CBGP
Centre de Biologie pour la Gestion des Populations

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Salle de réunion + visioconférence Jitsi

INSIGHTS INTO THE ENVIRONMENTAL PRESSURES DRIVING ADAPTATION IN *DROSOPHILA MELANOGASTER*

par

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How organisms adapt to their environment is still an open question in Evolutionary Biology. While several studies in a diverse set of species have contributed to identify genes underlying adaptation, our knowledge on the selective pressures that explain the observed patterns lags behind. *Drosophila melanogaster* is a good organism to study environmental adaptation because this species originated in Southern Africa and has recently expanded worldwide therefore adapted to many different environments. Europe is a continent with a widely range of climate zones, and although it was among the first continents to be colonized by *D. melanogaster*, it has been understudied compared with North America and Australia.

I will present one of the main of my PhD thesis is thus to study the main environmental pressures that drive adaptation by using *D. melanogaster* as organism.

To accomplish it, I will carry out Genome-by-Environment association analyses using whole genome pooled sequences from *D. melanogaster* natural populations collected across different climate zones, different continents, and different time scales. In our approach we will focus on two different classes of genetic variants : Single-Nucleotide Polymorphisms (SNPs) and Transposable Elements (TEs), the latter having been shown to be sources of mutation that introduce genomic variability that can lead to adaptation in natural populations.

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