Matthias Grenié
Assistant Professor

Curriculum Vitae
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📍 Université Grenoble-Alpes, Laboratoire d'Écologie Alpine (LECA, UMR 5553)
🏠 rekyt.github.io
📞 +49 341 9733176
✉ matthias.grenie@gmail.com
🐦 @LeNematode
⌂ Rekyt
G fZ1_d7QAAAAJ
iD 0000-0002-4659-7522

Academic Education

2016-2020	**PhD in Ecology**	École Doctorale 584 GAIA, Univ. Montpellier

Montpellier, France
➤ Supervised by **Pr. Françoiz Munoz** and **Dr. Cyrille Violle**
Title: 'Outside the norm: deviation from ecological optimality and functional originality'

2013-2015	**MSc. in General Biology**	École Normale Supérieure de Lyon

Lyon, France

2012-2013	**Bsc. in General Biology**	École Normale Supérieure de Lyon

Lyon, France

2010-2012	**Prep. Classes for 'Grandes Écoles'**	Lycée Saint-Louis

Paris, France
➤ Biology, Geology, Mathematics, Physics, and Chemistry

Academic Experience

Oct. 2020-**present**	**Postdoctoral Researcher**	German Center for Integrative Biodiversity Research (iDiv) / Leipzig University

Leipzig, Germany
➤ Supervised by **Dr. Marten Winter** on the functional biogeography of alien plants

2016-2020	**PhD Student**	Univ. Montpellier / CEFE

Montpellier, France
➤ Supervisors: **Pr. François Munoz** and **Dr. Cyrille Violle**. Independent PhD funding

Feb. 2015-June 2015	**Master Intern**	EcoFOG

Kourou, French Guiana, France
➤ Supervisor: **Dr. Bruno Hérault** on intraspecific variability in tropical trees growth in function of functional traits

Sept. 2014-Dec. 2014	**Master Intern**	ISEM, University of Montpellier

Montpellier, France
➤ Supervisor: **Dr. Ophélie Ronce** on matrix population models

Feb. 2014-July 2014	**Master Intern**	Indiana University

Bloomington, IN, USA
➤ Supervised by **Dr. Jean-François Goût** in Michael Lynch's lab on trait motifs in the *Paramecium* complex

June 2013-Aug. 2013	**Bachelor Intern**	Université Pierre et Marie Curie Paris 6

Paris, France
➤ Supervisors: **Dr. Éric Bapteste** and **Prof. Philippe Lopez** on sequence similarity networks of the metabolic pathways of *Chlamydomonas reinhardtii* in function of their origin

Funding

| 2023-**now** | **Funded Project** | Flexpool (internal iDiv) 10k€ |

➤ Co-author and Co-PI of the project led by **Dr. Qiang Yang** on the impact of naturalized plant species on plant-pollinator networks across elevational gradients

| 2022-**now** | **Funded Project** | Flexpool (internal iDiv) 10k€ |

➤ Co-author and Co-PI of the project led by **Dr. Bettina Ohse** on the link between fonctionnal traits and demographic rates of trees

| Sept. 2016 | **Doctoral Scholarship** | École Normale Supérieure de Lyon |

➤ Specific Doctoral Scholarship for Students of the ENS de Lyon

Scientific Contributions

📄 15 publications (5 as first author). 66 457 citations (Google Scholar). Ⓗ h-index 10 (Google Scholar). Ⓡ 6 R packages

Selected Publications

1. **Grenié, M.**, & Gruson, H. (2023). Fundiversity: A Modular R Package to Compute Functional Diversity Indices. *Ecography*, *n/a*(n/a), e06585. https://doi.org/10.1111/ecog.06585

2. **Grenié, M.**, Berti, E., Carvajal-Quintero, J., Dädlow, G. M. L., Sagouis, A., & Winter, M. (2022). Harmonizing Taxon Names in Biodiversity Data: A Review of Tools, Databases and Best Practices. *Methods in Ecology and Evolution*, 2041–210X.13802. https://doi.org/10.1111/2041-210X.13802

3. Loiseau, N., Mouquet, N., Casajus, N., **Grenié, M.**, Guéguen, M., Maitner, B., Mouillot, D., Ostling, A., Renaud, J., Tucker, C., Velez, L., ... Violle, C. (2020). Global Distribution and Conservation Status of Ecologically Rare Mammal and Bird Species. *Nature Communications*, *11*(1, 1), 5071. https://doi.org/10.1038/s41467-020-18779-w

4. **Grenié, M.**, Mouillot, D., Villéger, S., Denelle, P., Tucker, C. M., Munoz, F., & Violle, C. (2018). Functional Rarity of Coral Reef Fishes at the Global Scale: Hotspots and Challenges for Conservation. *Biological Conservation*, *226*, 288–299. https://doi.org/10.1016/j.biocon.2018.08.011

5. **Grenié, M.**, Denelle, P., Tucker, C. M., Munoz, F., & Violle, C. (2017). Funrar: An R Package to Characterize Functional Rarity. *Diversity and Distributions*, *23*(12), 1365–1371. https://doi.org/10.1111/ddi.12629

R packages

➤ `funrar` (creator and maintainer)
   Compute functional rarity indices, major tool for the work of the FREE CESAB group
   📄 published paper – Ⓡ CRAN – ⓞ GitHub

➤ `ecolottery` (co-creatore)
   efficient simulation of community assembly processes, including both neutral and niche processes
   📄 published paper – Ⓡ CRAN – ⓞ GitHub

➤ `fundiversity` (co-creator and maintainer)
   compute functional diversity indices in an efficient way, modular, with modern computation features out-of-the-box (parallelization, memoization)
   📄 published paper – Ⓡ CRAN – ⓞ GitHub

➤ `funbiogeo` (co-creator and maintainer)
   ease functional biogeography analyses, developed within FREE CESAB group
   ⓞ GitHub

➤ `rtaxref` (creator and maintainer)
   access the data of the French Taxonomic Reference (TAXREF) API
   ⓞ GitHub

➤ Significant contributions to other R packages: `taxize` (extract and standardize taxonomic data), `ggfortify` (simplified and automated plotting), et `traitdataform` (metadata writing help for functional traits)