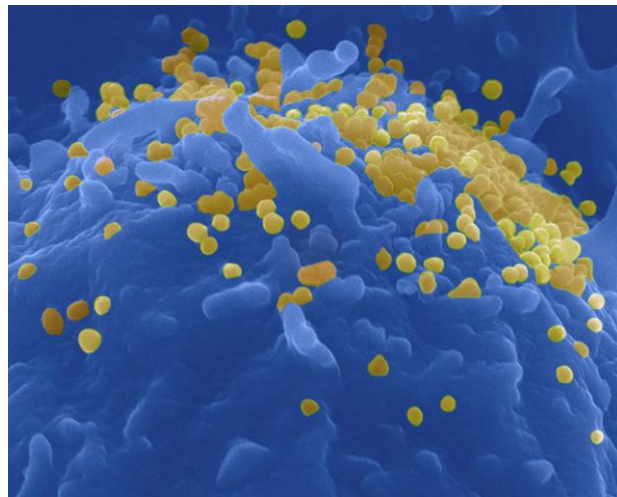


Pasteur course

INNATE IMMUNITY and INFECTIOUS DISEASES



PROGRAM

May 3-21, 2021
Institut Pasteur - Paris

INNATE IMMUNITY AND INFECTIOUS DISEASES COURSE

(from May 3 to May 21, 2021)

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 the immune system.

After the discovery of phagocytosis, 135 years ago by Elie Metchnikoff, innate immunity underwent a rebirth following the new definition of the immune system by Charles Janeway and Polly Matzinger and 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, of either 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
Institut Pasteur, Paris
Agence Nationale de la Recherche

Daniel SCOTT-ALGARA
Unité de Biologie cellulaire
des lymphocytes
Institut Pasteur, Paris

First Week

Monday, 3 May

9:00 - 9:45	Welcome	Monica Sala (executive director of Education department) Virginie Ponticelli – Education Center Catherine Ménard – Education Center
	General Introduction	Jean-Marc Cavailion & Daniel Scott-Algara (Institut Pasteur, Paris)

HISTORICAL BACKGROUND

9:45 - 11:00	From miasma to bacteria & Once upon a time inflammation	Jean-Marc Cavailion (Institut Pasteur, Paris)
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CELLULAR PLAYERS

11:15 - 12:30	Macrophages	Jean-Louis Mège (Faculté de médecine Aix-Marseille)
13:45 - 15:00	Neutrophils	Sylvie Chollet-Martin (Institut Pasteur, Paris)
15:15 - 16:30	NK cells	Daniel Scott-Algara (Institut Pasteur, Paris)
16:45 - 18:30	SELF PRESENTATION OF STUDENTS	

Tuesday, 4 May

9:00 - 10:15	Dendritic cells	Anne Hosmalin (Institut Cochin, Paris)
10:30 - 11:45	Innate lymphoid cells	Gérald Eberl (Institut Pasteur, Paris)
13:30 - 14:45	NKT cells and MAIT cells	Maria Leite de Moraes (Univ. Paris-Descartes, Paris)
15:00 - 16:15	Th17 cells	Mathieu Chevalier (Inserm, Paris)
16:30 - 18:30	SELF PRESENTATION OF STUDENTS	

Wednesday, 5 May

9:00 - 10:15	Treg cells	Laurence Weiss (Hôpital G. Pompidou, Paris)
10:30 - 11:45	Mast cells	Salah Mecheri (Institut Pasteur, Paris)
13:30 - 14:45	T $\gamma\mu\mu\alpha/\delta\epsilon\lambda\tau\alpha$ cells	Julie Dechannet-Merville (CNRS, Université de Bordeaux, Bordeaux)
15:00 - 16:15	Innate B cells	Cécile Benezech (Edinburgh)

MOLECULAR PLAYERS

16:30 - 18:00	PAMPs	Jean-Marc Cavillon (Institut Pasteur, Paris)
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Thursday, 6 May

9:00 - 10:30	DAMPs (alarmins)	Lionel Apetoh (Inserm, UMR, Dijon)
11:00 - 12:30	Innate Immunity in insects	Bruno Lemaître (Ecole polytechnique fédérale de Lausanne)
14:00 - 15:30	PPRs: TLR	Carsten Kirschning (Institute of Medical Microbiology, Germany)
16:00 - 17:30	PPRs: NLR	Catherine Werts (Institut Pasteur, Paris)

Friday, 7 May

9:00 - 10:30	PPRs: RLR	Anastasia Komarova (Institut Pasteur, Paris)
11:00 - 12:30	Anti-microbial peptides	Jean-Michel Sallenave (Inserm, Hôpital Bichat, Paris)
14:00 - 15:30	Cytokines	Jean-Marc Cavillon (Institut Pasteur, Paris)
16:00 - 17:30	Complement system	Lubka Roumenia (Inserm, Centre de recherche des Cordeliers, Paris)

Second Week

Monday, 10 May

9:00 - 10:30 Chemokines **Sofie Struyf**
(University of Leuven, Leuven)

INTERACTIONS HOST - PATHOGENS

11:00 - 12:30 Links between innate and adaptive immunity **Anna Smed Sonensen**
(Karolinska Institutet, Stockholm)

14:00 - 15:30 Mucosal innate immunity **Nadine Cerf-Bensussan**
(Inserm, Institut Imagine, Paris)

16:00 - 17:30 Innate immunity and bacterial infections **Ivo Gompert-Boneca**
(Institut Pasteur, Paris)

Tuesday, 11 May

9:00 - 10:30 Innate immunity and viral infections **Daniel Scott-Algara**
(Institut Pasteur, Paris)

11:00 - 12:30 Innate immunity and fungal infections **Oumaima Granet**
(Institut Pasteur, Paris)

14:00 - 15:30 How bacterial exotoxins target/subvert innate immunity **Laurent Boyer**
(INSERM U1065, Nice)

16:00 - 17:30 Virus immune evasion strategies **Geoffrey L. Smith**
(University of Cambridge, UK)

Wednesday, 12 May

9:00 - 10:30 Innate immunity and parasitic infections **G rard Spaeth**
(Institut Pasteur, Paris)

11:00 - 12:30 Innate immune response to SARS CoV-2 infection **Benjamin Terrier**
(H pital Cochin, Paris)

REGULATION OF THE INNATE RESPONSE

14:00 - 15:30 Monitoring of immune cells in vivo **Philippe Bousso**
(Institut Pasteur, Paris)

16:00 - 17:30 Epigenetic control of innate immune response **M lanie Hamon**
(Institut Pasteur, Paris)

Monday, 17 May

- 9:00 - 10:30 Innate immune cells and metabolism **Agnès Lehuen**
(Inserm, Paris)
- 11:00 - 12:30 Innate immunity memory **Orhan Rasid**
(Institute of Infection,
Immunity & Inflammation,
University of Glasgow)
- 14:00 - 15:30 Microbiota and immune system **Valérie Gaboriau-Routhiau**
(Inserm, Paris)
- 16:00 - 17:30 Resolution of inflammation by lipid mediators **Lucy Norling**
(Barts and the London School
of Medicine & Dentistry, London)

Tuesday, 18 May

- 9:00 - 10:30 Genetic control of innate immunity **Luis Quintana-Murci**
(Institut Pasteur, Paris)
- 11:00 - 12:30 Non-coding RNA in innate Immunity **Dimitris Lagos**
(The University of York, UK)

INNATE IMMUNITY, INFLAMMATION AND DISEASES

- 14:00 - 15:30 inflammatory bowel diseases **Jean-Pierre Hugot**
(AP-HP, Hôpital Robert Debré, Paris)
- 16:00 - 17:30 Atherosclerosis **Marina de Bernard**
(University of Padova, Italia)

Wednesday, 19 May

- 9:00 - 10:30 Sepsis & Inflammation **Jean-Marc Cavillon**
(Institut Pasteur, Paris)
- 11:00 - 12:30 Lung inflammatory disorders **Lhousseine Touqui**
(Institut Pasteur, Paris)
- 14:00 - 15:30 Cancer **Cecilia Garlanda**
(Humanitas University, Milano, Italia)

STUDYING INNATE IMMUNE SYSTEM

16:00 – 17:30 Parameters influencing the immune response **Jean-Marc Cavillon**
(Institut Pasteur, Paris)

Thursday 20 May

9:00 - 10:30 Organs-on-chips **Alessandro Polini**
(CNR Nanotec, Lecce, Italy)

11:00 - 12:30 Humanized mice **Sylvie Garcia**
(Institut Pasteur, Paris)

14:00 - 15:30 Single cell technology and High-throughput analysis **Christophe Vedrine**
(Bioaster, Paris)

16:00 - 17:30 Nervous system regulation of immune response **Monique Lafon**
(Institut Pasteur, Paris)

Friday, 21 May

9:00 - 10:30 Free

11:00 - 12:30 EXAM

14:00 – 15:30 Visit of the Museum

16:00 - 17:00 Results & Party