

# EFCE Spotlight Talks

Working parties on Process  
Intensification and Chemical  
Reaction Engineering

13  
March  
2026

15:00-17:15  
CET



## Application of artificial intelligence (AI) to chemical reaction engineering and process intensification

In recent years, application of Artificial Intelligence (AI) in chemical engineering has rapidly grown as a game-changer and driver for process and product innovation, improved energy and materials resource efficiency, and sustainable chemical manufacturing. This webinar presents a structured perspective on the application of AI in Chemical Reaction Engineering and Process Intensification, progressing from knowledge-based and symbolic AI foundations, through domain-informed chemical engineering perspectives, to agentic and generative AI approaches for chemical process design and system-level views on the evolving role of AI in intensified chemical processes. Emphasis is placed on the integration of domain knowledge, physical insight, and engineering expertise into AI-driven methodologies, highlighting their role in enabling robust and impactful solutions for next-generation chemical processes.

### PROGRAM

- 15:00      **Welcome and introduction**  
Prof. Georgios Stefanidis, Chair of the Working Party on Process Intensification  
Prof. Kevin Van Geem, Chair Working Party on Chemical Reaction Engineering  
Boelo Schuur, EFCE Scientific Vice-President
- 15:10      **A Knowledge Foundation for Symbolic AI in Engineering**  
Prof. Alexei Lapkin, University of Cambridge - United Kingdom
- 15:40      **Domain-Informed AI: A Chemical Engineering Perspective**  
Prof. Idelfonso B. R. Nogueira, Norwegian Univ. of Science and Tech. (NTNU) – Norway
- 16:10      **Agentic AI for Next-Generation Chemical Process Design**  
Prof. Artur Schweidtmann, TU Delft - The Netherlands
- 16:40      **Mapping the AI Journey in Process Intensification: From Prediction to Generation**  
Prof. Enis Leblebici, KU Leuven – Belgium
- 17:10      **Closing remarks**  
Prof. Georgios Stefanidis, Chair of the Working Party on Process Intensification  
Prof. Kevin Van Geem, Chair of the Working Party on Chemical Reaction Engineering

[\*\*REGISTRATION\*\*](#)

*free of charge but mandatory*

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