Mauro Lepore

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I am an ecologist turned software developer and data science consultant. I now work for a network of forest ecologists, building R packages and passionately sharing resources with the researchers and students I support. I also have several years of experience teaching and providing customer services.

EXPERIENCE

Software engineer, data science consultant

ForestGEO
2017-03 - present
National Museum of Natural History, Smithsonian Institution, Washington DC, USA

My official title is "IT specialist - R-package developer". In practice, I build software and share resources with researchers and higher-education students to help them work in an efficient, transparent, and reproducible way. I spend most of my time building R packages or teaching R, Git, GitHub, sometimes in person but mostly remotely.

Data science instructor (volunteer)

The Carpentries
2018 - present

- Texas A&M University-Kingsville
- National Museum of Natural History, Smithsonian Institution
- Smithsonian Environmental Research Center, Smithsonian Institution

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

Postdoctoral research fellow

O'Dea Lab: Change and Variation in Tropical Seas
2016-02 to 2017-02
Smithsonian Tropical Research Institute, Panama City, Panama

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

Teaching university students

Smithsonian Tropical Research Institute
2016-12
Smithsonian Tropical Research Institute, Bocas del Toro Research Station, Panama

Teaching assistant for university students from Texas A&M University (GEOS405) during a five-days long, field-based, research experience. Responsible for delivering lectures, mentoring research projects, boating and snorkeling safety, and logistics in English and Spanish.

Teaching university students

The University of Queensland
2012-04 - 2014-11

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

Teaching assistant in classroom, lab, and field settings for resident students of The University of Queensland (MARS2014, MARS2005); also for international students from Stanford University, and the University of California. Responsible for marking assignments, delivering short lectures, mentoring research projects, boating and snorkeling safety, and logistics.

Teaching high school students

The University of Queensland
2011-04 - 2015-06

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

Lecturer and demonstrator during science camps for high school students doing lab- and field-based research. Also responsible for liaising with school teachers and training less experienced demonstrators.

Customer service (photographer)

Foto Paleo, Concepto RD, Tropical Pictures, Black & White, eventphotography.com, and more
1999 - 2016
Argentina, Dominican Republic, Spain, Australia

During most of my adult life I have been a freelance photographer, mostly of people. As a weddings photographer I learned to build trusted relationships and a deep understanding of my customers' needs. I also learned to be a good problem-solver in stressful conditions, and very patient with difficult customers.

Outreach

Museo Argentino de Ciencias Naturales, Argentina
2003-07 - 2003-12 and 2004-04 - 2004-08
Parque Centenario, Buenos Aires, Argentina

Responsible for explaining exhibitions to engage people of all ages.

EDUCATION

The University of Queensland, Australia

PhD in ecology, environmental sciences, and 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.

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

Universidad de Buenos Aires, Argentina

Licentiate degree in biological sciences with a focus on 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

SKILLS

Industry knowledge

Computer software, higher education, data science, statistics, teaching, research.

Tools & technologies

- R programming for data science (e.g. tidyverse packages, rmarkdown, shiny) and software development (e.g. usethis, rlang, devtools, roxygen2, testthat)
- Bash and Git for version control
- GitHub for collaboration and project management
- TravisCI for continuous integration

LANGUAGES

English (full professional) and Spanish (native).

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

2017-03 - 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.

PEER-REVIEWED PUBLICATIONS

2017
Look to the past for an optimistic future
A O'dea, EM Dillon, AH Altieri, ML Lepore
Conservation Biology 31 (6), 1221-1222

2015
Long-Term Dynamics of Coral Reefs in the Inshore Southern Great Barrier Reef
ML Lepore (supervisors: J Pandolfi and JX Zhao)
PhD thesis. School of Biological Sciences, The University of Queensland

2011
Population structure, growth and production of the yellow clam *Mesodesma mactroides* (Bivalvia: Mesodesmatidae) from a high-energy, temperate beach in northern Argentina
M Herrmann, JEF Alfaya, ML Lepore, PE Penchaszadeh, WE Arntz.
Helgoland Marine Research 65 (3), 285

2009
Aplicación de calceína para la estimación del crecimiento de la almeja amarilla *Mesodesma mactroides* Reeve, 1854
ML Lepore, PE Penchaszadeh, F Alfaya, E José, M Herrmann
Revista de biología marina y oceanografía 44 (3), 767-774

2009
Growth estimations of the Argentinean wedge clam *Donax hanleyanus*: A comparison between length-frequency distribution and size-increment analysis
M Herrmann, ML Lepore, J Laudien, WE Arntz, PE Penchaszadeh
Journal of Experimental Marine Biology and Ecology 379 (1-2), 8-15

2009
Reproductive cycle and gonad development of the Northern Argentinean *Mesodesma mactroides* (Bivalvia: Mesodesmatidae)
M Herrmann, JEF Alfaya, ML Lepore, PE Penchaszadeh, J Laudien
Helgoland Marine Research 63 (3), 207

2008
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
ML Lepore (supervisors: M Herrmann, PE Penchaszadeh)
Licentiate thesis. Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires