



Target Audience

20 young scientists with previous training in clinical microbiology or infectious diseases who are interested in the study of antimicrobial resistance.

Faculty Members

Sebastián Albertí, Palma de Mallorca, Spain
Rafael Cantón, Madrid, Spain
Alessandra Carattoli, Rome, Italy
Oana Ciofu, Copenhagen, Denmark
Antonio Doménech-Sánchez, Palma de Mallorca, Spain
Mikhail Edelstein, Smolensk, Russia
Carlos Juan, Palma de Mallorca, Spain
Roland Leclercq, Caen, France
Bruce Levin, Atlanta, US
Luis Martínez-Martínez, Santander, Spain
Bartolomé Moyá, Palma de Mallorca, Spain
Antonio Oliver, Palma de Mallorca, Spain
Jesús Rodríguez-Baño, Seville, Spain
Patricia Ruiz, Madrid, Spain
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Contact

Administrative Secretariat

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Picture inside:

Hypermutation promotes appearance of *P. aeruginosa* resistant isolates. Picture courtesy of A.Oliver, Palma de Mallorca, Spain



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ESCMID Postgraduate Technical Workshop

8th Workshop «Professor V.J. Benedí» Mechanisms of Antimicrobial Resistance – a Practical Approach

Palma de Mallorca, Spain 20 – 25 June 2010

Registered Society, Munich, Germany, No. 10956



ESCMID Postgraduate Technical Workshop

Mechanisms of Antimicrobial Resistance

Organizers

- European Society of Clinical Microbiology and Infectious Diseases (ESCMID)
- Spanish Society of Infectious Diseases and Clinical Microbiology (SEIMC)

Supporters

- American Society for Microbiology (ASM)
- Spanish Network for the Research in Infectious Diseases (REIPI)
- Group for the Study of the Antimicrobial Action and Resistance Mechanisms (GEMARA)
- Universitat de les Illes Balears (UIB)

Organizing Committee

- Sebastián Albertí, Palma de Mallorca, Spain
- Rafael Cantón, Madrid, Spain
- Ferràn Segura, Barcelona, Spain
- María Isabel Morosini, Madrid, Spain
- Antonio Oliver, Palma de Mallorca, Spain
- Jerónimo Pachón, Seville, Spain
- Jordi Vila, Barcelona, Spain

Course Objectives

The course provides participants with updated background information and a practical approach to the study of clinically relevant mechanisms of antimicrobial resistance. This edition of the workshop focuses on *Pseudomonas aeruginosa* expressing extended-spectrum beta-lactamases or carbapenemases, with altered outer membrane permeability, mutations in QRDR of the DNA gyrase, mutations in the mismatch repair system genes, and hyperexpressing efflux pumps or the chromosomal beta-lactamase AmpC.

Course Programme

Lectures: 8.30 – 9.30 and 17.30 – 18.30

Lab sessions: 9.30 – 17.30

Lunch: 14.00 – 15.30

Lectures

- Mutational and horizontally acquired antibiotic resistance in *Pseudomonas aeruginosa*. Antonio Oliver
- Heteroresistance and persistence. Luis Martínez-Martínez
- Real life therapeutic options against multidrug-resistant organisms. Jesús Rodríguez-Baños
- Antimicrobial resistance in bacterial biofilms. Oana Ciofu
- New mechanisms of resistance to antimicrobial in Gram-positive organisms. Roland Leclercq
- Role of plasmids on current situation of antimicrobial resistance in Gram-negatives. Alessandra Carattoli
- New insights in the epidemiology of the metallo-beta-lactamases. Mikhail Edelstein
- Effect of fluoroquinolone resistance in the virulence of *Escherichia coli*, *Salmonella sp.* and *Yersinia enterocolitica*. Jordi Vila
- Low level antibiotic resistance, implications for therapy and clinical outcome. Rafael Cantón
- Mathematical models on resistant development: a pharmacological and microbiological approach. Bruce Levin

Laboratory Sessions

- Phenotypic analysis of resistance: disk diffusion and microdilution
- Chromosomal and plasmidic DNA preparation and characterization
- Mutation rate
- Preparation of competent bacterial cells
- Artificial transformation assays
- 2D gel electrophoresis and Western blot analysis of cell envelopes
- Amplification of resistance genes by PCR
- Pulsed-field gel electrophoresis and REP-PCR

- Spectrophotometric assay for beta-lactamase activity and RT-PCR
- Detection of efflux pump expression by RT-PCR

Social Events

Welcome buffet dinner (20 June 2010),
Official dinner (25 June 2010)

Organization

Course Venue

Laboratory of Microbiology
Edificio Guillem Colom
Campus of the Universitat de les Illes Balears
Palma de Mallorca
Spain

Application Procedure

The application form can be found on the ESCMID website at www.escmid.org/education. Please return it to the course administrative secretariat, including a short CV, by 30 April 2010.

Registration Fee

EUR 1200
The fee includes the 6-day programme, hotel accommodation (6 nights) in a shared double room and breakfast, lunch, social events, and transportation from the hotel to the course venue.

Attendance Grants

ESCMID and SEIMC provide a number of attendance grants for young attendees (born in 1970 or later) covering the registration fee, but not travel costs. The application form can be found on the ESCMID website at www.escmid.org/education. Please return it to the course secretariat before 30 April 2010. If there are more applicants than available grants, preference will be given to ESCMID/SEIMC members. Applicants will be informed about their acceptance by 14 May 2010.