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

Semester long courses:

- The University of Queensland, MARS2014 (twice)

Field courses two-weeks long or shorter:

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

Responsible for delivering lectures, mentoring research projects, marking assignments, boating and snorkeling safety, logistics in English and Spanish.

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.

PROJECTS

tor: Import Multiple Files From a Single Directory at Once

2019-01 - present
URL https://CRAN.R-project.org/package=tor

The goal of tor (to-R) is to help you to import multiple files from a single directory at once, and to do so as quickly, flexibly, and simply as possible.

fgeo: Analyze Forest Diversity and Dynamics

2017-08 - present
URL https://forestgeo.github.io/fgeo/

'fgeo' is a collection of R packages to analyze forest diversity and dynamics. It includes packages to manipulate and plot ForestGEO data, and to do common analyses including abundance, demography, and species-habitats associations.

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