Target Audience
Medical doctors and pharmacists, nurses or other healthcare professionals with an MSc or PhD are eligible, provided they completed the basic module or have experience in IPC.

Confirmed Faculty Members
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Programme objectives
When adopting a sessile lifestyle, bacteria gain the adaptive ability to tolerate a wide range of anti-microbials, becoming increasingly resilient. In such cases, antimicrobial treatment of biofilm-driven infections may fail not necessarily due to resistance but rather through tolerance and target evasion.
## Module Programme

**Wednesday, 20 February 2019**

### Understanding biofilms and their clinical relevance

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<td>Dana Sândulescu, Bucharest, Romania</td>
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#### Chair

**09:00** Registration and coffee

**09:20** Orientation, welcome lecture and pre-course assessment

**10:00** Sessile versus planktonic mode of growth

**10:20** Bacterial «common goods» and quorum sensing

**10:40** Inter-microbial cooperation

**11:00** Persistor cells and antimicrobial tolerance

**11:20** Models for studying biofilms and assessing anti-biofilm activity

**12:00** Lunch break

**13:00** Microbial consortia – clinical relevance and impact of antimicrobial therapy

**13:20** Microbial consortia in chronic wounds

**13:40** Host-pathogen interactions in chronic wounds

**14:00** Managing biofilm-associated lung infections in patients with cystic fibrosis

**14:20** Coffee break and transfer to ICUB

**14:45** Practical activities: Good laboratory practices; correct use of personal protective equipment and biological safety cabinets

**15:00** Practical activities: Assessment of the biofilm mode of growth – part 1: plating and incubating with and without biofilm active agents

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### Thursday, 21 February 2019

#### Foreign body driven infections – infection control and prevention of biofilms

**09:00** Prevention of catheter-related urinary tract infections

**09:20** Elimination of device-associated cardiovascular infections

**09:40** Peri-operative measures to limit and control biofilm development on orthopedic prostheses

**10:00** Understanding biofilms in ENT (chronic otitis media, chronic rhinosinusitis)

**10:20** Managing chronic osteomyelitis

**10:40** Coffee break

**11:00** Clinical case discussions

**13:00** Lunch break and transfer to ICUB

**14:00** Practical activities: Assessment of the biofilm mode of growth – part 2: assessing microbial growth, staining the biofilm

**14:30** Practical activities: resuspending and reading optical densities, interpreting results

**15:00** Practical activities: interpreting the anti-biofilm activity of various agents

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### Friday, 22 February 2019

#### Targeting biofilms – from research to clinical practice

**09:00** Gram-positive versus Gram-negative biofilms – common grounds and essential differences

**09:20** Types of biofilm active agents (natural products, antimicrobial agents, synthetic peptides, anti-biofilm materials and devices)

**09:40** Biofilm active agents – mechanisms of action

**10:00** Bacteriophages or bacteriophage-derived enzymes as anti-biofilm options

**10:20** Combination therapy to create biofilm active regimens

**10:40** Coffee break

**11:00** Presentation of assignments

**12:30** Lunch

**13:00** Questions and answers

**13:30** Final examination and course evaluation

**15:30** End of day