



Colloquium

Institute Colloquium: Exploring the genotype-phenotype map in Arabidopsis

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Host:

Plants display remarkable developmental and genetic adaptation to their environment. It has long been postulated that epigenetics plays a key role in these processes, but with few exceptions, solid evidence is lacking. A key impediment to understanding these processes is the lack of information on the extent of epigenetic variation and how it relates to genetic and phenotypic variation. Here we investigate DNA methylation variation in Swedish *Arabidopsis thaliana* accessions, demonstrating that methylation of transposable elements is temperature sensitive and associated with genetic polymorphism in both cis and trans, whereas gene body methylation is highly correlated with climate of origin and associated with genetic polymorphism in trans that shows evidence of local adaptation. While genome-wide surveys of naturally occurring DNA methylation have been published previously, the degree of genetic control revealed here is unprecedented. Furthermore, the observation that DNA methylation is associated with climate, and is apparently adaptively important, is completely novel. Our findings provide a basis for further dissecting the molecular genetic basis of epigenetic variation, and its role in adaptation.

Monday, June 16, 2014 04:30pm - 05:30pm

Raiffeisen Lecture Hall, Central Building



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: <https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.