

## PHD CONTRACT ON DOMESTICATION

The **APG Lab (Ancient Population Genomics)** in Barcelona offers a **4-year PhD contract** associated to the new project “Genomic changes underlying domestication: novel hypotheses based on edible insects mass-reared within the EU” (DOMEUINSTICATE; PID2022-142607NA-I00) funded by MCIN/ AEI /10.13039/501100011033/ and by “ERDF A way of making Europe”.

**Project.** Palaeogenomics has revealed when, where and who domesticated traditional livestock. What molecular pathways and evolutionary mechanisms trigger domestication, however, is still an open and hotly-debated question. This proposal will leverage edible insects as innovative model, to directly monitor a new wave of domestications for first time in history. Insects sampled forward in time will be co-analyzed together with specimens from entomological collections, representing past archives of genetic diversity. The resulting time-stamped genomic series will document the evolutionary trajectory of four lines of *Tenebrio molitor*, prior to and during their domestication, based on often-ignored dimensions of diversity, including nucleotide, epigenome and structural variation. The PhD candidate will be in charge of analyzing the genomic data sets to identify shifts in natural selection, associated with early and later domestication stages, a task that will include the implementation of novel computational methods tailored to ancient DNA.

**The group.** The APG group is led by Dr. Pablo Librado, who recently joined the Institute of Evolutionary Biology (IBE, CSIC-UPF) <https://www.ibe.upf-csic.es>. The group is aimed to be moderate in size, international and be characterized by a constructive and motivating environment, socially and scientifically. The IBE hosts an ancient DNA laboratory, and the PhD candidate will benefit from dedicated computing resources within the group, and from a senior technician who will be generating experimental data (the candidate will be also invited to become familiar with laboratory procedures). DOMEUINSTICATE additionally involves a team of bright international collaborators, hands-on experts on ancient and population genomics. Together, this warrants access to all needed resources to focus on learning, thinking and producing a high-quality PhD, paving the way for flourishing as a fully-trained investigator.

**Candidates.** Should be genuinely passionate for evolutionary questions, interested in successfully developing a PhD on population genomics and domestication. Other than this, requirements are: 1) Having completed a bachelor and master’s degree related to Biological Sciences, in a broad sense and 2) good English and social skills. Knowledge on bioinformatics (programming), population genomics, ancient DNA and statistics are also welcomed, as will be needed, but will be perfected during his/her PhD.

### What do we offer?

- A 4-year predoctoral contract. Gross salary between 17.000 (first year) and 23.000€ (last year).
- Additional funding to cover tuition, research secondments abroad, and publication costs.
- On top, money from the project will be used for enrolment in courses and workshops, attending to congresses, fieldwork, etc.



**Timeline.** The contract needs to be in place before the end of 2023 (and possibly even before, depending on official publication of the bases). Thus, candidates are encouraged to apply before 11<sup>th</sup> September.

**Expression of interest.** If you are interested, please send to Pablo Librado ([pablo.librado@ibe.upf-csic.es](mailto:pablo.librado@ibe.upf-csic.es)) a brief letter of motivation, CV, and the BS and MS academic record (with average grades indicated).

**Selection process.** The formal selection of candidates will be done through a future CSIC call under the [call criteria](#): up to 50 points for academic and scientific/technic trajectory, and up to 50 points for candidate adequacy to the research.