Open Medical Institute Salzburg Medical Seminar: Pandemics

22-26 August 2017
Open Medical Institute
Arenbergstraße 10
Salzburg, Austria

Seminar director
Professor Arnaud Fontanet
Director of Center for Global Health
Director of Epidemiology of Emerging Diseases Unit
Institut Pasteur
Paris, France

Seminar objective
The overall objective of the Pandemics seminar is to provide clinicians with a theoretical and practical understanding of the mechanisms of outbreaks of infectious diseases, how to conduct multidisciplinary investigations in response to outbreaks, how to implement prevention and control measures in clinical settings in order to minimise the impact of an infectious disease outbreak, and the role of national and international health authorities in the management of infectious disease outbreaks.

Seminar structure
The course will be delivered across 3 days, with theoretical seminars in the morning followed by practical and interactive sessions in the afternoon.

Day 1: 23 August 2017
Morning

Emerging diseases: Lessons from history
Arnaud Fontanet
This session focuses on the emergence of diseases over the 20th and 21st centuries, with a particular emphasis on the way in which the emergence of microbes has influenced epidemiological concepts and methodologies, as well as public health actions. This session provides a comprehensive overview of how microbes have emerged, the key factors which have determined their spread in the population, and the measures which have been used to counter their expansion.

Steps in outbreak investigation
Maria Van Kerkhove
This session provides an overview of the principles for conducting infectious disease outbreak investigations: how to define an outbreak; confirm diagnoses; define a case; search for cases; generate hypotheses using descriptive findings; test hypotheses using analytical epidemiology; draw conclusions; conduct additional investigations; communicate results to scientists and public health officials; and implement control and prevention measures.
**Afternoon**

**MERS-CoV and nosocomial transmission**  
*Maria Van Kerkhove*  
This session focuses on the role of nosocomial transmission in the epidemiology of Middle East respiratory syndrome coronavirus (MERS-CoV) outbreaks, particularly in Saudi Arabia and the Republic of Korea. It will cover triage strategies and infection control measures for health care settings.

**Case study: Nosocomial outbreak of MERS**  
*Maria Van Kerkhove*  
This interactive session will work through a MERS outbreak. It will cover case importation, factors which determine the further spread of the virus within the population and the actions of national and international health authorities to stop the spread of the virus.

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**Day 2: 24 August 2017**

**Morning**

**Key epidemiological indicators and routes of transmission**  
*Arnaud Fontanet*  
This session covers the principles of infectious disease transmission and key terminology: incubation period, infectious period, latent period, reproduction number. This session provides a comprehensive overview of methods used to measure epidemic spread, and identify routes of transmission, with specific examples drawn from real-world situations.

**Case study: Zika in French Polynesia and the Caribbean**  
*Arnaud Fontanet*  
This practical session focuses on the Zika outbreaks in French Polynesia and the Caribbean. It will cover the emergence of Zika virus, the methods used to describe the natural history of infection, including neurological complications, and the use of mathematical modelling methods to determine the impact of an infectious disease outbreak.

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**Afternoon**

**Case study: Pediatric acute encephalitis-like syndrome outbreaks in northern Vietnam**  
*Arnaud Fontanet*  
*Rebecca Grant*  
This practical session will draw on the experiences of conducting investigations into outbreaks of acute encephalitis-like syndrome among children in northern Vietnam. It will cover the multidisciplinary components of outbreak investigation, epidemiological study designs, interpretation of data collected during an outbreak and the challenges to conducting outbreak investigations in the field.
Day 3: 25 August 2017

Morning

**Hepatitis C: Emergence and overview of modes of transmission**  
*Arnaud Fontanet*

This session will focus specifically on the emergence of the hepatitis C virus (HCV) and the burden of the disease, both in industrialised countries and in low income countries. This session will also address the routes of HCV transmission and methods of control.

**Case study: Investigation of acute Hepatitis C in Fever Hospitals in Egypt**  
*Arnaud Fontanet*

This interactive session will work through the HCV epidemic in Egypt. It will cover routes of transmission, factors which have determined the further spread of the virus within the population, therapeutic treatment development and the actions of national health authorities.

Afternoon

**Antimicrobial resistance and control of nosocomial outbreaks of multiresistant bacteria**  
*Stephan Harbarth*

This session provides a comprehensive overview of antimicrobial resistance in the hospital setting, and it will cover the measures to be taken to control the spread of multiresistant bacteria in these settings.

**Case study: ICU-acquired infection**  
*Stephan Harbarth*

This interactive session will focus specifically on ICU-acquired bacterial infections. It will also cover antibiotic stewardship and address prevention strategies for the emergence of antibiotic resistance in the individual patient, as well as development of novel diagnostic tests for the hospital setting.
Seminar presenters

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<tr>
<th>Name</th>
<th>Description</th>
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<tbody>
<tr>
<td>Arnaud Fontanet</td>
<td>Professor Fontanet is a medical epidemiologist specialised in infectious diseases. He heads the Center for Global Health and the Emerging Diseases Epidemiology Unit at the Institut Pasteur Paris, he is a Professor - Health and Development Chair - at the Conservatoire National des Arts et Métiers (Cnam) and he serves as the co-Director of the Pasteur-Cnam School of Public Health.</td>
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<tr>
<td>Maria Van Kerkhove</td>
<td>Dr Van Kerkhove is an infectious disease epidemiologist working in the High Threat Pathogens Unit of the World Health Organization. She is the WHO Technical Lead for MERS-CoV.</td>
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<tr>
<td>Stephan Harbarth</td>
<td>Professor Harbarth is a hospital epidemiologist and senior infectious disease consultant in the Infection Prevention and Control Service of the Geneva University Hospitals.</td>
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<tr>
<td>Rebecca Grant</td>
<td>Ms Grant is the research officer within the Institut Pasteur Center for Global Health and project assistant for the Institut Pasteur Outbreak Investigation Task Force.</td>
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Practical information

Seminar language
English

Applications
Eligibility criteria are available on the Open Medical Institute [website](http://www.openmedicalinstitute.org). Applications are to be submitted through the Open Medical Institute [online portal](http://www.openmedicalinstitute.org) before 12 June 2017.

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