

**Preliminary Program**  
January 16, 2020

# Microbial Engineering II

April 19-24, 2020

Grand Hotel Santa Eulalia  
Albufeira-Portugal

**Conference Chairs**

**Eli Keshavarz-Moore**  
University College London, United Kingdom

**Barry Buckland**  
BiologicB, USA

**Sunday, April 19, 2020**

16:00 – 18:00	Conference Check-in
17:45 – 18:00	<b>Welcoming Remarks</b> Barry Buckland and Eli Keshavarz-Moore, Conference Chairs
18:00 – 18:50	Introduction to Plenary Lectures <b>Plenary Lectures</b>  <b>Refactoring yeast central metabolism to reverse growth phenotypes and product formation</b> Diethard Mattanovich, BOKU, Austria
18:50 – 19:40	<b>Synthetic biology for synthetic chemistry</b> Jay Keasling, University of California, Berkeley, USA
19:40 – 19:45	Concluding Remarks
19:45 – 20:30	Reception
20:30 – 22:30	Dinner

**Monday, April 20, 2020**

07:30 – 08:30

Breakfast Buffet

08:30 –

**Session I: Natural Products and Secondary Metabolites**

Session Chairs: Tiffany Rau (USA)

Joel Cherry (Digestiva, USA)

Session Introduction

Clean manufacturing powered by biology  
Sunil Chandran (Amyris, USA)

Production of novel carotenoids using *Deinococcus* as the production organism  
Emmanuel Petiot (Deinove, France)

Digestiva: Solving Protein Digestion  
Joel Cherry (Digestiva, USA)

Talks selected from applied abstracts

Introduction to Plenary Lecture

**Plenary Lecture**

**Microbial biosynthesis of complex plant-derived alkaloids**

Christina Smolke, (Antheia, USA)

Lunch Buffet

14:00–

**Session II: Primary Metabolites**

Session Chairs: Arindam Bose (AbiologicsB, LLC, USA)

Brigitte Gasser (BOKU, Austria)

Session Introduction

Valorization of renewables into bio-based chemicals using metabolically  
engineered microbes  
Christoph Wittmann (Saarland University, Germany)

Title to be confirmed  
Philippe Soucaille, (INSA (France) & University of Nottingham, (United Kingdom);  
Metabolic Explorer (France))

Talks selected from applied abstracts

Introduction to Plenary Lecture

**Plenary Lecture**

**Reflection, framework and future for continuous culture**

Charles Cooney, MIT, USA

Dinner

20:30 – 23:00

**Poster Session I** (with social hour and dessert)

Session Chairs: Brenda Parker (University College London, United Kingdom)

Laura Stoffels (Syngenta, United Kingdom)

**Tuesday, April 21, 2020**

07:30 – 08:30 Breakfast Buffet

08:30 –

**Session III: Therapeutic Proteins and Peptides**

Session Chairs: Karen Polizzi (Imperial College London, United Kingdom)  
Neil Dixon (University of Manchester, United Kingdom)

Session Introduction

New medical applications for yeast made antibodies  
Nico Callewaert (University of Gent, Belgium)

Robust protein production and secretion in bacteria using type III secretion system  
Danielle Tullman-Ereck (Northwestern University, USA)

Characterization of homologous industrial strains using continuous cultivation techniques to understand process performance variation in a platform fed-batch production process  
Anthony Grippe (Merck, USA)

Novel highly productive production system for biotherapeutics: The C1 technology  
Ronen Tchelet (Dyadic International, Hungary)

Talks selected from applied abstracts

Lunch Buffet

14:00 –

**Session IV: Biopolymers and Biofuels**

Session Chairs: Behnam Taidi (CentraleSupélec, France)  
David Stuckey (Imperial College, United Kingdom)

Session Introduction

In-situ capture of CO<sub>2</sub> from heterotrophic processes using mixed cultures  
Behnam Taidi (CentraleSupélec, France)

Design-build-test and Learn for in-vivo and cell-free production of biomaterials  
Jean-Loup Faulon (University of Paris Saclay, France; University of Manchester, United Kingdom)

Controlling the size and linkage type of biopolymers derived from sucrose  
Magali Remaud-Siméon (Université de Toulouse, CNRS, INRA, INSA, Toulouse, France)

Talks selected from applied abstracts

Introduction of Plenary Lecture  
**Plenary Lecture**

**Integrated biomanufacturing with micro-modular systems for biopharmaceuticals and vaccines**

Chris Love, MIT, USA

Dinner

20:30 – 23:00

**Poster Session II**

Session Chairs: Brenda Parker (UCL, United Kingdom)  
Laura Stoffels (Syngenta, United Kingdom)

**Wednesday, April 22, 2020**

07:30 – 08:30

Breakfast Buffet

08:30 –

**Session V: Microbiome**

Session Chairs: John Aunins (Seres Therapeutics, USA)  
Kristala Prather (MIT, USA)

Session Introduction

Metabolic and microbial networks  
Costas Maranas (Penn State University, USA)

Synthetic biology and processing for engineering the microbiome  
Scott Plevy (Synlogic Therapeutics, USA)

Building trophic networks for gut microbial biotherapeutic production  
Christophe Lacroix (ETH Zurich, Switzerland)

Bacterial co-culture with cell signalling translator and growth controller modules for autonomously regulated culture composition  
William Bentley (University of Maryland, USA)

Talks selected from applied abstracts

Lunch Buffet

Afternoon – free for networking, discussion, leisure

16:30 –

**Session VI: Cell free protein synthesis**

Session chairs: Daniel Bracewell (University College London, United Kingdom)  
Jim Swartz (Stanford University, USA)

Session Introduction

Cell-free systems for portable, on-demand biomanufacturing, molecular sensing and education  
Mike Jewett (Northwestern University, USA)

New kid on the block: Industrialisation of cell-free synthesis for biotherapeutics development  
Bob Kiss (Sutro Biopharma, USA)

Talks selected from applied abstracts

Introduction of Plenary Lecture  
**Plenary Lecture**

**Dynamic Metabolic Engineering**  
Kristala Prather (MIT, USA)

Dinner

**Thursday, April 23, 2020**

07:30 – 08:30 Breakfast Buffet

08:30 – Concurrent Workshops

**Workshop1**

Chair: Eli Keshavarz-Moore

Session Introduction  
What is the vision of the future of biomanufacturing?

Contributors:  
Jonathan Brown (Pall Europe)  
Martin Smyth (Sartorius Stedim)  
Parrish Galliher (GE)  
Aaron Pilling KBI Biopharm (USA)

08:30 – **Workshop 2**  
Chair: Gary Lye (University College London, United Kingdom)

Session Introduction  
**Biorefinery**

Introduction of Plenary Lecture – EKM or BB  
**Plenary Lecture**

**Vaccines: Unprecedented opportunities for impact**  
Rahul Singvi (Flagship Pioneering, USA)

12:30- 14:00 Lunch Buffet

14:00- **Session VI: Vaccines**  
Session Chairs: Stefanie Frank (University College London, United Kingdom)  
Barry Buckland (BiologicB, USA)

Session Introduction

Developing modular, well-characterized VLP vaccines  
Jim Swartz (Stanford University, USA)

Integrated product design and development for manufacturable protein subunit vaccines  
Kerry Love (MIT, USA)

De-risking technology transfers for vaccine candidates in highly complex lab/pilot/manufacturing landscapes

Tracie Spangler (Merck, USA)

Engineering low cost glycoconjugate vaccines in bacterial cells  
Brendan Wren (London School of Hygiene & Tropical Medicine, United Kingdom)

Talks selected from applied abstracts

Introduction of Concluding Plenary Lecture

**Plenary Lecture**

**Engineering *Pichia pastoris* to make the impossible burger possible**

Smita Shankar (Impossible Foods, USA)

19:45 – 23:00

Reception, Conference Banquet and Poster Prizes

**Friday, April 24, 2020**

07:30 – 10:00

Breakfast Buffet followed by departures

DRAFT