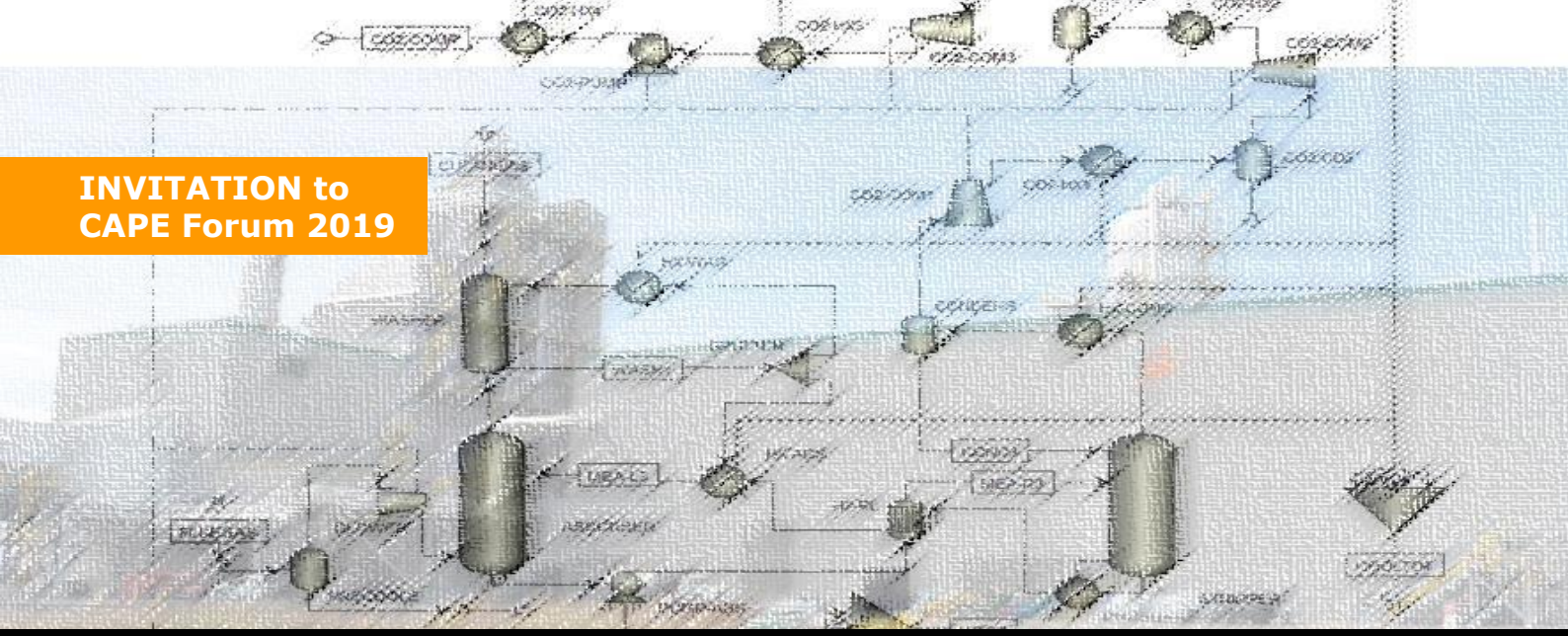

INVITATION to CAPE Forum 2019

Computer Aided Process Engineering FORUM

Under supervision of the CAPE Working Party of the European Federation for Chemical Engineering (EFCE)

24-26 November 2019, Liège, Belgium

Objectives

CAPE Forum is a series of yearly small-scale but highly interactive conferences organized under supervision of the Computer-Aided Process Engineering (CAPE) Working Party of the European Federation for Chemical Engineering (EFCE). The main aim is to expose PhD students, researchers and industrial practitioners from accross Europe to cutting edge developments in both academia and industry in the field of Computer Aided Process Engineering.

CAPE Forum 2019 is organized in Liège (Belgium) from 24 to 26/11/2019. As chemical and life sciences industry is prominent in Belgium, the opportunity is taken to have a joint industry – academia organization and program for CAPE Forum 2019.

Venue

Salle des Professeurs ULiège
Liège City center, Belgium

Contact

secretary.chemeng@uliege.be

Program

- 6 invited keynotes: 4 from academia and 2 from industry
- Further contributions selected based on submitted abstracts.
- Award ceremony in collaboration with Eurecha (*European Committee for the Use of Computers in Chemical Engineering Education*).

Calendar

September 5	Abstract submission
October 1	Acceptance notification
November 1	Final abstract submission Deadline for early registration
November 15	Deadline for late registration
Nov. 24-26	Cape Forum

Information and registration

Event website:
www.chemeng.uliege.be/capeforum
Series website: www.wp-cape.eu
Registration fees: see event website for latest info

KU LEUVEN LIÈGE université UMONS Université de Mons

Focus themes

Although contributions from all CAPE areas are welcomed, three timely themes were selected as focus:

1. *From data to value in the chemical and life sciences industry.*

Developments in measurement, communication and digitization are keys to the Internet of Things (IoT) and open huge opportunities in almost all aspects of daily life. This IoT is considered to empower the fourth industrial revolution, including a chemical and life science industry 4.0. The abundance of data requires modern data mining, data analytics and machine learning technologies which strongly change process modeling and engineering approaches. Together with traditional computer based approaches they share the aim to create value from available data.

- *What data and transfer modes are appropriate?*
- *How can data safely be generated, transported and stored?*
- *How can data mining and automatic control approaches complement each other?*
- *How can these techniques be integrated for automatic and robust process monitoring, control and optimization of real-life processes?*
- *How do the required competences change the profile of the chemical engineer?*

2. *Sustainable chemistry for the Future*

Environemental challenges are gaining importance everyday and chemical engineers need to support the effort towards more sustainable products and manufacturing processes. Life cycle assessment (LCA) has become an essential tool for eco-design, but its development is still underway.

- *How to further improve LCA methods?*
- *New applications and boundaries?*
- *How to combine LCA with economical and social impact assessment?*

3. *New feedstock for chemical and energy processes*

As part of the energy transition, new feedstocks are required to replace conventional fossil fuels. Biomass chemistry has gained attention, and CO_2 can also be considered as a useful carbon source. However, large challenges are still open:

- *What is needed to further enhance the deployment of biorefineries?*
- *What are the technical and economical potentials of CO_2-sourced fuels and chemicals?*
- *Recycling: are urban mines the new El Dorado?*

Guest speakers

- Jan Van Impe (KU Leuven, Belgium)
  Modelling, control & optimization in (bio) chemical engineering: from theory to practice
- Sergio Lucia (TU Berlin, Germany)
  Current developments and potential of digitalization in chemical engineering: from machine learning to the digital twin and the internet of things
- François Maréchal (EPFL, Switzerland)
  Making a country carbon neutral : the use of CAPE tools for energy system design
- André Bardow (RWTH Aachen, Germany)
  What to do with CO_2? A systems perspective on carbon dioxide utilization
- Dimitri Liquet (Prayon – SPIAPS, Belgium)
  The P15 Insight Project at Prayon: production data analysis for an optimized process control
- Geert Gins (GlaxoSmithKline, Belgium)
  Data analytics for human health: improving vaccine production at GSK.

Organising Committee

Grégoire Léonard	ULiège
Filip Logist	BASF & KU Leuven
Alain Vande Wouwer	UMons
Laurent Dewasme	UMons
Georges Heyen	ULiège

KU LEUVEN LIÈGE université UMONS Université de Mons