



Wednesday 24th of October 2018

13:45 - 14:00 *Registration on site (Mercure Hotel, Toulouse)*

Session 1: Genome engineering and synthetic genomics

Chair: Fayza Daboussi

14:00 - 14:45 From an empty toolbox to the construction of cellular sophisticated chassis: the example of mycoplasmas and beyond

Carole Lartigue (International Institute of Agronomic Research, INRA, France)

14:45 - 15:00 Unlocking growth constraints of photosynthetic microbes: how analyzing resource allocation strategies could improve productivity

Michael Jahn (Royal Institute of Technology, Sweden)

15:00 - 15:15 Synthetic promoter stacking: when two plus two equals three

Sebastian Köbbing (RWTH Aachen University, Germany)

15:15 - 15:30 A paired CRISPR/AsCpf1-mediated screen tackling long non-coding RNAs in Chinese Hamster Ovary cells

Valerie Schmieder (Boku University, Austria)

15:30 - 15:45 One-step generation of multiple gene knock-outs in the diatom *Phaeodactylum tricornutum* by DNA-free genome editing

Fayza Daboussi (Université de Toulouse, LISBP, France)

15:45 - 16:00 Engineering USUAL and UNUSUAL lipid production in *Yarrowia lipolytica*

Jean-Marc Nicaud (Agroparis Tech, France)

16:00 - 16:15 "You design it, we build it"

Marc Bruyninx (TWIST, USA)

16:15 - 16:45 *Coffee break*



Wednesday 24th of October 2018

Session 2: Bionanoscience and bionanoengineering

Chair: Marjan de Mey

- 16:45 - 17:30 Microbial cell-free systems for prototyping of bioproduction processes
Karen Polizzi (Imperial College of London, UK)
- 17:30 - 17:45 Accessing channeled biocatalysis in self-assembled nanoparticle-multienzyme cascades
Igor L. Medintz (U.S. Naval Research Laboratory, USA)
- 17:45 - 18:00 Engineering encapsulins for protein production and enhanced enzyme activity
Efrain Zarazua-Arvizu (The University of Edinburgh, UK)
- 18:00 - 18:15 Cell-free prediction of protein expression costs for growing cells
Olivier Borkowski (Université of Paris Saclay, France)
- 18:15 - 18:30 Surface sensing metabolic protocells
Angelique Coutable-Pennarun (University of Bristol, UK)
- 18:30 - 18:45 Techno-economic evaluation of a cell-free synthetic biochemistry route for raspberry ketone production at industrial scale
Vaishali B Thoore (Imperial College London, UK)
- 18:45 - 19:00 A self-actuated biological device for Nanomaterial synthesis
Urtaru Ozgur Safak Seker (Bilkent University, Turkey)
- 19:30 - 21:00 *Welcome cocktail (Mercure Hotel)*



Thursday, 25th of October 2018

Session 3: Applied protein design and evolution

Chair: Cecilia Roque

08:30 - 09:15 Artificial carboligases by computational design and directed evolution: from incipient activity to scalable biocatalytic processes

Xavier Garrabou Pi (ETH Zurich, Switzerland)

09:15 - 09:30 Opening an artificial bypass for glucose degradation in *Escherichia coli* K12 by expression of a mutant gene of fructose 6-phosphate aldolase (FsaA)

Emma Guitart Font (University of Stuttgart, Germany)

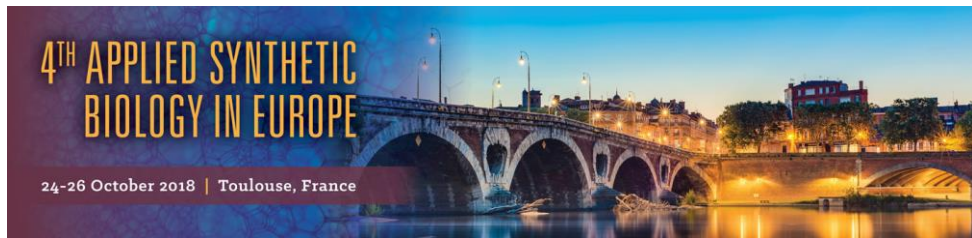
09:30 - 09:45 Engineering bugs for the discovery of new drugs against neurodegeneration and other diseases caused by protein misfolding and aggregation

Georgios Skretas (National Hellenic Research Foundation, Greece)

09:45 - 10:00 Cyclodipeptide synthases are efficient tools for the incorporation of non-canonical amino acids into cyclodipeptides

Nicolas Canu (CEA, France)

10:00 - 10:30 *Coffee break*

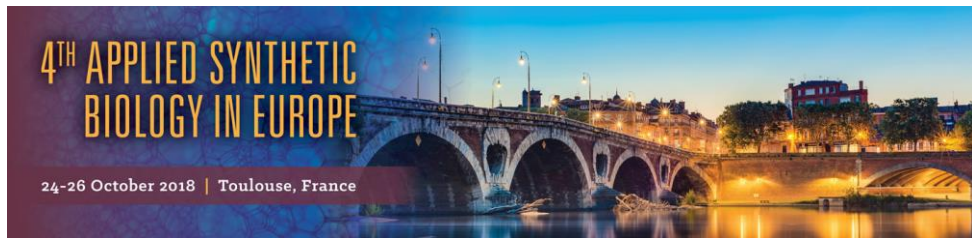


Thursday, 25th of October 2018

'Mixed pot': Session III & V

Chair: Michael Sauer

- 10:30 - 10:55 Environmental bacteria as the functional *chassis* for engineering synthetic *trans*-metabolisms
Pablo I. Nikel (The Novo Nordisk Foundation, DTU, Denmark)
- 10:55 - 11:10 A novel synthetic pathway for methanol utilization in *E. coli*
Alessandro De Simone (LISBP, France)
- 11:10 - 12:30 **Flash poster presentation** (session of Flash posters without specific link with session)
- 12:30 - 14:00 *Lunch*
- 14:00 - 16:30 Poster session I
- 16:30 - 17:00 *Coffee break*
- 17:00 - 17:25 A synthetic yeast for efficient assimilation of carbon dioxide
Diethard Mattanovich (Boku University, Austria)
- 17:25 - 17:40 A high-throughput screening of expression libraries to produce antimicrobial peptides in *Escherichia coli* and *Vibrio natriegens*
Joel Eichmann (University of Applied Sciences Mittelhessen, Germany)
- 17:40 - 17:55 Engineering a synthetic pathway for glycolic acid production from C5 and C6 sugars with maximal carbon conservation
Cléa Lachaux (LISBP, Toulouse University, France)
- 17:55 - 18:10 Designed affinity ligands and Functional materials for affinity purification and sensing
Cecilia Roque (NOVA University, Portugal)
- 20:00 - 23:00 *Gala dinner (Mercure hotel)*

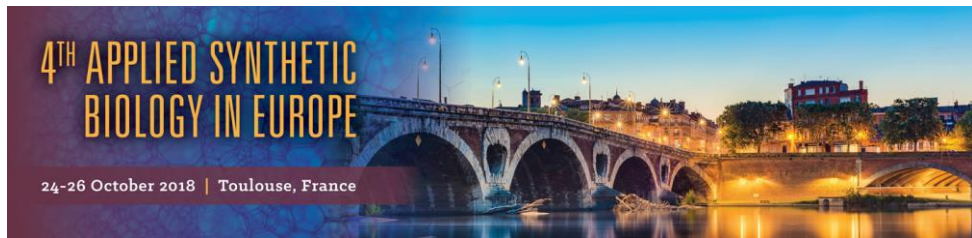


Friday, 26th of October 2018

Session 4: Synthetic pathways and bio (chemical) manufacturing

Chair: Jussi Jäntti

- 08:30 - 09:15 From plastic waste to plastic value using *Pseudomonas putida*
Lars Blank (RWTH Aachen University, Germany)
- 09:15 - 09:30 Overcoming the isoprene rule: biosynthesis of unconventional terpenes
Laura Drummond (DECHEMA, Germany)
- 09:30 - 09:45 Metabolic engineering strategies for glycolipids production in *E. coli*
Magda Faijes (University Ramon Llull, Spain)
- 09:45 - 10:00 High-yield production of p-hydroxybenzoate from glucose or glycerol by an engineered *Pseudomonas taiwanensis* VLB120
Christoph Lenzen (RWTH Aachen University, Germany)
- 10:00 - 10:45 **Flash poster presentation** (session of Flash posters without specific link with session)
- 10:45 - 11:00 *Coffee break*
- 11:00 - 12:30 Poster session II
- 12:30 - 14:00 *Lunch*



Friday, 26th of October 2018

Session 5: Synthetic biology and biotechnology application

Chair: Nick Wierckx

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| 14:00 - 14:45 | Contribution of new developments in the synthetic biology toolbox to the engineering of yeast cell factories

Pascal Daran-Lapujade (Delft University of Technology, Netherlands) |
| 14:45 - 15:00 | Metabolic engineering of robust industrial strains for de novo resveratrol production from sole carbon sources for application in process-like conditions

Carlos E. Costa (University of Minho, Portugal) |
| 15:00 - 15:45 | Establishing a C3-chemicals platform through engineering of propanediol utilization (PDU) pathway of <i>Lactobacillus reuteri</i>

Lu Chen (Lund University, Sweden) |
| 15:15 - 15:30 | Engineering of <i>Zymomonas mobilis</i> respiratory chain for aerobic production and stress tolerance

Uldis Kalnenieks (University of Latvia, Latvia) |
| 15:30 - 15:45 | SES: universal gene expression system for fungi

Jussi Jäntti (VTT Technical Research Centre of Finland, Finland) |
| 15:45 - 16:00 | Modulation of Pab1 structure as a synthetic approach for improving yeast stress tolerance

Francesca Martani (University of Milano-Bicocca, Italy) |
| 16:15 - 16:45 | <i>Best Poster Awards</i> (medal, silver and bronze prizes) |
| 16:45 | Closing Ceremony |