

Mauro Lepore

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I am an **R software developer** with **experience on climate change research**. I now work at the Smithsonian Institution (Washington DC, US), building R packages for a global network of researchers whose mission is to better understand and predict forest dynamics in the face of climate change. Before, I did doctoral and postdoctoral research on the dynamics of coral reefs through time, with a focus on human impacts including global warming.

EXPERIENCE

R software developer

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

I build **R packages** and related software infrastructure (websites, Shiny applications, documentation, tutorials, etc.) to help researchers better understand and predict the dynamics of the world's forests in the face of climate change. The technologies I use the most include **R**, **Git**, **GitHub**, and **continuous integration with TravisCI**.

Data science instructor

The Carpentries
2018 - present

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

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 interns.

Teaching university students

Smithsonian Tropical Research Institute and The University of Queensland
2011-2016

Teaching assistant for university students from **Texas A&M University**, **The University of Queensland**, **Stanford University**, and the **University of California**.

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

I studied the “Long term dynamics of coral reefs in the inshore southern Great Barrier Reef”, including the potential of a reef system to constitute a **refuge for coral reefs from global warming**. 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

In addition to **coursework**, I **researched** a novel method to study the growth rate of a clam.

SKILLS

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**

Industry knowledge

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

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>

fgeo: Analyze Forest Diversity and Dynamics

2017-03 - present

URL <https://forestgeo.github.io/fgeo/>

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