

EFCE Spotlight Talks

Working Party on
Polymer Reaction Engineering

21
May
2025

9:30-12:00
CET



Solving polymer reaction engineering (PRE) challenges with modeling approaches

With increasing computational power and more recently the advancement of machine learning techniques and artificial intelligence, modeling approaches have become increasingly important in the context of polymer reaction engineering. Modeling can help to unravel fundamental questions, optimize polymerization processes or design new products. It can even accelerate the realization of circularity for polymers. Within this Spotlight Talk Series an overview of these applications will be given from academic as well as industrial points of view.

PROGRAM

- 09:30 **Welcome and introduction**
Kristina Zentel, Secretary WP on Polymer Reaction Engineering, TU Darmstadt - Germany
Jarka Glassey, EFCE Executive Vice-President
- 09:40 **Machine learning models in the world of PRE**
Nicholas Ballard, POLYMAT - University of the Basque Country UPV/EHU - Spain
- 10:10 **Bridging the Scale – concepts for transferring from lab to large-scale application**
Markus Busch, TU Darmstadt - Germany
- 10:40 **Insights into radical formation and efficiency in emulsion polymerization from a modeling perspective**
Felix Warnecke, Wacker Chemie AG - Germany
- 11:10 **Consequences of heat transfer limitations on plastic waste pyrolysis reactor scale-up**
Sabriye Fredriksson, SABIC - Netherlands
- 11:40 **Panel discussion and final remarks**
Markus Busch, Chair WP on Polymer Reaction Engineering, TU Darmstadt - Germany
Kristina Zentel, Secretary WP on Polymer Reaction Engineering, TU Darmstadt - Germany

[REGISTRATION](#)

free of charge but mandatory

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