

## **Module: Immunology and Immunity of Mucosal Surfaces**

**Module coordinator: Isabelle Dimier-Poisson**

### **Module outline:**

In this module, the fundamental aspects of innate and adaptive immunity will be taught. These two topics are central to understanding the host's interaction with an environment containing a wide range of potentially pathogenic microorganisms. The major role played by the dendritic cells at the interface of the innate and adaptive immune responses will be a major focus of interest. Practical works will complement this teaching by examining the humoral and cellular responses induced by a *Toxoplasma gondii* infection (ELISA, cytokine dosages, FACS analyses)

### **Topics :**

- Innate response,
- Toll like receptors
- Dendritic cells (presentation, subsets, functions)
- Natural killer cells,
- Macrophages,
- Mucosal barrier, mucosal lymphoid tissues,
- Antiviral immunity, anti parasitic immunity, antibacterial immunity,
- Gut inflammatory diseases
- Quantification of humoral response, Cytokine dosage after splenocyte restimulation, Cell phenotyping

### **Learning : 5 ECTS**

- Lectures: 35h
- Practices: 30h
- Independent work: 60h

### **Assessment :**

- 40% Oral presentation of a scientific article
- 40% Written exam
- 20% Scientific report on the practical courses