
MARIE MIROUZE

CV

PARTICIPANT AT:

EVOLUTION OF PLANT PHENOTYPES FROM GENOMES TO TRAITS



March, 17th-18th, 2015, Barcelona

Marie Mirouze, Researcher, Institute of Research for Development, Perpignan, France

Marie Mirouze obtained her PhD at the University of Montpellier, France, under the supervision of Pr. Michel Lebrun, on the molecular characterization of heavy metal tolerance in *Arabidopsis halleri*. She joined the lab of Jerzy Paszkowski in Geneva, Switzerland, and studied the epigenetic control of transposable elements mobility in *Arabidopsis*. In 2011 she obtained a permanent position at the IRD (Research Institute for Development) in France, and I have now joined the Laboratory of Plant Genome and Development in Perpignan. Since 2014 she obtained a starting grant to work notably on the epigenetic control of transposable elements in rice.

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ABSTRACT

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EVOLUTION OF PLANT PHENOTYPES FROM GENOMES TO TRAITS

**March, 17th-18th, 2015, Barcelona****Marie Mirouze**, Researcher, Institute of Research for Development, Perpignan, France**Epigenetic Control of Plant Mobilomes**

Transposable elements (TEs) are major components of eukaryotic genomes. Long considered as parasitic elements, they are now recognized as important drivers of genome evolution. The vast majority of elements forming the TE compartment of a given host genome is controlled by epigenetic factors and thus kept silent. Moreover most TE families are ancient and have accumulated mutations that prevent their movement and/or expression. The repertoire of the potentially mobile TEs or mobilome, representing the elements susceptible to affect genome stability is difficult to identify as the transcriptome does not reflect the mobilome. Our project aims at answering the following questions: What is the fraction of crop genomes that is actively transposing? What are the consequences of TE neo-insertions on the plant phenotype and on the epigenetic regulation of the host genome? How is the host exerting its control on the extrachromosomal fraction of TEs? I will present the tools we are currently developing in Arabidopsis and in crops to track TEs as they move in order to better characterise plant mobilomes and their epigenetic control. This work is funded by the IRD and the French National Agency for Research (ANR-13-JSV6-0002, EXTRACHROM, 2014-2017).

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