

TAINÁ ROCHA

I am a researcher working on patterns of biodiversity distribution, focusing on the impacts of global change (climate change and land-use and land-cover change). My recent interests and researches comprise: **1.** Analysis of climate data and land use and land cover data under different scenarios of climate change, **2.** Spatial analysis of species diversity (alpha and beta diversity), **3.** Ecological niche models/species distribution models and other niche analyses to assess the impacts of global change on biodiversity, **4.** Biogeographical patterns and evolutionary history in the Neotropics. Note: I use open-source tools and platforms. I am interested in good practices about open science (open databases, open software, etc.), good workflows, reproducibility and FAIR principles.



EDUCATION

2017
|
2013



PhD. in Zoology

Emílio Goeldi Museum

PA, Brazil

• DOCTORAL DISSERTATION: Phylogeographic of disjunct bird between Amazon and Atlantic Forest

2012
|
2010



MSc. in Environmental biology

Federal University of Pará

PA, Brazil

• MASTER THESIS: Phylogeographic analysis of *Xiphorhynchus guttatus* from Amazon and Atlantic Forest

2010
|
2006



Degree in biological science

Federal University of Pará

PA, Brazil



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CONTACT

taina013@gmail.com

[Github](#)

[ORCID](#)

[Researchgate](#)

[LinkedIn](#)

[Website](#)

[Twitter](#)

SKILLS

R

Git

GitHub

Markdown

L^AT_EX

Linux OS

QGIS

ArcGIS



RESEARCH EXPERIENCE

2021
|
2019

Postdoctoral Researcher

Botanical Garden Research Institute
Supervisor: [Marinez F Siqueira](#)

📍 RJ, Brazil

- Beta diversity in Caatinga dry tropical forest
🔗 https://github.com/Tai-Rocha/Caatinga_Dry_Forest.github.io
- Beta diversity in Caatinga dry tropical forest
🔗 https://github.com/Tai-Rocha/Caatinga_Dry_Forest.github.io
- Climatic niche analysis for *Syzygiella rubricaulis* (Bryophytes)
🔗 https://github.com/Tai-Rocha/S_rubricaulis_bryophytes
- The first botanical explorations of bryophyte diversity in the Brazilian Amazon mountains: high species diversity, low endemism, and low similarity
🔗 <https://github.com/Tai-Rocha/Bryophyte-Amazon-mountains>
- Ecological niche models with future projections for *Dimorphandra wilsonii* Rizzini (Fabaceae) presented to Green List in the three-year activity plan of the Brazilian Plant Red List Authority member of the Plant Conservation Committee between 2017-2020 and the Species Survival Commission of the International Union for Conservation of Nature (IUCN)
🔗 <https://github.com/Tai-Rocha/faveiro>
- Ferns and lycophytes diversity of Tijuca forest.
🔗 <https://github.com/Tai-Rocha/Ferns-and-lycophytes>

2019
|
2017

Researcher of Technological Development and Innovation

Ecoly departament
Supervisor: [Mariana M Vale](#)

📍 UFRJ, Brazil

- Global land-use and land-cover (LULC) data under historical, current, and future climatic conditions
🔗 https://github.com/Tai-Rocha/LUH2_Data
- Ecological niche models (ENMs) for *Carpornis melanocephala* (Passeriformes: Cotingidae) in Rio de Janeiro State, Brazil
🔗 https://github.com/Tai-Rocha/Carpornis_melanocephala
- Ecological niche modeling and niche similarity test to compares two divergent lineages of *Microtus californicus* (Rodentia, Cricetidae)
🔗 <https://github.com/Tai-Rocha/Vole>
- Ecological niche modeling and niche similarity test to compares two divergent lineages of *Microtus californicus* (Rodentia, Cricetidae)
🔗 <https://github.com/Tai-Rocha/Vole>



TEACHING EXPERIENCE

2020
|
2020

Instructor

Biology department

📍 PUC Rio de Janeiro, Brazil

- Served as TA for two day workshop on how to leverage Javascript in Shiny applications
- Lectured on using R2D3 package to build interactive visualizations.⁷

I am passionate about education. I believe that no topic is too complex if the teacher is empathetic and willing to think about new methods of approaching task.

2019 2019	<p>● Instructor</p> <p>Biology department 📍 PUC Rio de Janeiro, Brazil</p> <ul style="list-style-type: none"> • Served as TA for two day workshop on how to leverage Javascript in Shiny applications • Lectured on using R2D3 package to build interactive visualizations.²
2019 2019	<p>● Guest lecture. Biological Sciences- Bachelor's Degree</p> <p>Veiga de Almeida University 📍 RJ, Brazil</p> <ul style="list-style-type: none"> • Served as TA for two day workshop on how to leverage Javascript in Shiny applications • Lectured on using R2D3 package to build interactive visualizations.³
2019 2019	<p>● Data Visualization Best Practices</p> <p>DataCamp 📍 RJ, Brazil</p> <ul style="list-style-type: none"> • Designed from bottom up course to teach best practices for scientific visualizations. • Uses R and ggplot2. • In top 10% on platform by popularity.
2019 2019	<p>● Improving your visualization in Python</p> <p>DataCamp 📍 RJ, Brazil</p> <ul style="list-style-type: none"> • Designed from bottom up course to teach advanced methods for enhancing visualization. • Uses python, matplotlib, and seaborn.
2018 2018	<p>● Guest lecture. Biological Sciences- Bachelor's Degree</p> <p>Veiga de Almeida University 📍 RJ, Brazil</p> <ul style="list-style-type: none"> • Served as TA for two day workshop on how to leverage Javascript in Shiny applications • Lectured on using R2D3 package to build interactive visualizations.⁴
2018 2018	<p>● Guest lecture. Biological Sciences- Bachelor's Degree</p> <p>UFRA 📍 PA, Brazil</p> <ul style="list-style-type: none"> • TA and lectured • Topics covered from penalized regression to boosted trees and neural networks • Highest level course offered in department
2017 2017	<p>● Guest lecture. Biological Sciences Undergraduate</p> <p>Estácio de Sá University 📍 RJ, Brazil</p> <ul style="list-style-type: none"> • TA and lectured • Covered introduction to R language for statistics applications • Graduate level class

- 2017
|
2017
- **Guest lecture. Biological Sciences- Bachelor's Degree**
UFRA 📍 PA, Brazil
 - TA and lectured
 - Topics covered from penalized regression to boosted trees and neural networks
 - Highest level course offered in department
- 2017
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2015
- **High school teacher**
Dinâmica Natural 📍 RJ, Brazil
 - TA and lectured
 - Covered modern statistical computing algorithms
 - 4th year PhD level class



SELECTED PUBLICATIONS

- 2021
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2021
- **Global land-use and land-cover data: historical, current and future scenarios**
Under-Review, available in [bioRxiv](#)
 - Authored by Vale MM, Lima-Ribeiro MS and Rocha TC.
- 2020
|
2020
- **The first botanical explorations of bryophyte diversity in the Brazilian Amazon mountains: high species diversity, low endemism, and low similarity**
[Biodiversity and conservation](#)
 - Authored by Costa D, Nada F. and Rocha TC.
- 2019
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2019
- **A dynamic continental moisture gradient drove Amazonian bird diversification**
[Science Advances](#)
 - Authored by Silva SM, Townsend P, Carneiro L, Burlamaqui TCT, Ribas CC, Sousa-Neves T, Miranda LS, Fernandes AM, d'Horta FM, Araújo-Silva LC, Batista R, Bandeira CHMM, Dantas SM, Ferreira M, Martins DM, Oliveira J, Rocha TC, Sardelli CH, Gregory T, Rêgo PS, Santos MP, Sequeira F, Vallinoto M and Aleixo A.
- 2019
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2019
- **A macroecological approach to evolutionary rescue and adaptation to climate change**
[Ecography](#)
 - Authored by Diniz-Filho JAF, Souza KS, Bini LM, Loyola R, Dobrovolski R, Rodrigues JFM, Lima-Ribeiro Matheus MS, Terribile CL, Rangel TF, Bione I, Freitas R, Machado IF, Rocha TC, Lorini ML, Vale MM, Navas CA, Maciel NM, Villalobos F, Olalla-Tarraga MA, Gouveia S.
 - Successfully met qualifying examination standards

2015
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2015

- Molecular phylogeny and diversification of a widespread Neotropical rainforest bird group: The Buff-throated Woodcreeper complex, *Xiphorhynchus guttatus/susurrans* (Aves: Dendrocolaptidae)

Molecular Phylogenetics and Evolution

• Authored by Rocha TC, Sequeira F, Aleixo A, Rego PS, Sampaio I, Schneider H, Vallinoto M.

2014
|
2014

- Instabilidade Climática e diversidade de espécies na Amazônia

In book: Cenários para Amazônia: clima, biodiversidade e uso da terra

• Authored by Aleixo A, Townsend P, Araújo-Silva LC, Miléo CHM, Batista R, Burlamaqui TCT, Danta SM, Fernandes AM, Ferreira M, Martins DM, Rêgo PS, Ribas CC, Rocha TC, Santos MP, Sardelli CH, Sequeira F, Soares LMS, de Sousa BRS, Sousa SA, Sousa-Neves T, Gregory T, Vallinoto M.

2009
|
2009

- Identification and phylogenetic inferences on stocks of sharks affected by the fishing industry off the Northern coast of Brazil

Genetics and Molecular Biology

• Authored by Rodrigues-Filho LF, Rocha TC, Rego PS, Schneider H, Sampaio I, Vallinoto M.



SELECTED TALKS & SCIENTIFIC COMMUNICATION

2018

- The United States of Seasons⁶

LiveFreeOrDichotomize.com

• GIS analysis of weather data to find the most 'seasonal' locations in United States
• Used Bayesian regression methods for smoothing sparse geospatial data.

I regularly blog about data science and visualization on my blog LiveFreeOrDichotomize.⁵



SELECTED EVENTS

2017
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2017

- Great paper? Swipe right on the new 'Tinder for preprints' app⁷

Science

• Story of the app Papr⁸ made with Jeff Leek and Lucy D'Agostino McGowan.

2017
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2017

- Swipe right for science: Papr app is 'Tinder for preprints'⁹

Nature News

• Second press article for app Papr.



LINKS

1: http://nickstrayer.me/js4shiny_r2d3/slides

2: http://nickstrayer.me/js4shiny_r2d3/slides

- 3: http://nickstrayer.me/js4shiny_r2d3/slides
- 4: http://nickstrayer.me/js4shiny_r2d3/slides
- 5: <https://livefreeordichotomize.com/>
- 6: <https://livefreeordichotomize.com/2018/02/12/the-united-states-of-seasons/>
- 7: <https://www.sciencemag.org/news/2017/06/great-paper-swipe-right-new-tinder-preprints-app>
- 8: <https://jhubiostatistics.shinyapps.io/papr/>
- 9: <https://www.nature.com/news/swipe-right-for-science-papr-app-is-tinder-for-preprints-1.22163>

*This resume was made with the
R packages **pagedown** and
datadrivencv.*

*Code available on  **GitHub**.*

*Last updated on 2021-07-14. The
most recent version of this
resume is [available here](#).*