

# SCIENTIFIC PROGRAMME

TIME

WEDNESDAY 26 JUNE

9:00 – 16:00

## WORKSHOPS

- Technical workshop. Panum Institute (Venue). Costerton Biofilm Center 24.1.
- In vivo workshop. Panum Institute (Venue). Room 13.1.63 and 13.1. 83.
- Clinical workshop. Rigshospitalet, Blegdamsvej 9, DK-2100. Entrance 3; 1. floor; section 1

JERNE AUDITORIUM

17:00 – 17:30

**OPENING AND WELCOME ADDRESSES** - *Claus Moser (DK)*

17:30 – 18:30

## OPENING KEYNOTE

*Chairs: Tim Tolker-Nielsen (DK) and Nuno Azevedo (PT)*

Biofilms in nature and engineered systems: opening the dark box of the huge microbial and exopolymeric diversity

*Per Halkjær Nielsen (DK)*

18:30

**OPENING RECEPTION** - Foyer

**TIME****THURSDAY 27 JUNE**

JERNE AUDITORIUM

**9:00 – 10:00****BIOFILMS IN NON-CF CHRONIC RESPIRATORY INFECTIONS.***Chairs: Oana Ciofu (DK) and Antonio Oliver (ES)*

9:00 – 9:30

Role of Biofilms in non CF bronchiectasis  
*Laia Fernandez-Barat (ES)*

9:30 – 10:00

Microbiome organization demarcates pulmonary exacerbation types and impacts treatment outcomes in cystic fibrosis  
*Stefanie Widder (AT)*

10:00 – 10:30

**COFFEE BREAK**

HADERUP AUDITORIUM

JERNE AUDITORIUM

**10:30 – 12:30****LESS KNOWN BIOFILM INTERACTIONS****BIOFILM EVOLUTION AND REGULATION**

10:30 – 11:00

*Chairs: Zhijun Song (DK) and Elisa Borghi (IT)*  
  
Interaction between oral biofilm and taste receptors  
*Xin Zheng (CN)*

*Chairs: Tim Tolker-Nielsen (DK) and Urs Jenal (CH)*  
  
Evolutionary trajectories of *Klebsiella pneumoniae* biofilm  
*Greta Zaborskyte (SE)*

11:00 – 11:15

Subgingival microbial communities promote epithelial cell migration through regulation of the creatine shuttle  
*Chengcheng Liu (CN)*

Predicting the antibiotic susceptibility of experimentally evolved *Pseudomonas aeruginosa* biofilms using machine learning algorithms  
*Fauve Vergauwe (BE)*

11:15 – 11:30

Mining Microbial Networks: Deciphering Biofilm-Mediated Horizontal Gene Transfer on Mineral Frontiers  
*Saghar Hendiani (DK)*

The *Legionella* collagen-like protein: a mediator of host-adhesion and biofilm formation  
*Leanne Cleaver (UK)*

11:30 – 12:00

Biofilm related corneal infections by *Pseudomonas aeruginosa*  
*Liang Yang (CN)*

Surface colonization of a human pathogen revisited  
*Urs Jenal (CH)*

12:00 – 12:15

The arms-race between amoeba predators and biofilms impacts parasital and bacterial stress tolerance  
*Ilana Kolodkin-Gal (IL)*

Insights into *Vibrio cholerae* Biofilm Formation on Microplastics - the Impact of Quorum Sensing and Plastic Additives  
*Kerstin Thriene (DE)*

12:15 – 12:30

Biofilm Dispersion and Recolonisation by Distinct Phenotypic Lineages  
*Ciarán Dunne (IE)*

Uncovering the role of second messenger signalling in *Acinetobacter baumannii* virulence  
*Lyuboslava Harkova (UK)*

12:30 – 13:30

**LUNCH BREAK / 'SMALL GROUP SUPERVISION' - FOYER**

**TIME****THURSDAY 27 JUNE**

13:30 – 15:00

**POSTER SESSION 1** - FOYER  
**COFFEE BREAK**

HADERUP AUDITORIUM

JERNE AUDITORIUM

**15:00 – 17:00****WHAT'S NEW IN IMPLANT RELATED  
BIOFILM INFECTIONS?***Chairs: Klaus Kirketerp-Møller (DK) and Craig Williams (UK)*

15:00 – 15:30

Implant related biofilm infections  
*Marjan Wouthuyzen-Bakker (NL)*

15:30 – 15:45

Bone prosthesis environment influences  
*Cutibacterium acnes* biofilm formation and  
composition  
*Jennifer Varin-simon (FR)*

15:45 – 16:00

Bacterial Micro-Aggregates as a Clinically  
Relevant Inoculum in a Pig Model of Implant-  
Associated Osteomyelitis  
*Katrine Top Hartmann (DK)*

16:00 – 16:30

Novel antimicrobial agents for biofilm implant  
infections  
*Rikke Meyer (DK)*

16:30 – 16:45

Biofilm formation on transcatheter aortic  
valve implants (TAVI) – an in vitro model  
*Torgny Sunnerhagen (SE)*

16:45 – 17:00

Self-assembled nanocoatings for combating  
implant related biofilm infections  
*Seref Akay (DK)***INNATE AND ADAPTIVE IMMUNE RESPONSES  
TOWARDS BIOFILM INFECTIONS***Chairs: Claus Moser (DK) and Jeremy Webb (UK)*Cystic Fibrosis lung infections: Immunological Features  
*Renan Mauch (SE)*Characterizing inter-species interactions upon in  
vivo-like conditions: *P. aeruginosa* boosts *S. aureus*  
adhesion and persistence on epithelial cells  
*Maria Olivia Pereira (PT)*Extracellular host DNA contributes to pathogenic  
biofilm formation during periodontitis  
*Olena Moshynets (UA)*Does Biofilm specific immune responses exist?  
*Peter Østrup Jensen (DK)*Outsmarting the bladder: How the biofilm matrix of *P.*  
*aeruginosa* is more than just a protective mechanism  
in the urinary tract environment  
*Arthika Manoharan (AU)*Delayed neutrophil recruitment to the tissue-implant-  
interface is seen within the first hours following  
insertion of a contaminated abiotic implant in mice  
*Marie H. Hansen (DK)*

**TIME****FRIDAY 28 JUNE**

JERNE AUDITORIUM

9:00 – 10:00

**MIXED SPECIES BIOFILMS – IN/ON HOST AND OUTSIDE***Chairs: Mette Burmølle (DK) and Gordon Ramage (UK)*

9:00 – 9:30

Imaging of dental biofilms  
*Sebastian Schlafer (DK)*

9:30 – 10:00

Impact/mechanisms of Interspecies biofilm interactions for infection severity and treatment  
*Chelsie Ambruster (US)*

10:00 – 10:30

**COFFEE BREAK**

HADERUP AUDITORIUM

JERNE AUDITORIUM

10:30 – 12:30

**STRATEGIES FOR FIGHTING BACK BIOFILMS***Chairs: Niels Høiby (DK) and Craig Williams (UK)*

10:30 – 11:00

HBOT and endocarditis clinical experience  
*Christian Lerche (DK)*

11:00 – 11:15

The importance of superoxide anion for Escherichia coli biofilm removal using plasma-activated water  
*Binbin Xia (AU)*

11:15 – 11:30

Repetitive combined doses of bacteriophages and gentamicin protect against Staphylococcus aureus implant-related infections in Galleria mellonella  
*Raphaëlle Youf (DE)*

11:30 – 12:00

Disperazol - new Drug on the Block – Preclinical Aspects  
*Michael Givskov (DK)*

12:00 – 12:15

5-fluorocytosine (5-FC) inhibits biofilm formation and virulence in uropathogenic Escherichia coli strains and potentiates  $\beta$ -lactams antimicrobial activity against  
*Srikanth Ravishankar (IT)*

12:15 – 12:30

Dual function of N-acetyl cysteine in eradicating P. aeruginosa catheter-associated UTIs  
*Arthika Manoharan (AU)***SPATIAL BIOFILM ORGANIZATION***Chairs: Thomas Bjarnsholt (DK) and Jeremy Webb (UK)*Predicting interactions in multispecies biofilms  
*Ákos Kovács (NL)*Complementary exopolysaccharide-targeting antibodies reveal unique biofilm features and synergize to improve antibacterial efficacy  
*J. Sebastian Temme (US)*Early development of Staphylococcus aureus fibrin biofilms  
*Safae Oukrich (NL)*Spatial transcriptomics in biofilms  
*Jintao Liu (CHN)*A Novel Multiplex mRNA PNA-FISH for Studying Gene Expression and Spatial Organization in Biofilms  
*Ana Barbosa (PT)*Spatiotemporal dynamics of ECM production in Pseudomonas sp. IsoF govern biofilm topography  
*Zaira María Heredia Ponce (CH)*

12:30 – 13:30

**LUNCH**

- FOYER / How to get published? Biofilm – JERNE AUDITORIUM

**TIME****FRIDAY 28 JUNE**

13:30 – 15:00

**POSTER SESSION 2 - FOYER  
COFFEE BREAK**

15:00 – 17:00

**HADERUP AUDITORIUM****JERNE AUDITORIUM****RESISTANCE MECHANISMS OF BIOFILMS****MODEL SYSTEMS**

15:00 – 15:30

*Chairs: Oana Ciofu (DK) and Antonio Oliver (ES)**Chairs: Rikke Meyer (DK) and Tom Coenye (BE)*

Evolution of antibiotic resistance during the treatment of biofilms

*Christophe Beloin (FR)*

Pharmacokinetic and -dynamics of biofilm associated infection: How experimental and computational models can inform dose optimization

*Coen van Hasselt (NL)*

15:30 – 15:45

Transfer and persistence of plasmids in biofilm

*Henriette Lyng Røder (DK)*

The role of polymicrobial biofilms in urinary tract infections (UTIs) using a urine tolerant human urothelium organoid model (3D-UHU)

*Ramon Garcia Maset (UK)*

15:45 – 16:00

Unraveling adaptive strategies: Transcriptomic insights into *Pseudomonas aeruginosa* biofilm and planktonic populations evolving under sub-lethal levels of ciprofloxacin*Marwa N. Ahmed (ET)*In vitro characterization of *Trichophyton rubrum* biofilm and infection in three-dimensional keratinocytes culture*Maria José Soares Mendes Giannini (BR)*

16:00 – 16:30

Resistance to bacteriophage therapy

*Laurent Debarbieux (FR)*

Animal implant biofilm models

*Louise Kruse (DK)*

16:30 – 16:45

Unraveling mechanisms underlying biofilm-induced tolerance in *Pseudomonas aeruginosa* by applying a multi-omics approach*Janne G. Thöming (DE)*

Modeling Biofilm Infection in the Murine Sinonasal Cavity

*Emily Vanderpool (US)*

16:45 – 17:00

How does *Pseudomonas aeruginosa* Biofilms Cope with Antibiotic Challenge?*Ainelen Melanie Piazza (UK)*The role of *Salmonella* biofilm formation in the porcine gut*Ir. Fran Gilis (BE)*

17:00 – 18:30

**DRINKS RECEPTION AND ABSTRACT AWARDS - FOYER**

**TIME**

**SATURDAY 29 JUNE**

HADERUP AUDITORIUM

9:00 – 11:00

**CORRELATION OR CAUSALITY?**

*Chairs: Niels Høiby (DK) and Holger Rohde (DE)*

9:00 – 9:30

Periodontitis and Cardiovascular disease  
*David Herrera Gonzales (ES)*

9:30 – 9:45

Association of Biofilm and Microbial Metrics with Healing Rate in Venous Leg Ulcers  
*Philip Stewart (US)*

9:45 – 10:00

Wound microbiome interactions and healing: a retrospective and in vivo approach  
*Rebecca Gabriliska (US)*

10:00 – 10:30

Commensal biofilm turns pathogenic: a link from gut inflammation to cancer?  
*Jean-Paul Motta (FR)*

10:30 – 10:45

Temporal Evolution and Functional Characteristics of Biofilm Formation on Reverse Osmosis Membranes in Tertiary Effluent Desalination  
*Osnat Gillor (IL)*

10:45 – 11:00

When a Paradigm Biofilm Infection and a Revolutionary Treatment Collide: Cystic Fibrosis (CF) Lung Infections in the Age of Modular Therapy  
*Pradeep Singh (US)*

JERNE AUDITORIUM

**IMAGING AND/OR NOVEL TECHNIQS IN BIOFILM RESEARCH?**

*Chairs: Rikke Meyer (DK) and Nuno Azevedo (PT)*

Revealing biofilm functions by quantitative biofilm image analysis at cellular resolution  
*Knut Drescher (CH)*

Deep Learning and 3D Holographic Microscopy to assess the early bacterial adhesion's dynamics under shear rate in microfluidic systems  
*Lucie Klopffer (FR)*

Microdialysis sampling for monitoring the secretome between macrophages and biofilm co-cultures  
*Julie Stenken (US)*

Highly multiplexed spatial mapping of microbial species and mobile elements in oral biofilms  
*Iwijn de Vlamincck (US)*

Extracellular DNA in Staphylococcus epidermidis biofilms form a web of DNase-resistant G-quadruplex structures with catalytic activity  
*Gabriel Antonio Minero (DK)*

Interplay between sRNA RsaE and individual  $\alpha$  Phenol Soluble Modulins ( $\alpha$ PSM) toxins: Implications for Biofilm Formation and Structuring in Staphylococcus aureus  
*Mehak Chauhan (UK)*

11:00 – 11:30

**COFFEE BREAK**

JERNE AUDITORIUM

11:30 – 12:30

**FAREWELL KEYNOTE**

*Chairs: Oana Ciofu (DK) and Maria Dolores Macia Romero (ES)*

Tolerance, Resistance, and Relevance of susceptibility testing?  
*Antonio Oliver (ES)*

12:30

Closing remarks, Farewell, Announcement of next EBF  
*Niels Høiby (DK)*

Lunch Bag - FOYER