

Institute of Integrative Genome Biology Seminar

You are cordially invited to attend:
Lionel Navarro

Institut de Biologie de l'École normale supérieure
(IBENS)



**Small RNA-directed reprogramming of gene
expression in plant-bacteria interactions**

Date: Friday, July 28th

Time: 12:00 - 1:00 pm

Location: Orbach Library 240

Abstract: RNA silencing is an ancestral gene regulatory mechanism that plays a critical role in antiviral defense. This regulatory process controls several other biological processes, including resistance against phytopathogenic bacteria. Here, I will first present how small RNA-directed DNA methylation and active DNA demethylation transcriptionally regulate *Arabidopsis* immune-responsive genes during antibacterial defense. I will also report on the natural DNA methylation variation at active demethylase targets and on its consequence on gene expression. In the second part of my talk, I will present recent findings demonstrating the occurrence of a cross-kingdom RNA silencing phenomenon implicating the trafficking of active small RNAs from plant cells towards bacterial cells. In particular, I will describe the different plant extracellular small RNA species that are involved in this gene regulatory process.