

# Mauro Lepore

Software engineer, data science consultant

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I'm most experienced in software development, research and teaching. I implement software solutions to help researchers work in an efficient, transparent, and reproducible way. I created and maintain a number of R packages now hosted on GitHub and CRAN. I often contribute as a developer or teacher to popular open software projects or communities (<https://maurolepore.github.io/>).

## EXPERIENCE

### Software engineer, data science consultant

2017-08 - present

ForestGEO

National Museum of Natural History, Smithsonian Institution, Washington DC, USA

My official title is “IT specialist - R-package developer”. I implement software solutions to help researchers work in an efficient, transparent, and reproducible way. I develop new software (R packages) and update a legacy code base. I also teach data science skills (e.g. R, Git, GitHub) to researchers and students, and help them troubleshoot, both remotely and in person.

### Data science instructor

The Carpentries

2018 - present

Multiple locations

As a certified instructor of The Carpentries, I teach and help teach foundational coding and data science skills to researchers (e.g. Excel, OpenRefine, SQL, R).

### Postdoctoral research fellow

2016-02 to 2017-06

O’Dea Lab: Change and Variation in Tropical Seas

Smithsonian Tropical Research Institute, Panama City, Panama

I researched how coral reefs varied and changed through time, before and since human impacts. I supervised two wonderful interns (one undergraduate and one postgraduate student).

### Teaching university students (combined experience)

2012-04 - 2016-12

Affiliations:

- Smithsonian Tropical Research Institute
- The University of Queensland

Locations:

- Smithsonian Tropical Research Institute, Bocas del Toro Research Station, Panama
- Moreton Bay Research Station, North Stradbroke Island, Australia
- Heron Island Research Station, Heron Island, Australia

Field courses under two weeks:

- Texas A&M University, GEOS 405
- Stanford University (twice)
- The University of Queensland, MARS2005
- University of California

Semester long courses:

- The University of Queensland, MARS2014 (twice)

Responsibilities:

- Lecturer
- Mentor for research projects
- Boating and snorkeling safety
- Logistical support in Spanish and English
- Marking assignments
- Supply field and lab gear
- Driving students

### **Teaching high school students (combined experience)**

2011-04 - 2015-06

The University of Queensland

Locations:

- Moreton Bay Research Station, North Stradbroke Island, Australia
- St Lucia, Brisbane, Australia

Lecturer and demonstrator in the field and lab (groups up to 60 students). Responsible for liaising with school teachers and coordinating less experienced tutors.

### **Teaching general public**

2004-04 - 2004-08 and 2003-07 - 2003-12

Museo Argentino de Ciencias Naturales, Argentina

Parque Centenario, Buenos Aires, Argentina

Responsible for explaining the exhibition at the national museum of natural history in Buenos Aires, Argentina, to engage the general public, from kids to adults, and primary school groups.

## **EDUCATION**

### **The University of Queensland, Australia**

PhD, Ecology, Environmental Sciences, Geochemistry

2011-2015

School of Biological Sciences, ARC Center of Excellence for Coral Reef Studies

Thesis: “Long term dynamics of coral reefs in the inshore southern Great Barrier Reef”.

I examined three issues:

1. The potential of a reef system to constitute a refuge for coral reefs from global warming.
2. The accretion rate of the reef flat and reef slope environment through time.
3. Changes in coral community structure through time, and the mechanisms of community assembly.

I supervised three students and 20 volunteers, both in the field and lab.

## **Universidad de Buenos Aires, Argentina**

Licentiate degree, Biological Sciences, Marine Ecology  
1999-2008  
Faculty of Natural Sciences

Thesis: “Estudio del crecimiento de la almeja amarilla Argentina *Mesodesma mactroides* por marcaje fluorescente in situ y comparación con el método de análisis de distribuciones de frecuencias de tallas”.

I compared a novel and traditional method to study the growth rate of a clam.

## **CERTIFICATIONS**

### **Instructor of The Carpentries**

The Carpentries  
2018-06  
Credential <http://bit.ly/2TRE8M5>

## **LANGUAGES**

Fluent English and Spanish.

## **DATA SCIENCE COURSES**

### **What they forgot to teach you about R**

RStudio,  
Inc. 2019-01  
Certificate <https://i.imgur.com/AZhx1By.jpg>

### **Introduction to Git for Data Science**

DataCamp  
2018-11  
Certificate <http://bit.ly/2OkqfQD>

### **Python for R Users**

DataCamp  
2018-11  
Certificate <http://bit.ly/2U50iJZ>

## **Introduction to Shell for Data Science**

DataCamp  
2018-10  
Certificate <http://bit.ly/2YkytNk>

## **Writing Efficient R Code**

DataCamp  
2018-10  
Certificate <http://bit.ly/2Fm1W0w>

## **Introduction to the Smithsonian Institution High Performance Cluster**

Smithsonian Institution  
2018-06  
Certificate <https://i.imgur.com/kDAe7cR.png>

## **Building tidy tools**

RStudio, Inc. 2018-05  
Certificate <https://i.imgur.com/C6QSUWP.jpg>

## **Statistical computing using R**

Smithsonian Tropical Research Institute, Panama City, Panama  
2016-07

## **Software carpentry bootcamp for ecologists and evolutionary biologists**

The Centre for Ecosystem Science, University of New South Wales, Sydney, Australia  
2014-02

## **Advanced R**

Centre for Applications in Natural Resource Mathematics, The University of Queensland, Australia  
2014-11

## **Introduction to R**

Centre for Applications in Natural Resource Mathematics, Australia  
2013-11

## Other data science courses

Coursera

2013 - 2014

- Computing for data analysis
- Statistics one
- Data analysis

Specialization in data science:

- The Data Scientist's Toolbox
- R Programming
- Getting and Cleaning Data
- Exploratory Data Analysis
- Reproducible Research
- Statistical Inference
- Regression Models
- Practical Machine Learning
- Developing Data Products