PAB4104

Plant and AgriBiotechnologies

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Interests: plant development and adaptation, epigenetics, chromatin. http://www.farronalab.org/

Module Description:

This module provides an advanced understanding of plant and agri-biotechnologies. Such biotechnologies encompass a wide range of technologies and they can be applied for a range of different purposes, such as the genetic improvement of plant varieties and animal populations to increase their yields or efficiency; genetic characterisation and conservation of genetic resources; plant or animal disease diagnosis; vaccine development; and improvement of feeds. Some of the technologies may be applied to all the food and agriculture sectors, such as the use of molecular DNA markers or genetic modification, while others are more sector-specific, such as tissue culture (in crops and forest trees), embryo transfer (livestock) or triploidisation and sex-reversal (fish). When appropriately integrated with other technologies for the production of food, agricultural products and services, biotechnology can be of significant assistance in meeting the needs of an expanding and increasingly urbanised population.

Learning Outcomes:

- LO1 To provide an advanced understanding of the range and applications of plant and agricultural biotechnologies for meeting human needs.
- LO2 To be able to describe plant and livestock improvement strategies using biotechnological approaches.
- LO3 To consider how biotechnological approaches can be used to meet agricultural and sustainability challenges.

Students' Testimonials

It was interesting to receive lectures from a number of different people working in different areas. There was a wide range of topics but some of them overlapped a bit which was nice. I also liked the MCQ and exam split. I think it was a good idea.

The delivery of the module was special. I have never had so many different lecturers for a module before. I enjoyed being there as every lecture was completely different and the concept + technologies discussed were a very interesting topic.

Lecture Topics

A diverse range of topics about plant and agribiotechnology will be presented by experts in these topics. Topics such as novel breeding techniques, plant in vitro culture, vaccines and diagnosis, plant biofactories, animal microbiome, and plant phenomics will be discussed during the lectures given the students the opportunity to be exposed to a variety of topics in this highly multidisciplinary field.

Module Assessment:

Continuous assessment

MCQ – the first 5 lectures of the module will be assessed through an MCQ on Canvas. Weight: 30% of the final mark.

Written Exam

Exam – The written exam will have 5 questions to answer 3 in essay style. Weight: 70% of the final mark.

Who are the lecturers?

The lecturers are experts in each of the topics that will be discussed during the lectures. Therefore, the students will acquire the most up-to-date knowledge in these topics and will have the opportunity to discuss with the experts.