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 Alberti, 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
Jordi Vila, Barcelona, Spain

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
## 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**

## 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.