

# ESCMID Postgraduate Education Course

## Faculty Members

**Barbara Van der Pol** (USA)  
**Catherine Ong** (Singapore)  
**Daniela Cirillo** (Italy)  
**Diane Lindsay** (United Kingdom)  
**Carole Kebbi Beghdadi** (Switzerland)  
**Emanuelle Cambau** (France)  
**Florian Tagini** (Switzerland)  
**Gilbert Greub** (Switzerland)  
**Hubert Hilbi** (Switzerland)  
**Jorgen Skov Jensen** (Denmark)  
**Mateja Jankovic Makek** (Croatia)  
**Mike Beeton** (United Kingdom) **Mirja Puollakainen** (Finland) **Oystein Angen** (Denmark)  
**Patrick Meyer-Sauteur** (Switzerland)  
**Sally Cutler** (United Kingdom)  
**Sophie Jarraud** (France)  
**Sylvia Kleta** (Germany)  
**Sylvia Bruisten** (Netherlands)

## Target Audience

Both clinical microbiologists and infectious disease specialists interested in diagnosing and treating intracellular bacteria, namely *Chlamydia* spp., *Legionella*, *Mycobacteria*, *Coxiella*, *Rickettsia*, *Bartonella* and *Listeria*, as well as bacteria of fastidious growth such as *Mycoplasma*. The course may be interesting for infectious diseases specialists involved zoonotic infectious as well as actors involved in One-Health aspects of intracellular bacteria (epidemiologists and veterinaries). This course is suitable for early career and advanced clinicians (microbiologists or infectious diseases specialists) or scientists and combines plenary sessions, clinical cases presentations and panel discussions.

## Attendance Grants

ESCMID provides many attendance grants for ESCMID "Young Scientist members". The grant covers the registration fee, but not travel or accommodation costs. Please apply via the ESCMID website at [www.escmid.org/education](http://www.escmid.org/education) before 10/04/2024. Applicants will be informed about their acceptance by 15/04/2024.

## Contact

### Administrative Secretariat

**Kamelia Afkir**  
Institute of Microbiology, Lausanne University Hospital  
Rue du Bugnon 48, 1011 Lausanne, Switzerland  
Phone: +41 79 556 21 77  
E-Mail: [imu.secretariat@chuv.ch](mailto:imu.secretariat@chuv.ch)

## Organisation

### Course Venue

Lausanne University Hospital (CHUV), zones des auditorios (Auditoire Charlotte-Olivier), Lausanne, Switzerland  
Rue du Bugnon 46, 1011 Lausanne, Switzerland  
[www.chuv.ch/fr/chuv-home](http://www.chuv.ch/fr/chuv-home)

### Registration Procedure

The registration form can be found on the ESCMID website at [www.escmid.org/education](http://www.escmid.org/education). Please return it to the course administrative secretariat by 8.05.2024.

### Registration Fee

EUR 500 for ESCMID members  
EUR 650 for all others  
The fee includes tuition, meals, coffee breaks, and social activities (dinner, entrance to the museum exhibition "World of Microbes").

### Accommodation

Accommodation is **not included** in the fee.

### The organizers suggest:

#### Aquatis Hôtel

Route de Berne 148 1010 Lausanne Vaud - Suisse Website: [www.aquatis-hotel.ch](http://www.aquatis-hotel.ch)  
Phone: +41 21 654 24 24  
E-Mail: [info@aquatis-hotel.ch](mailto:info@aquatis-hotel.ch)

#### Hôtel des patients

Avenue de la Sallaz 8, 1005 Lausanne  
Website: [www.hoteldespatients.ch](http://www.hoteldespatients.ch)  
Phone: +41 21 545 41 11  
E-Mail: [reception.lausanne@hoteldespatients.ch](mailto:reception.lausanne@hoteldespatients.ch)

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## Organisers

- ESGMAC
- ESGMD, ESGMYC, ESGVM, ESCCAR

## ESCMID Postgraduate Education Course

# Intracellular bacteria, the latest developments: from clinical microbiology to infectious disease

**Lausanne, Switzerland**  
27 – 30 May 2024



## Course coordinator

**Prof. Gilbert Greub**, Lausanne University Hospital, Lausanne, Switzerland  
**Dr. Florian Tagini**, Lausanne University Hospital, Lausanne, Switzerland

## Course objectives

In this course, participants will explore the pathogenesis of clinically important intracellular bacteria. They will learn how they infiltrate host cells, evade the immune system, and replicate within their hosts. The course will also delve into host-pathogen interactions, analysing the various molecular mechanisms developed by the bacteria to interact with the host and modify its responses. The clinical presentation of diseases caused by intracellular bacteria will be examined, enabling participants to recognize the distinct symptoms and exposure associated with such infections. In addition, particular One-Health aspects of intracellular bacteria will be discussed during this course. Participants will be introduced to various diagnostic methods (molecular assays, serology, culture, microscopy) with an emphasis on the importance of timely and accurate diagnosis in managing intracellular bacterial infections. Treatment strategies targeting these organisms will be discussed. There will be a focus on the challenges posed by drug resistance and persistence in these pathogens. The course will feature case studies and provide insight into current research in the field, to put the knowledge into real clinical experiences. Lastly, this course aims to create a networking environment between members of the field, to enable potential European collaboration for clinical or basic research as well as to offer the opportunities for early career participants to meet experts in the field (and thus promote their own careers).



**Microsynth**  
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## Day 1, 27 May 2024

- 08:00 – 08:45 **Registration**
- 08:45 – 09:00 **Welcome & information**
- 09:00 – 09:30 **Immunopathogenesis of *Mycobacterium tuberculosis***  
*Catherine Ong, Singapore*
- 09:30 – 10:00 **Tuberculosis : clinical presentation, diagnosis & treatment**  
*Emanuelle Cambau, France*
- 10:00 – 10:30 **Diagnosis of non-tuberculous mycobacterial infections**  
*Mateja Jankovic Makek, Croatia*
- 10:30 – 11:00 **Coffee break**
- 11:00 – 11:30 **Secretion systems: from *Legionella* to *Mycobacteria***  
*Florian Tagini, Switzerland*
- 11:30 – 12:00 ***Legionella*: clinical aspects**  
*Sophie Jarraud, France*
- 12:00 – 12:30 **Added Value of PCR & genomics in the diagnosis of *Legionella* infections and for epidemiology**  
*Diane Lindsay, United Kingdom*
- 12:30 – 14:00 **Lunch break**
- 14:00 – 15:30 **Workshop: How to develop a diagnostic PCR: *C. psittaci* & *C. burnetii* as examples**  
*Barbara Van der Pol (USA), Diane Lindsay (United Kingdom), Mirja Puolakkainen (Finland), Øystein Angen (Denmark); Done in parallel with the other workshops*
- 15:30 – 16:00 **Coffee break**
- 16:00 – 17:00 **Clinical cases presentation and discussion**  
*Different speakers*
- 16:00 – 17:00 **Q/A session**  
*Different speakers*
- 18:00 – 19:45 **Social event: Playing with microbes**

## Day 2, 28 May 2024

- 08:45 – 09:00 **Practical information**
- 09:00 – 09:30 **Classification and taxonomy of intracellular bacteria**  
*Gilbert Greub, Switzerland*
- 09:30 – 10:00 **Global current outbreak of *Mycoplasma pneumoniae*: the latest data**  
*Patrick Meyer-Sauteur, Switzerland*
- 10:00 – 10:30 **Diagnostic approaches of chlamydial infections**  
*Barbara Van der Pol, USA*
- 10:30 – 11:00 **Coffee break**
- 11:00 – 11:30 **One Health aspects in outbreak investigation: the case of *Chlamydia psittaci***  
*Øystein Angen, Denmark*
- 11:30 – 12:00 **Atypical pneumonia due to chlamydiae**  
*Mirja Puolakkainen, Finland*
- 12:00 – 12:30 ***Mycobacterium tuberculosis* from phenotypic to genotypic antibiotic susceptibility testing**  
*Daniela Cirillo, Italy*
- 12:30 – 14:00 **Lunch break**
- 14:00 – 15:30 **Workshop: How to perform antibiotic susceptibility testing for intracellular bacteria**  
*Sylvia Bruisten (Netherlands), Daniela Cirillo (Italy), Jorgen Skov Jensen (Denmark), Florian Tagini (Switzerland) Done in parallel with the other workshops*
- 15:30 – 16:00 **Coffee break**
- 16:00 – 22:00 **Social event: Walk in the Lavaux Vineyards (UNESCO) Gala dinner**

## Day 3, 29 May 2024

- 08:45 – 09:00 **Practical information**
- 09:00 – 09:30 **Intracellular bacteria and free-living amoebae**  
*Sophie Jarraud, France*
- 09:30 – 10:00 ***Coxiella burnetii*: diagnostics approaches of Q fever infection**  
*Sally Cutler (United Kingdom)*
- 10:00 – 10:30 **Spotted fever : clinical presentation and diagnostic aspects**  
*Gilbert Greub, Switzerland*
- 10:30 – 11:00 **Coffee break**
- 11:00 – 11:30 ***Legionella pneumophila*: one T4SS and effectors galore**  
*Hubert Hilbi, Switzerland*
- 11:30 – 12:00 ***Chlamydia trachomatis*: clinical presentation**  
*Florian Tagini, Switzerland*
- 12:00 – 12:30 ***Chlamydia*-related bacteria**  
*Carole Kebbi Beghdadi, Switzerland*
- 12:30 – 14:00 **Lunch break**
- 14:00 – 15:30 **Workshop: How to culture intracellular bacteria**  
*Sophie Jarraud (France), Emanuelle Cambau (France), Gilbert Greub (Lausanne) Done in parallel with the other workshops.*
- 15:30 – 16:00 **Coffee break**
- 16:00 – 17:00 **Clinical cases presentation and discussion**  
*Different speakers*
- 16:00 – 17:00 **Q/A session**  
*Different speakers*
- 17:45 – 19:45 **Social event: Visit of the "World of Microbes" (an exhibition in a museum in Lausanne)**

## Day 4, 30 May 2024

- 08:45 – 09:00 **Next event and picture of the course participants**  
*Gilbert Greub & Florian Tagini*
- 09:00 – 09:30 **Biology of *Mycoplasma pneumoniae***  
*Mike Beeton, United Kingdom*
- 09:30 – 10:00 **Genital mycoplasma: clinical presentation and diagnostic issues**  
*Sylvia Bruisten, Netherlands*
- 10:00 – 10:30 **Challenges of *in vitro* propagation and antimicrobial susceptibility testing of *Mycoplasma genitalium***  
*Jorgen Skov Jensen, Denmark*
- 10:30 – 11:00 **Coffee break**
- 11:00 – 11:30 **Cell corruption by intracellular bacteria**  
*Gilbert Greub, Switzerland*
- 11:30 – 12:00 ***Listeria monocytogenes*: clinical presentation and diagnosis**  
*Sylvia Kleta, Germany*
- 12:00 – 12:30 **Round table: Lessons from intracellular bacteria to clinicians and microbiologists**  
*All invited speakers*
- 12:30 – 14:00 **Farewell**

