



Institut Pasteur

# Innate Immunity

## massive open online course

[Register here](#)

**Registration ends:**  
June 11 2017

**Classes start:**  
May 2 2017

**Estimated effort:**  
2.5 hours/week

**Classes end:**  
June 11 2017

## Course syllabus

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### **Week 1: Cellular players - part 1**

Macrophages  
Neutrophils  
NK cells  
NKT cells  
Innate lymphoid cells

### **Week 2: Cellular players - part 2**

T  $\gamma/\delta$  lymphocytes  
Th17 lymphocytes  
Treg lymphocytes  
Dendritic cells  
Mast cells

### **Week 3: Molecular players - part 1**

PAMPs  
DAMPs (alarmins)  
PRRs : TLR  
PRRs : NLR  
PRRs : RLR

### **Week 4: Molecular players - part 2**

The complement system  
Cytokines  
Chemokines  
Anti-microbial peptides

### **Week 5: Host-pathogen interactions**

Anti-infectious role of cytokines  
Innate immunity and bacterial infection  
Innate immunity and viral infection  
Innate immunity and parasitic infection  
Innate immunity against fungal infection  
Microbial strategies against the immune system  
Mucosal innate immunity

### **Week 6: Regulation of innate immune response**

Sepsis/ an overwhelmed innate immune response  
Influence of microbiota on innate immunity  
Regulation of the immune system by the nervous system  
Links between innate and adaptive immunity  
Evolutionary genetics of the human innate immune system  
Trained innate immunity