

34th EMS Summer School 2017
Membranes in Biorefineries
June 26 – 30, 2017



Organised by:

Department of Chemical Engineering, Lund University, Sweden

PO Box 124, SE-221 00 LUND, Sweden

Preliminary programme with confirmed speakers

Monday 26 June, 2017

11-14 Registration and buffet lunch in Lund

Session 1 Biobased products and biorefineries

14:00 **Welcome**

Frank Lipnizki and Ann-Sofi Jönsson (Lund University, Lund, Sweden)

Biobased platform chemicals

Stefan Lundmark (Perstorp AB, Perstorp, Sweden)

Biobased film barriers

Ulrica Edlund (KTH Royal Institute of Technology, Stockholm, Sweden)

Overview on membrane processes for biorefineries

Bart Van der Bruggen (KU Leuven, Belgium)

16:30 Departure by bus to Bäckaskog Castle

Tuesday 27 June, 2017

Session 2 Biorefinery concepts based on wood, agriculture crops and algae

8:30 **Wood based biorefineries**

Merima Hasani (Chalmers, Gothenburg, Sweden)

Agriculture biomass biorefineries

Frank Lipnizki

Algae based biorefineries

Lidietta Giorna (University of Calabria, Rende, Italy)

Session 3 Downstream processing in biorefineries

13:30 Short presentation of posters

Methods to extract and isolate biomass components, on a laboratory and industrial scale

Manuel Pinelo (Technical University of Denmark, Copenhagen, Denmark)

Sustainable and energy-efficient separation methods in biorefineries

Maria Norberta Neves Correia de Pinho (Technical University of Lisbon, Lisbon, Portugal)

Downstream processing in biorefineries

Cristiana Boi (University of Bologna, Italy)

Pretreatment by filtration

Hans Theliander (Chalmers, Sweden)

Pretreatment by centrifugation

Finn Rundström (Alfa Laval, Denmark)

18:00 Poster session

Wednesday 28 June, 2017

Session 4 Membranes in the pulp and paper industry

8:30 **Membrane applications in the pulp and paper industry**

Mari Kallioinen (Lappeenranta University of Technology, Lappeenranta, Finland)

Challenges when implementing membrane filtration in pulp mills

Ann-Sofi Jönsson

13:00 Excursion to Stora Enso Nymölla pulp and paper mill

Session 5 Water and wastewater treatment

16:00 **MBRs for biorefineries**

Nicolas Heinen (Alfa Laval, Nakskov, Denmark)

Water preparation and recovery in biorefineries

Jens Lipnizki (Lanxess, Leverkusen, Germany)

18:00 Poster session

Thursday 29 June, 2017

Session 6 Membranes and modules

8:30 **Polymeric membranes in biorefineries**

Haofei Guo (Alfa Laval, Nakskov, Denmark)

Ceramic membranes in biotech and pulp and paper applications

Peter Bolduan (Atech, Germany)

Ceramic membranes in biorefineries

Marcus Weyd (Fraunhofer Institute, Munich, Germany)

Aquaporin membranes for water recovery from fermentation processes

Jörg Vogel (Aquaporin A/S, Kongens Lyngby, Denmark)

Implementation of membrane separation techniques in the production of butanol by fermentation process

Wojciech Kujawski (Nicolaus Copernicus University, Torun, Poland)

Session 7 Fouling and cleaning

13:30 **Fouling and cleaning of membranes in biorefineries**

Chris Dotremont (Vito, Mol, Belgium)

Costs for membrane cleaning – key aspects in membrane plant operation

Frank Lipnizki and Ann-Sofi Jönsson

Session 8 Economy

16:00 **Nothing comes for free – membrane plant economy**

Frank Lipnizki and Ann-Sofi Jönsson

How can membrane processing contribute towards a circular economy?

João Crespo (Technical University of Lisbon, Lisbon, Portugal)

Friday 30 June, 2017

9:00 Departure by bus to Lund

Session 9 The future of membranes in biorefineries

13:30 **The future of membranes in biorefineries**

Frank Lipnizki

15:00 Closing ceremony