

## 4-year PhD contract at EEAD-CSIC, Zaragoza within project GENOBAR

Recently funded project PID2022-142116OB-I00 “**Genetics and pangenomics for Mediterranean barley adaptation to abiotic stress, pre-breeding and breeding**” will continue our research on barley adaptation, delivering genomic resources and plant materials at different levels of the Mediterranean barley pre-breeding pipeline.

We offer a 4-year FPI PhD contract at [EEAD-CSIC](#) to help you develop your skill set in computational and plant biology and breeding. Your supervisors will be [Bruno Contreras Moreira](#) and [Ana M Casas](#). The offer includes salary for the 4 years, university fees, funding for short research stays and national health insurance.

This contract is an excellent opportunity for students seeking to advance in the use of genomics approaches to study natural genetic diversity and gene function. The research involves experimentation with plants in the field and greenhouse, wet lab and bioinformatics. It will be carried out with barley, a species of high economic and social interest for our country, but the skills learned will be transferable to any species. Check out our [GitHub](#) and our [blog](#) for more info. Track record: 7 people completed PhDs with us in the last 10 years, 5 remain in academia and 2 work in the industry.

Candidates must have a Bachelor’s and a Master’s degree related to Biology or Agronomy and ideally some experience in writing code and data analysis.

The work plan has three goals:

1. Construction of a Mediterranean barley pangenome. This will require genomic data analysis in the Linux command-line, R and Python programming and data analysis. This will be done in collaboration with Agostino Fricano ([CREA](#), Italy).
2. Discovery of gene expression signatures of Mediterranean barleys. This will require preparation of RNA samples and analysis of sequenced transcriptomic data.
3. Evaluation of phenotypic and transcriptomic responses to drought in selected barley genotypes. This experiment will be done in a new in-house high-throughput phenotyping facility (see pic).

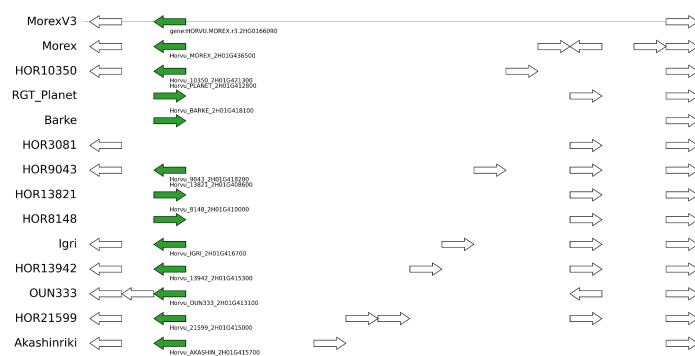
## DEADLINES

- July-August 2023: pre-screening of candidates and remote interviews
- Application process will be open in September 2023
- Job is expected to start at the end of 2023 or early 2024 (more details after summer break)

**CONTACT:** Email [bcontreras@eead.csic.es](mailto:bcontreras@eead.csic.es) / [acasas@eead.csic.es](mailto:acasas@eead.csic.es) with a PDF document including a) cover letter, including any references; b) resumé; c) BS and MS transcripts including average grades.



Plantarray, University Goettingen, Photo: Dewi



Gene HvCEN (green) in the context of the barley pangenome.