

## Andrea Presotto

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### Education

**Ph.D. Geography (GIScience), University of Georgia, Athens, GA, USA** **2015**

Dissertation - From Mazes to Maps: Geospatial Analysis and The Patterns of Navigation in Wild Animals

**Ph.D. Physical Geography** (collaboration between Experimental Psychology and Geography),  
**University of São Paulo, São Paulo, Brazil** **2009**

Dissertation - Primate Cognitive Maps: An Analysis of Movement and Routes of Capuchin Monkeys Supported by Geographic Information Systems (free translation)

**Master of Science in Physical Geography, University of São Paulo, São Paulo, Brazil** **2005**

Thesis - Public Open Spaces: A Case Study at Ilhabela Island, SP

**Licensure in Education, University of São Paulo, São Paulo, Brazil** **2000**

**Bachelor of Science Geography, University of São Paulo, São Paulo, Brazil** **1998**

Thesis - Environmental Perception of Japi Sierra in Jundiaí Municipality

### Employment

**2024 -Assistant Professor**, Depart. of Geography, Planning and Environment, East Carolina University

### Professional Experiences

**2022-2024 – Associate Professor.** I was a tenured faculty member in the Department of Geography and Geoscience. I taught undergraduate and graduate courses in GIS and supervised the Graduate students project (GIS cooperative experience). Additionally, I taught undergraduate courses in remote sensing (RS), biogeography, and data analysis. I maintained an externally funded research agenda involving undergraduate and graduate students in research that resulted in peer-reviewed scientific publications, undergraduate students experience and presentation. I served on the Graduate School Curriculum Committee; I was a member of the university Institutional Review Board (IRB). I served as the treasurer of Middle Atlantic Division of the American Associations of Geographers (MAD-AAG) and as the Coordinator of the Conservation Group of the Brazilian Society of Primatology.

**2022-2024 – GISM Program Director.** I advised the graduate students in the GISM program, scheduled all GISM classes, hired the GISM adjunct faculty, and managed the graduate program budget. I conducted GISM marketing and recruitment. I recruited, hired, and supervised the Researcher Assistants (RA) and Teaching Assistants (TA), along with the undergraduate GIS monitors. I developed the graduate curriculum, including assuring program accreditation. I led 4- 5 independent studies with RAs and placed students in internships and employment. In the last few years, the GISM went from an unranked program with closure to the independently ranked number one online GIS master's program nationally. In 2022 we won the [AAG Program Excellence award](#). I serve on the Graduate Council since 2022.

**2020 – 2022 Assistant Professor.** Department of Geography and Geosciences, Salisbury University, MD. Taught classes on Geographic Information Sciences and Biogeography. Conducted studies on conservation in Zimbabwe and Brazil, advanced research methods on movement. Collaborated with a multidisciplinary, international team on various research projects. Chair of the department curriculum committee, member of the graduate school curriculum committee, and member of the Institutional Review Board (IRB) at Salisbury University. Vice-Chair of the Middle Atlantic Division of the American Associations of Geographers (MAD-AAG). Coordinator of the Conservation Group of the Brazilian Society of Primatology. I serve on numerous university-level committees.

**2017-2019 - Visiting Assistant Professor.** Department of Geography and Geosciences Salisbury University, MD. Department of Geography and Geosciences, Salisbury University, MD. Researched animal navigation in South Africa and Brazil. Advanced research methods on movement. Collaborated with a multidisciplinary, international team on primate and elephant navigation, conservation, and behavior. Taught classes on Geographic Information Sciences, Remote Sensing, and Biogeography. Developed the research site in Brazil.

**2019-2020 - Postdoctoral Researcher.** National Science Foundation - PROMISE AGEP Postdoctoral Fellowship. Advanced GIS research methods to investigate the habitual routes used by wild animals. Taught geographic information science. Increased collaboration with the Max Plank primate range workgroup.

**2015-2016 - Postdoctoral Researcher.** Center for Geospatial Research, Department of Geography, University of Georgia. Investigated the land cover change in the National Park Service. Applied geospatial technology and remote sensing to analyze capuchin navigation in Cerrado-Caatinga, Brazil. Conducted aerial photo interpretation to update the vegetation map of Timucuan Ecological and Historic Preserve (Florida) National Park Service.

**2011-2015 – Teaching Assistant and Research Assistant.** Center for Geospatial Research, Department of Geography, University of Georgia. Taught advanced remote sensing (laboratory) for graduate students, particularly LiDAR data processing. Taught geographic information science and aerial photo interpretation (laboratories for graduate and undergraduate students). Researched the land use–land cover (LULC) for the Salmonella R15 project, funded by the National Institutes of Health (NIH). Analyzed GIS data and remote sensing for the Salmonella R 15 project. Collaborated with the Ecology, Veterinary, Environmental Science, and Geography departments at UGA.

**2011-2011 - Postdoctoral Researcher.** Center for Geospatial Research, Department of Geography, University of Georgia. Worked on LiDAR data quality control and analysis in collaboration with the Natural Resources Center at Great Smoky Mountain National Park. Worked on the data analysis for a National Science Foundation Grant Proposal, a collaboration between the University of Sao Paulo Experimental Psychology and the University of Georgia, Geography and Psychology.

**2009-2010 - Postdoctoral Researcher.** Laboratory of Cognitive Ethology, Department of Experimental Psychology, University of Sao Paulo. Collected empirical data on capuchin behavior. Wrote manuscripts and proposals.

**2006-2007 - Visiting Researcher.** Laboratory of Spatial Cognition, Department of Psychology, University of Illinois Urbana-Champaign. Conducted primate behavioral research on capuchin's spatial cognition. Explored geo-technologies and mathematical models to analyze spatial cognition. Audited classes in Statistics, Spatial Cognition, Primate Behavioral Ecology, and Primate Endocrinology.

**2009-2010 – Consultant.** Environmental Agency. Campinas, SP. Conducted surveys and geospatial analysis of landfill ecological impact.

## Grants

### 2024-2025

1. Enriching Impact Assessment: Geospatial Evaluations in Peru. United States Agency for International Development (USAID). Peru GEO IE. PIs: Marcon Millones, Mark Buntaine, Stuart Hamilton. Collaborator - Andrea Presotto, *funded*. U\$ 640,000.00

### 2022-2025

2. Coexistence and One Health in Human-modified habitats. CNPq – National Institute of Science and Technology. Proposal: Coexistence and One Healthy in human-modified habitats. Solutions to solve National Challenges. Patrícia Izar, Briseida Resende, Nilton Lincopan, Gisele Zago, Silvia B Moreira, Cibele Biondo, Mariella Butti, Alexine Keuroghlian, Suemi Tokumaru, Carla Castro, Katia Ferraz, Renato Hilário, Dione José da Silva, André Santos, Júlio César Bicca-Marques, Leonardo Oliveira, Cristiana Brito, Joana Cabral, Mateus Oka, Luciana Oklander, Jessica Lynch, Zelinda Hirano, Valéria Romano, Renata Ferreira, Andrea Presotto, Aline Dada, Silvio Marchini, Sheila Schmidt, João Souza-Alves, Dida Mendes, Túlio Lousa, Patrícia Monticelli, Adriana Sicutto, Laurence Culot, Leandro Jerusalinsky, Amely Martins, Monica Montenegro, Gerson Buss, Renata Azevedo, Luciana Berardi, Gabriela Ludwig, Mozart Baptista, Lilian Catenacci, Christine Steine, Gustavo Canale, Pomerquenpo Txicão, Korotowi Taffarel, Maiua Txicão, Nadia Antoniassi, Ian Tancredi, Fernanda Fernandes, Vanessa Fortes, Anamélia Jesus, Naylê Duarte, Mirela Dárc, Elaine Dione, Felipe Chagas, Gabriela Rezende, Daniel Felippi. Sixty participants and 27 institutions. USA participant institutions: U. of California Los Angeles (UCLA) and Salisbury University (SU), (*under review*) U\$ 1,344,692.31
3. Of Mangroves and Monkeys. PI: Andrea Presotto. Co-PI: Ricardo Rodrigues dos Santos. Collaborator: Stuart E. Hamilton. The Explorer Club, *funded*. U\$ 33,000.00
4. Primate resilience in an anthropogenic landscape. PI: Laurence M. V. Culot. Associated Researchers: Andrea Presotto, Patricia Izar. Technological Innovation Programs / BIOTA - Research Program on Biodiversity Characterization, Conservation, Restoration and Sustainable Use / BIOTA. FAPESP, *funded*.
5. MIPS – Maryland Industrial Partnerships. InLand project. PI: Andrea Presotto. Collaborators: Stuart Hamilton, *not funded*. U\$ 88,996.00

### 2021

6. Land use, Conflict, and Corridors: Elephant Conservation in Rural-Urban Landscape Mosaic. PIs: Malvern Karidozo, Andrea Presotto, Ferrell Osborn, Marguerite Madden, Roger Perry, William Langbauer. Save the Elephants & Elephant Crisis Fund, *funded*. U\$ 100,000.00
7. Plasticidade fenotípica de macacos-prego (genero Sapajus) fase 2: investigacao sobre efeitos de antropizacao do ambiente. PI: Patricia Izar, Co-PIs: Andrea Presotto, Barth Wright, Gisele Zago, Jessica Lynch Alfaro, Valentina Truppa, Cibele Biondo, Briseida Dôgo de Resende, Gabriel Ramos-

Fernandez, Waldney Martins, Luciana Oklander, Hazel Byrne, Myra Laird. FAPESP – Fundacao de Amparo a Pesquisa do Estado de Sao Paulo, *funded*. U\$ 320,000.00

8. Efeitos da paisagem na navegação espacial e hormônios ligados ao estresse em um primata selvagem. PI: Nicola Schiel. Co-PIs: Antonio Souto, Filipa Abreu, Julio Cesar Bicca-Marques. Collaborator: Andrea Presotto. Universal - Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), *not funded*. U\$ 100,000.00
9. Capuchin culture conservation in Maranhão, Brazil. PI: Andrea Presotto. Co-PI: Ricardo Rodrigues dos Santos. Collaborator: Stuart E. Hamilton, *not funded*. U\$ 17,108.00
10. American Association of Geographers (AAG). PI: Andrea Presotto. Funds to develop the Middle Atlantic Division website, *funded*. U\$ 2,500.00

## 2020

11. Manipulating “Problem Elephant” Behaviour in a Trans-frontier Landscape: Urban and Anthropogenic Influences. PI: Loki Osborn, Co-PIs: Malvern Karidozo, Andrea Presotto, Marguerite Madden, and William Langbauer. Elephant Crisis Fund, *funded*. U\$ 19,994
12. Mangrove and Monkeys. FAPEMA – Fundacao de Amparo a Pesquisa do Estado do Maranhão. PIs: Andrea Presotto and Ricardo Rodrigues dos Santos, *funded*. U\$ 1,500.00

## 2018

13. Landscape Analysis of the Mangrove of Maranhão, Brazil - International Cooperation, Biodiversity of Maranhão – the study of extinct species and conservation of the remaining species in the area). PI: Ricardo Rodrigues dos Santos. Co-PI: Andrea Presotto, funded by Federal University of Maranhão State- FAPEMA N° 44/2013, *funded*. U\$ 30,000.00
14. Colobus Conservation Project. GIS and urban aspects are threatening colobus navigation through a fragmented forest. PI: Pamela Cunneyworth, Co-PI: Andrea Presotto, *concluded*.

## 2017

15. Elephants, people, and biodiversity in the Eastern Kavango Zambezi Transfrontier Conservation Area KAZA-TFCA. PIs: **Andrea Presotto**, William Langbauer, Richard Fayrer-Hosken. Co-PIs: Malvern Karidozo, Ferrel Osborn. Connected Conservation, *funded*. \$100,000.00
16. Well-being for humans, capuchins, and the coastal mangroves of Rio Preguicas, Maranhão state, Brazil. PI Andrea Presotto, Co-Pi Stuart Hamilton. Salisbury University Research Foundation Pilot Project, *funded*. U\$ 12,000.00
17. The human-primate interconnections in coastal mangroves of Rio Preguica and Rio Paranaíba, Maranhão State, Brazil (we established a field research station to support graduate students and faculty research). PIs: Ricardo Rodrigues dos Santos. Co-PIs: Andrea Presotto and Roberta Salmi, *funded*. U\$ 25,000.00
18. Changes in human activities in the Brazilian *Cerrado-Caatinga* and its impact on wild capuchin populations (*Sapajus libidinosus*). PI: Patrícia Izar, Co-PIs: Noemi Spagnoletti and Andréa Presotto. Current Project funded by FAPESP: Primate cohabitation. FAPESP – BIOTA - (#2013/19219-2), *funded*. U\$ 50,000.00

## Peer Review Publications

1. **Presotto A**, Karidozo M, Suscke P, Ciattei C, Langbauer Jr W, Madden M, Krach, Fayrer-Hosken R, Byrne R, Osborn F., Izar P. Hunting by humans affects the navigational strategies of African Elephants and Yellow-Breasted Capuchins – two endangered mammals in Zimbabwe and Brazil (*submitted to Proceedings B*)
2. Farias AT, Hamilton SE, Pires LBM, Canale GR, dos Santos R, **Presotto A** (2024). Impact of Land Conversion on Primate Habitats: Refining Distribution Data for Four Capuchin Species in Northeastern Brazil *International Journal of Primatology* <https://doi.org/10.1007/s10764-024-00436-4>
3. Hamilton SE and **Presotto A** (2024). Creating a Global Database to Monitor Mangrove Forest Change 2000-2020 (GMC-21): A Remote Sensing Synthesis (*under review*)
4. Hofner AN, Carvalho P, Matos, MP, **Presotto A**, dos Santos RR, Salmi R (2023). The coexistence of people and bearded capuchins (*Sapajus libidinosus*) in a non-industrial ecosystem: an assessment of tourist and local perceptions in the coastal area of Maranhão, Brazil. *International Journal of Primatology*: <https://doi.org/10.1007/s10764-023-00402-6>
5. Salmi R, Le K, Silva J, Conceicao D, **Presotto A**, dos Santos R. Hand preference in wild crab-eating capuchin monkeys (*Sapajus libidinosus*) in the Coastal Area of northeast Brazil (2023). *American Journal of Primatology*: <https://doi.org/10.1002/ajp.23546>
6. Hamilton SE, **Presotto A (shared first authorship)**, Lembo A. Establishing the relationship between nonhuman primates and mangrove forests at the global, national, and local scales (2022). *PLOS One*: <https://doi.org/10.1371/journal.pone.0277440>
7. Izar P, Peternelli-dos-Santos, L, Rothman JM, Raubenheimer D, **Presotto A**, Visalbergghi EM, Fragaszy DM (2022) Stone tools improve diet quality in wild monkeys. *Current Biology*: PMID: 35985326, doi: [10.1016/j.cub.2022.07.056](https://doi.org/10.1016/j.cub.2022.07.056)
8. Langbauer Jr, William R, Karidozo M, Madden M, Parry R, Koehler S, Fillebrown J, Wehlan T, Osborn F, **Presotto A** (2021) From elephant memory to conservation action: using chili oil to mitigate conflict one elephant at a time. *Animal Conservation* 25(3): <https://doi.org/10.1111/acv.12747>
9. Janmaat KRL, de Guinea M, Collet J, Byrne RW, Robira B, van Loon E, Jang H, Biro D, Ramos-Fernandez G, Ross C, **Presotto A**, Allritz M, Alavi S, Van Belle S (2021) Comparing cognition among wild animals: linking primate movement decisions to information gradients in natural habitats. *iScience* 24(4): 102343
10. Suscke P, **Presotto A**, Izar P (2021) The role of hunting on *Sapajus xanthosternos*' landscape of fear in the Atlantic Forest, Brazil. *American Journal of Primatology* 83(5): <https://doi.org/10.1002/ajp.23243>
11. Abreu F, Garber PA, Souto A, **Presotto A**, & Schiel N (2021) Navigating in a challenging semi-arid environment: the use of a route-based mental map by a small-bodied neotropical primate. *Animal Cognition* 1-15: <https://doi.org/10.1007/s10071-020-01465-1>

12. **Presotto A**, Remillard C, Spagnoletti S, Stafford K, Salmi R, Santos R.R, Madden M, Fragaszy D, Visalberghi E, Izar P (2020) Rare nonhuman primate tool-use culture is threatened by land-use changes in northeastern Brazil. *International Journal of Primatology* 41:596-613
13. Salmi R, **Presotto A**, Scarry C, Hawman P, Doran-Sheehy D (2020) Spatial cognition in western gorillas (*Gorilla gorilla*): An analysis of distance, linearity, and speed of travel routes. *Animal Cognition* 23:545-557
14. **Presotto A**, Fayer-Hosken R, Curry C, Madden M (2019) Spatial mapping shows that some African Elephants use cognitive maps to navigate the core but not the periphery of their home ranges. *Animal Cognition* 22(2):251-263
15. **Presotto A**, Izar P, Verderane MP, Biondi L, Mendonça-Furtado O, Spagnoletti N, Madden M (2018) Intersection as key locations for bearded capuchin monkeys (*Sapajus libidinosus*) traveling within a route network map. *Animal Cognition* 21(3): 393-405
16. Katsis L, Cunneyworth P, Tuner K, **Presotto A** (2018) Spatial patterns of primate electrocution in Diani, Kenya. *International Journal of Primatology* doi:10.1007/s10764-018 0046-6
17. Marques KLS, **Presotto A**, Silva MP, Mendes SL (2018) Área de vida de miquis-do-norte (*Brachyteles hypoxanthus*): Comparação entre três métodos. *Boletim da Sociedade Brasileira de Mastozologia* 80, 90-95
18. Deval I, **Presotto A**, Tokuda M, Izar P (2017) Weather effects on navigation patterns of *Sapajus nigritus* in the Atlantic Forest - Carlos Botelho State Park, SP. Book chapter in *A Primatologia no Brasil*, Volume XIV
19. Xu W, Fayer-Hosken R, Madden M, Simms C, Mu L, **Presotto A** (2017) Coupling African elephant movement and habitat modeling for landscape availability-suitability-connectivity assessment Kruger National Park. *Pachyderm* 58
20. Hernandez SM, Welcha CN, Shannon C, Petersc VE, Yabsleya MJ, Sanchez S, Hammonde E, Gerner-Smidt P, Hisee K, Kistlerb W, **Presotto A**, Madden M, Lipp EK, Conwaya A, Kwanb T, Maurer J (2016) Urbanized white ibises (*Eudocimus albus*) as carriers of *Salmonella enterica* of significance to public health and wildlife. *PLoS ONE* DOI: 10.1371/journal.pone.0164402
21. Maurer JJ, Martin G, Hernandez S, Cheng Y, Gerner-Smidt P, Hise KB, Cole D, Sanchez S, Madden M, Valeika S, **Presotto A**, Lipp EK (2015) Temporal and geographic trends in genetic diversity of *Salmonella enterica* associated with geographically distinct river basins in Georgia, USA. *PLoS ONE* doi:10.1371/0128937
22. Strother CW, Madden M, Jordan T, **Presotto A** (2015) LiDAR detection of the ten tallest trees in the Tennessee portion of the Great Smoky Mountains National Park. *Photogrammetric Engineering & Remote Sensing* 81(5): 25-31
23. Izar P, Verderane MP, Santos LPC, Mendonça-Furtado O, **Presotto A**, Tokuda M, Visalberghi E (2012) Flexible and conservative features of social systems in tufted capuchin monkeys: comparing the socioecology of *Sapajus libidinosus* and *Sapajus nigritus*. *American Journal of Primatology* 74(4): 315-331
24. Hernandez S, Keel M; Sanchez S, Hyytia-Trees E, Gerner-Smidt P, Adams J, Cheng Y, Ray A, Martin G, **Presotto A**, Ruder M, Brown J, Blehert D, Cottrell W, Maurer J (2012) The epidemiology of *Salmonella*

*enterica* spp. *enterica* serovar *Typhimurium* strain associated with a songbird outbreak. *Applied and Environmental Microbiology* 78(20): 7290-7298

25. Howard A, Bernardes S, Nibbelink N, Biondi L, **Presotto A**, Fragaszy D, Madden M (2012) A maximum entropy model of the bearded capuchin monkey habitat incorporating topography and spectral unmixing analysis. *Annals of the International Society of Photogrammetry and Remote Sensing* 1, 7-11
26. Spagnoletti N, Visalberghi E, **Presotto A**, Fragaszy D, Izar P (2011) Do wild bearded capuchin monkeys (*Cebus libidinosus*) select anvils and habitat when using stone tools? In: the fourth European Federation for Primatology, Almada (Portugal). *Folia Primatologica* v. 82: 345-346, 2011
27. Bernardes S, Howard A, **Presotto A**, Madden M, Fragaszy D, Izar P, Rocha Y (2011) An agent-based modeling approach for representing Capuchin (*Sapajus spp.*) behavior in Brazil. In: *Proceedings of the Annual Conference of the American Society for Photogrammetry and Remote Sensing*
28. **Presotto A**, Izar P (2010) Spatial reference of black capuchins monkeys in Brazilian Atlantic Forest: egocentric or allocentric? *Animal Behaviour* 80: 125-132, 2010
29. Nucci JC, **Presotto A** (2009) Planejamento dos espaços livres localizados nas zonas urbanas. In: Douglas Gomes dos Santos and João Carlos Nucci (Org.) Paisagens Geográficas: um tributo a Feliberto Cavalheiro. Editora FECILCAM, Campo Mourão v. 1: 78-102
30. Rocha YT, **Presotto A**, Cavalheiro F (2007) The representation of *Caesalpinia echinata* (Brazilwood) in sixteenth-and-seventeenth-century maps. *Anais da Academia Brasileira de Ciências* 79: 751-765
31. **Presotto A**, Cabianca MA (2006) Caracterização das áreas de localização de 30 pesqueiros da Região Metropolitana de São Paulo. In: Katharina Eichbaum Esteves and Célia Leite Sant Anna. (Org.). *Pesqueiros sob uma visão integrada de meio ambiente, saúde pública e manejo*. São Carlos: Editora Rima v.1: 19-36
32. Moratto R, Kawakubo FS, **Presotto A**, Luchiarri A (2005) Avaliação da qualidade de vida urbana em Taboão da Serra; SP - Brasil. In: Antonio Nelson Rodrigues da Silva; Lea Cristina Lucas de Souza, Jose Fernando Gomes Mendes. (Org.). *Planejamento Urbano, Regional, Integrado e Sustentável - Desenvolvimentos recentes no Brasil e em Portugal*. São Carlos: Ministério das Cidades v. 1: 271-286
33. **Presotto A**, Cavalheiro F. Contribuição aos estudos de percepção ambiental na Serra do Japi, Jundiá-SP (2004). In: Santos, J. E, Cavalheiro, F., Pires, J. S. R., Oliveira, C. H., Pires, A. M. Z. C. R. (Org.). *Fases da polissemia da paisagem: ecologia, planejamento e percepção*. Editora Rima-FAPESP v. 2: 831-846
34. **Presotto A**, Cavalheiro F, Rocha YT (2003). Planejamento e projeto paisagístico e a identificação de unidades de paisagem: o caso da Lagoa Seca do Bairro Jardim América, Rio Claro/SP. *GEOUSP* São Paulo, v. 13: 161-167

### Pre-Print

35. **Presotto A**, Curry C, Izar P (2018) Habitual route analysis method (HRAM) and geographic technologies to evaluate animal navigation <https://doi.org/10.13140/RG.2.2.21675.28960>



## In-preparation

**Presotto A**, Hamilton S, Santos R, Farias A, Carvalho P, Ciattei C, Abreu F. Mangrove habitat conservation at the Rio Preguicas estuary, Maranhao, Brazil (*to be submitted to The Geographical Journal*)

**Presotto A**, Deval I, Fogaça MD, Izar P. Black capuchin monkeys (*Sapajus nigritus*) travel towards goals in the Atlantic Forest of Brazil (to be submitted to *Behavioral Ecology and Sociobiology*)

**Presotto A**, Remillard A, Madden M, Fayrer-Hosken, R. Space Use by African Elephants (re-submit to *Animal Biometrics*)

Salmi R, **Presotto A (shared first authorship)**. Spatial cognition in wild western gorillas: a combination of egocentric and allocentric spatial references (to be submitted to *Animal Behavior*)

## Software

### 2019

Curry C, and Presotto A. Habitual Route Analysis Method <https://doi.org/10.5281/zenodo.1302019>

## Datasets

Presotto (2020) <https://mdsoar.org/submit?workspaceID=18168>

Presotto (2019) <https://mdsoar.org/handle/11603/12664>

HRAM (2019) <http://hdl.handle.net/11603/12341>

Presotto (2018) <https://mdsoar.org/>

## Students Advisees

### Graduate students

**Primary advisor.** Trey Wehlan, Master Student, Salisbury University, Impact of human activities on two species of capuchin monkeys. Current.

**Primary advisor.** Nathan Stephens, Master Student, Salisbury University, Database management system applied to the Appalachian trails. Current.

**Primary advisor.** Anailda Farias, Master Student, Federal University of Maranhão, Conservation Status of Brazil Primates. Applying for Ph.D. programs.

**Primary advisor.** Kathleen Stafford, Master Student, Salisbury University. Estimating localized mammal populations on Maryland's eastern shore using drone technology, graduated, working for the Talbot County, MD, Department of Emergency Services, and GIS Analyst for the NextGeneration 911.

**Primary advisor.** Caitlin Curry, Master Student, Salisbury University. Overview of animal navigation, geographic information systems, and geographic positioning systems, graduated, working for the Department of Defense, National Geospatial-Intelligence Agency, Team Leader – GIS Analyst.

**Primary advisor.** Wanderson Oliveira da Costa, Federal University of Maranhão, Social behavior and personality on capuchin monkeys (*Sapajus libidinosus*) living in the mangroves of Maranhão state, Brazil, graduated, applying for Ph.D. programs.



**Co-advisor.** Paulo Neves Carvalho, Master Student, Federal University of Maranhão, Tool use in the Mangroves of Maranhao by capuchin monkeys. Project manager.

**Co-advisor.** Daiana da Conceição Paulino, Master Student, Federal University of Maranhão, Tolerance and social interaction in mangrove-dwelling capuchins tool users. Applying for Ph.D. programs.

**Co-advisor.** Karoline Marques, Ph.D. student, University of Espírito Santo, Spatial cognition of northern miquiqui (*Brachyteles hypoxanthus* – Primates, Atelidae), graduated, working for the Conservation International, Amazonian Project Manager – CI Brazil.

**Committee Member.** Felipe Buffalo, Ph.D. student, State University of São Paulo, Routing planning process by the endangered black lion tamarin in different environmental contexts. Ecology, Evolution and Biodiversity program, in progress.

**Committee Member.** Tatiane Valenca, Ph.D. student, University of São Paulo, Ecology of animal culture: territoriality, risk perception, and stone tool use in bearded capuchin monkeys, Experimental Psychology program, in progress.

**Committee Member.** Korbin Reynolds, Master student, Salisbury University, Department of Biological Sciences, Assessing Multi-Modal Communication of *Physalaemus pustulosus*, and How it Relates to Decision Making in Mate Choice, in progress.

**Committee Member.** Michael Caldarola, Master student, Salisbury University, Department of Biological Sciences, Movement Ecology, Sexual Selection, and Landscape of Fear in Tropical Anuran Species (*Engystomops pustulosus* and *Leptodactylus savagei*), in progress.

**Committee Member.** Gabriela Cabral Rezende, Ph.D. student, Universidade Estadual Paulista, Habitat use, movement patterns, and energy costs by black tamarins (*Leontopithecus chrysopygus*), graduated.

**Committee Member.** Vitor Luccas, Ph.D. student, University of São Paulo, Social dynamic: an analysis of the Spatio-temporal variation among the individuals of one group of capuchin monkeys (*Sapajus nigritus*) in the Atlantic Forest, graduated.

**Committee Member.** Chandini Narang, Master student, Salisbury University, Impact of prescribed burns on bat populations in the coastal plain forests of the eastern United States, graduated.

**Committee Member.** Jardeani M. Silva, Master student, Federal University of Maranhão, Tool selection and crab-catching by wild capuchin monkeys (*Sapajus libidinosus*) in the mangroves of Maranhão, Brazil, graduated.

**Committee Member.** Joel A. Owen, Master student, University of Georgia, Modeling parrot nest site selection, graduated.

**Committee Member.** Wenjing Xu, Master student, University of Georgia, Coupling African elephant movement and habitat modeling for landscape availability-suitability-connectivity assessment in Kruger National Park, South Africa, graduated.

**Committee Member.** Irene Deval, Master student, University of São Paulo, Weather Conditions Generally Do Not Affect Navigation Patterns of *Sapajus nigritus*, graduated.

**Committee Member.** Eliza Sevghenian, Master student, University of São Paulo, Arboreal structure in the space use by capuchin monkeys in the State Park Carlos Botelho, Sao Paulo, Brazil, graduated.

**Committee Member.** Lia Matos Viegas, Master student, University of São Paulo, Spatial cognition – a study on spatial ability and the factors that influence them. graduated.

**Committee Member.** Marina Oliveira Ferraz Carminatti, Master student, University of São Paulo, Effects of the maternity style on the development of infant care in *Cebus sp.*, graduated.

### **Undergraduate students**

**Primary advisor.** Honor thesis. Christian Ciattei, Senior student, Salisbury University, Primate conservation.

**Primary advisor.** Honor thesis advisor. Garrett Shindler, Senior student, Salisbury University, Modeling the development of Salisbury University Campus to meet the community of Salisbury City.

**Committee Member.** José Ferreira dos Santos Junior, University of São Paulo.

**Committee Member.** Guilherme Galuppo Borba, University of São Paulo.

**Committee Member.** Thais Bircak Ventura, Biology, Mackenzie University.

### ***Salisbury University awards for Summer Research Experience***

**Primary supervisor.** Christian Ciattei, undergraduate, 2021

**Primary supervisor.** Elizabeth Marsh, undergraduate, 2020

**Primary supervisor.** James Meashey, undergraduate, 2020

**Primary supervisor.** Trey Wehlan, undergraduate, 2019

**Primary supervisor.** Kathleen Stafford, undergraduate, 2018

## **Teaching**

### **Undergraduate Teaching**

#### ***Salisbury University***

GEOG 319 Geographic Information Science, Spring and Fall 2017 - 2023

GEOG 304 Decision Making with GIS, Spring 2018 - 2021

GEOG 316 Biogeography, Fall 2018 and 2020

GEOG 321 Remote Sensing and the environment Fall 2019

GEOG 104-105 Physical Geography Laboratory Fall 2017 – 2021

#### ***University of Georgia – Solo instructor***

GEOG 1125 Resources, Society, and the Environment, Spring and Fall 2014

#### ***University of Georgia – Teaching Assistant***

GEOG 1125 Resources, Society, and the Environment, Fall 2013

GEOG 2011 Geographic Information Science, Spring 2013

GEOG 6330 Air Photo Interpretation, Fall 2012, 2013

GEOG 6410 Cartography and Graphic, Summer 2012

#### ***UNIFAI – Centro Universitario Assuncao***

GEOG 4000 Hydro-geography, 2005

GEOG 4100 Water Resources, 2005

***University of São Paulo***

FLG 356 Biogeography, 2002, 2003

FLG 437 Landscape ecology, 2002, 2003

***University of São Paulo – Field Teaching Assistant***

FLG 356FS, 1998,1999, 2000, 2002

**Graduate Teaching**

***Federal University of Maranhão***

ENVR 800 Geographic Information Systems and Environmental Science 2020

***Salisbury University***

GEOG 519 Advanced Geographic Information Science 2022

GEOG 515 Selected Problems, Summer 2018

GEOG 522 Readings in Geography 2022, 2023

GEOG 530 Directed Research 2022, 2023

GEOG 630 GIS and Public Administration 2023

GEOG 640 GIS Cooperative Experience, 2024

***University of Georgia - Teaching Assistant***

GEOG 6330 Air Photo Interpretation, Fall 2012, 2013

GEOG 6410 Cartography and Graphic, Summer 2012

GEOG 6450 Advanced Image Processing LiDAR, Fall 2011

**Selected Presentations**

**2024**

Of Mangrove and Monkeys. The Explorers Club Annual Event. April 18-21, New York City - **Invited.**

Crab-Cracking Capuchins on Mangroves. Global Exploration Summit, June 15-20, Azores – **Invited.**

Mesoamerican section of the Primate Specialist Group of the International Union for Conservation of Nature (IUCN), May 5-7 – **Invited.**

Analyzing the anthropogenic impact on the range of capuchin monkey populations. Symposium APC-SLAPrim, November 24-29 (upcoming) – **Invited.**

Coexistence and well-being for humans, capuchins, and the mangroves of Preguiças River, Maranhao, Brazil. East Carolina University, February 2024 – **Invited.**

**2023**

Roundtable mediator. Comercio legal e ilegal de primatas no Brasil (Legal and Illegal primate trade in Brazil). Sociedade Brasileira de Primatologia. Conservation group, September 19<sup>th</sup>, 2023.

Impacts of human activities on yellow-breasted capuchin monkey and African elephant landscapes\_of fear. Symposium How Do Platyrrhines and Catarrhines Respond to Human-Induced Habitat Changes? IPS-MPS Congress Malaysia, August 19<sup>th</sup> to 25<sup>th</sup>, 2023 - **Invited**

The importance of mangrove forests to bearded capuchin tool-use culture in Northeastern Brazil. The Coastal Studies Institute, East Carolina University – **Invited**

**2022**

Primates and Elephants and how we find our way around. Inauguration of the Henson School of Science and Technology Seminary Series. **Invited**

Foraging decision in Primates. The landscape of fear affects the navigation system in yellow-breasted capuchin monkeys. Hublet Recife – Winter 2022 – Animal Movement -**Invited**

### **2021**

Elephant navigation and data analysis. What it takes to be a scientist. Code ninjas STEM girls of tomorrow. **Invited**

Elephants' habitual routes reveal their landscape of fear. Department of Geography and Geospatial Sciences, Seminar Series, South Dakota State University, September. **Invited**

The role of hunting on *Sapajus xanthosternos*' landscape of fear in the Atlantic Forest, Brazil. Animal Behavior Society

### **2020**

Elephant navigation strategies are affected by their landscape of fear. Department of Biological Sciences, Seminar Series, Salisbury University, October 22. **Invited**

Comparative Methods of Wild Primate Cognition. Max Planck Institute of Animal Behavior, Konstanz, Germany, February 12 to February 14. **Invited**

### **2019**

HRAM and the spatial mapping in wild primate navigation – European Federation of Primatology, Oxford and Oxford Brookes, Oxford, UK, September 9-12 Habitual Routes Analysis Method: Elephant's navigation from manual to an automated approach. Society for Conservation GIS, Pacific Grove, California, July 14-17

### **2018**

Patch size selection by black capuchin monkeys in the Brazilian rain forest – Association of Geographers - Annual Meeting, New Orleans, April 10-14

The navigational ability of wild animals using Habitual Route Analysis Method (HRAM) - Association of Geographers - Annual Meeting, New Orleans, April 10-14

### **2017**

What can GIS and remote sensing tell us about spatial cognition in wild elephants? American Association of Geographers - Annual Meeting, Boston, April 5-9

### **2015**

Do African elephants (*Loxodonta africana*) use a route-based navigation system? Annual Conference of the Animal Behavior Society, Anchorage, Alaska, June 10-14

Nonhuman Spatial Cognition, UGA's Inter-disciplinary Conference (IRC), Counter-mapping workshop, Examples of Qualitative Mapping II, February 27 Sleeping Site Selection by African Elephants (*Loxodonta Africana*) in Kruger National Park, South Africa. Animal Behavior Society, Anchorage, Alaska, June 10-14

### **2014**

The landscape changes in the African elephant habitat within the Kruger National Park through NASA Earth Observing Systems. African Association of the Remote Sensing of the Environment, Johannesburg, South Africa, October 26-31

Geospatial analysis of navigation in African elephants at Kruger National Park, South Africa. American Association of Geographers - Annual Meeting, Tampa, April 8-12

### **2013**

Efeito do clima sobre padrões de navegação de *Sapajus nigritus* no Parque Estadual Carlos Botelho, SP. II Congresso Latino-Americano e XV Congresso Brasileiro de Primatologia, Recife, PE, August 4- 9

### **2012**

Workshop Egressos Profissionais, University of São Paulo, July 27- **Invited**

Frames of orientation in two species of capuchin monkeys based on GIS analysis. American Association of Geographers (57), New York, NY, February 24-28

Exploratory visualization of the spatial-temporal movement of black Capuchin monkeys. American Association of Geographers (57), New York, NY, February 24-28

### **2011**

Landscape, theory, and perception: a case study in Ilhabela (São Paulo, Brazil). American Association of Geographers (56), Seattle, WA, April 12-16

### **2010 and prior**

Does the visibility of Resource sites affect linearity and velocity of travel? An Analysis of the Routes of Capuchin Monkeys (*Cebus nigritus*) at Carlos Botelho State Park, Brazil. In: Psi Chi UGA Convention of the Behavioral Sciences, Athens, March 29

Capuchin monkeys (*Cebus libidinosus*) navigation system in a Semi-Arid habitat, Boa Vista, Piauí, Brazil. International Primatological Society, Kyoto, Japan, September 12-18

The navigation system of *Cebus nigritus* in Atlantic Forest. In: ABS 46th Annual Meeting of the Animal Behavior Society, Pirenópolis, GA, Brazil, June 22-26

Geographic and geopositioning technologies use in Rain Forests: Contribution to primatological fieldwork with wild capuchins (*Cebus nigritus*) living in the Brazilian Atlantic Forest. In: American Association of Geographers, Boston, MA, April 15-19

Weather conditions affect the traveling patterns of Black-capped capuchins (*Cebus nigritus*) in the Atlantic Forest. XXII Congress of the International Primatological Society, Edinburgh, Scotland, August 3- 8

Padrões de movimento de *Cebus nigritus* no Parque Estadual Carlos Botelho. In: XII Congresso Brasileiro de Primatologia, Belo Horizonte, MG, July 22-27

O uso de GPS e Sistemas de Informações Geográficas como ferramentas de apoio aos estudos de comportamento de macacos-prego no Parque Estadual Carlos Botelho. *XII Simpósio Brasileiro de Geografia Física Aplicada: Natureza, Geotecnologias, Ética e Gestão do Território*

## **Examples of media contributions**

### **2022**

Tool use help to understand human evolution (08-19-2022 – <https://www1.folha.uol.com.br/ciencia/2022/08/uso-de-ferramentas-por-macacos-pregos-ajuda-a-entender-evolucao-humana.shtml>)

### **2021**

ArcNews Fall issue – [An elephant never forgets](#), Printed Magazine and Online.

National Geographic – Italy – [The culture of capuchin monkeys](#). November, Printed Magazine.  
*Jornal Mundo* – Rede Record (TV) Sao Paulo, Brazil – [The hunting process in Zimbabwe](#), TV News  
**2020**

[Monkey culture at risk last version](#) - YouTube, online.  
SmartGreen, Italy. [Campi coltivati invece che foreste: scimmie sudamericane a rischio](#) | SmartGreen Post  
[l'informazione green in Italia](#), online.  
Nexo *Jornal*, Brazil. [Como a agricultura ameaça uma rara tradição de macacos-prego](#) | Nexo Jornal, online.  
SuperQuark, Italy. [Capuchin monkeys](#), TV Show

### **2019**

New York Times - Paper featured in the New York Times – [Spatial Modeling of Primate Electrocutation in Kenya](#) – January 1, printed newspaper.

### **2018**

Interview and [Video for Salisbury University](#) – Elephant Navigational Behavior, online.

### **2014**

NASA Develop - [Can we talk about elephants in the Park?](#) online.

### **2013**

NASA Develop - [Keeping bearded capuchin monkeys cracking nuts](#). online.

### **2009**

Ph.D Dissertation. [Macaco-prego é capaz de inventar atalhos pela mata, dizem pesquisadoras](#). Folha de São Paulo. Free translation: Capuchin monkeys can use shortcuts in the forest. Printed newspapers.

## **Academic Media**

ORCID – Publications

Research Gate – Open Publications and Citations

Google Scholar – Publications and Citations

## **Awards and Honors**

The Explorers Club – Impact Grant, 2022

Sigma Xi – The Scientific Research Honor Society, 2021

NSF Alliance-Building Offshore to Achieve Resilience and Diversity, 2021

NSF Travel Award to AGEP Conference, 2020

Henson School Summer Research Award, 2020

Faculty Fellowship for student mentoring, 2020

NSF PROMISE AGEP Postdoctoral Fellowship, 2019

Henson School Summer Research Award, 2019

Faculty Fellowship for student mentoring, 2019

Henson School Summer Research Award, 2018

Faculty Fellowship for student mentoring, 2018

NSF Award - Workshop on Analyzing Movement and Mobility Within Geographic Context, 2017

NSF Award – Workshop on It is about time, 2015  
Diversity Travel Award, Animal Behavior Society, 2015  
Graduate School Travel Award, The University of Georgia Research Foundation, 2014  
Digital Globe Foundation Award, 2014  
James O. Wheeler Travel Grant, 2014  
Dissertation Award, 2010  
Dissertation Award, 2009  
Doctoral Student Travel Grant, 2008  
Scholarship CNPq, National Counsel of Technological and Scientific Development, 2005  
Paper Award, First Portugal-Brazil Inter. Conference on Urban Planning, 2005  
Scholarship Capes, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, 2002

### **Field work-study areas**

Human-elephant conflict – Victoria Falls National Park and Zambezi National Park, Zimbabwe  
Mangroves and Monkeys - Mangroves of the Rio Preguicas, Maranhão, Brazil  
Black capuchin behavior – Carlos Botelho State Park, Sao Paulo, Brazil  
Bearded capuchin behavior – Private land, Cerrado – Caatinga, Piaui, Brazil

### **Services**

#### **2022-Present**

Member of the Graduate School Curriculum Committee, university  
Member of the Department Curriculum Committee, department

#### **2019-2022**

Curriculum Committee Chair - Department of Geography and Geosciences, departmental  
Member of the Henson School Curriculum Committee, school  
Institutional Review Board (IRB) member, university  
Vice-Chair of the Middle Atlantic Division of the American Association of Geographers (MAD-AAG), professional  
Coordinator of the Primates Conservation Group at the Brazilian Society of Primatologists, professional international  
Student advising and Student Evaluation Revision Committee, department  
Associated researcher (volunteer) - [World Environmental Conservancy](#), professional

#### **2020**

Science Night, school



Federal University of Maranhão, MA, Brazil – Teaching Summer Course at the graduate level. Geospatial analysis of the environment - 10 students. Academic. Geographic Information System, Remote Sensing using open-source software. June 4 to July 30, professional international

**2019**

A Salisbury University Graduate Program representative in GIS Management (Event Sponsor) at the Society for Conservation GIS. Monterrey, CA – July 15 to 17, department

Member of the Search Committee – Assistant Professor of Atmospheric Science, department

**2018**

Advisor and facilitator of two visiting students funded by the Brazilian Government to visit SU for four months, professional international

**Scientific Journals and Grants Reviewer**

American Journal of Primatology

Frontiers in Conservation Science

Biodiversity and Conservation

Environment, Development and Sustainability Journal

Behavioral Processes

Animal Cognition

National Geographic Grants

Primates

Herpetologica

Animal Behavior Journal

Animal Behavior Student Grants

International Journal of Primatology

NSF AGE2020 – Student Reviewer Committee

Mammal Review

Emilio Goeldi

Functional Ecology

Movement Ecology

Behavioural Process

Ecology and Evolution

Routledge

**Community Outreach**

**2020**

Human-elephant conflicts in Victoria Falls; updated GIS shapefile to help the city managers to improve Victoria Falls maps

**2019**

Maps for the revitalization of commercial locations in Goldsboro, MD

### **2018**

Neighborhood mapping to help its revitalization and provide data to Cambridge's GIS management revitalization project

### **Other Research Activities**

NSF Alliance-Building Offshore to Achieve Resilience and Diversity - Workshop

Co-Founder of the Victoria Falls Elephant Work Group. Elephants, Biodiversity, and Conflict around the Zambezi River Basin, Zimbabwe, 2017-ongoing

Researcher Associated. Master Program in Environmental Science at Federal University of Maranhão (UFMA), MA, Brazil, 2019-ongoing

Collaborator. Primate Navigation. Karline Janmaat, Sarie Van Belle, Miguel de Guinea – Max Plank Institute, and Oxford Brookes University. We are developing a multi-level model approach to replicate studies on wild primate navigation, 2019-ongoing

Program Reviewer. Environmental Sciences, Rowan College, NJ, concluded

Researcher-Collaborator. Georgia Health and Air Quality (UGA), Physical Outdoor Activities Project, College of Public Health, Department of Human Promotion and Behavior, concluded

Project Lead and Proposal Developer. NASA Develop National Program, South Africa Ecological Forecasting, Understanding Landscape Changes in Elephant Habitat within the Kruger National Park through NASA Earth Observing Systems, concluded

Treasurer. ASPRS–American Society for Photogrammetry and Remote Sensing, University of Georgia, Student Chapter, concluded

Animal Movement Specialist. BELSPO, Research Programme for Earth Observation Stereo II – Belgium, GRAZEO - Grazing suitability indicators from Earth Observation to improve buffalo-cattle contact risk models, concluded

Student Representative, Graduate Student Association, University of Georgia, concluded

Consultant and Proposal Developer. NASA DEVELOP National Program (Summer Term), Brazilian Ecological Forecast Project, Utilizing NASA Earth Observations for Conservation Management of the Bearded Capuchin Monkey (*Sapajus libidinosus*) in Northeastern Brazil, concluded

Researcher Collaborator. Human health, wildlife presence, and landscape influence: infectious *Salmonella* spp. carried by wildlife (UGA), College of Public Health, Department of Environmental Health Science, Warnell School of Forestry and Natural Resources, College of Veterinary Medicine, Department of Poultry, diagnostic, and research center, concluded

External consultant. City of Ilhabela, Strategic Urban Planning, Ilhabela, SP, concluded

Laboratory Technician. Laboratory of Biogeography and Climatology, Department of Geography, University of São Paulo, concluded

### **Professional Memberships**

Sigma Xi – The Scientific Research Honor Society

American Association of Geographers (AAG)

Middle Atlantic Division of AAG (MAD-AAG)  
American Association for the Advance of Science (AAAS)  
Animal Behavior Society (ABS)  
International Primatological Society (IPS)  
Sociedade Brasileira de Primatologia (SBPr)