

## **Two MSCA-Funded PhD positions within the project *Dryland Agriculture and Land Use; Past, Present and Future Resilience (AGRI-DRY)***

- 1) *Changing Land Use over the Holocene: Mediterranean and North Africa;***
- 2) *Resilience of traditional and ancient agricultural landscape.***

We invite applications for two fully funded, full-time, 3-year PhD positions in the context of an MSCA-DN (101120560) project titled: *Dryland Agriculture and Land Use; Past, Present and Future Resilience (AGRI-DRY)*. The students will be enrolled at Universitat Pompeu Fabra (Barcelona, Spain) and will receive a PhD degree in History.

The successful candidates will be based at the Department of Humanities at Universitat Pompeu Fabra. The projects will be carried out within the Culture and Socio-Ecological Dynamics research group ([CASEs](#)), led by Marco Madella. CASEs research group approaches the study of the human past by developing research beyond disciplinary boundaries and combining visions from both archaeology and the natural sciences. The doctoral students will be integrated into the research group and exposed to a lively, international, and productive research environment.

### **1. Further details about the PhD topics**

[AGRI-DRY](#) (Dryland Agriculture and Land Use; Past, Present and Future Resilience) aims to develop an interdisciplinary approach to traditional crop cultivation through the recognition of the complementary value of cultural heritage and sustainable living. Human cultural development is inextricably linked with the development of agriculture, and the key role of traditional knowledge of indigenous people and local communities for ecosystem management and sustainable use of resources is now recognized, in light of climate change.

Our international network project AGRI-DRY will train 10 doctoral candidates in new interdisciplinary approaches to examine three interlinked research questions: how and why have agricultural systems emerged; what were the impacts of these systems; what can be learnt from these ancient and traditional agricultural systems. Our emphasis is on drylands, using the Mediterranean Basin, North Africa and the Sahara, and Southern Africa as our main geographic focus.

AGRI-DRY aims to bring about a significant reorientation of European and African doctoral training in traditional agriculture. The change will involve both substance and approach. The substance is the strong focus on rigorous techniques for interdisciplinary research. The approach is the emphasis on both research and applicative work, through the participation of both academic and advocacy and policy-making institutions. AGRI-DRY represents a unique opportunity for European young researchers to enjoy a wide array of training opportunities that will be competitive with the best programmes offered outside Europe.

#### **1.1. PhD project *Changing Land Use over the Holocene: Mediterranean and North Africa***

The objectives of the PhD project *Changing Land Use over the Holocene: Mediterranean and North Africa* are: State of the art land use modelling. To collate dated and undated archaeological sites across space/time using existing databases and published information. To quantify land transformed by agriculture and other land use, calculate overall per capita land use values. To calculate loss of CO<sup>2</sup> from land usage over time and compared with modelled land data.



This specific PhD project will provide (i) an assessment of prehistoric and historic land use change over time and comparison with the HYDE model; (ii) estimate of CO<sup>2</sup> loss from prehistoric and historic land use change. As part of the PhD programme, two secondments will be considered, one at University of Pennsylvania (United States) to learn about land use classification and quantification systems, and one at the University of the Witwatersrand (South Africa) to learn about how traditional practices and landscape modifications impact land use change and agricultural productivity.

The student will gain training in land use classification and quantification systems, synthesising and modelling of land use data, traditional practices and landscape modifications, impact of land use change and agricultural productivity. The main supervisor of the PhD project will be Stefano Biagetti.

## **1.2. PhD Project *Resilience of traditional and ancient agricultural landscapes***

The objectives of the PhD project *Resilience of traditional and ancient agricultural landscapes* are: State of the art resilience theory and application. Developing estimates of resilience of agricultural systems in drylands. To understand the human-environment dynamics of ancient/traditional agricultural landscapes.

This specific project will provide (i) identification of resilience attributes for past (pre- and historical) agriculture in drylands; (ii) assessment of resilience for agricultural land use in drylands; (iii) incorporation of deep history resilience thinking in policy making. As part of the PhD programme, two secondments will be considered, one at the Botswana Society (Botswana) to learn mechanisms through which traditional societies create resilient agricultural systems, and one at University of Aarhus (Denmark) to create models to test resilience theoretical framework.

The student will be trained in developing theoretical models and testing such models with data and ABMs. The main supervisor of the PhD project will be Marco Madella.

## **2. Key responsibilities**

The successful candidates will be expected to:

- Participate in geo-ethnoarchaeological fieldwork in remote areas, requiring a high capacity for adaptation.
- Complete a successful PhD thesis within the project.
- Attend the training workshops, seminars and conferences organized within the framework of the AGRI-DRY project.
- Publish in high-impact journals.
- Present their research in relevant academic conferences.

## **3. Profile of candidates**

Candidates must have:

1. A Master's degree in one of the following fields: Archaeology, Geography, History, Earth Sciences.
2. Excellent oral and written English.



Desirable skills (preferred but not required):

1. Proficiency in GIS (Geographic Information Systems) software.
2. Experience in coding, particularly in languages such as R and Python.
3. Familiarity with geostatistics.

The selected candidates will be required to enroll at UPF's [PhD School](#), and must fulfill the pertinent admission requirements at the time of enrollment.

In addition, candidates must comply the specific MSCA requirements:

1. Applicants must not have resided or carried out their main activity (work, studies, etc.) in the country of the recruiting beneficiary (host institution) for more than 12 months in the 36 months immediately before their recruitment date.
2. Applicants must be doctoral candidates, i.e. not already in possession of a doctoral degree at the date of the recruitment.

Applicants of all nationalities are welcome to apply. We specifically encourage women and minority candidates, as well as researchers with family obligations and/or special needs, to apply.

#### **4. Terms and Conditions**

The selected candidates will be employed under a fixed-term, full-time contract at Universitat Pompeu Fabra, with a gross monthly value of approximately €2.862 (for candidates without family obligations) or €3.372 (for candidates with family obligations). The estimated gross salary is calculated based on European Union requirements and adjusted according to specific country factors. Final salary adjustments are subject to the policies of the local institution. The successful candidates will also have access to funding for conference participation.

A good command of English is mandatory. While knowledge of Spanish and Catalan is not a requirement, the successful candidate will be encouraged to acquire at least minimal competence in one of these languages to participate in locally organized events.

The successful candidate will have a working space at the Universitat Pompeu Fabra, in the Mercè Rodoreda building, Campus de la Ciutadella, in a shared office with other members of the group.

Starting date: October 1st, 2024.

#### **5. Applications**

Applicants must submit:

1. Photocopy of ID card/Passport/NIE.
2. Copy of academic qualifications.



3. An academic *curriculum vitae*.
4. A statement of interest.
5. A transcript of the grades obtained in the Master's degree.
6. The names and email addresses of two academic referees.

Applicants must apply at: <http://apply.interfolio.com/146994>

## 6. Deadline for applications

June 30th, 2024, 23.59h. (CEST)

## 7. Selection process

The selection process will be divided in two phases.

1. The first phase will consist of an evaluation of the merits of each candidate, an evaluation for which his/her presence will not be necessary.

The evaluation of the various applications will be based on the following criteria (out of a total of 25 points):

- Demonstrable experience in geo-ethnoarchaeological research (1-5).
- Participation in international projects (1-5).
- Relevant scientific publications (1-5).
- Excellent command of English (1-5).
- Knowledge of GIS, coding, and geostatistical techniques and ability to apply them (1-5).

2. Candidates who scored at least 15 points in the first phase will participate in the second phase, which will consist of a personal interview and will be scored on a total of 20 points.

The minimum score for passing the selection process is: 30.

The results of each phase will be posted on the Universitat Pompeu Fabra website: <https://www.upf.edu/web/humanitats/convocatories-obertes>.

## 8. Information

For academic questions about the project and the position, please do not hesitate to contact Marco Madella ([marco.madella@upf.edu](mailto:marco.madella@upf.edu)) or Stefano Biagetti ([stefano.biagetti@upf.edu](mailto:stefano.biagetti@upf.edu)). For practical information about the position and the application process, please contact [seleccio.humanitats@upf.edu](mailto:seleccio.humanitats@upf.edu).



## 9. Data processing activity

**Data controller:** Universitat Pompeu Fabra

**Purpose:** Management of candidate selection processes for teaching and research staff (PDI).

**Rights:** Access your data, request their rectification, deletion and their portability; object a processing or apply for its limitation.

[Further information](#)

