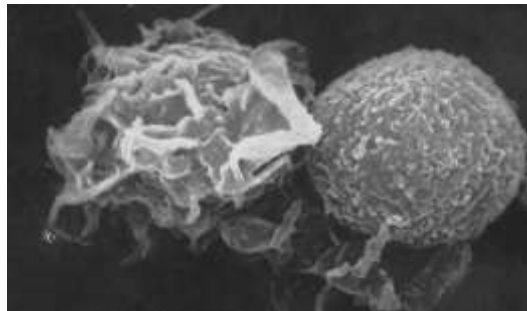


# INNATE IMMUNITY and INFECTIOUS DISEASES



**PROGRAM 2016-2017**

# INNATE IMMUNITY AND INFECTIOUS DISEASES

## COURSE

*(from April 10 to April 25, 2017)*

**This two and half week long course offers lectures on the players and on the mechanisms of the innate immune system and inflammation involved in the defense of the host against pathogens.** It also offers lectures on the new tools allowing to study of the immune system.

After the discovery of phagocytosis, 135 years ago by Elie Metchnikoff, innate immunity underwent a rebirth following the discovery of the “pattern recognition receptors” awarded by the Nobel Prize in 2011.

The understanding of the mechanisms that control infectious insults have been deciphered these last years, and a precise role of each of the players is now better understood.

Not only innate immunity is common to all animal species, but for those which also have at their disposal an adaptive immunity, the contribution of innate immunity is a prerequisite for its involvement.

Most recently, a memory in innate immune system has been described and contributes to better innate and adaptive responses.

This course is aimed to offer the most up-dated information on the cellular and molecular players of innate immunity, and on the mechanisms that lead to the elimination of the pathogens, either of bacterial, viral, fungal or parasitic origin.

Because innate immunity is closely intricated with inflammation, the involvement of innate immunity with diseases will also be addressed.

Finally, up-to date tools to study the innate immune system will be presented

*Co-directors*

**Jean-Marc CAVAILLON**  
Unit Cytokines & Inflammation  
Institut Pasteur, Paris

**Daniel SCOTT-ALGARA**  
Unit Cytokines & Inflammation  
Institut Pasteur, Paris

## Monday, 10 April

9:00 - 9:45	Welcome	<b>Registrar's office</b>
	General Introduction	<b>Jean-Marc Cavaillon &amp; Daniel Scott-Algara</b> (Institut Pasteur, Paris)

### Historical Background

9:45 - 10:30	From miasma to bacteria & Once upon a time inflammation	<b>Jean-Marc Cavaillon</b> (Institut Pasteur, Paris)
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### CELLULAR PLAYERS

10:45 - 12:00	Macrophages	<b>Jean-Louis Mège</b> (Faculté de médecine Aix-Marseille)
13:45 - 15:00	Neutrophils	<b>Margarita Hurtado</b> (Inserm, Faculté de Médecine, Bichat, Paris)
15:15 - 16:30	NK cells	<b>Daniel Scott-Algara</b> (Institut Pasteur, Paris)
16:45 - 18:00	NKT cells	<b>Maria Leite de Moraes</b> (Univ. Paris-Descartes, Paris)

## Tuesday, 11 April

9:00 - 10:15	Innate lymphoid cells	<b>Gérald Eberl</b> (Institut Pasteur, Paris)
10:30 - 11:45	T $\gamma/\delta$ cells	<b>Marc Bonneville</b> (INserm, Université de Nantes)
13:45 - 15:00	Th17 cells	<b>Xxxx Xxxx</b> (xxx)
15:15 - 16:30	Treg cells	<b>Laurence Weiss</b> (AP-HP, Hôpital Pitié-Salpêtrière, Paris)
16:45 - 18:00	Dendritic cells	<b>Anne Hosmalin</b> (Inserm, Paris)

## Wednesday, 12 April

9:00 - 10:15	Mast cells	<b>Salah Mecheri</b> (Institut Pasteur, Paris)
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### MOLECULAR PLAYERS

10:30 - 12:00	PAMPs	<b>Jean-Marc Cavaillon</b> (Institut Pasteur, Paris)
14:00 - 15:30	DAMPs (alarmins)	<b>Lionel Apetoh</b> (Inserm, UMR, Dijon)
15:45 - 17:15	Innate Immunity in insects	<b>Bruno Lemaître</b> (Ecole polytechnique fédérale de Lausanne)

## Thursday, 13 April

9:00 - 10:30	PPRs: TLR	<b>Jean-Marc Cavaillon</b> (Institut Pasteur, Paris)
10:45 - 12:15	PPRs: NLR	<b>Catherine Werts</b> (Institut Pasteur, Paris)
14:00 - 15:30	PPRs: RLR	<b>Eliane Meurs</b> (Institut Pasteur, Paris)
15:45 - 17:15	Scavenger receptors	<b>Francisco Lozano</b> (Hospital Clinic de Barcelona, Barcelone)

## Friday, 14 April

9:00 - 10:30	Complement system	<b>Loubka Roumenina</b> (Inserm, Centre de recherche des Cordeliers, Paris)
10:45 - 12:15	Cytokines	<b>Jean-Marc Cavaillon</b> (Institut Pasteur, Paris)
14:00 - 15:30	Chemokines	<b>Sofie Struyf</b> (University of Leuven, Leuven)
15:45 - 17:15	Anti-microbial peptides	<b>Jean-Michel Sallenave</b> (Inserm, Hôpital Bichat, Paris)

## Tuesday, 18 April

### *INTERACTIONS HOST - PATHOGENS*

9:00 - 10:30	Anti-infectious role of cytokines	<b>Jean-Marc Cavaillon</b> (Institut Pasteur, Paris)
10:45 - 12:15	Mucosal innate immunity	<b>Nadine Cerf-Bensussan</b> (Inserm, Institut Imagine, Paris)
14:00 - 15:30	Innate immunity and viral infections	<b>Daniel Scott-Algara</b> (Institut Pasteur, Paris)
15:45 - 17:15	Innate immunity and fungal infections	<b>Oumaima Granet</b> (Institut Pasteur, Paris)

## Wednesday, 19 April

9:00 - 10:30	Innate immunity and parasitic infections	<b>Gerald Spaeth</b> (Institut Pasteur, Paris)
10:45 - 12:15	Microbial strategies against the immune system	<b>Geoffrey L. Smith</b> (University of Cambridge, Cambridge)
14:00 - 15:30	Innate immunity and bacterial infections	<b>Philippe Sansonetti</b> (Institut Pasteur, Paris)

### *REGULATION OF THE INNATE IMMUNE RESPONSE*

15:45 - 17:15	Epigenetic control of innate immune response	<b>Alberto Mantovani</b> (Istituto Clinico Humanitas, Milan)
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## Thursday, 20 April

9:00 - 10:30	Nervous system regulation of immune response	<b>Monique Lafon</b> (Institut Pasteur, Paris)
10:45 - 12:15	Links between innate and adaptive immunity	<b>Matthew Albert</b> (Genentech / Institut Pasteur, Paris)
14:00 - 15:30	Microbiota and immune system	<b>Ivo Bonneca</b> (Institut Pasteur, Paris)
15:45 - 17:15	Resolution of inflammation by lipid mediators	<b>Mauro Perretti</b> (Queen Mary University, London)

## Friday, 21 April

9:00 - 10:30	Evolutionary genetics of the human innate immune system	<b>Lluís Quintana-Murci</b> (Institut Pasteur, Paris)
10:45 - 12:15	Innate immunity memory	<b>Jessica Quintin</b> (Institut Pasteur, Paris)

**INNATE IMMUNITY, INFLAMMATION and DISEASES**

14:00 - 15:30	Sepsis & Inflammation	<b>Jean-Marc Cavillon</b> (Institut Pasteur, Paris)
15:45 - 17:15	Bowel diseases	<b>Mathias Chamillard</b> (Institut Pasteur, Lille)

**Monday, 24 April**

9:00 - 10:30	Lung inflammatory disorders	<b>Lhoussine Touqui</b> (Institut Pasteur, Paris)
10:45 - 12:15	Cancer: NK cells: from receptors to the cure of high risk leukemias	<b>Lorenzo Moretta</b> (Pediatric Hospital Bambino Gesù, Rome)

**STUDYING INNATE IMMUNE SYSTEM**

14:00 - 15:30	Parameters influencing the immune response and its study	<b>Jean-Marc Cavillon</b> (Institut Pasteur, Paris)
15:45 - 17:15	Visit of the Museum	

**Tuesday, 25 April**

9:00 - 10:00	Monitoring of immune cells in vivo	<b>Philippe Bousso</b> (Institut Pasteur, Paris)
10:15 - 11:15	Organs-on-chips	<b>Samy Gobaa</b> (Institut Pasteur, Paris)
11:30 - 12:30	Single cell technology and High-throughput analysis	<b>Fabrice Porcheray</b> and <b>Christophe Vedrine</b> (Bioaster, Paris)
14:00 - 15:30	EXAM	
15:45 - 17:15	EXAM	

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# INNATE IMMUNITY AND INFECTIOUS DISEASES COURSE

2016 - 2017

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