

# EC<sup>CE</sup><sub>AB</sub>21

Engineering the Future

## CALL FOR PAPERS

19 – 23 September 2021 · City Cube Berlin · Germany

## ECCE 13 & ECAB 6

13<sup>th</sup> European Congress of Chemical Engineering

6<sup>th</sup> European Congress of Applied Biotechnology

[www.ecce-ecab2021.eu](http://www.ecce-ecab2021.eu)



#ecceecab21



EFCE

Event no. 767



European Society of  
Biochemical Engineering Sciences



DECHEMA

Gesellschaft für Chemische Technik  
und Biotechnologie e.V.

## COMMITTEE / ORGANIZER / CONTACT

## CHAIRMEN

<b>Hermann J. Feise</b>	BASF SE, Ludwigshafen / Germany
<b>Guilherme N.M. Ferreira</b>	DSM Biotechnology Center Delft / The Netherlands

## ORGANISING COMMITTEE

<b>Andreas Förster</b>	DECHEMA e.V., Frankfurt am Main / Germany
<b>Thomas Hirth</b>	Karlsruhe Institute of Technology / Germany
<b>Dennis Krämer</b>	DECHEMA e.V., Frankfurt am Main / Germany
<b>Jarka Glassey</b>	Newcastle University / UK
<b>Willi Meier</b>	DECHEMA e.V., Frankfurt am Main / Germany
<b>Kathrin Rübberdt</b>	DECHEMA e.V., Frankfurt am Main / Germany
<b>Karsten Schürle</b>	DECHEMA e.V., Frankfurt am Main / Germany
<b>Roland Ulber</b>	TU Kaiserslautern / Germany
<b>Giorgio Veronesi</b>	Techint E&C, Milan / Italy

We like to thank our Scientific Committee for their support. The members of the committee are published on [www.ecce-ecab2021.eu](http://www.ecce-ecab2021.eu)

## ORGANISER



DECHEMA e.V.  
Theodor-Heuss-Allee 25  
60486 Frankfurt am Main  
Germany

## CONTACT

**13<sup>th</sup> European Congress of Chemical Engineering**  
Matthias Neumann  
@ [matthias.neumann@dechema.de](mailto:matthias.neumann@dechema.de)

**6<sup>th</sup> European Congress of Applied Biotechnology**  
Silke Rumpf-Kwasniok  
@ [silke.rumpf@dechema.de](mailto:silke.rumpf@dechema.de)

## Exhibition and Sponsoring

Barbara Feisst  
@ [barbara.feisst@dechema.de](mailto:barbara.feisst@dechema.de)

## INVITATION

Chemical engineering and biotechnology are the key to providing innovative solutions for food supply, mobility, energy, health and well-being while striving for a sustainable economy.

**At ECCE 13 & ECAB 6**, scientists from industry, universities and research institutions from Europe and beyond will meet in Berlin to discuss latest research and industrial applications.

Promoting interdisciplinary exchange and the transfer from research to industrial applications, the combined conferences will cover the whole range of relevant topics from laboratory research via process development, chemical reaction engineering and (bio)process engineering to challenges from industrial practice and overarching topics such as quality management and education.

## Features of ECCE 13 &amp; ECAB 6

- » The highlight event for the European chemical engineering and biotechnology community
- » Cross-linking disciplines and organisations to support tech transfer
- » High-profile keynote and plenary speakers
- » Special programme open to public (Public meets Science Day)
- » Special offerings for **students and young scientists**
- » Industry exhibition and plenty of networking opportunities

## Answers to societal challenges

Energy supply and storage, the development of new materials, or the need for more sustainable processes and products – none of these challenges can be met without chemical processing and biotechnology. ECCE 13 & ECAB 6 will bring chemical engineers and biotechnologists together to discuss how to combine the best of both worlds in more efficient and sustainable processes.

We cordially invite you to actively support ECCE 13 & ECAB 6 with your technical contribution, be it a lecture or a poster and we are looking forward to welcoming you in Berlin!



**Hermann J. Feise**  
President  
European Federation of  
Chemical Engineering



**Guilherme N.M. Ferreira**  
President  
European Society of Biochemical  
Engineering Sciences

## NEWSLETTER SUBSCRIPTION

Stay up to date – subscribe at  
[www.ecce-ecab2021.eu/subscribe](http://www.ecce-ecab2021.eu/subscribe)

## TOPICS

## Controlling complexity

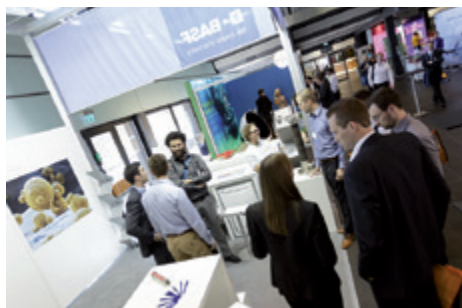
- » **Modelling, Measurement & Process Control**  
(digitalisation, AI, machine learning, process modelling, molecular modelling, automation, smart (bio)sensors, process control, CAPE/PSE, plant safety, containment ...)

## Engineering Processes, Products, ...

- » **Chemical & Bioprocesses**  
(bioreactors, integrated continuous bio-manufacturing, single-use reactors, scale-up, process intensification, particle technology, fluid process engineering, multiphase systems, process and plant design, modular production, materials for 3D printing, product design, quality by design, new materials, ...)
- » **Separation technologies/ downstream processing**  
(membranes, fluid separations, adsorption, crystallization, chromatography...)
- » **Chemical and Biocatalysis**  
(catalyst characterization, heterogenous catalysis, enzyme technology, protein engineering, cell-free systems, chemo-enzymatic syntheses, microbial fuel cells & electrosyntheses, ...)

## ... and Life:

- » **Biological Production Systems**  
(systems biology, metabolic engineering, synthetic biology, cell culture technology, biofilms, ...)



## TOPICS

## Finding new Routes

- » **Sustainable production, low carbon & circular (bio)economy, clean water**  
(C1 feedstocks, plant/algae biotechnology, food production, biorefineries, recycling/ waste utilisation, bio-leaching, electro-chemical processes, process electrification, (waste)water technologies, bio-based products (fuels, polymers, chemicals), ...)
- » **Energy: Generation and storage, energy and chemical engineering**  
(H<sub>2</sub> Economy, H<sub>2</sub> technologies, power-to-x...)

## Preparing for the Future

- » **Novel ways of education and training**  
Curriculum development & transformation, e-Learning & e-Assessment, Teaching Engineering, Design, Safety & Sustainability

## SUBMISSION OF ABSTRACTS

Scientific contributions for **lectures can be submitted online until 31 January 2021** (deadline for posters: 15 March 2021) via

<http://ecce-ecab2021.eu>

Please upload your abstract (1-2 pages) as pdf file and only use the template on our website. Only confirmed presentations by registered authors will be included in the final programme and published online in the book of abstracts. Please note that the registration fees cannot be waived for authors.



## CONFIRMED LECTURES

(as of 15 August 2020)

**PLENARY LECTURE****Strategies to reduce CO<sub>2</sub> emissions in the chemical industry**

Dr. Martin Bruder Müller, Chairman of the Board of Executive Directors and CTO,  
BASF SE, Ludwigshafen/D

The chemical industry has a vital role to play in the climate discussion. On the one hand, chemical products are essential to many low-carbon technologies. On the other hand, chemical production is energy and CO<sub>2</sub>-intensive and the processes have been optimized for many decades. Therefore, BASF has launched a comprehensive Carbon Management Program and pursues a multi-pronged approach to cut its emissions significantly. The challenges and opportunities of this transformation will be presented and discussed.

**OPENING LECTURE****From deterministic chaos in multiphase reactors to (total chaos in) politics**

Prof. Jiří Drahoš, Senator of the Czech Parliament, Prague, CR

The personal story of a chemical engineer who spent most of his research life in the field of hydrodynamics of multiphase chemical reactors, chaired the European Federation of Chemical Engineering and the Czech Academy of Sciences, ran for president of the Czech Republic, and currently serves as the Chair of the Committee on Education, Science and Culture of the Czech Senate. The presentation looks at how an engineering background helps making good decisions for the society.



## PROGRAMME HIGHLIGHTS

**PUBLIC MEETS SCIENCE**

**For the first time on the occasion of ECCE/ECAB there will be a special programme which is freely accessible to all interested public people.**

- » Immersive technologies – future of chemical engineering education and training? (Interactive space) – organized by CHARMING, the European Training Network for Chemical Engineering Immersive Learning
- » Solutions for the power generation, storage and energy supply of the future (Workshop) – organized by Prof. Eberhard Schlücker, University of Erlangen-Nürnberg/D; Prof. Marco Mazzotti, ETH Zürich/CH
- » Art & Science: Exhibition and workshop
- » ChemCar Competition (Student contest) – organized by kjVI – kreative junge Verfahrens-Ingenieure, VDI-GVC, Düsseldorf/D
- » Engineering the future (Science Slam) – organized by Ingeborg Heuschkel, Helmholtz Centre for Environmental Research – UFZ, Berlin/D
- » Ask your scientist – What are you doing in your business? (Discussion Tables)

**SATELLITE SESSIONS**

**These sessions are organized by partners with focus on**

- » AI in process modelling, design and operation – organized by KEEN Project and ProcessNet Subject Division Process and Plant Engineering
- » CAPE Identity Workshop – organized by the EFCE Working Party Computer Aided Process Engineering
- » Electro-biotechnological processes – organized by DECHEMA Working Party Electrobiotechnology
- » Foam formation and management in thermal separations – organized by Project cluster on the topic “Foams in process engineering plants”
- » Future Directions in Product Design and Engineering – organized by Erlangen Collaborative Research Centre 1411 on “Design of Particulate Products” and the EFCE Section on “Product Design and Engineering”
- » Multidimensional particle properties – characterization and processing technology – organized by DFG SPP 2045
- » Data Science Approaches in QbD for Pharma 4.0 Solutions – organized by the EFCE Working party on Quality by Design
- » Examples & Showstoppers to implement QbD – organized by the EFCE Working party on Quality by Design
- » Sustainable food production – organized by DIL Deutsches Institut für Lebensmitteltechnik e.V., Quakenbrück/D and EIT Food, Freising/D
- » Symposium on Energy and chemical engineering - organized by EFCE Section on Energy
- » Student and PhD Programme – organized by kjVI – kreative junge Verfahrens-Ingenieure, VDI-GVC, Düsseldorf/D
- » Processes and Fundamentals of Reactive Multiphase Flows – jointly organized by EFCE Working Party “Multiphase Fluid Flow”, ProcessNet Subject Division “Multiphase Flows” and InPROMPT



## SPONSORING AND EXHIBITION



### SPONSORING AND EXHIBITION



900+  
Speakers



50+  
Exhibitors



3000+  
Participants



60+  
Countries

Be part and support the ECCE/ECAB in Berlin. We offer numerous opportunities for exhibitors and sponsors to share and exchange scientific information.

More information at <http://ecce-ecab2021.eu/sponsoring> and <http://ecce-ecab2021.eu/exhibition>

Or contact us directly for individual arrangements at @ [barbara.feisst@dechema.de](mailto:barbara.feisst@dechema.de)

### VENUE

#### CityCube Berlin

Messedamm 22  
14055 Berlin

#### Distances to CityCube Berlin



suburban train (Berlin Messe Süd) 0.3km



main train station (Berlin Hbf) 7.2km



Berlin-Brandenburg BER 31.1km

