

BIOCON-CO₂ WORKSHOP & MASTERCLASS

21 - 22 JANUARY 2020

Organised by Wageningen Food & Biobased Research (WFBR) and University of Groningen (RUG), the Netherlands

Workshop: Microbial and enzymatic CO₂ conversion, CO₂ conversion technologies

Date: 21 January 2020

Location: Wageningen, the Netherlands

Venue: Wageningen Campus, Building 118, Axis X, Grote Zaal

08:00 - 09:00	Registration	
09:00 - 09:15	Welcome and introduction	Ana López-Contreras (WFBR, Netherlands)
09:15 - 10:00	Opening lecture: CO ₂ as a renewable carbon feedstock for the industry	Achim Raschka (Nova Institute, Germany)
10:00 - 10:15	Coffee break	
10:15 - 10:45	Lecture: Accelerating CO ₂ capture and solubilisation: when biotechnology meets engineering	Annabel Serpico (LEITAT, Spain)
10:45 - 11:45	Lecture: The role of shared pilot facilities in the deployment of gas fermentation	Karel de Winter (BBEPP, Belgium)
11:45 - 12:15	Pitch 1	Participants
12:15 - 13:15	Lunch	
13:15 - 14:00	Lecture: Expanding the product portfolio of gas fermentation using synthetic co-cultures of Clostridia	Diana Sousa (Laboratory of Microbiology, Wageningen University, Netherlands)
14:00 - 14:30	Lecture: Advances in gas fermentation methods	Aline Hüser (AVT, Aachen University, Germany)
14:30 - 15:00	Lecture: Classical and modern methods for cultivation and genetic engineering of <i>Clostridium spp</i>	Gabriele Philipps (Fraunhofer, Germany)
15:00 - 15:15	Coffee break	
15:15 - 15:45	Lecture: Biocatalytic routes for the synthesis of C1-chemicals from industrial CO ₂ streams	Carmen Boeriu (WFBR, Netherlands)
15:45 - 16:15	Pitch 2	Participants
16:15 - 17:30	Closing: Photo shoot and visit WFBR facilities	
18:30	Dinner	

See next page for BIOCON-CO₂ masterclass agenda



Masterclass: Enzyme discovery and engineering, computational enzyme engineering (including computational exercises)

Date: 22 January 2020

Location: Wageningen, the Netherlands

Venue: Wageningen Campus, Building 118, Axis X, Grote Zaal (morning)
PC0654, Building 102, Forum (afternoon)

09:15 - 09:30	Welcome and introduction	Carmen Boeriu (WFBR, Netherlands)
09:30 - 10:00	A short history of biocatalysis: from dreams to industrial reality	Carmen Boeriu & Tom Ewing (WFBR, Netherlands)
10:00 - 10:15	Coffee break	
10:15 - 11:15	Lecture: Enzyme engineering for industrial processes	Marco Fraaije (University of Groningen, Netherlands)
11:15 - 12:00	Lecture: Introduction to computational enzyme engineering	Hein Wijma (University of Groningen, Netherlands)
12:00 - 13:00	Lunch and photo shoot	
13:00 - 15:00	Computational exercise on enzyme engineering I Crash course: PyMol for analysis & visualization of protein structures (<i>non-experienced participants</i>)	Marco Fraaije & Hein Wijma (University of Groningen, Netherlands) NB PCs available for participants
	Computational exercise on enzyme engineering II Hands-on docking in an enzyme structure (<i>experienced participants</i>)	
15:00 - 15:15	Coffee break	
15:15 - 17:30	Computational exercises on enzyme engineering (continued)	
17:30	Closing	

