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“Evolutionary genomics of a model organism: biogeography of Arabidopsis thaliana and rapid, parallel adaptation on oceanic islands”

Wednesday, 5 February 2020, at 17:00
Building CTF (ΧΩΔ) 01, Room 110, Panepistimioupoli Campus

This seminar is open to the public

Natural variation in model organisms is a vital tool for answering fundamental biological questions. In this seminar, we will use genomic variation in the model plant *Arabidopsis thaliana* to retrieve information about its past evolutionary history. Within the broad framework of evolutionary genomics, I will introduce my two main lines of research. First, I work at the interface between population genomics and biogeography. My analysis of species-wide variation in the model plant *A. thaliana* challenges previously accepted models of the origin and early history of the species, shifting the focus from Eurasia to the African continent. Second, I work on reconstructing the action of selection and adaptation using island populations as model systems. I will present our current work on Cape Verde Islands *A. thaliana* where we uncover a striking signature of ongoing positive selection, as well as parallel adaptation across islands. This study combines functional knowledge, phenotype data and population genetics to characterize demographic and adaptive dynamics in natural populations.