

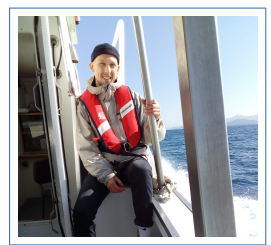
François Leroy

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Website

GitHub (FrsLry)



Keywords: Numerical Ecology, Modeling, Machine Learning

Experience

2020–2024 **PhD. Modeling spatio-temporal biodiversity changes across scales**, *Faculty of Environmental Sciences, CZU, dept. of Spatial sciences*, Prague.

- Modeling biodiversity using machine learning, frequentists and bayesian methods
- Programming
- English communication skills (both oral and writing)
- Supervised by [Dr. Petr Keil](#)



2018–2020 **Marine Sciences MSc**, *Sorbonne University, Paris (France, graduated September 2020)*.



Numerical Ecology, modelling, geostatistics, GIS, oceanography, marine ecology, biogeochemistry, database management

2017–2018 **3rd year of Bachelor of Science**, *South Brittany University, Vannes (France)*.

Specialized in Coastal Ecosystems and Management, **GIS**

2015–2017 **1st and 2nd year of Bachelor of Science**, *Rouen Normandy University, Rouen (France)*.

Specialized in Botanic

Internships

2020 **Community modelling**, *DYNECO-LEBCO, IFREMER*, Brest (France).

(6 months)



- Objective:** develop a simulation tool to assess dynamic communities accompanying biogenic reefs built by *Sabellaria alveolata* (Linnaeus, 1767)(honeycomb worm)
- Explore the community topology using **qualitative modelling** (Dambacher *et al.* 2002, Marzloff *et al.* 2016)
- Infer a **Dynamic Bayesian Network** (BN) from a large database ([REEHAB project](#))

2019 **Numerical ecology study**, *UMR BOREA - MNHN - LOCEAN*, Paris (France).

(2 months)



- Objective:** spatiotemporal recruitment variability of *Sicyopterus lagocephalus* (Pallas 1770)(Teleostei : Gobiidae : Sicydiinae), amphidromous species of the Indian Ocean
- Pelagic Larval Duration (PLD) determination by otolithometry
- Statistical analysis** to observe spatial (rivers) and temporal (season/year) differences of those PLD
- Larval dispersion **modelling** using the Ichthyop lagrangian model in backward to assess larval provenance

2018 **Ecological study**, *Géoarchitecure Laboratory*, Vannes (France).

(2 months)

- Objective:** use the opportunistic feature of the European shag to assess fish biodiversity

2017 **Mapping, Photogrammetry**, *Géosciences Océans Laboratory*, Vannes (France).

(5 months)

- Objective:** study the coastal dynamic of a beach in order to distribute sediment at the most relevant place
- Three dimensional modelling of a beach to observe its evolution
- Production of DEM (*i.e.* Digital Elevation Model) to exploit in **GIS** software

Publications

François Leroy, Jiri Reif, David Storch, and Petr Keil. How has bird biodiversity changed over time? A review across spatio-temporal scales. *EcoEvoRxiv (preprint)*, 2022. URL: <https://ecoevorxiv.org/jhr6v/>, [doi:10.32942/osf.io/jhr6v](https://doi.org/10.32942/osf.io/jhr6v).

Computer skills

Basic Julia, Shell, MATLAB, HTML5, CSS

Intermediate Python, MySQL, Creative Cloud, Agisoft Metashape

Advanced Git, QGIS, ArcGIS, LaTeX

Teaching

2021 Introduction to GIS using ArcGIS (14 hours)