



Recruitment at CNRS – SETE (Moulis, France)

As part of CNRS-SETE, the Centre for Biodiversity Theory and Modelling, more specifically the Ecological Networks and Global Change group (<http://www.cbtm-moulis.com/m-221-econetgc.html>) which focuses its research on developing theories and experimental manipulations on the effects of different components of global change on biodiversity, network structure and dynamics, and ecosystem functioning, is seeking:

1. **A Postdoc in Theoretical Ecology.** The applicant will work on linking temperature-dependent community dynamics and metacommunity theory. (Duration of the contract - 3 years).
2. **A Postdoc in Experimental Aquatic Ecology.** The applicant will focus on biodiversity and community structure and dynamics in mesocosm experiments (Duration of the contract - 3 years).
3. **A Postdoc in Ecological Meta-Analysis.** The applicant will analyse already existing data on the isolated and combined effects of climatic warming and habitat fragmentation (Duration of the contract - 2 years).
4. **A PhD student in Experimental Aquatic Ecology.** The applicant will work on the effects of warming and fragmentation on ecosystem functioning on pelagic mesocosm experiments (Duration of the contract - 3 years).
5. **A Technician in Experimental Aquatic Ecology.** The applicant will work on the sampling and maintenance of the mesocosm experiment (Duration of the contract - 4 years).

Most of these positions are part of the ERC Consolidator Grant FRAGCLIM “The combined effects of climatic warming and habitat fragmentation on biodiversity, community dynamics and ecosystem functioning” lead by Jose M. Montoya.

The project will adopt an integrative approach that combines the development of new theory on metacommunities and temperature-dependent food web dynamics in close dialogue with a unique long-term aquatic mesocosm experiment. For more information on the project, click here.

We seek highly motivated and creative individuals with a good command of the English language and with expertise in the areas mentioned.

To apply, email a letter of application, a CV, and the names and email addresses of two referees to Jose Montoya via Dalila Booth (dalila.booth@sete.cnrs.fr).

Review of applications will start immediately until the positions are filled.



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ERC CoG FRAGCLIM: *The Combined Effects of Climatic Warming and Habitat Fragmentation on Biodiversity, Community Dynamics and Ecosystem Functioning*

Jose M. Montoya

Theoretical and Experimental Ecology Station, CNRS, Moulis, France

Climatic warming and habitat fragmentation are the largest threats to biodiversity and ecosystems globally. To forecast and mitigate their effects is the environmental challenge of our age. Despite substantial progress on the ecological consequences of climatic warming and habitat fragmentation individually, there is a fundamental gap in our understanding and prediction of their combined effects.

The overarching goal of FRAGCLIM is to determine the role of climatic warming and habitat fragmentation on biodiversity, community dynamics and ecosystem functioning in multitrophic communities. To this end, I aim at developing a novel integrative and predictive theory to be tested with a unique experimental set-up. FRAGCLIM will be organized around five workpackages in order to maximize feedbacks between new theoretical developments and experimental work:

WP1. Warming effects on non-fragmented ecosystems. How does the temperature dependence of metabolism, growth rates, and biotic interactions determine the effects of warming on biodiversity, food web structure, community dynamics and stability, and ecosystem functioning?

WP2. Habitat fragmentation effects on ecosystems. How does fragmentation and isolation affect dispersal limitation across several trophic levels, and how this in turn alters biodiversity, trophic dynamics, community structure and stability, and ecosystem functioning?

WP3. Combined effects of warming and fragmentation on meta-ecosystems. What are the interactive effects of changing temperatures and increasing isolation and dispersal limitation in the previous community and ecosystem properties over time?

WP4. Evolutionary thermal adaptation to warming: causes and ecosystem consequences. Does thermal adaptation occur in multitrophic communities subject to warming, and how does isolation due to fragmentation modulate thermal adaptation? If so, what are the consequences for community dynamics and ecosystem functioning?

WP5. Mitigation measures for the combined effects of warming and fragmentation. Which theoretical- and empirically-sound environmental policies and restoration practices should be adopted to mitigate the combined effects of warming and fragmentation?

FRAGCLIM proposes an ambitious integrative and innovative research programme that will provide new perspectives on the individual and combined effects of warming and fragmentation in complex meta-communities. FRAGCLIM will greatly contribute to bridging the gaps between theoretical and empirical ecology -by developing innovative research where new theory and experimental tests are developed “in tandem”-, and between ecology and evolution -by determining the feedbacks among ecological and evolutionary responses to climatic warming and fragmentation.

Finally, FRAGCLIM will foster links with applied ecology and environmental policy by providing creative mitigation measures to climatic warming in fragmented systems based upon our theoretical and empirical findings.

Researchers will join a vibrant interdisciplinary research team of empirical and theoretical ecologists, physicists, mathematicians, and computer scientists.

More information:

- CNRS - www.cnrs.fr
- University Paul Sabatier - <http://www.univ-tlse3.fr/>
- SETE - <http://www.ecoex-moulis.cnrs.fr/>
- CBTM - <http://www.cbtm-moulis.com/>
- EcoNetGC - <http://www.econetgc.net/>
- European Research Council (ERC) - <https://erc.europa.eu/>