



Programme

Wednesday, 2 November 2022

12:00-14:00 Registration

Official opening of ASBE VI and Opening Plenary Session

Chairs: **Marjan De Mey**, Ghent University, Belgium

Louise Horsfall, University of Edinburgh, United Kingdom

14:00-14:10 Welcome

14:10-14:50 **Opening Lecture:**

Star Trek meets ET: (synthetic) biology as an enabling technology for space exploration

Lynn Rothschild, NASA Ames / Brown University, USA

Session sponsor



Session 1 - Sustainable agriculture and food security (part 1)

Chair: **Jan Maarten van Dijk**, University of Groningen, the Netherlands

14:50-14:55 Introduction

14:55-15:25 **Keynote Lecture:**

Recoding regulation - synthetic expansions of plant metabolism

Nicola Patron, Earlham Institute, United Kingdom

15:25-15:45 Synthetic biology approaches to hydrocarbon biosensors

Claudia Moratti, University of Sydney, Australia

15:45-16:15 Flash talks (1-7)

16:15-16:45 *Coffee break, exhibition and poster tour*



Wednesday, 2 November 2022

Session sponsor



Session 1 - Sustainable agriculture and food security (part 2)

Chair: **Jan Maarten van Dijl**, University of Groningen, the Netherlands

- 16:45-17:05 *Yarrowia lipolytica* as source of enhanced foods and ingredients
Rodrigo Ledesma, Imperial College London, United Kingdom
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- 17:05-17:25 Microbial chitooligosaccharide production for responsible and resilient agricultural practices
Chiara Guidi, Centre for Synthetic Biology, Belgium
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- 17:25-17:55 Flash talks (8-14)
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- 17:55-18:05 Beckman Coulter solutions for synthetic biology workflows
Enrique Neumann, Beckman Coulter Life Sciences
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- 18:05-18:30 Flash talks (15-21)
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- 18:30-20:00 Welcome reception and poster session 1

Thursday, 3 November 2022

Session 2 - Good health and well-being

Chair: **Tim Overton**, University of Birmingham, United Kingdom

- 9:00-9:05 Introduction
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- 9:05-9:35 **Keynote Lecture:**
Nico Callewaert, VIB / Ghent University, Belgium
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- 9:35-9:55 Engineering of an adhesion module for therapeutic microbes
Alexandre Chamas, Leibniz HKI Jena, Germany
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- 9:55-10:15 Clickable Shiga toxin for drug delivery
Natalia Danielewicz, Universitat fur Bodenkultur, Austria
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- 10:15-10:35 SpyPhage: a cell free transcription/translation platform for rapid engineering of targeted phage therapies
Sahan B.W. Liyanagedera, University of Edinburgh, United Kingdom
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- 10:35-11:05 *Coffee break, exhibition and poster tour*



Thursday, 3 November 2022

Session 3 - Clean water and sustainable marine ecosystems	
Chair: Stéphanie Heux , Toulouse Biotechnology Institute, France	
11:05-11:10	Introduction
11:10-11:40	Keynote Lecture: Taking synthetic biology to the seas: from tool development to biogeoeengineering Lennart Schada von Borzyskowski , Leiden University, the Netherlands
11:40-12:00	Lignin-based metallic nanoparticle composites Dina Ahmed , University of Edinburgh, United Kingdom
12:00-12:30	Flash talks (22-27)
12:30-13:30	<i>Lunch</i>
12:30-13:00	Board meeting - EFB Divisions
Session sponsor	Session 4 - Responsible consumption and production
	Chair: Marjan De Mey , Ghent University, Belgium
13:30-13:35	Introduction
13:35-14:05	Keynote Lecture: Building capabilities for responsible innovation in synthetic biology Robert Smith , University of Edinburgh, United Kingdom
14:05-14:35	Keynote Lecture: <i>Mycelium</i> materials Han Wösten , Utrecht University, the Netherlands
14:35-14:55	Construction of synthetic microalgae chloroplasts for the sustainable production of valuable rhamnolipid biosurfactants Pablo Leivar , Institut Químic de Sarrià, University Ramon Llull, Spain
14:55-15:15	Cell-based vs cell-free production and purification of marine-based structural proteins Margarida Dias , UCIBIO FCT-NOVA, Portugal
15:15-15:35	Importance of ethical deliberation around justice issues in synthetic biology Varsha Aravind Paleri , University of Antwerpen, Belgium
15:35-16:05	<i>Coffee break, exhibition and poster tour</i>



Thursday, 3 November 2022

Session sponsor



Session 5 - Sustainable energy and climate action

Chair: **Pascale Daran-Lapujade**, TU Delft, the Netherlands

16:05-16:10	Introduction
16:10-16:40	Keynote Lecture: Pushing the boundaries of synthetic biology to tackle climate changes Stéphanie Heux , Toulouse Biotechnology Institute, France
16:40-17:00	Production of anticancer drug taxol intermediaries and biojet fuel candidates using microbial consortia under a continuous flow system Leonardo Rios Solis , Newcastle University, United Kingdom
17:00-17:20	Conversion of CO ₂ into organic acids by synthetic autotrophic yeast Özge Ata , ACIB / BOKU, Austria
17:20-17:40	Biological upcycling of spent Li-ion batteries into metal nanoparticles Giovanni Maddalena , University of Edinburgh, United Kingdom
17:40-20:00	Poster session 2 and networking reception



Friday, 4 November 2022

Session sponsor	Session 6 – Synthetic biology tools
	Chair: Pablo Ivan Nikel , Novo Nordisk Foundation Center for Biosustainability, Denmark
9:00-9:05	Introduction
9:05-9:35	Keynote Lecture: Henrike Niederholtmeyer , MPI-Marburg, Germany
9:35-9:55	A universal and orthogonal gene expression system enabling standardized translation initiation across the bacterial domain Lien De Wannemaeker , Ghent University, Belgium
9:55-10:15	Signal peptide efficiency: from high-throughput data to prediction and explanation Stefano Grasso , Lesaffre, France
10:15-10:35	Pathway engineering using recombination-based expression optimization in yeast Charlotte Cautereels , KU Leuven, Belgium
10:35-10:45	Sponsor talk - Samplix
10:45-11:15	<i>Coffee break, exhibition and poster tour</i>
	Closing Plenary Session
11:15-11:55	Closing lecture: SynBio for a sick planet: the challenges and the tools Victor de Lorenzo , CSIC, Spain
11:55-12:10	Poster awards
12:10-12:30	Closing words