

BIOCON-CO2 WORKSHOP: BIOCATALYSIS AND ELECTROFERMENTATION

AGENDA (DRAFT)

BIOCATALYSIS SESSION: 25TH January

9:00-9:15: Welcome

9:15-9:45: Enzyme characterization and immobilization- Gregorio Álvaro Campos (UAB)

9:45-10:15: Medium engineering and reactor configuration in biocatalysis – Marina Guillén Montalbán (UAB)

10:15-10:45: Enzyme engineering approaches: an update- Marco Fraaije (RUG)

10:45-11:15: Coffee break

11:15-11:45: Translating laboratory reactions into industrial biocatalytic processes -John Woodley (DTU)

11:45-12:15: Combining Aldolases and Transaminases for the Synthesis of L- and D-Homoserine- Pere Clapés (IQAC-CSIC)

12:15-13:15: Lunch

13:15-13:45: Biocatalytic processes to oxy-functionalized molecules: from route scouting to industrial application- Martin Schürmann (InnoSyn)

13:45-14:15: Enzymatic synthesis of lactose-derived prebiotics- Andrés Illanes (PUCV)

14:15-14:30: Coffee break

14:30-15:00: BIOCON-CO2 case study: Biocatalytic reduction of CO₂ by formate dehydrogenases - Tom Ewing (WFBR)

15:00-15:30: BIOCON-CO2 case study: Multi-enzymatic synthesis of lactic acid from CO₂ with inherent cofactor regeneration cycle- Albert Carceller (UAB)

15:30-16:00: BIOCON-CO2 case study: Enzymatic synthesis of polylactic acid: research for a greener approach

– Josu López (UAB)

Electrofermentation: 26TH January

9:00-9:15: Welcome

9:15-9:45: Electro-fermentation: how to drive fermentation using electrochemical systems – Nicolas Bernet (INRAE)

9:45-10:15: CO₂ as raw material for chemicals production using electrofermentation– Ramiro Blasco (Lequia – UdG)

10:15-10:45: Coupling electrochemical and microbial catalysis to produce polymer bricks – Falk Harnisch (UFZ)

10:45-11:15: Coffee break

11:15-11:45: Strategies to enhance *Clostridia* fermentation and anaerobic digestion using electrofermentation approach – Daniele Molognoni (Leitat)

11:45-12:15: Anode- and cathode-driven bioproduction of chemicals and biofuels – Igor Vassilev (Tampere University)

12:15-13:15: Lunch Break

13:15-13:45: Microbial protein production combining electrochemistry and bioprocesses- Jo De Vrieze (KU Leuven)

13:45-14:15: Bioelectrochemical Systems for Hydrogen Production and Carbon Fixation Using Purple Phototrophic Bacteria -Carlos Manchón (University of Alcalá)