Curriculum Vitae

Education

2004 - 2009	Ph.D. in Geography	University of Victoria (UVic), Canada
2003 - 2004	M.Sc. in Remote Sensing	Instituto Nacional de Pesquisas Espaciais (INPE), Brazil
1998 - 2002	B.Sc. in Biology	Universidade Federal do Rio Grande do Norte (UFRN), Brazil

Professional History

2019 - now	Lecturer	University of Stirling (UoS), UK
2013 - now	Affiliated Researcher (w/o pay)	University of California Santa Barbara (UCSB), USA
2013 - 2019	Assistant Professor	Universidade Estadual Paulista (UNESP), Brazil
2010 - 2013	FAPESP Postdoctoral Fellowship	Instituto Nacional de Pesquisas Espaciais (INPE), Brazil
2010 - 2010	Postdoctoral Researcher	University of California Santa Barbara (UCSB), USA
2010 - 2010	Sessional Lecturer (USA = Adjunct)	Camosun College, Canada
2009 - 2009	Sessional Lecturer (USA = Adjunct)	University of Victoria (UVic), Canada
2004 - 2008	Teaching Assistant	University of Victoria (UVic), Canada

Research

Grants and Awards

2021-present Scottish Environmental Protection Agency. Aerial monitoring of tidal erosion and sedimentation in Dalgety Bay, Fife, Scotland. £48,083.25. Role: PI.

2021–present National Geographic Society/Rolex Perpetual Planet. The future of Amazonian flooded forests: how will tree species respond to inundation changes? US$ 199,927.50. Role: PI

2020-2022 Japanese Space Agency (JAXA) - Integrating multisensor information as analysis-ready data for semi-automated monitoring of South American wetlands (2020-2022). £10k in image acquisition rights. Role: PI.

2019–2021 Brazilian Council for Scientific Research (CNPq). Monitoring spatial and temporal fire and biomass accumulation in savanna and grassland : implications for strategic fire management. US$55,000. Role: Collaborator. PI: Alessandra Fidelis, UNESP.

2018–present NSF DEB. Aquatic metabolism and carbon dioxide flux: Linking physical and biological processes in Amazon floodplains. US$ 25,000. Role: Collaborator. PI: John Melack, UCSB.

2018–present Brazilian Council for Scientific Research (CNPq). Using managed pollinators to support conservation and sustainable açai production in the Amazon estuary region. US$53,000. Role: Collaborator. PI: Márcia Motta Maués, EMBRAPA.

2017–2019 National Geographic Society Committee for Research and Exploration grant 9983-16. Spatial and temporal carbon dynamics in Amazonian várzea forests: the role of flood dynamics and landscape heterogeneity. US$ $16,250. Role: PI.

2013–2019 Japanese Aerospace Exploration Agency (JAXA) PI 1483. Assessment of PALSAR-2 SAR imagery for monitoring inundation and vegetation distribution, biomass and phenology in the Amazon floodplain wetlands. Approx. US$ 100,000 in satellite image acquisition rights. Role: PI.

2017–2021 NASA IDS NNX17AK49G Methane fluxes from tropical aquatic systems: integration of measurements, hydrological and biogeochemical models and remote sensing. US$ 20,000. Role: Collaborator. PI: John Melack, UCSB.

2014–2019 São Paulo Research Foundation (FAPESP) grant 2013/50155-0. e-phenology: combining new technologies to monitor phenology from leaves to ecosystems. US$ 400,000. Role: Co-PI. PI: Patrícia Morellato, UNESP.

2017–2019 São Paulo Research Foundation 2016/06628-0. Application of UAV High-Resolution Digital Elevation Models in Geology and Geomorphology. US$10,000 (US$ 80k total). Role: Co-I. PI: Carlos Grohmann, USP.

2016–2019 USAID PEER Project 5-9. History and diversification of floodplain forest bird communities in Amazonia: towards an integrated conservation plan. US$15,000 (US$ 200k total). Role: Co-I. PI: Camila Ribas, INPA/ Joel Cracraft, AMNH.

2013–2016	Brazilian Council for Scientific Research (CNPq) grant 458038/2013-0. Modeling the primary productivity of herbaceous vegetation in the Amazon floodplains: a multiscale approach. US$ 200,000. Role: PI.
2012–2017	NSF Dimensions of Biodiversity /São Paulo Research Foundation BIOTA. 2012/50260-6. Assembly and evolution of the Amazon biota: an integrative approach. US$ 50,000.00 (US$800k total). Role: Co-I. PI: Lucia Lohmann (USP), Joel Cracraft, AMNH.
2014–2017	NASA NNH13ZDA001N-IDS. Impacts of floods and droughts on aquatic macrophytes, forests, and fisheries of central Amazonian river floodplains. US$ 20,000 (US$ 1.M total). Role: Co-I. PI: Leandro Castello, Virginia Tech.
2014-2015	UNESP Competitive Research Startup Grant. Environmental applications of low cost unmanned aerial vehicles. US$ 3,000. Role: PI.
2010–2013	São Paulo Research Foundation postdoctoral fellowship 2010/11269-2. Modeling of the spatial dynamics of macrophyte communities in the Amazon floodplain. US$ 60,000. Role: PI.

Publications

Key

Italics: supervised students/postdocs , Underline - main/senior authorship

Journal Articles

1. Campbell AJ, Lichtenberg EM, Carvalheiro LG, Menezes C, Borges RC, Coelho BWT, Freitas MAB, Giannini TC, Leão KL, de Oliveira FF, **Silva TSF**, & Maués MM. (2022). High bee functional diversity buffers crop pollination services against Amazon deforestation. **Agriculture, Ecosystems & Environment**, 326, 107777. DOI: 10.1016/j.agee.2021.10777
2. Silva CHL, Moura YM, Pessôa ACM, Trevisan DP, Mendes FS, Reis JBC, Picoli MCA, Wiederkehr NC, Carvalho NS, Dalagnol R, Kuck TN, Rosan TM, **Silva TSF**, Liesenberg V, & Bispo PC. (2021). Surviving as a young scientist in Brazil. **Science**, 374(6570), 948–948. DOI: 10.1126/science.abm8160
3. Paz A, Brown JL, *Cordeiro CLO*, Aguirre-Santoro J, Assis C, Amaro RC, Amaral FR, Bochorny T, Bacci LF, Caddah MK, d'Horta F, Kaehler M, Lyra M, Grohmann CH, Reginato M, Silva-Brandão KL, Freitas AVL, Goldenberg R, Lohmann LG, (…), Carnaval AC. (2021). Environmental correlates of taxonomic and phylogenetic diversity in the Atlantic Forest. **Journal of Biogeography**, 48(6), 1377–1391. DOI: 10.1111/jbi.14083
4. *Sugai LSM*, Llusia D, Siqueira T, & **Silva TSF**. (2021). Revisiting the drivers of acoustic similarities in tropical anuran assemblages. **Ecology**, 102(7), e03380. DOI: 10.1002/ecy.3380
5. *Sugai LSM*, **Silva TSF**, Llusia D, & Siqueira T. (2021). Drivers of assemblage-wide calling activity in tropical anurans and the role of temporal resolution. **Journal of Animal Ecology**, online

early. DOI: 10.1111/1365-2656.13399

6. Schöngart J, Wittmann F, *Resende AF*, Assahira C, Lobo GS, Neves JRD, Rocha M, Mori GB, Quaresma AC, Demarchi LO, Albuquerque BW, Feitosa YO, Costa GS, Feitoza GV, Durgante FM, Lopes A, Trumbore SE, **Silva TSF**, Steege H ter, (...), Piedade MTF. (2021). The shadow of the Balbina dam: A synthesis of over 35 years of downstream impacts on floodplain forests in Central Amazonia. **Aquatic Conservation**, 31(5), 1117–1135. DOI: 10.1002/aqc.3526

7. *Daunt ABP*, **Silva TSF**, Bürgi M, & Hersperger AM. (2021). Urban expansion and forest reserves: Drivers of change and persistence on the coast of São Paulo State (Brazil). **Land Use Policy**, 101, 105189. DOI: 10.1016/j.landusepol.2020.105189

8. Petsch D, Saito VS, Landeiro VL, **Silva TSF**, Bini LM, Heino J, Soininen J, Tolonen KT, Jyrkänkallio-Mikkola J, Pajunen V, Siqueira T, & Melo AS. (2021). Beta diversity of stream insects differs between boreal and subtropical regions, but land use does not generally cause biotic homogenization. **Freshwater Science**, 50(1), 53-64. DOI:10.1086/712565

9. *Conciani DE*, Santos LP, **Silva TSF**, Durigan G, & *Alvarado ST*. (2021). Human-climate interactions shape fire regimes in the Cerrado of São Paulo state, Brazil. **Journal for Nature Conservation**, 61, 126006. DOI: 10.1016/j.jnc.2021.126006

10. Carvalho TC, Wittmann F, Piedade MTF, *Resende AF*, **Silva TSF**, & Schöngart J. (2021). Fires in Amazonian Blackwater Floodplain Forests: Causes, Human Dimension, and Implications for Conservation. **Frontiers in Forests and Global Change**, 4, 196. DOI: 10.3389/ffgc.2021.755441

11. *Streher AS*, Torres RS, Morellato LPC, & **Silva TSF**. (2020). Accuracy and limitations for spectroscopic prediction of leaf traits in seasonally dry tropical environments. **Remote Sensing of Environment**, 244, 111828. DOI: 10.1016/j.rse.2020.111828.

12. Amaral JHF, Melack JM, Barbosa PM, MacIntyre S, Kasper D, Cortés A, **Silva TSF**, Sousa RN, & Forsberg BR. (2020). Carbon Dioxide Fluxes to the Atmosphere From Waters Within Flooded Forests in the Amazon Basin. **Journal of Geophysical Research (Biogeosciences)**, 125, e05293. DOI: 10.1029/2019JG005293

13. Bush ER, Mitchard ETA, **Silva TSF**, Dimoto E, Dimbonda p, Makaga l, Abernethy, K. (2020). Monitoring Mega-Crown Leaf Turnover from Space. **Remote Sensing** 12 (3), 429. DOI: 10.3390/rs12030429

14. Merrick T, Jorge MLSP, **Silva TSF**, Pau S, Rausch J, Broadbent EN, & Bennartz R. (2020). Characterization of chlorophyll fluorescence, absorbed photosynthetically active radiation, and reflectance-based vegetation index spectroradiometer measurements. **International Journal of Remote Sensing**, 41(17), 6755–6782. DOI:10.1080/01431161.2020.1750731

15. ter Steege H, (...), Silva, TSF, (...) Pickavance G. (2020). Biased-corrected richness estimates for the Amazonian tree flora. Scientific Reports, 10(1), 10130. DOI:10.1038/s41598-020-66686-3

16. Silva E, Torres RS, Alberton B, Morellato LPC, & **Silva TSF**. (2020). A Change-Driven Image Foveation Approach for Tracking Plant Phenology. **Remote Sensing**, 12(9), 1409. https://doi.org/10.3390/rs12091409

17. Regolin AL, Ribeiro MC, Martello F, Melo GL, Sponchiado J, *Campanha LFC*, *Sugai LSM*, **Silva TSF**, & Cáceres NC. (2020). Spatial heterogeneity and habitat configuration overcome habitat composition influences on alpha and beta mammal diversity. **Biotropica**, 52(5), 969–980. DOI: 10.1111/btp.12800

18. *Sugai LSM*, Desjonquères C, **Silva TSF**, & Llusia D. (2020). A roadmap for survey designs in

terrestrial acoustic monitoring. **Remote Sensing in Ecology and Conservation**, 6(3), 220–235. DOI: 10.1002/rse2.131

19. Alberton B, Torres RS, **Silva TSF**, Rocha HR, Moura MSB, Morellato LPC (2019). Leafing Patterns and Drivers across Seasonally Dry Tropical Communities. Remote Sensing 11: 2267. DOI: 10.3390/rs11192267
20. Almeida DRA, Stark SC, Valbuena R, Broadbent EN, **Silva TSF**,*Resende AF*, Ferreira MP, Cardil A, Silva CA, Amazonas N, Zambrano AMA, Brancalion PHS (2019). A new era in forest restoration monitoring. Restoration Ecology, early view. DOI: 10.1111/rec.13067
21. *Alvarado ST*, Andela N, **Silva TSF**, Archibald S (2019). Thresholds of fire response to moisture and fuel load differ between tropical savannas and grasslands across continents. Global Ecology and Biogeography early view DOI: 10.1111/geb.13034
22. *Daunt ABP*, **Silva TSF** (2019). Beyond the park and city dichotomy: Land use and land cover change in the northern coast of São Paulo (Brazil). Landscape and Urban Planning 189: 352–361. DOI: 10.1016/j.landurbplan.2019.05.003
23. Fonseca LDM, Dalagnol R, Malhi Y, Rifai SW, Costa GB, **Silva TSF**, Rocha HR, Tavares IB, Borma LS (2019). Phenology and Seasonal Ecosystem Productivity in an Amazonian Floodplain Forest. Remote Sensing 11: 1530. DOI: 10.3390/rs11131530
24. Nogueira K, Santos JA, Menini N, **Silva TSF**, Morellato LPC, Torres RS (2019). Spatio-Temporal Vegetation Pixel Classification by Using Convolutional Networks. IEEE Geoscience and Remote Sensing Letters 16: 1665–1669. DOI: 10.1109/LGRS.2019.2903194
25. Merrick T, Pau S, Jorge MLSP, **Silva TSF**, Bennartz R (2019). Spatiotemporal Patterns and Phenology of Tropical Vegetation Solar-Induced Chlorophyll Fluorescence across Brazilian Biomes Using Satellite Observations. Remote Sensing 11: 1746. DOI: 10.3390/rs11151746
26. Moraes AM, Vancine MH, *Cordeiro CLO*, Pinto MP, Lima AA, Culot L, **Silva TSF**, Collevatti RG, Ribeiro MC, Sobral-Souza T (2019). Predicting the potential hybridization zones between native and invasive marmosets within Neotropical biodiversity hotspots. Global Ecology and Conservation 20: e00706. DOI: 10.1016/j.gecco.2019.e00706
27. *Resende AF*, Schöngart J,*Streher AS*,*Ferreira-Ferreira J*, Piedade MTF, **Silva TSF** (2019). Massive tree mortality from flood pulse disturbances in Amazonian floodplain forests: The collateral effects of hydropower production. Science of The Total Environment 659: 587–598. DOI: 10.1016/j.scitotenv.2018.12.208
28. ter Steege H, ...,*Luize BG*, ..., **Silva TSF**, ... (211 authors) (2019). Rarity of monodominance in hyperdiverse Amazonian forests. Scientific Reports 9: 1–15. DOI: 10.1038/s41598-019-50323-9
29. *Sugai LSM*, Desjonquères C, **Silva TSF**, Llusia D. (2019). A roadmap for survey designs in terrestrial acoustic monitoring. Remote Sensing in Ecology and Conservation n/a. DOI: 10.1002/rse2.131.
30. *Sugai LSM*, **Silva TSF**, Ribeiro JW, Llusia D. (2019). Terrestrial Passive Acoustic Monitoring: Review and Perspectives. BioScience 69: 15–25. DOI: 10.1093/biosci/biy147.
31. *Sugai LSM*, Sugai JLMM, Ferreira VL, **Silva TSF**. (2019). Satellite image texture for the assessment of tropical anuran communities. Biotropica 51: 581–590. DOI: 10.1111/btp.12668.
32. *Alvarado ST*, **Silva TSF**, Archibald S (2018). Management impacts on fire occurrence: A comparison of fire regimes of African and South American tropical savannas in different

protected areas. Journal of Environmental Management 218: 79–87. DOI: 10.1016/j.jenvman.2018.04.004

33. Gomes VHF,...,*Luize BG*, ..., **Silva TSF**, ..., ter Steege H (187 authors) (2018). Species Distribution Modelling: Contrasting presence-only models with plot abundance data. Scientific Reports 8: 1–12. DOI: 10.1038/s41598-017-18927-1

34. Heino J, Melo AS, Jyrkänkallio□Mikkola J, Petsch DK, Saito VS, Tolonen KT, Bini LM, Landeiro VL, **Silva TSF**, Pajunen V, Soininen J, Siqueira T (2018). Subtropical streams harbour higher genus richness and lower abundance of insects compared to boreal streams, but scale matters. Journal of Biogeography 45: 1983–1993. DOI: 10.1111/jbi.13400

35. *Luize BG*, Magalhães JLL, Queiroz H, Lopes MA, Venticinque EM, Novo EMLM, **Silva TSF** (2018). The tree species pool of Amazonian wetland forests: Which species can assemble in periodically waterlogged habitats? PLOS ONE 13: e0198130. DOI: 10.1371/journal.pone.0198130

36. *Pereira LO*,*Furtado LFA*, Novo EMLM, Sant'Anna SJS, Liesenberg V, **Silva TSF** (2018). Multifrequency and Full-Polarimetric SAR Assessment for Estimating Above Ground Biomass and Leaf Area Index in the Amazon Várzea Wetlands. Remote Sensing 10: 1355. DOI: 10.3390/rs10091355

37. *Alvarado ST*,*Fornazari T*,*Cóstola A*, Morellato LPC, Silva TSF (2017). Drivers of fire occurrence in a mountainous Brazilian cerrado savanna: Tracking long-term fire regimes using remote sensing. Ecological Indicators 78: 270–281. DOI: 10.1016/j.ecolind.2017.02.037

38. Nogueira K, Santos JA, Cancian L, Borges BD, **Silva TSF**, Morellato LP, Torres RS (2017) Semantic segmentation of vegetation images acquired by unmanned aerial vehicles using an ensemble of ConvNets (2017). IEEE International Geoscience and Remote Sensing Symposium (IGARSS). paper presented at the 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), 3787–3790. DOI: 10.1109/IGARSS.2017.8127824

39. *Streher AS*,*Sobreiro JFF*, Morellato LPC, **Silva TSF** (2017). Land Surface Phenology in the Tropics: The Role of Climate and Topography in a Snow-Free Mountain. Ecosystems 20: 1436–1453. DOI: 10.1007/s10021-017-0123-2.

40. Costa M, Evans T, **Silva TSF** (2016). Remote Sensing of Wetland Types: Subtropical Wetlands of Southern Hemisphere. In: Finlayson CM, Everard M, Irvine K, McInnes RJ, Middleton BA, van Dam AA and Davidson NC (eds) The Wetland Book: I: Structure and Function, Management and Methods. Springer Netherlands: Dordrecht, 1–6. DOI: 10.1007/978-94-007-6172-8_307-2

41. *Fragal EH*, **Silva TSF**, Novo EMLM (2016). Reconstructing historical forest cover change in the Lower Amazon floodplains using the LandTrendr algorithm. Acta Amazonica 46: 13–24. DOI: 10.1590/1809-4392201500835

42. *Furtado LFA*, **Silva TSF**, Novo EMLM (2016). Dual-season and full-polarimetric C band SAR assessment for vegetation mapping in the Amazon várzea wetlands. Remote Sensing of Environment 174: 212–222. DOI: 10.1016/j.rse.2015.12.013

43. Hess L, Costa M, Evans T, **Silva TSF**, Chapman B, Milne T (2016). Remote Sensing of Wetland Types: Tropical Flooded Forests. In: Finlayson CM, Everard M, Irvine K, McInnes RJ, Middleton BA, van Dam AA and Davidson NC (eds) The Wetland Book: I: Structure and Function, Management and Methods. Springer Netherlands: Dordrecht, 1–5. DOI: 10.1007/978-94-007-6172-8_303-2

44. Morellato LPC, Alberton B,*Alvarado ST*, Borges B, Buisson E, Camargo MGG, Cancian LF,

Carstensen DW, Escobar DFE, Leite PTP, Mendoza I, Rocha NMWB, Soares NC, **Silva TSF**, Staggemeier VG,*Streher AS*, Vargas BC, Peres CA (2016). Linking plant phenology to conservation biology. Biological Conservation 195: 60–72. DOI: 10.1016/j.biocon.2015.12.033

45. Nogueira K, Santos JA,*Fornazari T*, **Silva TSF**, Morellato LP, Torres RS (2016). Towards vegetation species discrimination by using data-driven descriptors. 2016 9th IAPR Workshop on Pattern Recogniton in Remote Sensing (PRRS). paper presented at the 2016 9th IAPR Workshop on Pattern Recogniton in Remote Sensing (PRRS), 1–6. DOI: 10.1109/PRRS.2016.7867024

46. *Ferreira-Ferreira J*, **Silva TSF**,*Streher AS*, Affonso AG,*Furtado LFA*, Forsberg BR, Valsecchi J, Queiroz HL, Novo EMLM. (2015) Combining ALOS/PALSAR derived vegetation structure and inundation patterns to characterize major vegetation types in the Mamirauá Sustainable Development Reserve, Central Amazon floodplain, Brazil. Wetlands Ecology and Management 23: 41–59. DOI: 10.1007/s11273-014-9359-1

47. Teixeira-de-Mello F, Oliveira VA, Loverde-Oliveira SM, Huszar VLM, Barquín J, Iglesias C, **Silva TSF**, Duque-Estrada CH, Silió-Calzada A, & Mazzeo N. (2016). The structuring role of free-floating plants on the fish community in a tropical shallow lake: An experimental approach with natural and artificial plants. Hydrobiologia, 778(1), 167–178. DOI: 10.1007/s10750-015-2447-2

48. *Furtado LFA*, **Silva TSF**, Fernandes PJF, Novo EMLM. (2015). Land cover classification of Lago Grande de Curuai floodplain (Amazon, Brazil) using multi-sensor and image fusion techniques. Acta Amazonica 45: 195–202. DOI: 10.1590/1809-4392201401439

49. *Luize BG*, **Silva TSF**, Wittmann F, Assis RL, Venticinque EM. (2015). Effects of the Flooding Gradient on Tree Community Diversity in Várzea Forests of the Purus River, Central Amazon, Brazil. Biotropica 47: 137–142. DOI: 10.1111/btp.12203

50. *Luize BG*, Venticinque EM, **Silva TSF**, Novo EMLM. (2015) A floristic survey of angiosperm species occurring at three landscapes of the Central Amazon várzea , Brazil. Check List 11: 1789. DOI: 10.15560/11.6.1789

51. **Silva TSF*, **Melack JM,_Streher AS**,Ferreira-Ferreira J,_Furtado LFA* (2015). Capturing the dynamics of Amazonian wetlands using synthetic aperture radar: lessons learned and future directions. Remote Sensing of Wetlands. CRC Press, 472–489.

52. *Streher AS*, Barbosa CCF, Galvão LS, Goodman JA, Novo EML de M, Silva TSF (2015). Sunglint correction in airborne hyperspectral images over inland waters. Revista Brasileira de Cartografia 66.

53. Montanher OC, Novo EMLM, Barbosa CCF, Rennó CD, **Silva TSF** (2014). Empirical models for estimating the suspended sediment concentration in Amazonian white water rivers using Landsat 5/TM. International Journal of Applied Earth Observation and Geoinformation 29: 67–77. DOI: 10.1016/j.jag.2014.01.001

54. Santos JS, Fontana DC, **Silva TSF**, Rudorff BFT (2014) Identificação da dinâmica espaço-temporal para estimar área cultivada de soja a partir de imagens MODIS no Rio Grande do Sul.

55. *Arnesen AS*, **Silva TSF**, Hess LL, Novo EMLM, Rudorff CM, Chapman BD, McDonald KC. (2013) Monitoring flood extent in the lower Amazon River floodplain using ALOS/PALSAR ScanSAR images. Remote Sensing of Environment 130: 51–61. DOI: 10.1016/j.rse.2012.10.035

56. Costa MPF, **Silva TSF**, Evans TL (2013). Wetland Classification. Remote Sensing of Natural Resources. CRC Press: Boca Raton, FL, 461

57. **Silva TSF**, Melack JM, Novo EMLM. (2013). Responses of aquatic macrophyte cover and

productivity to flooding variability on the Amazon floodplain. Global Change Biology 19: 3379–3389. DOI: 10.1111/gcb.12308

58. Fernandes RR, Nunes GM, Fantin-Cruz I, **Silva TSF**, & Cunha CN (2013). Uso de geotcnologias na análise da ocorrência de unidades fitofisionômicas na região do médio Araguaia. Revista Brasileira de Cartografia, 65(5), Article 5. http://www.seer.ufu.br/index.php/revistabrasileiracartografia/article/view/43866

59. Lima A, **Silva TSF**, Aragão LEOC, Feitas RM, Adami M, Formaggio AR, Shimabukuro YE. (2012) Land use and land cover changes determine the spatial relationship between fire and deforestation in the Brazilian Amazon. Applied Geography 34: 239–246. DOI: 10.1016/j.apgeog.2011.10.013.

60. Casali S, Calijuri MC, Barbarisi B, Renó VF, Affonso AG, Barbosa C, **Silva TSF**, Novo EMLM. (2011) Impact of the 2009 extreme water level variation on phytoplankton community structure in Lower Amazon floodplain lakes. Acta Limnologica Brasiliensia 23: 260–270. DOI: 10.1590/S2179-975X2012005000001

61. Renó VF, Novo EMLM, Suemitsu C, Rennó CD, **Silva TSF** (2011). Assessment of deforestation in the Lower Amazon floodplain using historical Landsat MSS/TM imagery. Remote Sensing of Environment 115: 3446–3456. DOI: 10.1016/j.rse.2011.08.008.

62. Sartori LR, Imai NN, Mura JC, Novo EMLM, **Silva TSF** (2011). Mapping Macrophyte Species in the Amazon Floodplain Wetlands Using Fully Polarimetric ALOS/PALSAR Data. IEEE Transactions on Geoscience and Remote Sensing 49: 4717–4728. DOI: 10.1109/TGRS.2011.2157972.

63. Evans TL, Costa M, Telmer K, **Silva TSF**. (2010). Using ALOS/PALSAR and RADARSAT-2 to Map Land Cover and Seasonal Inundation in the Brazilian Pantanal. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing 3: 560–575. DOI: 10.1109/JSTARS.2010.2089042.

64. **Silva TSF**, Costa MPF, Melack JM (2010). Spatial and temporal variability of macrophyte cover and productivity in the eastern Amazon floodplain: A remote sensing approach. Remote Sensing of Environment 114: 1998–2010. DOI: 10.1016/j.rse.2010.04.007.

65. **Silva TSF**, Costa MPF, Melack JM (2010). Assessment of two biomass estimation methods for aquatic vegetation growing on the Amazon Floodplain. Aquatic Botany 92: 161–167. DOI: 10.1016/j.aquabot.2009.10.015

66. **Silva TSF**, Costa MPF, Melack JM (2009). Annual net primary production of macrophytes in the eastern Amazon floodplain. Wetlands 29: 747–758. DOI: 10.1672/08-107.1

67. **Silva TSF**, Costa MPF, Melack JM, Novo EMLM. (2008). Remote sensing of aquatic vegetation: theory and applications. Environmental Monitoring and Assessment 140: 131–145. DOI: 10.1007/s10661-007-9855-3

68. Marinho-Soriano E, **Silva TSF**, Moreira WSC (2001). Seasonal variation in the biomass and agar yield from Gracilaria cervicornis and Hydropuntia cornea from Brazil. Bioresource Technology 77: 115–120. DOI: 10.1016/S0960-8524(00)00158-9.

Teaching Experience

(Contact hours indicated)

University of Stirling

Postgraduate

2022 ENMPG11 - Geomatics (16 students, 60h, Environmental Science Masters program)

2021 ENMPG11 - Geomatics (22 students, 60h, Environmental Science Masters program)

2020 ENMPG11 - Geomatics (22 students, 60h, Environmental Science / Earth Observation Master's programs)

2020 EPLPP2 - Remote Sensing Applications (3 students, 4h, Earth Observation Master's program)

Undergraduate

2022 BIOU6PE - Plant Ecology (48 students, 15h, Ecology program)

2021 GEOU9SP - Geographic Information Systems (65 students, 60h, Geog./Env.Sci/Ecol./Biol. majors).

2021 BIOU6PE -Plant Ecology (40 students, 15h, Ecology program)

2021 SCIU3FB - Biology Field Course (60 students, 12h, Animal Biology / Ecology majors)

2020 GEOU9IS - Geographic Information Systems (76 students, 60h, Geog./Env.Sci/Ecol./Biol. majors).

2020 SCIU3FB - Biology Field Course (60 students, 12h, Animal Biology / Ecology majors)

2020 BIOU6PE - Plant Ecology (25 students, 6h, Ecology majors)

2019 GEOU9SI - Geographic Information Systems (85 students, 60h, Geog./Env.Sci/Ecol./Biol. majors)

2019 SCIU3FB -Biology Field Course (60 students, 12h, Animal Biology / Ecology majors)

São Paulo State University (UNESP)

Postgraduate

2018 Statistical analysis of ecological data (30 students, 60h, Ecology program)

2017 Remote sensing: physical basis and applications (25 students, 60h, Geography program)

2014– 2017 Statistical analysis of ecological data (35 students, 60h, Ecology program)

2014– 2015 Quantitative analysis of environmental data (5 students, 60h, Geography Grad. program)

2014– 2016 GIS and RS tools for landscape ecology (30 students, 8h, Ecology Graduate program)

2014– 2015 Plant phenology and climate change (15 students, 30h, Ecology/Botany Grad. Progra

Undergraduate

2018 GEG3514 – Hydrology (35 students, 15 weeks, 4 hours/week, 1st yr. Ecology)

2018 GEG3143 – Biogeography (24 students, 15 weeks, 4 hours/week, 3rd yr. Ecology)

2018 GEG3480 – Biogeography (32 students, 15 weeks, 4 hours/week, 2nd yr. Geography)

2018 GEG3441 – Biogeography (27 students, 15 weeks, 4 hours/week, 2nd yr.Geography)

2017 GEG3143 – Biogeography (24 students, 15 weeks, 4 hours/week, 3rd yr. Ecology)

2017 GEG3480 – Biogeography (30 students, 15 weeks, 4 hours/week, 2nd yr. Geography)

2017 GEG3441 – Biogeography (29 students, 15 weeks, 4 hours/week, 2nd yr.Geography)

2017 GEG3461 – Bioclimatology (15 students, 15 weeks, 4 hours/week, Geography elective)

2016 GEG3143 – Biogeography (24 students, 15 weeks, 4 hours/week, 3rd yr. Ecology)

2016 GEG3480 – Biogeography (30 students, 15 weeks, 4 hours/week, 2nd yr. Geography)

2016 GEG3441 – Biogeography (29 students, 15 weeks, 4 hours/week, 2nd yr. Geography)

2016 GEG3143 – Landscape Analysis (20 students, 15 weeks, 4 hours/week, 4th yr. Geography)

2015 GEG3514 – Hydrology (30 students, 15 weeks, 4 hours/week, 1st yr. Ecology)

2015 GEG3143 – Biogeography (24 students, 15 weeks, 4 hours/week, 3rd yr. Ecology)

2014 GEG3143 – Biogeography (24 students, 15 weeks, 4 hours/week, 3rd yr. Ecology)

2014 GEG3480 – Biogeography (40 students, 15 weeks, 4 hours/week, 2nd yr. Geography)

2014 GEG3441 – Biogeography (38 students, 15 weeks, 4 hours/week, 2nd yr. Geography)

2013 GEG3441 – Biogeography (40 students, 15 weeks, 4 hours/week, 2nd yr. Geography)

Camosun College, Victoria, BC, Canada

Undegraduate

2010 GEOG 210 – Map and Airphoto Interpretation (28 students, 14 weeks, 5 hours/week, 2nd yr. Geography)

University of Victoria, BC, Canada

Undergraduate

2009 GEOG 428 – Advanced Topics in GIScience (7 students, 13 weeks, 3 hours/week, 4th yr. Geography)

2009 GEOG 319 – Remote Sensing of the Environment (40 students, 13 weeks, 2 hours/week, 3rd. yr. Geography)

2009 GEOG 228 – Digital Geomatics (40 students, 13 weeks, 2 hours/week, 2nd yr. Geography)

2009 GEOG 222 – Intro. to Geographical Information (70 students, 13 weeks, 3 hours/week, 2nd yr. Geography)

Teaching Assistant

2009 GEOG322 – Digital Remote Sensing (1 section of 20 students, 13 weeks, 98 hrs.)

2008 GEOG326 – Special Topics in Geographic Data Analysis (2 sections of 20 students, 13 weeks, 196 hrs.)

2008 GEOG328 – Geographic Information Science I (1 section of 20 students, 13 weeks, 98 hrs.)

2006 GEOG322 – Digital Remote Sensing (1 section of 20 students, 13 weeks, 98 hrs.)

2006 GEOG326 – Special Topics in Geographic Data Analysis (1 section of 20 students, 13 weeks, 98 hrs.)

2005 GEOG322 – Digital Remote Sensing (1 section of 20 students, 13 weeks, 98 hrs.)

2005 GEOG326 – Special Topics in Geographic Data Analysis (1 section of 20 students, 13 weeks, 98 hrs.)

2005 GEOG101A – Biophysical Systems and the Human Environment (2 sections of 20 students, 13 weeks, 196 hrs.)

2004 GEOG101A – Biophysical Systems and the Human Environment (2 sections of 20 students, 13 weeks, 196 hrs.)

Short Term Instruction

2018 “Ecological remote sensing using Google Earth Engine”. City University of New York. June 19th, 8 hours. New York, USA.

2016 “Remote sensing using Unmanned Aerial Vehicles”. VI GeoPantanal - Symposium for Geomatics in the Pantanal, 16 hours, October 20th-21st, Cuiabá, Brazil.

2015 “Remote sensing using Unmanned Aerial Vehicles”. XVII Brazilian Symposium on Remote Sensing, 16 hours, April 25th-26th, João Pessoa, Brazil.

Mentoring ans supervision

Postdoctoral Fellows

2014–2019 Swanni Tatiana Alvarado. Monitoring the effects of fire on the phenology and community structure of campos rupestres and Cerrado vegetation through remote sensing. FAPESP Fellowship 2014/12728-1.

2016–2017 Carlos Leandro de Oliveira Cordeiro. Integration of environmental data sets to describe and explore Amazonian biodiversity patterns. FAPESP Fellowship 2016/08685-0.

Ph.D. Students

2021-present Adam Fell (Co-Supervisor). Navigating fragmented tropical landscapes: understanding how forest fragmentation affects frugivore behaviour. Faculty of Natural Sciences, Division of Biological and Environmental Sciences, University of Stirling.

2021-present Louisa Habermann (Co-Supervisor). Understanding Soil Fertility Legacies in Coigach Assynt. Faculty of Natural Sciences, Division of Biological and Environmental Sciences, University of Stirling.

2019-present Kirsten O'Sullivan (Co-Supervisor). Changing distribution and composition of sub-tropical montane forests in Taiwan. Faculty of Natural Sciences, Division of Biological and Environmental Sciences, University of Stirling.

2015–2019 Larissa Sayuri Moreira Sugai. Acoustic signaling assemblages: structuring processes and implications for community dynamics. Graduate Program in Ecology and Biodiversity, São Paulo State University (UNESP). FAPESP Fellowship 2015/25316-6.

2015–2019 Bruno Garcia Luize. The role of floodplains on the origin and maintenance of tree species diversity in the Amazon. Graduate Program in Ecology and Biodiversity, São Paulo State University (UNESP). FAPESP Fellowship 2015/24554-0.

2015–2019 Ana Beatriz Pierri Daunt. Drivers of landscape change in the coastal region of northern São Paulo state. Graduate Program in Geography, São Paulo State University (UNESP). CAPES PhD fellowship.

2014–2018 Jefferson Ferreira-Ferreira. Effects of landscape heterogeneity and hydrological variability on the carbon dynamics of várzea forests in Central Amazonia. Graduate Program in Geography, , São Paulo State University (UNESP).

2014–2018 Annia Susin Streher. Abiotic and biotic drivers of species diversity across an elevation gradient: an optical trait-based approach for testing ecological theories. Graduate Program in Ecology and Biodiversity, São Paulo State University (UNESP). FAPESP Fellowship 2015/17534-3.

M.Sc. Students

2020-2021 Novelyne Borday. New higher spatial resolution Sentinel-2 satellite imagery and the advantages and disadvantages of replacing the norm satellite MODIS for phenology studies Taught Masters in Environmental Management.

2020-2021 Jack Westwood. NOptimizing a machine learning framework for mapping the inundation of wetland habitats in the Amazon Basin, using multi-sensor and multitemporal remote sensing. Taught Masters in Environmental Management.

2019-2020 Isla Farrel. Assessing vegetation regeneration responses following prescribed fires in the Amazonian Savanna (Brazil) using UAV imagery. Taught Masters in Earth and Planetary Observation.

2017–2019 João Francisco Ferreira Sobreiro. Hydroclimatic controls and climate change impacts on vegetation distribution in the Espinhaço Mountain Range, Brazil. Graduate Program in Geography, São Paulo State University (UNESP). CAPES Fellowship.

2015–2017 Rafaela Soares Niemann. Generating Digital Terrain Models from UAV -derived point clouds using terrain filtering algorithms. Graduate Program in Geography, São Paulo State University (UNESP). CAPES fellowship.

2014–2015 Everton Hafemann Fragal. Historical reconstruction of forest cover changes in Lower Amazon varzeas using the LandTrendr algorithm. Graduate Program in Remote Sensing, National Institute for Space Research (INPE). CAPES fellowship.

2013–2014 Luiz Felipe de Almeida Furtado. Mapping and modeling vegetation structure in the Amazon varzeas using C-band polarimetric data. Graduate Program in Remote Sensing, National Institute for Space Research (INPE). CAPES fellowship.

2012–2013 Allan Saddi Arnesen. Monitoring inundation extent in the Curuai Lake floodplain using ALOS/PALSAR ScanSAR imagery and auxiliary data. Graduate Program in Remote Sensing, National Institute for Space Research (INPE). CAPES fellowship.

Undergraduate Dissertations

2019-2020 Jacob Ashley. How do the microclimates across a mountain affect the structure of plant communities? Ecology major.

2019-2020 Peter Meehan. The correlation between LiDAR data and forest inventory data and its potential benefits to small-scale organisations. Environmental Geography major.

2019-2020 Sophia Thomson. Increased wind energy potential in Stirlingshire, Scotland, using Geographic Information Systems (GIS). Environmental Geography major.

2016–2019 Abner Castro de Carvalho. Geomatics tools for supporting Amazon biodiversity modeling. Ecology major. Received CNPq undergraduate research fellowship.

2016–2018 André Bresighello Beig. Influence of fluvial dynamics on forest cover change in the Amazon floodplain wetlands. Geography major Received CNPq undergraduate research fellowship.

2017–2019 Tamires Fornazari. The role of public policies and private concessions in the conservation efforts of São Paulo state parks. Geography major. Received FAPESP undergraduate research fellowship.

2016–2017 Rodrigo de Jesus. Mapping temporal changes in mangrove extent in the coast of São Paulo. Geography major.

2015–2016 Julio Araújo Alves. Influence of hydrogeomorphology on vegetation distribution and landscape dynamics in Amazon floodplains: a remote sensing approach. Geography major.

2015–2016 João Francisco Ferreira Sobreiro. Climate change and conservation: analyzing precipitation patterns and identifying future climatic refugia in the Espinhaço range (Brazil). Geography major. Undergraduate Thesis. Received CNPq undergraduate research fellowship.

2015–2016 Luís Fernando de Castro Campanha. Influence of geodiversity on the distribution of vegetation types in the Serra do Cipó National Park. Ecology major. Received CNPq undergraduate research fellowship.

2015–2016 Renata Felício Boitar Paes Dias. Urban landscape perception in the Liberdade district, São Paulo: the perspective of urban transformation from generation gaps in the Japanese- Brazilian community. Geography major.

2014–2015 Nathalie Assis. Developing an implementation plan for a botanical garden in Rio Claro, SP. Geography major.

2013–2014 Flora Shellard Corrêa. Land use change drivers and dynamics in the city of Carapicuíba, SP. Ecology major. Received FAPESP undergraduate research fellowship.

Undergraduate Research Internships

2016–2019 Thais Pereira de Medeiros. Applying unmanned aerial vehicle imagery to vegetation studies Geography major. CNPq undergraduate research fellowship.

2016–2017 Abner Castro de Carvalho. Geomatics tools for supporting Amazon biodiversity modeling. Ecology major. CNPq undergraduate research fellowship.

2014–2015 João Francisco Ferreira Sobreiro. Optimizing imaging parameters for environmental imaging using Unmanned Aerial Vehicles. Geography major. UNESP undergraduate research fellowship.

2014–2015 Luís Fernando de Castro Campanha. Fire distribution in the Serra do Cipó National Park: a remote sensing approach. Ecology major. UNESP undergraduate research fellowship.

2013–2014 Leonardo Nicolau de Barros. Mapping land use and land cover change in the Santa Gertrudes municipality. Geography major. Volunteer internship.

2013–2014 Lucas de Souza Almeida. Remote sensing of surface temperature in the Serra do Caparaó region to support ecological and evolutionary herpetology. Biology major. UNESP undergraduate research fellowship.

2013–2014 Tamires Fornazari. Fire distribution in the Serra do Cipó National Park: a remote sensing approach. Geography major. CNPq undergraduate research fellowship.

Service

Administration

2021-present BES Equality, Diversity and Inclusion Committee

2019–present General University Ethics Panel, University of Stirling

2019-present BES GUEP Panel, University of Stirling

2017–2019 Vice-chair of the Ecology graduate program, UNESP

2017–2019 Faculty board – Ecology graduate program, UNESP

2016–2019 Faculty board – Geography graduate program, UNESP

2016–2019 Curriculum Overhaul Committee - Ecology undergraduate program, Institute of Biosciences, UNESP

2015-2019 Faculty board - Geography Department, UNESP

2015-2019 Faculty board - Ecology undergraduate program, UNESP

2014-2015 Board member, Central Chamber for Research – Institute of Geosciences and Mathematical Sciences, UNESP

2014-2015 Board member, Central Chamber for Teaching – Institute of Geosciences and Mathematical Sciences, UNESP

Journal Editor

2017–present

Associate Editor, Global Ecology and Biogeography (IF 6.045, ranked 10/153 Ecology and 2/49 Physical Geography by ISI Journal Citation Reports).

Proposal Reviewer

2019

Economic and Social Research Council (ESRC), UK.

2019

Natural Environment Research Council (NERC), UK.

2017

Conselho Nacional de Pesquisa e Desenvolvimento (CNPq), Brazil.

2017

Fundação de Apoio à Pesquisa do Estado de São Paulo (FAPESP), Brazil.

2015

Agencia Nacional de Promoción Científica y Técnica (ANPCyT), Argentina

2014

Hungarian Scientific Research Fund (OTKA). Call for proposals to support basic research 2014/1.

2012

NASA ROSES 2011 Terrestrial Ecology Solicitation. Solicitation NNH11ZDA001N-TE. Panel Coordinators: Diane Wickland / Woody Turner.

Journal Referee

Remote Sensing of Environment, Wetlands, Aquatic Sciences, Sensors, Tropical Conservation Science, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Wetlands Ecology and Management, Environmental Science & Technology, Journal of Applied Remote Sensing, Journal of Environmental Management, Remote Sensing, Computers & Geosciences, European Journal of Remote Sensing, Applied Vegetation Science, Biogeochemistry, PLOS One, Plant Ecology & Diversity, Biological Conservation, Environmental Monitoring and Assessment, Scientific Reports, ISPRS Journal of Photogrammetry and Remote Sensing, Scientific Reports, Global Ecology and Biogeography, Aquatic Sciences.

Other Activities

2021

Invited talk: “Phenological monitoring: open data, open software and open hardware to face the climate challenge”. 22nd International Congress of Biometeorology, 20-22 September, online.

2018

Invited participation on the NASA-sponsored workshop “Remote Sensing of Inundation Extent”, organized to provide NASA headquarters with a report on the current capabilities and future challenges and needs for monitoring inundation from space.

2014–2016

Chair of the Scientific Committee - Amazonian Floodable Forests Research Network (RECORFLOR), a network funded by the Mamirauá Sustainable Development Institute to develop basic and applied research on Amazon floodable forests.

2012

Conference session organizer: “Mapping and monitoring large wetland systems and biophysical properties with Earth observation satellite imagery”. 9th INTECOL International Wetlands Conference – Orlando, Florida, June 3-8. Co-organizers: Dr. Maycira Costa, Dr. Lisa-Maria Rebelo.

2011

Conference session organizer: “Operational Remote Sensing of Inland Waters in Brazil: Challenges and Opportunities” (translated title). XIII Brazilian Limnology Conference – Natal, Brazil, September 4-8.

Citizenship

Brazilian Citizen, Permanent Resident of Canada.

6) Academic Quantitative Indicators

Publications in peer-reviewed journal articles: 45 Edited books 3 Book chapters 6 Full Conference Papers > 30 Conference Abstracts > 70 Postdoctoral fellows supervised to date 2 PhD students supervised to date 3 Master’s degree students supervised to date 5

Citations in ISI 768 (h=16) Citations in Scopus 852 (h=16) Citations in Google Scholar 1311 (h=19)

7) Other information

Google Scholar: http://scholar.google.ca/citations?user=hpPTEmcAAAAJ

_Scientific and Editorial Committees:*

Scientific Coordinator Network for Research on Ecology and Use of Wetland Forests in the Amazon River (Rede de Pesquisas sobre a Ecologia e Uso dos Recursos das Florestas Inundáveis da Calha do

Solimões-Amazonas - RECORFLOR).

Associate Editor Global Ecology and Biogeography (IF: 5.667, JCR Ranking: 17/165 (Ecology); 2/50 (Phisical Geography, ISSN 1466-8238)

Associate Editor Remote Sensing (IF: 4.118, JCR Ranking: 7/30 (Remote Sensing), ISSN 2072-4292)