# FRANCISKO *DE MORAES REZENDE*

## 🎓 EDUCATION

**2019 | 2016**

### MSc, Ecology and Evolutionary Biology

Jyväskylä, Finland

📍 University of Jyväskylä

- Thesis: "Variable light conditions affect warning signal efficacy in an aposematic polymorphic moth"
- Thesis grade: 4/5.
- My degree was graded as "Excellent", the highest grade awarded to degrees at JYU
- Supervised by PhD Ossi Nokelainen and Prof. Johanna Mappes

**2016 | 2009**

### BSc, Biological Sciences

Viçosa, Brazil

📍 Federal University of Viçosa

- Monograph: "What drives changes in composition of ant assemblages along a vertical gradient?"
- Supervised by Profs. Fernando Augusto Schmidt and José Henrique Schoreder

**2014 | 2013**

### Visiting student

Helsinki, Finland

📍 University of Helsinki

- Attended Master's level courses and did an internship at the research group "Social Evolution in Ants"
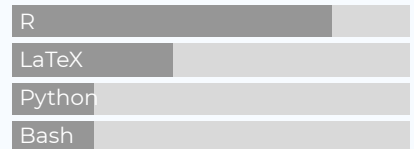
## 💻 RESEARCH EXPERIENCE

**2019 | 2017**

### Master's thesis development

Evolution of predator-prey interactions group

📍 University of Jyväskylä

- I did my thesis work in Professor Johanna Mappes's group. I investigated the effects of different light conditions to the predation pressure suffered by *Arctia plantaginis*, an aposematic species that is also color polymorphic. I attended the group's weekly meetings during which we discussed papers, and presented research projects.

**2016 | 2011**

### Research apprentice

Laboratório de Ecologia de Comunidades

📍 Federal University of Viçosa

- I was part of different ant community ecology and biodiversity research projects, and conducted the project that resulted in my bachelor's monograph. I had experience with sampling and identifying ants, data analysis and scientific writing, among other activities related to the research group.

## CONTACT

- ✉ francisko.rezende@gmail.com
- 🐦 francisko_r
- ⬛ github.com/francisko-rezende
- 🔗 francisko-rezende.netlify.com

## CODING SKILLS

R

LaTeX

Python

Bash

## LANGUAGE SKILLS

Portuguese

English

Spanish

Finnish

**2014 | 2013**

### Research apprentice
Social Evolution in Ants

📍 University of Helsinki

· I worked as research apprentice in the group "Social Evolution in Ants" during my exchange year at University of Helsinki. I was part of projects related to ecology, evolution, behaviour, and population biology of Formica and Myrmica ants. I had experience with sampling and sorting ant colonies, setting-up and maintaining experimental colonies in the lab and recording results from lab experiments. I also helped with mark/recapture sampling and survival assays using ants.

## 🖥 TEACHING EXPERIENCE

**2013 | 2012**

### Ecology tutor

📍 Federal University of Viçosa

· Worked as a tutor in the course "BIO 131 — Ecologia Básica" (Basic Ecology) for three semesters. My duties consisted of assisting the students during the practical lessons, evaluating the reports made by the students and conducting a weekly meeting to help the students with any content-related doubts. I also helped the professors during the I, II & III Mostra de trabalhos de ecologia básica. These were mini symposia in which the students presented projects conducted during the course using the scientific method. My duties were to supervise and evaluate some of these projects.
· I received a scholarship as a compensation for my work in this position
· Undergraduate class

**2012**

### Evolution tutor

📍 Federal University of Viçosa

· Worked as tutor in the course "BIO 340 — Evolução Orgânica" (Organic Evolution) for one semester. My duties were to assist the students within and without class hours, to evaluate the students' reports and extra tasks, to help the students prepare their seminars and to elaborate questions during the presentation of said seminars.
· This was a voluntary position (i.e., I was not paid)
· Undergraduate class

## 📖 PUBLICATIONS, POSTERS, AND TALKS

**2019**

### Beyond beta: diversity partitioning reveals different underlying patterns in ant assemblages along two small scale gradients in a Brazilian Neotropical forest
Article under-review (copy available upon request.)

· DE MORAES REZENDE, F. ; SCHMIDT, F. A. ; JESUS, R. S. ; RIBAS, C. R. ; SCHOEREDER, J. H.

**2018**

### Do different light conditions influence warning signal efficacy in the color polymorphic wood tiger moth males?
Talk    📍 5TH Young Natural History Scientists' Meeting, Paris, France.

· *DE MORAES REZENDE, F.* ; MAPPES, J. ; NOKELAINEN, O.

**2015**

**What drives changes in composition of ant assemblages along a vertical gradient?**

Talk

📍 XXII Simpósio de Mirmecologia: An International Ant Meeting, Ilhéus, Brazil

· *REZENDE, F. M.* ; JESUS, R. S. ; RIBAS, C. R., SCHOEREDER, J. H.
· 🏅 This talk won the prize for best oral presentation in its category

**2015**

**Os últimos serão os primeiros? Distribuição de abortos no fruto de *Leucaena leucocephala (Lam.)* de Witt**

Talk                                            📍 EcoEncontros, USP

· I presented the talk "Os últimos serão os primeiros? Distribuição de abortos no fruto de *Leucaena leucocephala (Lam.)* de Witt" as part of the activities of EcoEncontros—a weekly meeting organized by graduate students from Universidade de São Paulo's (USP) Graduate Program in Ecology. This talk was about the project developed by my group during the "2ª EcoEscola: Escola de Ecologia da USP". My group investigated a possible selective abortion pattern in *L. leucocephala's* pods and its relationship to post copulatory cryptic female choice. Our hypothesis was that we would find significantly more abortions on the basal end of the pods. We did not find any clear abortion pattern in the pods.

**2015**

**Defense behavior of the Blood-red ant *Formica sanguinea* Latreille, 1789**

Poster

📍 XXII Simpósio de Mirmecologia: An International Ant Meeting, Ilhéus, Brazil

· *DE MORAES REZENDE, F.*

**2014**

**News on the enigmatic ant genus Anillidris (Formicidae: Dolichoderinae: Leptomyrmecini)**

Article                                          📍 Myrmecological News, volume 19, pages 25-30

· SCHMIDT, F. A. ; FEITOSA, R. M. ; **DE MORAES REZENDE, F.** ; SILVA DE JESUS, R.
· Available from here

**2014**

**Insights on the behaviour of the neotropical termitophilous ant Centromyrmex pr. brachycola**

Poster                                          📍 23$^{rd}$ Spring Symposium, Helsinki, Finland

· CHAUL, J. C. M; *REZENDE, F. M.*

**2013**

**Resource availability and aggressive behavior among ants: a proxy for inter-specific competition role on ant community structure.**

Poster                                          📍 XXI Simpósio de Mirmecologia, Fortaleza, Brazil

· *SCHMIDT, F. A.* ; JESUS, R. S. ; **REZENDE, F. M.** ; SOLAR, R. R. C. ; RIBAS, C. R. ; SCHOEREDER, J. H.

**2013** ● Azteca–Cecropia interaction: Ants' presence could influence the pro-
duction of Müllerian bodies in Cecropia glaziovii sneth?
Poster
📍 50$^{th}$ Anniversary Meeting: Association for tropical biology and conserva-
tion, San José, Costa Rica

· *OLIVEIRA, K. N.* ; JESUS, R. S. ; SOUZA, A. A. B. ; **REZENDE, F. M.** ; ESPÍRI-
TO-SANTO, M. M. ; CAMPOS, R. I.

**2012** ● Processo de apodrecimento de troncos caídos no solo e a diversidade de
formigas
Poster 　　　 📍 XXIV Congresso Brasileiro de Entomologia, Curitiba, Brazil

· CHAUL, J. C. M. ; *REZENDE, F. M.*
· We investigated how the richness of the ant communities present in fall-
en logs was influenced by how rot these logs were. Our hypothesis was
that we would find more ant species when the logs were at a moderate
state of decay. We did not find a significant relationship between the
studied variables

## 📅 PARTICIPATION IN SCIENTIFIC EVENTS

**2018** ● 5$^{TH}$ Young Natural History Scientists' Meeting
Paris, France

**2015** ● XXII Simpósio de Mirmecologia: An International Ant Meeting
Ilhéus, Brazil

**2014** ● 23$^{rd}$ Spring Symposium
Helsinki, Finland

**2014** ● II International Symposium of Ecology and Evolution
Viçosa, Brazil

**2012** ● I Simpósio de Ecologia e Evolução
Viçosa, Brazil

**2012** ● XXIV Congresso Brasileiro de Entomologia,
Curitiba, Brazil

**2011** ● III Simpósio de Entomologia
Viçosa, Brazil

**2011** ● XX Simpósio de Mirmecologia — I Encuentro de Mirmecologia de Las
Americas
Petrópolis, Brazil

# </> CODING

- **Ⓡ**

  · I can analyze data using LMs, GLMs, GLMMs and conduct survival analyses. I can produce bar plots, line graphs, scatter plots, and histograms using R's base graphics device and ggplot2. Finally, I know enough programming in R to clean and organize/sort data. I also know enough R to look for help online and implement it on my own provided that I have some time to work on it.

- **LaTeX**

  · I can produce my own simple documents, including presentations and I know enough to implement different templates when necessary

- **Python**

  · I can use libraries such as Pandas, Matplotlib and Seaborn to do basic data manipulation and plotting

- **>_ Bash**

  · I can write scripts to manipulate data and automate tasks

# 🖥 SPECIALIZATION COURSES

**2018** ● **Computational and data literacy**
London, UK                              📍 Natural History Museum

· Duration: June 4 – June 8
· Course on reproducible data analysis and management, including data wrangling, Git and Github, R Markdown, and the basics of data analysis and visualisation using R.

**2017** ● **International summer school on lake ecology and management,**
Cēsis, Latvia              📍 Institute for Environmental Solutions

· Duration: August 24 – September 2
· This summer school focused on lake ecology and management in the $21^{st}$ century, new technologies for lake research and sustainable management developed in cooperation with stakeholders

**2015** ● **2ª EcoEscola: Escola de Ecologia da USP**

São Paulo, Brazil 📍 University of São Paulo

- Duration: July 27 – August 14 (92 hours altogether)
- A three-week long course on ecology organized by the students of USP's Graduate Program in Ecology. It consisted of two modules. The first module happened from July 27 to July 31 and it consisted of three mini-symposia (one about ecology applied to conservation, one about ecology & evolution and one about ecological interactions). The second module happened from August 3 to August 14. It consisted of lectures about the scientific method, data analysis and presentation, among other topics. We also developed, executed and presented a project on ecology. For more information on this course please write ecoescola@ib.usp.br

**2014** ● **III Formigas do Brasil**

Uberlândia, Brazil 📍 Federal University of Uberlândia

- Duration: September 7 – September 14 (56 hours altogether)
- A course on Brazilian mirmecology. It included lectures about ecology, taxonomy, phylogeny, ant identification and sampling. Additionally, we had a field trip to the Cerrado (a Brazilian biome similar to the African Savannas) to apply some of the sampling techniques that we learned during the course.

**2014** ● **Taxonomy, Identification and Ecology of European Ants**

Copenhagen, Denmark 📍 University of Copenhagen

- Duration: August 24 – August 29 (4 ECTS)
- Similar to "III Formigas do Brasil" but focusing on European ants. Besides the previously described topics, this course dealt with chemical ecology and molecular methods. We also went on a field trip to learn/apply sampling techniques.

**2013** ● **XI Curso de Verão em Entomologia**

Ribeirão Preto, Brazil 📍 University of São Paulo — Ribeirão Preto *campus*

- January 28 – February 8 (90 hours altogether)
- An entomology summer school. We learned the basics about ecology, evolution, phylogeny, biogeography and behavior of several different Insecta groups. We also learned several sampling techniques used to samples insects and applied them on a short field trip.

## 🌐 SELECTED ONLINE COURSES

**2019** ● **Introduction to Shell for Data Science**

📍 Datacamp

- Course description: "The Unix command line has survived and thrived for almost 50 years because it lets people do complex things with just a few keystrokes. Sometimes called"the universal glue of programming," it helps users combine existing programs in new ways, automate repetitive tasks, and run programs on clusters and clouds that may be halfway around the world. This course will introduce its key elements and show you how to use them efficiently."

At the moment I've complete 45 courses at Dacatamp. My profile on their website has a list with all the courses I've taken.

**2019** ● **Writing Functions in R**

📍 Datacamp

· Course description: "Functions are a fundamental building block of the R language. You've probably used dozens (or even hundreds) of functions written by others, but in order to take your R game to the next level, you'll need to learn to write your own functions. This course will teach you the fundamentals of writing functions in R so that, among other things, you can make your code more readable, avoid coding errors, and automate repetitive tasks. "

**2019** ● **Introduction to Git for Data Science**

📍 Datacamp

· Course description: "Version control is one of the power tools of pro-gramming. It allows you to keep track of what you did when, undo any changes you decide you don't want, and collaborate at scale with other people. This course will introduce you to Git, a modern version control tool that is very popular with data scientists and software developers, and show you how to use it to get more done in less time and with less pain. "

**2019** ● **Intermediate Functional Programming with purrr**

📍 Datacamp

· Course description: "Have you ever been wondering what the purrr de-scription ("A functional programming toolkit for R") refers to? Then, you've come to the right place! This course will walk you through the functional programming part of purrr - in other words, you will learn how to take full advantage of the flexibility offered by the .f in map(.x, .f) to it-erate other lists, vectors and data.frame with a robust, clean, and easy to maintain code. During this course, you will learn how to write your own mappers (or lambda functions), and how to use predicates and adverbs. Finally, this new knowledge will be applied to a use case, so that you'll be able to see how you can use this newly acquired knowledge on a con-crete example of a simple nested list, how to extract, keep or discard ele-ments, how to compose functions to manipulate and parse results from this list, how to integrate purrr workflow inside other functions, how to avoid copy and pasting with purrr functional tools. "

**2019** ● **Hierarchical and Mixed Effects Models in R**

📍 Datacamp

· Course description: "This course begins by reviewing slopes and inter-cepts in linear regressions before moving on to random-effects. You'll learn what a random effect is and how to use one to model your data. Next, the course covers linear mixed-effect regressions. These powerful models will allow you to explore data with a more complicated structure than a standard linear regression. The course then teaches generalized linear mixed-effect regressions. Generalized linear mixed-effects models allow you to model more kinds of data, including binary responses and count data. Lastly, the course goes over repeated-measures analysis as a special case of mixed-effect modeling. This kind of data appears when subjects are followed over time and measurements are collected at in-tervals. Throughout the course you'll work with real data to answer inter-esting questions using mixed-effects models. "

**2019** ● **Reporting with R Markdown**

📍 Datacamp

· Course description: "Learn how to write a data report quickly and effectively with the R Markdown package, and share your results with your friends, colleagues or the rest of the world. Learn how you can author your own R Markdown reports, and how to automate the reporting process so that you have your own reproducible reports. By the end of the interactive data analysis reporting tutorial, you will be able to generate reports straight from your R code, documenting your work — and its results — as an HTML, pdf, slideshow or Microsoft Word document."

## ORGANIZING COMMITTEE PARTICIPATION

**2013** ● **III Mostra de Trabalhos de Ecologia Básica**
Viçosa, Brazil

📍 Federal University of Viçosa

**2013** ● **II Mostra de Trabalhos de Ecologia Básica**
Viçosa, Brazil

📍 Federal University of Viçosa

**2012** ● **I Mostra de Trabalhos de Ecologia Básica**
Viçosa, Brazil

📍 Federal University of Viçosa

**2012** ● **I Simpósio de Ecologia e Evolução**
Viçosa, Brazil

📍 Federal University of Viçosa

"Mostra de Trabalhos de Ecologia Básica" events were mini symposia in which Basic Ecology students were supposed to present the results of the small research projects that they conducted during the semester

"I Simpósio de Ecologia e Evolução" was an ecology and evolution symposium