



BREAK BIOFILMS CONFERENCE

January 16-18, 2023

Hotel ARCOTEL Wimberger, Neubaugürtel 34-36, 1070 Vienna, Austria

Program

Saturday/Sunday (January 14/15)

Arrival in Vienna

19:00 **Get Together** (Fingerfood)

DAY 1: Monday (January 16, 2023)

08:00 – 08:30 **Registration**

08:30 – 08:45 **Welcome** (Boris Mizaikoff & Christine Kranz)

08:45 – 12:00 **Session 1 – UNDERSTANDING BIOFILMS**

08:45 – 09:30 **Invited Talk**

Rasmita Raval, University of Liverpool

BIOFILMS: AN INTERDISCIPLINARY CHALLENGE FOR SCIENCE AND INNOVATION

09:30 – 09:50 **O1: Pilar García**, Instituto de Productos Lácteos de Asturias (IPLA-CSIC)

BACTERIOPHAGE-DERIVED ANTIMICROBIALS FOR INHIBITING BIOFILM DEVELOPMENT

09:50 – 10:10 **O2: Nicola Cioffi**, University of Bari Aldo Moro

NEW FRONTIERS IN NANOANTIMICROBIALS RESEARCH

10:10 – 10:30 **Coffee Break**

10:30 – 10:50 **O3: Agustina Sarquis**, Instituto de Productos Lácteos de Asturias (IPLA-CSIC)

CHARACTERIZATION OF LENTILACTOBACILLUS PARABUCHNERI BIOFILM

10:50 – 11:10 **O4: Elena E Ferapontova**, Aarhus University

ELECTROCHEMICAL ASSAYS FOR BACTERIAL DETECTION

11:10 – 11:30 **O5: Irina M. Terrero Rodriguez**, University of Warwick

DEVELOPMENT OF A BORON-DOPED DIAMOND BACTERIAL ACTIVITY ELECTROCHEMICAL SENSOR

11:30 – 11:50 **O6: Zoi Christina Kampouraki**, Aristotle University of Thessaloniki

A HIGHLY SENSITIVE NON-INTRUSIVE ELECTRICAL IMPEDANCE TECHNIQUE FOR MONITORING BIOFILM FORMATION AND DEVELOPMENT

12:00 – 14:00 **Lunch Break & POSTER SESSION**

14:00 – 17:20 **Session 2 – ANALYZING BIOFILMS**

14:00 – 14:45 **Invited Talk**

Paolo Actis, University of Leeds

SINGLE CELL SURGERY WITH NANOPIPETTES

14:45 – 15:05 **O7: Giada Caniglia**, Ulm University

- SCANNING PROBE MICROSCOPIES AND THEIR POTENTIAL TO STUDY BIOFILM FORMATION AND ANTIMICROBIAL ACTIVITY
- 15:05 – 15:25 **O8: Rimsha Binte Jamal**, Aarhus University
ULTRASENSITIVE ELECTROCATALYTIC DETECTION of Escherichia coli rRNA at DNA BEACON MODIFIED ELECTRODES
- 15:25 – 16:00 **Coffee Break**
- 16:00 – 16:20 **O9: M. Carmen Blanco López**, University of Oviedo
LATERAL FLOW IMMUNOASSAYS FOR DECENTRALIZED BIOFILM CONTROL
- 16:20 – 16:40 **O10: Seila Agún**, Instituto de Productos Lácteos de Asturias (IPLA-CSIC)
PHAGE-BASED STRATEGY FOR STAPHYLOCOCCAL BIOFILM REMOVAL
- 16:40 – 17:00 **O11: Gemma Gutiérrez**, University of Oviedo
ESSENTIAL OILS EMULSIONS: ANTIMICROBIAL ACTIVITY
- 17:00 – 17:20 **O12: Verdiana Marchianò**, University of Oviedo
STABILITY OF NON-IONIC SURFACTANT VESICLES LOADED WITH RIFAMYCIN S
- 19:30 – open **Conference Dinner**

DAY 2: Tuesday (January 17, 2023)

- 08:30 – 12:00 **Session 3 – MITIGATING BIOFILMS**
- 08:30 – 09:15 **Invited Talk**
Frank Schreiber, Bundesanstalt für Materialforschung und -prüfung
RESISTANCE EVOLUTION TOWARDS BIOCIDES AND ANTIMICROBIAL SURFACES
- 09:15 – 09:35 **O13: Ana Catarina Duarte**, Instituto de Productos Lácteos de Asturias (IPLA-CSIC)
ENZYMATIC ACTIVITY OF THE EPS DEPOLYMERASE DPO7 FOR BIOFILM REMOVAL
- 09:35 – 09:55 **O14: Diellza Bajrami**, Ulm University
ADVANCED ANALYTICAL APPROACHES FOR UNDERSTANDING LENTILACTOBACILLUS PARABUCHNERI
- 09:55 – 10:20 **Coffee Break**
- 10:20 – 10:40 **O15: Sergio Caserta**, University of Naples
WETTING PROPERTIES OF DE-HYDRATED BIOFILM COATED SURFACES
- 10:40 – 11:00 **O16: Toni Vitasovic**, Aarhus University
ANTIBACTERIAL ACTIVITY OF Zn²⁺ IONS CORRELATES WITH BIOCIDAL ACTION OF ZnO NANOPARTICLES
- 11:00 – 11:20 **O17: Syed Imdadul Hossain**, University of Bari Aldo Moro
SCALABLE AND GREEN SILVER-BASED NANOANTIMICROBIALS: PREPARATION, ANALYTICAL CHARACTERIZATION, AND SCREENING OF THEIR BIOACTIVITY INCLUDING ION RELEASE AND ANTI-BIOFILM EFFECT FOR APPLICATION IN FOOD INDUSTRY
- 11:20 – 11:40 **O18: Shayesteh Bazsefidar**, University of Oviedo
CORE/SHELL MAGNETIC-GOLD NANOPARTICLES FOR THE RAPID ANALYSIS OF E. COLI O157:H7 THROUGH AN ELECTROCHEMICAL IMMUNOASSAY
- 11:40 – 12:00 **O19: Ekaterina Kukushkina**, University of Bari Aldo Moro
LONG-LASTING CORE-SHELL ANTIMICROBIAL NANOPARTICLES AND HOMOLOGOUS NANOCOMPOSITE FILMS FOR POTENTIAL FOOD PACKAGING APPLICATIONS

12:00 – 13:30 **Lunch Break**

From 14:00 **Social Program in Vienna**

Wednesday (January 18, 2023)

08:30 – 12:00 **Session 4 – BIOFILM PROPERTIES**

08:30 – 09:15 **Invited Talk**

Felipe Conzuelo, Instituto de Tecnologia Química e Biológica António Xavier, Lisbon
SCANNING PHOTOELECTROCHEMICAL MICROSCOPY FOR THE STUDY OF LIGHT-DEPENDENT BIOELECTROCHEMICAL REACTIONS

09:15 – 09:35 **O20: Ludovico Andrea Alberta**, Leibniz Institute for Solid State and Materials
DEVELOPING NOVEL TITANIUM-BASED ALLOYS TO TACKLE BIOFILM-ASSOCIATED INFECTIONS

09:35 – 09:55 **O21: María Matos**, University of Oviedo
STARCH AS CANDIDATE FOR SUSTAINABLE ANTIMICROBIAL NANOFORMULATIONS

09:55 – 10:20 **Coffee Break**

10:20 – 10:40 **O22: Erifyli Tsagkari**, University of Glasgow
THE ROLE OF SHEAR DYNAMICS IN BIOFILMS

10:40 – 11:00 **O23: Grégory Francius**, Université de Lorraine, LCPME, CNRS UMR
MACRO VS NANOSCALE ADHESION: ROLE OF YAD FIMBRIAE ON BACTERIAL ADHESION TO GLYCOSYLATED, HYDROPHOBIC AND HYDROPHILIC SURFACES

11:00 – 11:20 **O24: Daniele Marra**, University of Naples
THE ROLE OF MECHANICAL STRESSES ON BACTERIAL CELL MOTILITY

11:20 – 11:40 **O25: Maria Petala**, Aristotle University of Thessaloniki
MONITORING THE EFFECT OF FLOW DYNAMICS ON THE MORPHOLOGY OF PSEUDOMONAS FLUORESCENS BIOFILMS FORMED ON STAINLESS STEEL

11:40 – 12:00 **O26: Olivier Guillaume**, Technical University of Vienna
3D BIOPRINTING TO RECAPITULATE CYSTIC FIBROSIS BIOFILM: THE BREATH PROJECT

12:00– 12:20 **O27: Nazan Altun**, SINCAR
SPECTRAL IMAGING APPLICATIONS FOR BIOFILM ANALYSIS

12:20 – 14:00 **Lunch Break & POSTER SESSION**

14:00 – 14:45 **Invited Talk**

Lucia Fernandez, Instituto de Productos Lácteos de Asturias (IPLA-CSIC)
THE SOCIAL MICROBE: PROS AND CONS OF THE BIOFILM LIFESTYLE

14:45 – 15:05 **Sergio Caserta**, University of Naples
EUROPEAN SPACE AGENCY TOPICAL TEAM: BIOFILM FROM AN INTERDISCIPLINARY PERSPECTIVE

15:05 – 15:25 **Coffee Break**

15:25 – 17:20 **Conclusion Meeting Break Biofilms Project & Discussion New Activities**
(Discussion Leader: Silvia Giovanna Avataneo, Selantis, Centro Ricerche FIAT S.C.p.A)

Thursday (January 19, 2023)

Departure from Vienna