



Research Program BRIDGES Fisheries and Biodiversity in the Western Indian Ocean

Pathway through environmentally sustainable and socially beneficial futures

Case study of a long-term research program in the Indian Ocean

PhD thesis proposal – 36 months Location: IGE institute, Grenoble, France / or Réunion Island, France

Objectives

The aim of this PhD is to characterise key obstacles and levers for implementing a strategy to minimise the environmental footprint of an international and largescale research program; while guaranteeing that the scientific objectives are achieved and that social benefices are improved.

In particular, we will focus on the relationship between the Global North and the Global South.

Context

The Southwest Indian Ocean is one of the world's richest regions in terms of biodiversity, where small-scale fisheries are key to the well-being and food security of coastal communities. Global pressures, such as climate change, growing global demand for natural resources, and intensification of uses, are threatening ecosystems and human societies that depend on them.

The BRIDGES Fisheries and Biodiversity in the Western Indian Ocean Research Program aims to carry out ambitious collaborative research to bolster social and environmental resilience, and support a future generation of researchers and actors for the region (www.bridges-wio.com). More specifically, the thesis will be carried out as part of BRIDGES-IMPACT, one of the six BRIDGES research projects, which aims to monitor, amplify and help understand these transformations and to evaluate the impacts of BRIDGES actions. Designed to be interconnected with the other BRIDGES projects, BRIDGES-IMPACT is organised into four interconnected components: 1. understanding transformations, 2. guiding transformations, 3.









analysing the impacts of transformations, and 4. studying 'carbon'-related transformations. This thesis is part of the fourth component, which consists in measuring and defining a strategy for reducing the carbon footprint of the BRIDGES scientific community.

This work will be based on the (GES 1point5) method, as well as 'Ma Terre en 180 minutes' workshop.

Method

The first phase of the PhD will focus on the analysis of the 400 'Ma Terre' workshops that have already been held, both in terms of reducing the carbon footprint and the fairness of the distribution of the reduction effort.

The second phase will focus on the specific activities of the BRIDGES project's international scientific community, which includes several hundred participants mainly in France and in the Southwest Indian Ocean (SWIO).

For each phase, we will identify the possible technical (ergonomics of digital tools, automatic translation, dynamic display interface) and socio-political (habits, behaviours, socio-cultural framework) barriers in order to learn lessons that will enable us to scale up and promote change within international academic institutions.

Expected skills

- **General skills** in environmental sciences, statistics, socio-politics and ecological economics.
- **Computer skills (optional but strongly recommended)** on numerical modelling of data series; advanced skills in data visualisation using R and/or Python; data management. Knowledge of JavaScript would be an asset.
- **Soft skills** like organisation, rigour, autonomy, and curiosity; motivation to communicate research in scientific papers and conferences.
- **Interpersonal skills** such as the ability to communicate with people of various backgrounds, ages, and cultures.

Hosting conditions

The PhD student will be hosted at the IGE (Institut de Géophysique et Environnement), under the supervision of Nicolas Champollion and Nicolas Gratiot.

Close collaboration will occur with the other members of the BRIDGES-IMPACT project, including Rodolphe Devillers and Rachel Bitoun (Espace-Dev in Montpellier), Alexandre Santerne from the LAM (Laboratoire d'Astrophysique de









Marseille), Guillaume Payen (Université de la Réunion), and Matthieu Le Duff (Espace-Dev in Mayotte).

Application

To apply, please send a CV and a cover letter to nicolas.champollion@univgrenoble-alpes.fr and nicolas.gratiot@ird.fr before 13 June 2025.

Additional Resources

- <u>Site web Ma Terre en 180 Minutes</u>

- Avis du COMETS du CNRS
- Engagement environnemental des Organismes de Recherche Français
- Le Groupement de Recherche Labos 1point5

Related publications

Gratiot, N., Klein, J., Challet, M., Dangles, O., Janicot, S., Candelas, M., ... & Soret, I. M. (2023). A transition support system to build decarbonization scenarios in the academic community. *PLOS Sustainability and Transformation*, *2*(4), e0000049.

Malbet, F., Santerne, A., Milli, J., Champollion, N., Lamy, L., Imbaud, H., ... & Bellemain, P. (2024). " My Earth" Astrophysics and Planets--a serious game to build low carbon scenarios in the astronomy academic community. *arXiv preprint arXiv:2410.11357*.

Teran-Escobar, C., Becu, N., Champollion, N., Gratiot, N., Hingray, B., Panthou, G., & Ruin, I. (2024). A pilot randomised controlled trial comparing the effectiveness of the MaTerre180'participatory tool including a serious game versus an intervention including carbon footprint awareness-raising on behaviours among academia members in France. *Plos one*, *19*(3), e0301124.





