

# BRUNO DO ROSARIO PETRUCCI

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## EDUCATION

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### Iowa State University

*Expected May 2026*

PhD in Ecology and Evolutionary Biology

Thesis: “Integrating fossil data into Bayesian phylogenetic inference and comparative methods”

GPA: 4.00/4.00

Advisor: Tracy A. Heath

### University of Chicago

*June 2020*

B.S. in Computational and Applied Mathematics with Honors

Honors thesis: “PaleoBuddy: Simulating Diversity Dynamics in R”

GPA: 3.87/4.00

Magna Cum Laude (2020), Dean’s List (2017-2020)

## RESEARCH

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### Iowa State University

**Dept. of Ecology, Evolutionary, and Organismal Biology**

June 2020 - Present

*PhD Candidate/Research Assistant, Advisor: Tracy A. Heath*

*Ames, IA*

### University of Chicago

**Department of Geophysical Sciences**

March 2019 - June 2020

*Research Assistant, Principal Investigator: Michael Foote*

*Chicago, IL*

### University of São Paulo

**Department of Ecology**

July 2019 - September 2019

*Research Assistant, Principal Investigator: Tiago Quental*

*Sao Paulo, SP, Brazil*

### University of Chicago

**Department of Ecology & Evolution**

June 2018 - September 2019

*Research Assistant, Principal Investigator: Greg Dwyer*

*Chicago, IL*

### University of Chicago

**Kavli Institute for Cosmological Physics**

November 2017 - June 2018

*Research Assistant, Principal Investigator: Luca Grandi*

*Chicago, IL*

## PUBLICATIONS AND MANUSCRIPTS

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**B. do Rosario Petrucci**, M.R. May, T.A. Heath. “Fossils improve extinction-rate estimates under state-dependent diversification models”. 2025. *Philosophical Transactions of the Royal Society B* 380, 20230313. DOI: 10.1098/rstb.2023.0313.

**B. do Rosario Petrucci**, M. Januario, T.B. Quental. “paleobuddy: An R package for flexible simulations of species diversification and sampling”. 2022. *Methods in Ecology and Evolution* 13(12):2692-2698. DOI: 10.1111/2041-210X.13996.

Barido-Sottani, J., J.A. Justison, R. Borges, J.M. Brown, W. Dismukes, **B. do Rosario Petrucci**, L. Guimarães Fabreti, S. Höhna, M.J. Landis, P.O. Lewis, M.R. May, F.K. Mendes, W. Pett, B.D.

Redelings, C.M. Tribble, A.M. Wright, R. Zenil-Ferguson, and T.A. Heath. “Lessons learned from organizing and teaching virtual phylogenetics workshops”. 2022. *The Bulletin of the Society of Systematic Biologists* 1(2):8425. DOI: 10.18061/bssb.v1i2.8425.

## PRESENTATIONS

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*State-dependent diversification with fossils: a case study with Canidae*, Evolution 2024 (talk), ICERM Algorithmic Advances and Implementation Challenges: Developing Practical Tools for Phylogenetic Inference workshop (poster; 2024).

*Accuracy of extinction rate estimates using state-dependent diversification models with fossil data*, Evolution 2023, Great Lakes Student Paleoconference 2023 (2023).

*Accuracy of diversification rate inference methods for shifts in trait-dependence*, Virtual Evolution 2021 (2021).

*paleobuddy: an R package for flexible and robust simulation of diversification dynamics*, 28th Annual EEB Symposium (2021).

*PaleoBuddy: Simulating evolutionary dynamics in R*, National Collegiate Research Conference (2020); University of Chicago Physical Sciences Division Undergraduate Research Symposium (2020).

*PaleoBuddy: An R Package for simulation of fossil records and phylogenies with variable rates and age dependency*, Paleontology Club at the University of Chicago (2019), invited to talk.

## SOFTWARE

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**paleobuddy** (R). Flexible simulation of species diversification, phylogenetic trees, and fossil records under the birth-death process (developer and maintainer; <https://github.com/brpetrucci/paleobuddy>).

**RevBayes** (C++). Bayesian phylogenetic inference with the use of graphical models relying on an interpreted programming language interface (contributor; <https://github.com/revbayes/revbayes>).

## TEACHING

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<b>Workshop on Molecular Evolution</b>	May 2024, May 2025
<i>Teaching Assistant - 20h/week (10 days)</i>	<i>Woods Hole, MA</i>

<b>Principles of Biology Laboratory I</b>	August 2021 - December 2024 (7 semesters)
<i>Instructor - 20h/week</i>	<i>Ames, IA</i>

<b>Biological Evolution</b>	May 2021 - July 2021, May 2022 - July 2022
<i>Co-Instructor - 20h/week</i>	<i>Ames, IA</i>

<b>RevBayes Stay-at-Home Workshop</b>	July 2021
<i>Teaching Assistant</i>	<i>Online</i>

<b>Introduction to Quantitative Modeling in Biology (Basic)</b>	March 2019 - June 2019
<i>Teaching Assistant - 10h/week</i>	<i>Chicago, IL</i>

<b>Elementary Functions and Calculus I-II</b>	September 2018 - March 2019
<i>Junior Tutor - 15h/week</i>	<i>Chicago, IL</i>

<b>Calculus I</b>	September 2017 - December 2017
<i>Teaching Assistant - 10h/week</i>	<i>Chicago, IL</i>

<b>Mathematical Methods for the Physical Sciences I</b>	March 2017 - June 2017
<i>Grader - 10h/week</i>	<i>Chicago, IL</i>

## WORKSHOPS

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Algorithmic Advances and Implementation Challenges: Developing Practical Tools for Phylogenetic Inference (Student/Poster presenter), Fall 2024. ICERM, Brown University (Providence, RI).

NSF Pathways to Open Source Ecosystems, I-Corps Program (Technical lead), Summer 2024. Online.

RevBayes Hackathon (Participant), Fall 2023. Paleontological Museum (Munich, Germany).

Workshop on Molecular Evolution (Student), Summer 2022. Marine Biological Laboratory (Woods Hole, MA).

## PROFESSIONAL SERVICE

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### **Graduate Research in Evol. Biology and Ecology (GREBE)**

Social Chair Fall 2021 - Spring 2022, Fall 2023 - Spring 2024

President Fall 2022 - Spring 2023

### **EEOB Department Graduate Student Organization (GSO)**

President Fall 2023 - Spring 2024

Facilities, Graduate Studies, and Honors & Awards Chair Fall 2022 - Spring 2023

Social Chair Fall 2021 - Spring 2022

## OUTREACH

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**Graduate School Advice Panel** February 26, 2025

*Invited Panelist*

*Iowa State University SACNAS and STEM Scholars Program*

**Annual Plant Sale** May 10-14, 2024

*Organizer (as President of the EEOB GSO)*

*Iowa State University Department of Ecology, Evolution, and Organismal Biology*

**Annual Ecology and Evolutionary Biology Symposium** January 23, 2023

*Organizer (as President of GREBE)*

*Iowa State University Department of Ecology, Evolution, and Organismal Biology*

**Iowa Mentored Community College Teaching Practicum** February 2021 - May 2021

*Mentee/Teaching Assistant*

*Des Moines Area Community College (Boone, IA)/Online*

## AWARDS & HONORS

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**EEOB Teaching Award** Spring 2025

- Departmental award (\$200) given out every year for outstanding effort on teaching to graduate student and departmental community

**Iowa State Teaching Excellence Award** Spring 2024

- University-wide award to recognize and encourage outstanding teaching achievement by graduate students. Given to up to 10% of graduate students involved in teaching every year

**EEOB Service Award**

Spring 2024

- Departmental award (\$200) given out every year for outstanding effort on service to graduate student and departmental community

**EEOB Teaching Award (Honorable Mention)**

Spring 2023

- Honorable mention for departmental award given out every year for outstanding effort on graduate student teaching

**Methods in Ecology and Evolution's Robert May Prize (Shortlist)**

2023

- *do Rosario Petrucci et al 2022* shortlisted for journal award given out annually to the best paper submitted by an author at the start of their research career

**FELLOWSHIPS & GRANTS**

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**EEOB GSO Travel Award**

2025

- Travel award (\$500) awarded to 5 EEOB department students to travel to conferences each semester

**EEB Professional Development Grant**

2022-2025

- Travel award (\$400) awarded to select EEB students to travel to conferences each semester

**ICERM Travel Grant**

2024

- Travel and lodging expenses paid by ICERM workshop organizers for participants presenting a poster

**EEB Fellowship**

2020-2021

- Fellowship (\$9600/semester) awarded to the highest ranked applicant in ISU's EEB program every year

**LAS Graduate Scholar Award**

2020-2021

- Award (\$3000) awarded to competitive applicants in ISU's LAS graduate programs every year

**College Research Fellows Program**

January 2020 - June 2020

- Salary (\$15/hour) awarded my work with Michael Foote during the 2020-2021 academic year

**Jeff Metcalf Global Fellowship Grant**

June 2019

- Fellowship (\$5000) awarded for my work with Tiago Quental in the Summer of 2019

**College Research Fellows Program**

September 2018 - June 2019

- Salary (\$12/hour) awarded for my work with Greg Dwyer during the 2018-2019 academic year

**UCISTEM Summer Research Grant**

June 2018

- Grant (\$1000) awarded for my work with Greg Dwyer during the Summer of 2018

**SOCIETY MEMBERSHIP**

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**Society of Systematic Biologists**, graduate student member.

**American Society of Naturalists**, graduate student member.