

EFCE Spotlight Talks

Section on Membrane Engineering

21 April
2022

09:30 am • 12:00 pm

CEST

Impact of Membrane Engineering on the Process Engineering progresses



The fast growing of membrane systems in industrial applications suggests the dissemination of last results at academic and industrial level, particularly in the areas of strategic interest. In this webinar, we will try to present the state of the art of well-established membrane operations and also new important opportunities. Exergy analyses for membrane units applied in desalination and in the ethylene process will be discussed. New metrics to compare the performance of membrane operations to conventional ones in the logic of process intensification will also be presented. The potential of membrane systems in the biofuel production and molecular dynamic simulations as tools to better control scaling issues inside membrane plants will be analyzed. Basic process control on membrane processes and how to assist feedback control strategies by the implementation of advanced logics and actions will be illustrated.

PROGRAM

- 09:30 **Welcome and introduction**
Enrico Drioli – Chair of the Session on Membrane Engineering
Petr Kluson, EFCE Scientific Vice-President
- 09:40 **Exergy analyses and new metrics to assess the role of membrane operations for a sustainable development**
Alessandra Criscuoli, Istituto per la Tecnologia delle Membrane (CNR-ITM) - Italy
- 10:10 **CO₂ valorization through innovative membrane systems as a promising environmental pathway to biofuels**
Adele Brunetti, Istituto per la Tecnologia delle Membrane (CNR-ITM) - Italy
- 10:40 **Molecular simulations for scaling prediction: case of nucleation and growth**
Elena Tocci, Istituto per la Tecnologia delle Membrane (CNR-ITM) - Italy
- 11:10 **Development of advanced control systems and proper tools for membrane processes**
Marco Stoller, Università di Roma "La Sapienza" - Italy
- 11:40 **Conclusion**
Enrico Drioli – Istituto per la Tecnologia delle Membrane (CNR-ITM) - Italy

Registration

free of charge but mandatory

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