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Summer school

AMU, NKUA, UB, ULB, UAM, SUR, UT

Infectious respiratory diseases and immunity: Focus on early life period

Faculty of Medicine, Université Libre de Bruxelles (ULB)

21-23 June 2022

Public:

The summer school is designed for master and PhD students, clinicians and scientists who are seeking advanced training in infectious diseases and immunity with a focus on early life.

Thematic interest

Respiratory infections caused by a wide range of microbial pathogens are the most common diseases affecting humans worldwide leading to high rates of morbidity and mortality in childhood and elderly. We propose high standard scientific program focused on micro-organisms affecting airways and host immune response across different ages with particular emphasis on neonatal phase and infancy.

Pedagogical objective

- To provide attendees with basic concepts together with the latest research advances covering different aspects of the subject pertinent to epidemiology, cellular and molecular basis of virulence and pathogenesis, host immune response, control and prevention strategies.
- To allow students to strengthen their interdisciplinary knowledge through cross-cutting themes in an interactive way with a panel of scientific experts.
- To set up a structured stimulation-based training allowing students to acquire new concepts and ideas.

Proceeding format

- Face-to-face (physical mobility) and e-learning presentations will be combined.
- All CIVIS and non-CIVIS PhD students will and can attend the lectures (e-learning).
- Professors will be asked to deliver their presentations in an interactive way with the students using innovative and stimulating audio-visual support.
- Interactive dynamic discussions on specific themes will be proposed: The students will be asked to prepare specific questions based on their PhD projects.

Integration into the doctoral training program: The universities that have already confirmed the approval of the summer school within their pedagogical curricula:

- UAM doctoral school in translational sciences
- UB doctoral school in biology
- ULB doctoral school in Biomedical Science and Pharmaceutic

The validation of the activity within doctoral schools by other universities is underway

Program
21-23 June 2022

21 Juin 2022

1. Epidemiology and risk factors

- **8h30-9h: Epidemiology of respiratory infections**. *Philippe Colson, AMU, Marseilles.*
- **9h-9h30: Temporal trends of morbidity and mortality of lower respiratory infections across the globe.** *Vasiliki Benetou, NKUA, Athens*
- **9h30-10h: Molecular epidemiological aspects of SARS-CoV-2 pandemic**. *Simona Paraschiv, UB, Bucharest*.

10h-10h30: *Coffee Break*

- **10h30-11h: Elective cesarean section and risk for respiratory infections in early life**. *Theodora Boutsikou, NKUA, Athens.*
- **11h-11h30: The impact of maternal obesity and hyperglycemia on the offspring's future health.** *Christina Kanaka-Gantenbein, NKUA, Athens***.**
- **11h30-12h: HIV infection in the lung environment: relevance for respiratory pathogens**. *Ancuța Petronela, UB, Bucharest.*
- **12h-12h30: Respiratory infections during pregnancy and postnatal immunity.** *Nicolas Dauby, ULB, Brussels.*

12h30-14h: *Lunch-Interactive dynamic discussion on specific theme proposed by selected PhD students*

2. Virulence and pathogenicity

- **14h-14h30: Gender difference in susceptibility to infectious respiratory diseases: a clinical point of view**. *Georges Casimir, ULB, Brussels*
- **14h30-15h: Respiratory tract infections in infants and the development of recurrent wheezing**. *Nikos Papadopoulos, NKUA, Athens*.
- **15h-15h30: Biofilms as a pathogenic factor in human respiratory infections**. *Jaime Esteban, UAM, Madrid*
- **15h30-16h: Microbial extracellular vesicles as emerging virulence factors in respiratory tract infections**. *Rafael Prados-Rosales, UAM, Madrid.*

16h-16h30: *Coffee break*

- **16h30-17h: Mycobacterium tuberculosis, a successful pathogen**. *Maria Jesus Garcia, UAM, Madrid.*
- **17h-17h30: Clinical relevance of mycobacterial respiratory infections**. *Jaime Esteban, UAM, Madrid.*
- **17h30-18h: Group A streptococcus infections: From pathogenesis to vaccine strategy.** *Anne Botteaux and Pierre Smeesters, ULB, Brussel*

18h-19h: *Interactive dynamic discussion on specific theme proposed by selected PhD students*

22 Juin 2022

3. Immune response

- **8h30-9h: Gamma delta T cells in early life infection**. *Yohannes Tafesse, ULB, Brussels*.
- **9h-9h30: Myeloid cells and SARS-CoV-2 infection**. *Jean-Louis Mege, AMU-Marseilles*
- **9h30-10h: Induction and resolution of the innate inflammatory response to infectious pulmonary injury.** *Mustapha Chamekh, ULB, Brussels*

- **10h-10h30:** *Coffee break*

- **10h30-11h: Cellular and molecular basis of susceptibility to infection in early life**. *Christian Gille, UT, Tübingen.*
- **11h-11h30: Pattern recognition receptors**: **Keys players in host immune defense**. *Alexander Weber, UT, Tübingen.*
- **11h30-12h: Early life immunity**. **The unbalanced helper T-cell response**. *Véronique Flamand, ULB, Brussels*
- **12h-12h30: The development of the human immune system**. *Vana Spoulou, NKUA, Athenes*

12h30-14h: *Lunch-Interactive dynamic discussion on specific theme proposed by selected PhD students*

4. Prevention (Part 1)

- **14h-14h30: Evolution and vaccine development of SARS-CoV-2**. *Silvia Gomez-Sebastian, UAM, Madrid.*
- **14h30-15h: Impact of face masks: Observational and laboratory studies.** *Riccardo Lubrano, SUR, Roma.*
- **15h-15h30: The importance of breastfeeding and the protective properties of human milk against early respiratory infections.** *Zoe Iliodromiti, NKUA, Athens.*
- **15h30-16h: Evidence-based strategies for prevention of bronchopulmonary dysplasia**. *Tania Siahanidou, NKUA, Athens.*
- **16h-16h30: Rapid and Point-of-Care Testing in Respiratory Tract Infections.** *Grațiela Grădișteanu, UB, Bucharest.*

17h-22h: Social event and friendly dinner

23 Juin 2022

4. Prevention (Part 2)

- **8h30-9h: Maternal immunization for the prevention of respiratory infections**. *Vana Papaevangelou, NKUA, Athens*
- **9h-9h30: Immunization of healthy children against influenza.** *Maria Tsolia, NKUA, Athens*
- **9h30-10h: Vaccination of the premature neonate**. *Nicoletta Iacovidou, NKUA, Athens.*
- **10h-10h30: Best Practices in prevention and vaccination of vulnerable groups**. *Emmanouil Pikoulis, NKUA, Athens.*

10h30-11h: *Coffee break*

5. Cure

- **11h-11h30: Genotypic and phenotypic resistance in respiratory infections.** *Carmen Chifiriuc, UB, Bucharest.*
- **11h30-12h: Guidance for the rational use of antimicrobials**. *Doaa M Gaith, UAM, Madrid.*
- **12h-12h30: Functionalized nanoparticles in the treatment of respiratory infections**. *Alina Holban, UB, Bucharest*.

12h30-14h: *Lunch-Interactive dynamic discussion on specific theme proposed by selected PhD students*

- **14h-14h30: Antibody-based passive therapy.** *Rafael Prados-Rosales, UAM, Madrid.*
- **14h30-15h: Phage therapy for multidrug resistant bacteria**. *Meritxell Garcia Quintanilla, UAM, Madrid.*
- **15h-15h30: Early microbiome-driven interventions and infantile respiratory infections: The novel notion of innate immune training** *Despina Briana, NKUA, Athens*.
- **15h30-16h: Probiotics - alternative to allopathic treatments for prevention and treatment of various diseases**. *Diana Pelinescu, UB, Bucharest.*
- **16h-16h30: Probiotic supplementation in early life**. *Clara Valentin, ULB, Brussels*.

16h30-17h: *Interactive dynamic discussion on specific theme proposed by selected PhD students*