

## **Module: Host-Pathogen Interactions**

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### **Module outline:**

This module will cover the molecular and cellular mechanisms of host-pathogen interactions. The student will learn various mechanisms underlying virus morphogenesis, pathogens entry and trafficking in infected cells, cell-to-cell spreading. More specific interactions such as the DNA damages induced by some virus will also be discussed. This overview given on the molecular and cellular host-pathogen interactions will provide the students with the basic knowledges necessary to understand how these interactions can lead to clinical disease.

### **Topics :**

- Virus entry
- Virus trafficking and interactions with cytoskeleton
- Morphogenesis of enveloped viruses (*Retroviridae*, *Herpesviridae*, *Hepadnaviridae*, *Flaviviridae*),
- Viral spreading from cell-to-cell
- Viruses and DNA damages
- Virus and autophagy
- Bacterial adhesion mechanisms
- Interactions between bacteria and cytoskeleton
- Interactions between bacteria and their host : secretion systems
- Parasitic invasion

### **Learning : 3 ECTS**

- Lectures: 25h
- Tutorials : 5h
- Independent work: 45h

### **Assessment :**

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