

### Current and previous positions

2015–present **Lead researcher:** [Neotropical Tree Community database](#) (TreeCo): patterns and process of forest composition, structure and diversity (taxonomic and functional) in Neotropical forests. Departamento de Ecologia, Universidade de São Paulo (USP).

2018–2020 **Post-Doctorate (Marie Curie) fellow:** The threat status of endemic Atlantic Forest trees. Naturalis Biodiversity Center (Netherlands). Supervisor: Hans ter Steege.

2015–2016 **Post-Doctorate fellow:** DNA barcoding and ecophylogenetics of tree species in four 10-ha tropical forest plots. Laboratoire Evolution & Diversité Biologique, Toulouse, France. Supervisor: Jérôme Chave.

2013–2017 **Post-Doctorate fellow:** Trait-environment effects on the commonness and rarity of tree species across the Atlantic Forest hotspot. Departamento de Ecologia, Universidade de São Paulo (USP). Supervisor: Paulo Inácio de Knecht López de Prado.

### Specialized training

Fall 2019 Hierarchical Models of Species Communities. Research Centre For Ecological Change, University of Helsinki, Helsinki.

Summer 2014 III Southern-Summer School on Mathematical Biology. Theoretical Physics Institute, Universidade Estadual Paulista (UNESP), São Paulo.

### Research activities

**Main themes** Forest ecology, succession and restoration, Quantitative community ecology, Taxonomic, functional and phylogenetic diversity of tree species, DNA barcoding, Theoretical ecology, Biodiversity and species conservation, Biostatistics

**Publications** **29 articles**, 2 books and 2 book chapter (full publication list in appendix).  
Scopus: h-index= 12; citations= 766. Google scholar: h-index= 16; citations= 1486.

**Reviews** **Referee of 35 manuscripts for 25 peer-reviewed journals**, including Acta Oecologica (2), Applied Vegetation Science (2), Biodiversity and Conservation, Biological Conservation (7), Biotropica, Ecological Restoration, Forest Ecology and Management (2), Global Ecology and Biogeography, Journal of Forest Research, Journal of Plant Ecology, Journal of Vegetation Science, and Scientific Reports.

**Editorial** Associate editor of Botany Letters (ISSN 2381-8115), Taylor and Francis.

**Juries** Jury member of four PhD, two MSc and 3 PhD Qualifying Examinations.  
Grant jury, Institutional Program of Undergraduate Scholarships (PIBIC – USP/CNPq).

## Supervisions

- 2019–present Guilherme Salgado Gritz. Conservation assessments of tree species in the state of Santa Catarina, Brazil. MSc in Biodiversity. Regional University of Blumenau (co-supervisor).
- 2018–present Marcela Venelli Pyles. Drivers of ecosystem services and functional resilience as guides for the conservation and restoration of human-modified landscapes in the Atlantic Forest. PhD in Applied Ecology, Federal University of Lavras (co-supervisor).
- 2017–2020 Solange B. de Souza. Assessing the influence of the agricultural system and lifestyle of traditional Caiçaras population on the forest landscapes of the Juréia-Itatins conservation unit. PhD in Environmental Sciences, University of São Paulo (co-supervisor).
- 2017–2019 Emma-Liina Marjakangas. Understanding species interactions in the tropics: dynamics within and between trophic levels. PhD in Biology, Norwegian University of Science and Technology (co-supervisor).
- 2017–2019 Gregory Ramos Pitta. The balance of carbon stocks in the Atlantic Forest. MSc in Ecology, University of São Paulo (supervisor).
- 2016–2017 Gregory Ramos Pitta. How biased is the knowledge about the Brazilian Atlantic Forest? Comparing landscape metrics. Undergrad project, University of São Paulo (supervisor).
- 2015–2017 Danilo Pereira Mori. The effect of fragmentation in the dynamics of tree communities in the Atlantic Forest, Brazil. MSc in Ecology, University of São Paulo (co-supervisor).

## Grants, funding and prizes

- 2021-2025 National Science Foundation (AccelNet) ‘International Tropical Forest Science Alliance (ITFSA): A global multi-network science and training’ Research Grant (PI: Stuart J. Davies - \$1,999,800 USD)
- 2020-2025 NWO-FAPESP, ‘Understanding restored forests for benefiting people and nature (NewFor)’ (PIs: P.H.S. Brancalion & F. Bongers - \$400,000 USD)
- 2018–2020 Marie Skłodowska-Curie fellowship (European Commission), ‘The threat status of endemic Atlantic Forest trees’. Post-doctorate research (\$205,000 USD)
- 2017–2020 FAPESP, ‘Functional and phylogenetic assembly of trees in white-sand forests’. Two years research funding (PI: A.A. Oliveira - \$60,000 USD)
- 2017–2018 University of São Paulo, ‘Diversity and Biomass of Atlantic Forest trees’, scholarship program to train low-income undergraduate students (\$3000 USD).
- 2017 Naturalis Biodiversity Center (Netherlands), ‘Commonness and rarity of Atlantic Forest tree species’. Short-term post-doctorate fellowship (\$4200 USD).
- 2015–2016 FAPESP, ‘Linking tree community structure to species traits and phylogenetic structure’. Grant number 15/00682-0, Post-doctorate research (\$43,000 USD).
- 2014 Nomination, 2014 CAPES Prize for the best national thesis in Ecology, Brazil.
- 2013–2017 FAPESP, ‘The role of functional diversity in structuring tropical tree communities’. Grant number 13/08722-5, Post-doctorate research (\$80,000 USD).
- 2009–2013 Foundation for Personnel Capacity-building in Higher Education (CAPES). Demanda Social’ program. PhD fellowship (\$27,500 USD).
- 2005–2007 National Council for Scientific and Technological Development (CNPq). Grant number 132.938/2005-7. MSc fellowship (\$10,000 USD).

## Teaching activities

- 2009–2011 Invited lectures on vegetation sampling methods for technicians, Pró-ambiente, Brazil.

- 2008–2010 Teaching assistant: field courses in Biology (high school), International Baccalaureate Diploma Program, Brazil.
- 2006, 2011 Teaching assistant: Tropical Silviculture and Plant Ecology (undergraduate students), University of São Paulo, Brazil.
- 2006 Field instructor, 'Environmental Expeditions', Outward Bound Brasil, Brazil.
- 2003 Teaching assistant, Third International Course on Tropical Ecology (undergraduate students), Instituto de Biologia da Conservação, Brazil.

### **Inter-disciplinary activities**

- 2020 Member of the IUCN Species Survival Commission - Global Tree Specialist Group
- 2017 Invited researcher, 'Monitoring of forest restoration projects in São Paulo state, Brazil'. Secretaria Estadual do Meio Ambiente, São Paulo, Brazil. Funding: The World Bank.
- 2011 Coordinator, Identifying potential trees to restore the Brazilian Cerrado, Inter-American Institute for Cooperation on Agriculture (IICA) of Brazil, Brasília.
- 2010 Coordinator, Biodiversity rescue for the creation of a new city dump, São Paulo, Brazil.
- 2009 Coordinator, State park management plan (Jurupará State Park), São Paulo, Brazil.
- 2009 Vegetation and flora expert, 'Cachoeira forest restoration project', The Nature Conservancy (TNC), Piracaia, Brazil.
- 2008 Vegetation and flora expert, Biodiversity assessment to create a new conservation unit, World Wildlife Found (WWF)/Instituto EKOS Brasil, Bertioga, Brazil.

## Appendix: Full publication list

### Publications (peer-reviewed)

1. **Lima, R.A.F.**, Oliveira, A.A., Pitta, G.R., Gasper, A.L., Vibrans, A.C., Chave, J., ter Steege, H., Prado, P.I. 2020. The erosion of biodiversity and biomass in the Atlantic Forest biodiversity hotspot. *Nature Communications*, <https://doi.org/10.1038/s41467-020-20217-w>.
2. **Lima, R.A.F.**, Souza, V.C., Siqueira, M.F., ter Steege, H. 2020. Defining endemism levels for biodiversity conservation: tree species in the Atlantic Forest hotspot. *Biological Conservation*, 252, 108825.
3. **Lima, R.A.F.**, Condé, P. A., Banks-Leite, C., Campos, R. C., Hernández, M. I. M., Rodrigues, R. R., & Prado, P. I. (2020). Disentangling the effects of sampling scale and size on the shape of species abundance distributions. *PLoS ONE* 15 (9), e0238854.
4. ter Steege, H., Prado, P.I., **Lima, R.A.F.** et al. 2020. Biased-corrected richness estimates for the Amazonian tree flora. *Scientific Reports* 10, 10130.
5. Marjakangas, E.-L., Abrego, N., Grøtan, V., **Lima, R.A.F.**, Bello, C., Bovendorp, R.S., Culot, L., Hasui, É., Lima, F., Muylaert, R.L., Niebuhr, B.B., Oliveira, A.A., Pereira, L.A., Prado, P.I., Stevens, R.D., Vancine, M.H., Ribeiro, M.C., Galetti, M., Ovaskainen, O. 2020. Fragmented tropical forests lose mutualistic plant–animal interactions. *Diversity and Distributions* 26(2): 154–168.
6. Pansonato, M.P., **Lima, R.A.F.**, Oliveira, A.A., Bertonecello, R., Martini, A.M.Z. 2019. Community structure and species composition of a periodically flooded Restinga forest in Caraguatatuba, São Paulo, Brazil. *Biota Neotropica* 19(1): e20170477.
7. Marjakangas, E.-L., Genes, L., Pires, M.M., Fernandez, F.A.S., **Lima, R.A.F.**, Oliveira, A.A., Ovaskainen, O., Pires, A.S. Prado, P.I., Galetti, M. 2018. Estimating interaction credit for trophic rewilding in tropical forests. *Philosophical Transactions of the Royal Society B: Biological Sciences* 373(1761): 20170435.
8. **Lima, R.A.F.**, Oliveira, A.A., Colletta, G.D., Flores, T.B., Coelho, R.L.G., Dias, P., Frey, G.P., Iribar, A., Rodrigues, R.R., Souza, V.C., Chave, J. 2018. Can plant DNA barcoding be implemented in species-rich tropical regions? A perspective from São Paulo State, Brazil. *Genetics and Molecular Biology* 41(3): 661-670.
9. Brancalion, P.H.S., Bello, C., Chazdon, R.L., Galetti, M. Jordano, P., **Lima, R.A.F.**, Medina, A., Pizo, M.A., Reid, J.L. 2018. Maximizing biodiversity conservation and carbon stocking in restored tropical forests. *Conservation Letters* 11(4): e12454.
10. **Lima, R.A.F.**, Muller-Landau, H.C., Prado, P.I., Condit, R. 2016. How do size distributions relate to concurrently measured demographic rates? Evidence from over 150 tree species in Panama. *Journal of Tropical Ecology* 32: 179-192.
11. **Lima, R.A.F.**, Mori, D.P., Pitta, G., Melito, M.O., Bello, C., Magnago, L.F., Zwiener, V.P., Saraiva, D.D., Marques, M.C.M., Oliveira, A.A., Prado, P.I. 2015. How much do we know about the endangered Atlantic Forest? Reviewing nearly 70 years of information on tree community surveys. *Biodiversity and Conservation* 24: 2135-2148.
12. **Lima, R.A.F.**, Batista, J.L.F., Prado, P. I. 2015. Modeling tree diameter distributions in natural forests: An evaluation of 10 statistical models. *Forest Science* 61: 320-327.
13. **Lima, R.A.F.**, Rando, J.G., Barreto, K.D. 2015. Composição e diversidade no cerrado do leste de Mato Grosso do Sul, Brasil. *Revista Árvore* 39: 9-24.

14. Bello, C., Galetti, M., Pizo, M.A., Magnago, L.F.S., Rocha, M.F., **Lima, R.A.F.**, Peres, C.A., Ovaskainen, O., Jordano, P. 2015. Defaunation affects carbon storage in tropical forests. *Science Advances* 1: e1501105-e1501105.
15. Oliveira, A.A., Vicentini, A., Chave, J., Castanho, C.D.T., Davies, S.J., Martini, A.M.Z., **Lima, R.A.F.**, Ribeiro, R.R., Iribar, A., Souza, V.C. 2014. Habitat specialization and phylogenetic structure of tree species in a coastal Brazilian white-sand forest. *J. Plant Ecology* 7: 134-144.
16. **Lima, R.A.F.**, Prado, P.I., Martini, A.M.Z., Fonseca, L.J., Gandolfi, S., Rodrigues, R.R. 2013. Improving methods in gap ecology: Revisiting size and shape distributions using a model selection approach. *Journal of Vegetation Science* 24: 484-495.
17. Brocardo, C.R., Zipparro, V.B., **Lima, R.A.F.**, Guevara, R., Galetti, M. 2013. No changes in seedling recruitment when terrestrial mammals are excluded in a partially defaunated Atlantic rainforest. *Biological Conservation* 163: 107-114.
18. **Lima, R.A.F.**, Rother, D.C., Muler, A.E., Lepsch, I.F., Rodrigues, R.R. 2012. Bamboo overabundance alters forest structure and dynamics in the Atlantic Forest hotspot. *Biological Conservation* 147: 32-39.
19. **Lima, R.A.F.**, Souza, V.C., Dittrich, V.A.O., Salino, A. 2012. Composição, diversidade e distribuição geográfica de plantas vasculares de uma Floresta Ombrófila Densa Atlântica do Sudeste do Brasil. *Biota Neotropica* 12: 241-249.
20. **Lima, R.A.F.**, Oliveira, A.A., Martini, A.M.Z., Sampaio, D., Souza, V.C., Rodrigues, R.R. 2011. Structure, diversity, and spatial patterns in a permanent plot of high Restinga forest in Southeastern Brazil. *Acta Botanica Brasilica*, 25: 633–645.
21. **Lima, R.A.F.**, Dittrich, V.A.O.; Souza, V.C., Salino, A., Breier, T.B., Aguiar, O.T. 2011. Flora vascular do Parque Estadual Carlos Botelho, São Paulo, Brasil. *Biota Neotropica* 11: 173-214.
22. **Lima, R.A.F.**, Gandolfi, S. 2009. Structure of the herb stratum under different light regimes in the Lower Montane Atlantic Rain Forest. *Brazilian Journal of Biology* 69(1): 631–637.
23. Rodrigues, R.R., **Lima, R.A.F.**, Gandolfi, S., Nave, A.G. 2009. On the restoration of high diversity forests: 30 years of experience in the Brazilian Atlantic Forest. *Biological Conservation* 142(6): 1242–1251.
24. **Lima, R.A.F.**, Moura, L.C. 2008. Gap disturbance regime and composition in the Atlantic Montane Rain Forest: the influence of topography. *Plant Ecology* 197: 239–253.
25. Martini, A.M.Z., **Lima, R.A.F.**, Franco, G.A.D.C., Rodrigues, R.R. 2008. The need for full inventories of tree modes of disturbance to improve forest dynamics comprehension: an example from a semideciduous forest in Brazil. *Forest Ecology and Management* 255(5–6): 1479–1488.
26. **Lima, R.A.F.**, Martini, A.M.Z., Gandolfi, S., Rodrigues, R.R. 2008. Repeated disturbances and their influences on canopy disturbance regime in a tropical semi-deciduous forest. *Journal of Tropical Ecology* 24: 1–9.
27. **Lima, R.A.F.**, Moura, L.C. 2006. Canopy Gap Colonization in the Atlantic Montane Rain Forest. *Brazilian Archives of Biology and Technology* 49(6): 953–965.
28. **Lima, R.A.F.** 2005. Canopy gap structure and regeneration in tropical rain forests. *Revista Brasileira de Botânica* 28(4): 651–670.
29. **Lima, R.A.F.** 2005. Gap size measurement: the proposal of a new field method. *Forest Ecology and Management* 214: 413–419.

## Books and book chapters

- Zwiener, V.P., **Lima, R.A.F.**, Sánchez-Tapia, A., Rocha, D.S.B., Marques, M.C.M. 2021. Tree diversity in the Brazilian Atlantic Forest: biases and general patterns using different sources of information. Chapter 7 In: Marques, M.C.M. & Grelle, C.E.V. (Eds.) *The Atlantic Forest: history, biodiversity, threats and opportunities of the megadiverse forest*. Springer, in press.
- Almeida, A., Padovezi, A., **Lima, R.A.F.** 2011. Monitoring birds and vegetation: Methodological guide for monitoring birds and vegetation in ecological restoration areas according to the 'Climate, Community and Biodiversity Project Design Standards (CCB Standards)'. Brasília, DF: The Nature Conservancy (ISBN 978-85-60797-05-9).
- Almeida, A., Padovezi, A., **Lima, R.A.F.** 2011. Informações de Referência: Levantamento e avaliação de informações de referência para o Projeto 'Restauração de 350 ha do entorno do reservatório do Rio Cachoeira - Piracaia - SP'. Brasília, DF: The Nature Conservancy (ISBN 978-85-60797-07-3).
- Lima, R.A.F.**, Gandolfi, S. 2011. Regime de distúrbio e levantamento da vegetação em clareiras naturais: um estudo de caso no Parque Estadual Carlos Botelho, SP, Brasil. In: Felfili, J.M., Eisenlohr, P.V., Melo, M.M.R.F., Andrade, L.A., Meira Neto, J.A.A. (Eds.). *Fitossociologia no Brasil: Métodos e Estudos de Casos*. Viçosa: Editora UFV, v.1, p.388–397.

## Manuscripts submitted or in preparation

- Pinho, B.X., Tabarelli, M. Arroyo-Rodríguez, V., Engelbrecht, B.M.J., Pierce, S., [10 authors], **Lima, R.A.F.**, [12 authors] & Melo, F.P.L. Functional biogeography of Neotropical moist forests: trait-climate relationships and assembly patterns of tree communities. Major review in *Global Ecology and Biogeography*.
- Yu, Y., Saatchi, S.S., [24 authors], **Lima, R.A.F.**, [20 authors] & Sibt, U. Global woody vegetation carbon density across disturbance scales. Under review in *AGU Advances*.
- Marjakangas, E.-L., Ovaskainen, O., Abrego, N., Grøtan, V., Oliveira, A.A., Prado, P.I., **Lima, R.A.F.** Co-occurrences of tropical trees: disentangling abiotic and biotic forces. Submitted to *Biotropica*.
- Lima, R.A.F.**, Oliveira, A.A., Mortara, S., Rosado, B. & Prado, P.I. Explaining tree species abundances from their functional traits: a test to the functional equivalency hypothesis. In preparation.

## Conference proceedings and invited lectures

- Lima, R.A.F.** 2020. Forest ecology, restoration and conservation in human-modified tropical landscapes. AMAP lab, Montpellier, France (Invited seminar).
- Lima, R.A.F.**, Souza, V.C., Siqueira, M.F., ter Steege, H. 2019. Tree endemism levels in the Atlantic Forest (Oral presentation). In: 70th Congresso Nacional de Botânica, Maceió, Brazil.
- Lima, R.A.F.**, Oliveira, A. A., Prado, P.I. 2018. What do we know about the Atlantic Forest? Insights from the Neotropical Tree Community database (Invited lecture). In: XII Latin American Congress of Botany, Quito, Ecuador.
- Lima, R.A.F.**, Oliveira, A. A., Prado, P.I., ter Steege, H. 2018. Commonness and rarity of trees in the Atlantic Forest (Oral presentation). In: XII Latin American Congress of Botany, Quito, Ecuador.
- Lima, R.A.F.**, Oliveira, A.A., Prado, P.I. 2017. The TreeCo database and its applications in the Atlantic Forest (Invited lecture). In: 68th National Congress of Botany, Rio de Janeiro, Brazil.
- Lima, R.A.F.**, Oliveira, A.A., Pitta, G.R., Prado, P.I. 2017. Natural and human-related effects in the structure and diversity of the Atlantic Forest (Oral presentation). In: 54th Annual Meeting of the Association for Tropical Biology and Conservation. Merida, Mexico.
- Galetti, M., Hortenci, L., Brocardo, C.R., Schmaedecke, G., Ziparro, V.B., Moreira, J., Rocha-Mendes, F., Jorge, M. L., Neves, C., Sanches, A., Biondo, C., Rodarte, R., Bueno, R., Norris, D., **Lima, R.A.F.**, Galbiati, L., Bovy, E., Culot, L.M.V., Siqueira, T., Guevara, R. 2012. The myriad

consequences of defaunation on trophic cascades: beyond islands and fragments (Oral presentation). In: 49th Annual Meeting of the Association for Tropical Biology and Conservation. Bonito, Brazil.

Padovezi, A., **Lima, R.A.F.** 2009. Cachoeira Restoration Project: a proposal methodology for planning ecology restoration projects (Oral presentation). In: XIII World Forestry Congress, Buenos Aires, Argentina.

Ivanauskas, N.M., **Lima, R.A.F.**, Oliveira, A.A., Franco, G.A.D.C., Durigan, G., Souza, V.C., Rodrigues, R.R. 2009. Stand structure and species diversity in forests of southeastern Brazil: comparing four 10-ha permanent plots (Oral presentation). In: 52o International Symposium of International Association for Vegetation Science, Crete, Greece.

### **Scientific outreach**

**Lima, R.A.F.**, Pinheiro, I.G., Aguirre, A.G., Caliari, C.P. 2013. Guia de árvores para a restauração do Oeste da Bahia. Inter-American Institute for Cooperation on Agriculture, Brasília, Brazil. Available at: <http://www.iicabr.iica.org.br/wp-content/uploads/2016/04/Guia-de-árvores.pdf>.

Almeida, A., Padovezi, A., **Lima, R.A.F.** 2011. Informações de Referência: Levantamento e avaliação de informações de referência para o Projeto 'Restauração de 350 ha do entorno do reservatório do Rio Cachoeira - Piracaia - SP'. Brasília, DF: The Nature Conservancy.

Almeida, A., Padovezi, A., **Lima, R.A.F.** 2011. Monitoring birds and vegetation: Methodological guide for monitoring birds and vegetation in ecological restoration areas according to the 'Climate, Community and Biodiversity Project Design Standards (CCB Standards). Brasília, DF: The Nature Conservancy do Brasil.