- Faculté des sciences
- www.unine.ch/sciences

Plant molecular genetics + labs (3BL2273)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en biologie	**Cours: 7 dj**	**Voir ci-dessous**	3

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

Période d'enseignement:

- Semestre Printemps

Equipe enseignante

Prof. J. VERMEER + assistants

Contenu

Plants produce a wide array of molecules to interact and react to the surrounding environment. The production of this arsenal of small molecules
requires enzymes. Often a new enzyme is discovered that is important for the biosynthesis of a small molecule. But how can we find out whether this enzyme really is important in a living plant? To address this key question we will use the reverse genetic toolbox, using the genetic model plant Arabidopsis thaliana. We will isolate an Arabidopsis line containing a genetic mutation that specifically affects the expression of a protein of interest. This will be done by segregation analysis on selection media and diagnostic PCR (polymerase chain reaction). We will then compare the mutant plants with the wild type using a variety of methods ranging from phenotypic characterization to metabolomics analysis.

Forme de l'évaluation

CA (graded)
Discussion with each student of the work performed during the TP with questions on the methods employed and the rationale of the experiments.
The students are allowed to use their notes and lab-books during the discussion.

If the discussion and the TP participation are judged to be insufficient a written report of the TP will be demanded to be validated at the following exam session.

Documentation

Available on Moodle

Pré-requis

Bachelor en Biologie

Forme de l'enseignement

Practical course. Students will perform a set of experiments and will need to interpret the obtained data. Background information is provided on the Moodle platform and via lectures.

Objectifs d'apprentissage

Au terme de la formation l'étudiant-e doit être capable de :

- Write a lab journal.
- Interpret data.
- Carry out experiments.
- Organise working in a team.
- Analyse results.

Compétences transférables

- Present scientific data.
- Work in a team.