

# Philippe Douchet

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Driving licence : Category B

Coastal craft licence

# PhD Student

My PhD project aims to better understand the ecological factors that shape trematode communities (parasites with complex life cycles) and, ultimately, the emergence of certain associated infectious diseases. To this end, I am developing and using molecular tools based on environmental DNA (eDNA) to characterize and study these communities in aquatic environments. In addition to ecological aspects, I am also interested in evolution, and particularly concerning the molecular mechanisms underlying certain eco-evolutionary processes such as phenotypic plasticity.

## CORE SKILLS

Develop a rigorous scientific approach

Build research hypotheses

Develop and apply scientific protocols based on biological problems.

Present and discuss results in both written and oral form, using the existing literature

Provide a scientific watch

Work in teams or in autonomy and take initiatives

Good general culture, open-mindedness

## ANALYTICAL SKILLS

Analyze and interpret qualitative and quantitative data using appropriate statistical tools and methods

Spatializing data using Geographic Information System (SIG) tools

Modelling biological systems using mathematical tools

Ability to use R, SPSS, Qgis, image processing, word processing and spreadsheet software.

## LINGUISTIC SKILLS

French, English and Spanish

## LABORATORY SKILLS

Apply molecular and cell biology specific methods and protocols in accordance with the good practices of these disciplines.

Handle living organisms in respect of the rules of hygiene, safety and ethics.

Keep a laboratory notebook

## FIELD SKILLS

Measure environmental parameters

Implement sampling, capture and marking methods and protocols

Anticipate risks and adapt to environmental and climatic conditions

Keeping a field notebook

## PROFESSIONAL EXPERIENCES

BIOLOGICAL TECHNICIAN <i>PCR diagnostics of molluscs (bulins) potentially vectors of Bilharziasis in Corsica.</i> Reception of molluscs sampled by the Regional Health Agency (ARS) of South Corsica. DNA extraction from whole molluscs, search for the parasite's DNA by PCR.	2020 (1 month) UPVD, laboratory IHPE (UMR 5244)
RESEARCH ASSISTANT in internship <i>Towards a characterization of trematode communities from environmental DNA</i> Development of markers for metabarcoding. In silico tests using bioinformatics tools. In vitro validation by PCR. Sampling in the field. Parasitemia measurements. Statistical analyses. Results presentation and perspectives	2020 (6 months) IHPE (UMR 5244) Olivier Rey
RESEARCH ASSISTANT in internship <i>Effect of the disturbance of the intermediate host microbiota of Schistosoma mansoni on the anti-parasite response (laboratory work at containment level L2)</i> Protocol development, experimental infection, monitoring of the parasitaemia, behaviour and survival. PCR, Q-PCR. Statistical analyses. Results presentation and perspectives.	2019 (3 months) IHPE (UMR 5244) Benjamin Gourbal
RESEARCH ASSISTANT in internship Impact of pollution on the behaviour of <i>Mauremys leprosa</i> Capture of individuals by trapping. Measurement of biometric parameters. Blood sampling. Blood tests. Installation of WACU bio-loggers on selected individuals. Tracking of equipped individuals by radio identification. Recovery of equipped individuals.	2018 (1 month) CEFREM (UMR 5110) Olivier Verneau

## OTHER EXPERIENCES

Volunteer NATURALIST Contributions to the National Inventory of Natural Patrimony (INPN): Identification of observed species using determination keys. Sharing data	2019 to today INPN espèces
RECEPTION AGENT SCIENTIFIC MEDIATION Reception of visitors, entrance receipts, presentations to the public.	2019 (4 months) Biodiversarium
PRESIDENT OF A NATURALIST ASSOCIATION Organisation of conferences, naturalist excursions, implementation of awareness campaigns, preparation of funding applications.	2018-2019 Les Gypaètes Barbus UPVD
WEB PRODUCT MANAGER In charge of selling informatics products to professionals and individuals: Reception and analysis of customer needs. Competitive survey. Negotiations. Website updates. Stock management. Monitoring and management of orders	2010 to 2014 SARL Hexapart 93500 Pantin

## FORMATIONS

Master degree in Biodiversity, ecology, evolution	2018 to 2020 Université Perpignan
First degree in Biology-ecology	2015 to 2018 Université Perpignan
E-commerce sales technician training	2009 Agora Perpignan
BTS in real estate profession	2005-2006 Irfa Sud Perpignan
Scientific Bachelor degree	2002