

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

### Biosynthesis and function of secondary compounds (3BL2212)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en biologie (*)</b>	<b>Cours: 7 dj</b>	Voir ci-dessous	4

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

#### Période d'enseignement:

- Semestre Printemps

#### Equipe enseignante:

Profs  
KESSLER Felix  
NEUHAUS Jean-Marc  
MA  
Paolo Longoni

#### Objectifs:

To learn about the biosynthesis and function of secondary compounds in the context of chemical ecology

#### Contenu:

Plants defend themselves against their enemies using small molecules ("chemical weapons"). They also interact with their friends using similar small molecules. Often these belong to the large classe of secondary compounds, the terpenoids, alkaloids and the phenylpropanoids. In the "The basics of chemical ecology" you have heard about spectacular examples of plants using secondary compounds to defend themselves against insects. In this course, we will dissect how secondary compounds are synthesized. Often this involves many steps that constitute complex biosynthetic pathways. Some of the steps may be regulated allowing to turn a pathway up or down. Apart from the role of small molecules in plant defense, they play important roles in chemical ecology phenomena that include seed dissemination, pollinisation, allelopathy, partner choice, mutualisms, resource allocation, and others. We will pick particularly exciting examples to discuss the function and modes of action of such secondary compounds at the molecular level.

#### Forme de l'évaluation:

written exam, 2 hours, combined with Basics of chemical ecology.  
Questions will be related to two articles presented and discussed during the course, but not to your own article

#### Documentation:

Will be available on Claroline

#### Pré-requis:

Bachelor in biology

#### Forme de l'enseignement:

Lecture, presentation by the students and discussion of original articles dealing with biosynthesis and ecological functions of secondary compounds

(\*) Cette matière est combinée avec d'autres matières pour l'évaluation