

3.0 credits

24.0 h + 12.0 h

2q

Teacher(s) :	Batoko Henri ; Chaumont François ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	<p>Genome sequencing and proteomics approaches allow for the global complement of genes and proteins of a species to be studied. State-of-the-art strategies and experimental methods will be described and illustrated by examples. Descriptive genomic will put emphasis on specific characteristics of plant species (genes, transcripts, proteins, intergenic regions, transposons); comparative genomic will highlight the structure and organisation of plant genomes and their evolution; functional genomic will detail the means to characterise particular genes or agronomic traits (quantitative trait loci).</p>
Aims :	<p>The course aims at giving an in-depth view of plant molecular genetics and genomic through selected examples from the recent scientific literature.</p> <p>The objective is to understand how knowledge gained from systematic genome sequencing and proteomics projects can be exploited in order to:</p> <ul style="list-style-type: none"> - unravel the complement of gene transcripts (transcriptomic) or proteins (proteomic) of a given tissue or organ - compare genomes and study their origin and evolution - apprehend genes and proteins function. <p>At the end of the course, each student should be able to master and explain the strategies and methods used in genomics and molecular biology to investigate plant physiology, initiate new hypothesis and experimental designs to answer biological questions related to plant functioning.</p> <p><i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i></p>
Content :	<p>The course includes 24 hours of formal lectures.</p> <p>The reading list includes selected text books, up-to-date published reviews and research papers.</p> <p>As a working exercise to evaluate and summarise scientific findings related to areas covered by the lectures, the course exam also requires each attendee to critically analyse in details a proposed scientific paper. This work will be presented orally to the lecturers and other attendees followed by a general discussion.</p>
Other infos :	<p>Background requirements: Basic courses in molecular biology, genetics, plant biology and physiology</p> <p>Course exam: (1) an oral presentation of a critical review of a scientific paper proposed by the lecturers and (2) a questions and answers session reflecting the paper's findings and knowledge from the course.</p> <p>Course supporting material: A copy of the PowerPoint presentations will be made available from i-Campus shareware.</p>
Cycle and year of study :	<p>> Master [60] in Biology</p> <p>> Master [120] in Biology of Organisms and Ecology</p> <p>> Master [120] in Agricultural Bioengineering</p>
Faculty or entity in charge:	BIOL