

CIGENE seminar series

Speaker: Michel Moser – New postdoctor at CIGENE | BIOVIT | NMBU

Title: "Genomic insights into pollinator adaptation in Petunia"

Abstract:

In order to adapt to a new pollinator, a multitude of phenotypic changes in the flower of a plant species are required. Nevertheless, such transitions between pollinators have been observed frequently in angiosperms.

In the long-tubed clade of Petunia (Solanaceae), two closely related species have adapted to different pollinators.

To unravel the genetic changes and evolutionary history involved in pollinator adaptation, their genomes have been sequenced and assembled using a variety of sequencing techniques (Illumina, PacBio and optical mapping).

Chromosome-level genomes could help to identify underlying genes of three QTL loci of major effect for adaptive flower traits between the species.

Additional shallow sequencing and genome-wide scans of divergence using a natural hybrid population between the two Petunia species revealed all of the loci to be under strong linkage disequilibrium and sitting in an large region of increased differentiation.