Service GRH
Ref. 23/26

Vacancy announcement
Two years post-doctoral position in quantitative environmental geography/geomatics
Full-time contract

International Centre for Advanced Mediterranean Agronomic Studies
Mediterranean Agronomic Institute of Montpellier (CIHEAM-IAMM)

The Mediterranean Agronomic Institute of Montpellier (CIHEAM Montpellier), one of the four institutes of the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), is an intergovernmental organization whose mission is the development of higher education and lifelong learning, research and cooperation in the Mediterranean area. Within the scope of the GRANULAR project, CIHEAM Montpellier is looking for a postdoctoral researcher to develop novel indicators and to conduct analyses related to climate neutrality and food systems in EU rural areas.

CONTEXT

GRANULAR (Giving Rural Actors Novel data and re-Useable tools to Lead public Action in Rural areas) is a newly awarded project under the Horizon Europe programme gathering 23 European partners (academic institutes, international organisations, NGOs, rural networks, and local authorities).

This four-year project will generate new insights for characterising rural diversity based on a multi-actor and interdisciplinary approach. Insights from Multi-Actor Labs (MALs) will help modellers to generate novel datasets using a wide range of methods and data, such as remote sensing, crowd-sourced data, mobile phone data and web scraping. This will then be combined with a variety of existing institutional data to derive indicators to measure resilience, well-being, quality of life and attractiveness in rural areas.

GRANULAR will directly contribute to the JRC Rural Observatory and will support concrete policies (both at local and EU levels), by informing rural action with the opportunities and requirements in terms of data-collection methods and indicator development to enhance and support the co-creation and co-learning with multiple actors in rural areas. After ensuring the scalability of the results, datasets, data visualisation and other tools will be made available on a dedicated platform designed by, and for, rural actors and rural policy-makers.

ROLE

The postdoctoral researcher will contribute to developing conceptual frameworks and to derive spatially-explicit indicators and metrics [1] on climate-neutrality of rural communities and on territorial food systems. The aim is to develop frameworks capable of linking different scales (conceptually) and of connecting spatial datasets and indicators to support spatially explicit decision-making in rural areas.

1) Building on existing literature [1, 2, 3, 4], the postdoc will develop a framework with quantitative metrics and indicators to grasp climate-neutrality for rural communities. The framework will consider: (i) ecological resilience (connectivity, ecological corridors, landscape metrics), climate flows and biodiversity; (ii) environmental performance (energy, emissions,

[1] e.g. FORO (https://apps.tereval.fr/foro/#/); ESPON TIA tool (https://tiatool.espon.eu/); CRATER (https://crater.resiliencealimentaire.org/)

planning); and (iii) climate exposure to hazards (fires, floods). To this end, we will leverage different spatial datasets (novel, pre-existing or coming from GRANULAR partners) to derive novel indicators, to which we will apply pattern analysis methods to generate a broader indicator.

2) Building on existing literature [5, 6] and in collaboration with a PhD student, the postdoc will develop a quantitative framework to assess food system sustainability and to define their spatial footprint. The integrated approach will analyse production models, processing and distribution to match local demand, including health-related indicators.

The main tasks of the research will be:

- Compile datasets relevant for climate-neutrality and food systems across EU-27 (includes compilation of Land Parcel Identification Systems).
- Develop quantitative frameworks for analysing climate-neutrality and food systems, considering both local and EU levels for indicators
- Generate indicators, analyses (statistical modelling) and analyse the results of creating maps for several concepts that are relevant for rural areas (at the local level with Living-Labs, and at EU level with JRC/DG-AGRI/DG-REGIO).

The work will be held within the Joint Research Unit TETIS. You will be working mainly with Tristan Berchoux (IAMM), Paolo Prosperi (IAMM) and Carlos Tapia (Nordregio), with other potential international collaborations (Joint Research Centre, Wageningen University, IIASA, Thünen Institute).

ACTIVITIES AND TASKS

- Lead quantitative spatial analyses within the GRANULAR project;
- Design and develop novel frameworks, indicators and tools for spatially-explicit decision-making in rural areas (+ downscaling/upscaling across different territories across EU);
- Possibility to calibrate and validate generated data with data collected in-situ by Living Labs through citizen science (led by IIASA);
- Contribution to the writing of reports and scientific papers;
- Presentation of results within the project and towards the larger scientific community;
- Contribution to the coordination of the project (led by IAMM).

REQUIREMENTS

The postdoctoral researcher must meet the following requirements:

- Background: PhD in quantitative environmental geography or similar.
- Skills: good knowledge in QGIS, scientific programming in R, statistical analysis and modelling, ideally knowledge on Earth Observation.
- Dynamic and collaborative team player, autonomous, proactive and rigorous.
- Excellent English oral and written communication.

JOB SPECIFICATIONS

- Starting date: **April 2023**
- Contract duration: fixed term contract of 12 months once renewable
- Full-time (37,5h per week), remote work possible 2 days a week
- 8 weeks annual leave
- Salary: gross monthly salary ranging between 2000€ and 2400€ based on experience
- Location: IAMM (Montpellier) with occasional travels in different EU member states

SELECTION PROCESS

The application must be written in English and include a CV and a cover letter concerning the scientific activities defined in the job description.

Closing date of the call for applications: **10 April 2023**

The application file must be sent by email with the following object "[GRANULAR] (WP4) QuantGeo Post-doctoral Vacancy" to the following address: emploi@iamm.fr

Please contact Tristan Berchoux (berchoux@iamm.fr) for any question regarding the position and the scientific missions.

[1] Bradfer-Lawrence T., et al. (2021). The potential contribution of terrestrial nature-based solutions to a national 'net zero' climate target. Journal of Applied Ecology. https://doi.org/10.1111/1365-2664.14003

[2] Gumucio T., et al. (2020). Gender-responsive rural climate services: a review of the literature. Climate and Development. https://doi.org/10.1080/17565529.2019.1613216

[3] Bausch T., Koziol K. (2020). New Policy Approaches for Increasing Response to Climate Change in Small Rural Municipalities. https://doi.org/10.3390/su12051894

[4] OECD's Rural Agenda for Climate Action. https://www.oecd.org/regional/rural-development/Rural-Agenda-for-Climate-Action.pdf

[5] Allen T., Prosperi P. (2016). Modeling Sustainable Food Systems. Environmental Management. https://doi.org/10.1007/s00267-016-0664-8

[6] Vicente-Vicente J., et al. (2021). Foodshed, Agricultural Diversification and Self-Sufficiency Assessment: Beyond the Isotropic Circle Foodshed. Agriculture. https://doi.org/10.3390/agriculture11020143