

## **Module: Virulence and Resistance**

**Module coordinator: Catherine Gaudy-Graffin**

### **Module outline :**

Initial lectures for this module will highlight different mechanisms of virulence associated with disease pathogenesis for a selection of important pathogens in humans, animals or plants. Subsequent lectures and tutorials will give students an understanding of the mechanisms of antimicrobial resistance occurring in various viruses, bacteria and fungi. Treatment options for a number of important pathogens in humans and animals will be discussed.

### **Topics :**

#### **Virulence :**

- Bacterial virulence
- HCV and HIV diversity and escape
- Role of accessory protein of HIV in the viral pathogenesis
- Virulence of apicomplexan parasites
- Virulence of parasitic nematodes of animals and plantes
- Pathogenic mechanisms in plant-parasit bacteria
- Pathogenic fungi
- Non conventional pathogens

#### **Resistance :**

- Introduction to anti-infectious chemotherapy
- Viral resistance (HIV, HCV, *Herpesviridae*)
- Mechanisms of bacterial resistance
- Nematode resistance
- Antifungal drugs and resistance mechanisms

### **Learning : 4 ECTS**

- Lectures: 40h
- Tutorials: 5h
- Independent work: 55h

### **Assessment :**

- 50% Oral presentation of a scientific article
- 50% Written exam