



Controlling complexity,
engineering processes,
products, and life

ECCE AB21

Finding new routes –
preparing for the future

ECCE13 & ECAB6 – Call for papers

Over the past few months, we dearly missed the opportunity for personal communication and exchange. All the more we are looking forward to hear what is going on in European process engineering, chemical engineering, biotechnology and adjacent fields next year in September. The **Call for Papers is open**, and we invite you to share your research with the European community!

Who else do we expect in Berlin (besides you)? Find out more below and pass the words to your friends and colleagues.

Call for papers

13th European Congress of Chemical Engineering and 6th European Congress of Applied Biotechnology

ECCE 13 & ECAB 6 cover all fields of process and chemical engineering as well as biotechnology:

- Modelling, Measurement & Process Control
- Chemical & Bioprocesses
- Separation technologies/ downstream processing
- Chemical and Biocatalysis
- Biological Production Systems
- Sustainable production, low carbon & circular (bio)economy, clean water
- Energy: Generation and storage, energy and chemical engineering
- Novel ways of education and training

Scientific contributions for lectures can be submitted online until 31 January 2021. (Deadline for posters: 15 March 2021).

Please consult the website for further details:

<https://ecce-ecab2021.eu/Topics.html>

Welcome to the year-end 2020 issue of the EFCE News. If you have any comments on the newsletter please get in touch.

Hermann Feise
EFCE President

In this issue:

- ECCE13 & ECAB6 – Call for papers
- CHISA 2021 VIRTUALLY and Upcoming CHISA- De Gruyter - EFCE web seminar
- 2021 EFCE Student Mobility Award announced
- EFCE Excellence Awards - Calls for Nominations in Product Design & Engineering, Process Intensification, Membrane Engineering, Fluid Separations and Thermodynamics
- An Overview of European Federation of Chemical Engineering's (EFCE) Technical Activities 2019-20
- Process intensification award for industrial innovation 2021 – call for nominations
- News about the official EFCE Journals
- EFCE Events in 2021/22

Plenary Lecture

Martin Brudermüller, CEO of BASF SE

Strategies to reduce CO₂ emissions in the chemical industry

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 CO₂-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

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

From deterministic chaos in multiphase reactors to (total chaos in) politics

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.

Engineering the Future

Energy generation and storage, the development of new materials, or the strive for more sustainability in process and product design - none of these challenges can be resolved without the active participation of chemical processing and biotechnology. From the optimization and integration of unit operations that rely on progress in separation technology, a deep understanding of heat and mass transfer, the handling of multiphase systems or new developments in membrane engineering, to plant design, process system engineering and chemical reaction engineering, chemical and process engineering are working to provide the technology and material platforms our industrial landscape is founded on. That is why the Organizing Committee has chosen "Engineering the Future" as the overarching motto for ECCE 13 & ECAB 6.

CHARMING, the European Training Network for Chemical Engineering Immersive Learning



The chemical industry in Europe faces stiff competition as it fights to strengthen its position in the global market place. Europe's greatest asset is its human capital, but the people working in such a

technology-based environment, with the rise of the "smart factories" of Industry 4.0, need to be very well qualified. Recent developments in immersive learning technologies are providing exciting new tools for teaching and training programmes, yet they remain underutilised in science & technology education. CHARMING takes on this challenge by developing learning strategies, content and prototypes for the application of games and virtual/augmented reality for motivating, teaching and training children, students and employees in chemistry, chemical engineering and chemical operations. Learn more about CHARMING on the website <https://charming-etn.eu/> or at ECCE13 & ECAB6.

Join ECCE 13 & ECAB 6 as a sponsor or exhibitor

... and make use of the nearly unlimited exposure to the European scientific community! We offer attractive exhibition and sponsoring packages – for further information, please contact Barbara Feisst ([email: barbara.feisst@dechema.de](mailto:barbara.feisst@dechema.de))

We are looking forward to seeing you in September 2021!

Yours, the ECCE & ECAB Organizing Team

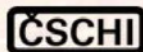
Website: <http://ecce-ecab2021.eu/>

Twitter: #ecceecab21



CHISA 2021 | 15 - 18 MARCH 2021
VIRTUALLY

Organized by:



Menu



CHISA 2021 Virtually

15–18 March 2021

The Czech Society of Chemical Engineering (CSCHE) invites you to the upcoming International Congress of Chemical and Process Engineering CHISA, which will be held virtually from 15 to 18 March 2021. As all the CHISA Congresses in the past, also this one will cover a range of attractive topics and will offer many interdisciplinary links. However, this time, all the matter will be available on-line!

Join CHISA 2021 VIRTUALLY and cooperate with others to bring the highest level of the chemical engineering science to the congress on-line auditory.

Topics: I. We Think Global; II. Energy First; III. Continuous Processing and Miniaturisation, Mixing; IV. Industry 4.0; V. Advanced Functional Materials, Structures and Components; VI. The Green Square; VII. The Essentials; VIII. Hand in Hand; VIII. The Wiley-VCH Poster Session. For details see: <https://2020.chisa.cz/scientific-program/#main-topics>

The call for papers is open for your contribution to CHISA 2021 Virtually.

Deadline for oral contributions:
15 January 2021

Deadline for poster contributions:
15 February 2021

Join CHISA 2021 Virtually for keeping the chemical engineering community alive!

Website: <https://virtually.chisa.cz>

Upcoming CHISA – De Gruyter – EFCE web seminar

20 January 2021, 10:30-12:00 CET

Title: Advanced Reactor Modeling with MATLAB

Speakers: Prof. Riccardo Tesser and Prof. Vincenzo Russo, both from the University of Naples

Prof. Riccardo Tesser and Prof. Vincenzo Russo will present A Matlab-based Approach to Chemical Reaction Engineering Problems and highlight their recently published De Gruyter book, "Advanced Reactor Modeling with MATLAB" (<https://www.degruyter.com/view/title/547225>).

Register now at: https://efce.info/CHISA_DeGruyter_EFCE.html

The CHISA Congress, and the De Gruyter Publishing House, under the auspices of the European Federation of Chemical Engineering, are commonly hosting a series of free chemical engineering online seminars (webinars). The CHISA Congress, EFCE, DECHEMA, and the De Gruyter Publishing House, are traditional co-operators. In the past years they have brought together many notable speakers to the CHISA congresses audience. Through these webinars we hope to continue this tradition.

Excellence awards – calls for nominations

Excellence Award in Product Design & Engineering 2021

The European Federation of Chemical Engineering (EFCE) is pleased to announce the 2021 Excellence Award in Product Design and Engineering.

Launched in 2010 by the EFCE Section on Product Design and Engineering, the award aims to recognise PhD thesis or peer-reviewed papers of a young researcher which demonstrate(s) the most outstanding contribution to research and/or practice in the field. The previous award winners are Dr.-Ing Patrick Frohberg, Dr. Miguel André Abreu Teixeira, Assistant Prof. Arab Belkadi, and Dr. Andreas T. Güntner.

The award comprises a certificate, a cash prize of EUR 1,500 and a travel grant and fee waiver to attend the 13th European Congress of Chemical Engineering (ECCE13) in Berlin, Germany, on 19 to 23 September 2021, where the award will be presented during the Symposium on Future Directions in Product Design and Engineering.

Nominations may be submitted by any PhD supervisor at a PhD-awarding institution in an EFCE Member Country or by a member of an EFCE Member Society. The PhD thesis or papers nominated must address a topic relevant to the field of product design and engineering.

Only PhD theses and papers published between 1 January 2019 and 31 December 2020 are eligible for nomination.

A nominated PhD thesis must have been completed and published and the PhD degree examined and awarded.

The deadline for nominations is **1 March 2021**.

For further information about the nomination procedure, eligibility and supporting documentation, please refer to the EFCE website:

<http://www.efce.info/ExcellenceAwardProductDesign.html>

The Excellence Award is generously sponsored by Beiersdorf AG.

Beiersdorf

About Beiersdorf AG

Beiersdorf AG is a leading provider of innovative, high-quality skin care products and has more than 135 years of experience in this market segment. The Hamburg-based company has about 20,000

employees worldwide and is listed on the DAX, the German benchmark equities index. Beiersdorf generated sales of €7.6 billion in financial year 2019. Its product portfolio comprises strong, international leading skin and body care brands including NIVEA – the world's No. 1 skin care brand – Eucerin, Hansaplast/Elastoplast, and La Prairie. Millions of people around the world choose Beiersdorf brands every day for its innovative, high-quality products. Further renowned brands such as Labello, Aquaphore, Florena, 8x4, Hidrofugal, atrix, Maestro, and Coppertone round off the extensive portfolio. Beiersdorf's wholly owned affiliate tesa SE, another globally leading manufacturer in its field, supplies self-adhesive products and system solutions to industry, craft businesses and consumers.*

See <http://www.beiersdorf.com/>

** Source: Euromonitor International Limited; NIVEA by umbrella brand name in the categories Body Care, Face Care, and Hand Care; in retail value terms, 2019.*

Excellence Award in Process Intensification 2021

The European Federation of Chemical Engineering (EFCE) is pleased to announce the call for nominations for the prestigious EFCE **Excellence Award in Process Intensification**.

This biennial award recognises an outstanding PhD thesis in the field of process intensification. The award consists of a cash prize of EUR 1,500 and a certificate and a travel grant of up to EUR 500. The winner will be invited to give a presentation at a special session during the 13th European Congress of Chemical Engineering (ECCE13), which will be held in Berlin, Germany, on 19-23 September 2021.

Any PhD thesis in the area of process intensification supervised at a university or PhD-awarding institution of an EFCE Member Country is eligible for nomination.

The nominator is the supervisor of the PhD candidate. The candidate's thesis must have been defended between 1 January 2019 and 31 December 2020.

Previous award winners include Carsten Buchaly (2009), Patrick W.A.M. Wenmakers (2011), Ernesto Altman Restrepo (2013), Danilo Alberto Cantero Sposetti (2015), Michael Shoham Patrascu (2017), and Andy N. Antzara (2019).

The deadline for submission of nominations is **15 March 2021**.

2021 EFCE student mobility award announced

The European Federation of Chemical Engineering (EFCE) is pleased to announce its prestigious **Student Mobility Award**.

The objective of the award is to promote mobility among European chemical engineering students. The award is presented every two years to the best European students of chemical engineering who have spent one or more semesters studying abroad.

The EFCE Student Mobility Award 2021 will consist of three prizes:

1st Prize: EUR 2,000; 2nd Prize: EUR 1,500; 3rd Prize: EUR 1,000.

The prizes will be awarded during the 13th European Congress of Chemical Engineering – ECCE13, held in conjunction with the 6th European Congress of Applied Biotechnology (ECAB6) in Berlin, Germany, from 19 to 23 September 2021 (website: <https://www.ecce-ecab2021.eu>). The Student Mobility Award also includes an invitation to the Congress and a travel grant of up to EUR 500.

All students who are citizens of a European country in which EFCE is represented can apply for the EFCE Student Mobility Award if they have successfully studied for at least one semester (≥ 30 ECTU) in first or second cycle study programmes in chemical engineering in each of two or more different countries.

All documents should be submitted in **English** no later than 2 years after graduation.

Deadline for submission of applications: **1 March 2021**.

For details on the application procedure, supporting documentation and download of the application form, please visit the EFCE website at: https://www.efce.info/Student_Mobility_Award.html

Be inspired! Watch the video at <https://youtu.be/Jyq3sh9foXY>

The 2021 EFCE Student Mobility Award is generously sponsored by BASF SE.



About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The more than 115,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas. BASF generated sales of €64.5 billion in 2017. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (BAS). Further information at www.basf.com.

Further information about the nomination procedure, eligibility, and supporting documentation can be obtained at: <http://www.efce.info/ExcellenceAwardProcessIntensification.html>

The Award is generously sponsored by Microinnova Engineering GmbH.



About Microinnova

Microinnova Engineering GmbH designs efficient chemical and separation processes by means of process intensification and flow chemistry. As

specialist of innovative process technology Microinnova offers customers continuous manufacturing with an end-to-end solution ranging from syntheses over work up to liquid formulation. These customer specific solutions are characterized by quality by design. The product portfolio ranges from process development to production plant solutions in tons-per-hour scale.

EFCE-EMS Joint Excellence Award in Membrane Engineering 2021

The European Federation of Chemical Engineering (EFCE) is pleased to announce the call for nominations for the EFCE-EMS Joint Excellence Award in Membrane Engineering 2021.

Launched in 2009 by the EFCE Section on Membrane Engineering, this award has been established to recognise a PhD thesis or paper(s) of a young researcher which demonstrates the most outstanding contribution to research and/or practice in membrane engineering in the process industries.

In 2021, for the second time the Award is jointly presented by EFCE and the European Membrane Society (EMS).

The award comprises a certificate, a travel grant of up to EUR 500 and complimentary registration to attend the 13th European Congress of Chemical Engineering – ECCE13 (website: <https://ecce-ecab2021.eu>), which will

be held in Berlin, Germany, on 19-23 September 2021.

The award will be presented during a special session, where the winner will also be invited to present the research.

Nominations may be submitted by any PhD supervisor at a PhD-awarding institution in an EFCE Member Country or by an individual member of a Member Society of EFCE/ EMS. The PhD thesis/paper(s) nominated must address a topic relevant to the field of membrane engineering. Only PhD theses or papers published between 1 January 2018 and 31 December 2020 are eligible for nomination. A nominated PhD thesis must have been completed and published and the PhD degree examined and awarded.

Closing date for nominations: **15 March 2021**

For further information about the nomination procedure, eligibility and supporting documentation, please refer to the EFCE website:

<http://www.efce.info/ExcellenceAwardMembraneEngineering>



About EMS

The European Membrane Society (<https://www.emsoc.eu>), founded in 1982, is an international non-profit organization whose aim is to promote cooperation between scientists and engineers involved in Research and

Development in the field of synthetic membranes and membrane processes.

Excellence Award in Fluid Separations 2022

The European Federation of Chemical Engineering (EFCE) is pleased to present the call for nominations for the 2022 EFCE Excellence Award in Fluid Separations. This quadrennial award recognises a PhD thesis of a researcher or engineer which demonstrates an outstanding contribution to research and/or practice in fluid separations.

The award comprises a certificate, the sum of 1500 euros, a travel grant of up to 500 euros, and a fee waiver to attend the International Conference on Distillation & Absorption 2022 (DA 2022) (Website: <http://da2022.org/en/index.html>) to be held in Toulouse, France, on 18 to 21 September 2022, where the

award will be presented.

Nominations may be submitted by any PhD supervisor at a PhD-awarding institution in an EFCE member country or by a member of an EFCE member society. The PhD thesis nominated must address a topic relevant to the field of Fluid Separations, such as distillation, absorption, extraction, membrane separation, chromatographic separation and similar, of any operating scale. Both theoretical and experimental work will be considered, as will work considering both chemical- and bio-separations.

Only PhD theses published between 1 January 2018 and 31 December 2021 are eligible for nomination.

Closing date for nominations: **7 March 2022**

Further information about the nomination procedure, eligibility, supporting documentation, etc. can be obtained from the EFCE website at

<http://www.efce.info/ExcellenceAwardFluidSeparations.html>

The Excellence Award is generously sponsored by Evonik



About Evonik Industries AG

Evonik is one of the world leaders in specialty chemicals. The company is active in more than 100 countries around the world and generated sales of €13.1 billion and an operating profit (adjusted EBITDA) of €2.15 billion in 2019. Evonik goes far beyond chemistry to create innovative, profitable and sustainable solutions for customers. More than 32,000 employees work together for a common purpose: We want to improve life, today and tomorrow.

The following call for nominations is still open:

2021 Excellence Award in Thermodynamics and Transport Properties

Closing date for nominations: **15 January 2021**

Further information: <https://www.efce.info/ExcellenceAwardTTP.htm>

An Overview of European Federation of Chemical Engineering's (EFCE) Technical Activities 2019–20

The main technical activities in the European Federation of Chemical Engineering takes place in its **20 Working Parties and 4 cross-cutting Sections** covering the breadth of Chemical Engineering <https://efce.info/Scientific+groups.html>. Members are drawn from both academia and industry across Europe with some members invited from beyond Europe. This short note provides an overview of their activities within the last year.

Our Working Parties and Sections are working on a broad range of topics of importance to the Process Industries across the full range of processes involving particulates and fluids. Many groups consider aspects of climate change (particularly the Energy Section) and environmental protection.

The EFCE sponsored the biennial **European Conference of Chemical Engineering (ECCE12)** held in 2019 in Florence. During the conference there were three focussed workshops sponsored by Working Groups on: Electrochemistry and Electrocatalysis, Energy and Chemical Engineering, and Crystallization Fundamentals and Industrial Processes. Sessions within ECCE were also held on Environment and Safety, Multiphase Systems, and Membrane Engineering.

Working Groups and Sections organise focussed conferences involving researchers and practitioners from around the world. The Working Parties addressing aspects of Particle Technology (**Agglomeration, Comminution and Classification, Crystallization, Mechanics of Particulate Solids, Characterisation of Particulate Solids**) came together for the PARTEC2019 conference held in Nuremberg. The annual European Conference on **Computer Aided Process Engineering** was held in Eindhoven in June 2019 and online in 2020. In Eindhoven there was a session led by the **Quality by Design** Working Party. In November 2019 in Paris the **Multiphase Fluid Flow** Working Party held a workshop on "Recent Advances in Bubble Columns". The **Drying** Working Party organised 'Eurodrying' in 2019 in Turin. The **Loss Prevention and Safety Promotion** Working Party held the 16th International Symposium on Loss Prevention and Safety Promotion in the Process Industries in Delft 2019. In October 2020 a workshop

was held on "Future Directions in **Product Design and Engineering**". The biennial international CHISA Chemical Engineering conference organised by the **Czech Society of Chemical Engineering**, the International Symposium on Chemical Reaction Engineering (to be held in India), the International Symposium on Industrial Crystallization, the European Symposium on Electrochemical Engineering, and the 31st European Symposium on Applied Thermodynamics (ESAT) have all been postponed to 2021. The Distillation and Adsorption Conference organised by **Fluid Separations** held every four years will take place in Toulouse in 2022.

On-line events have proved very popular in 2020. In November 2020 a series of spotlight talks in ten webinars were organised by the following groups: **Energy, Chemical Reaction Engineering, Education, Energy, Loss Prevention and Safety Promotion, Mechanics of Particulate Solids, Mixing, Multiphase Fluid Flow, Process Intensification, Quality by Design, Static Electricity in Industry, Thermodynamics and Transport Properties**. Each session addressed key topics in the area and the series enabled attendees to sample topics in areas that they find interesting but may not otherwise have had the opportunity to attend to encourage cross fertilisation between specialist areas. It allowed EFCE groups to highlight and host global debates and discussions on topics of key social interest. On top of this series the Quality by Design and Crystallization Working Parties held webinars in September and October of 2020.

A series entitled **European Forum on New Technologies** was launched two years ago. In 2019 an event entitled '**Digitalization B**' was held exploring the effect of digitalization development: from materials design, through plant design and into plant operations and management discussing developments and research needs. In 2020 the third such event was held over two half days on '**Chemical Engineering in the Plant of the Future**'.

The development of early career researchers is a particular priority for the EFCE. Events for early career researchers continue to be a significant and growing element of the activities. In the last year such events were held by the following

groups: **Chemical Reaction Engineering, Computer Aided Process Engineering, Polymer Reaction Engineering, Energy and Food Engineering.** A Horizon 2020 Training Network funded by the European Commission on "Training in Upscaling Particle Systems" - Advancing Industry across Length-scales (TUSAIL)" prepared by members of the Working Party on Mechanics of Particulate Solids has been funded. The **Product Design and Engineering** Working Party maintains a very strong link with the Collaborative Research Centre 'Design of Particulate Products' at the University of Nuernberg-Erlangen

The **Education** Working Party is finalising its EFCE Bologna recommendations for Chemical Engineering Education in the three cycle Bologna degree system. They have also been having

discussions with the AESPA (European Alliance of Subject Specific Professional Accreditation and Quality Assurance) about the promotion of professional accreditation, to complement national accreditations. A special Webinar sponsored by the CHISA conference, De Gruyter and EFCE was held in November of 2020 on 'Teaching Electrochemical Engineering Storage to Engineers'.

Further information about the activities of EFCE and its Working Groups and Sections can be found at <https://efce.info/>. The highlight of 2021 will be the ECCE13&ECAB6 European Conference on Chemical Engineering jointly with the European Conference on Applied Biotechnology. It will be held Berlin in September on the theme '**Engineering the Future**'. We look forward to seeing you there.

Process intensification award for industrial innovation 2021 – call for nominations

The European Federation of Chemical Engineering (EFCE) and its Working Party on Process Intensification are pleased to announce the **2021 EFCE Process Intensification Award for Industrial Innovation** to be awarded for an outstanding industrial application in the field of process intensification.

The award comprises of a dedicated plaque and certificate, and the successful candidate or team will be invited to make a presentation at a special session during the 13th European Congress of Chemical Engineering – ECCE13, which will be held in Berlin, Germany, on 19-23 September 2021.

Any employee or a team of employees of a company with operations in an EFCE Member Country is eligible for nomination.

The nominated industrial innovation must be either stage of pilot-scale or full-scale industrial operation and it must have been implemented between 1 January 2019 and 31 December 2020.

The deadline for submission of nominations is **15 March 2021**.

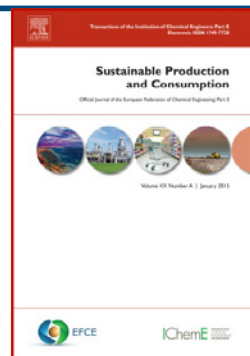
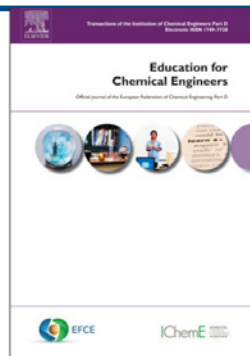
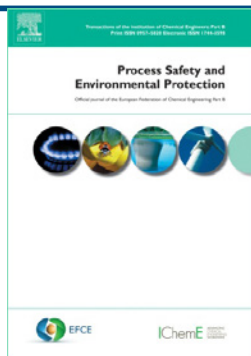
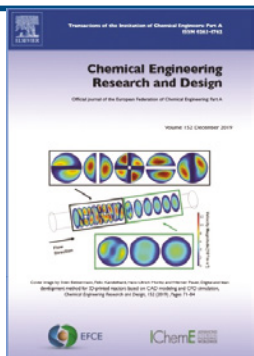
For further information about the nomination procedure, eligibility, and supporting documentation, visit: https://www.efce.info/PI_Award_Industrial_Innovation.html

The Award is generously sponsored by the European Process Intensification Centre – Europic.



About Europic

Europic's mission is to support its members by structurally addressing the global trends and challenges facing the chemical industry by accelerating technology transfer and applications in the field of process Intensification (PI). Europic's products and services become structurally and directly coupled to global challenges in particular: sustainability, digitalization, new advanced materials and modularization. It is a unique industry-driven platform, initiated in 2009 by nine leading European companies. <https://europic-centre.eu/>



News about the official EFCE journals

Read journal papers for free

The following articles / issues are set for free access periods. In addition to these, articles that are published via the open access route in the journal are also freely available to all. These are identified in ScienceDirect by a green dot. It is possible sign up to an RSS alert specifically to inform when a new open access article is published in the journal – see individual journal pages to set this up.

Chemical Engineering Research and Design

<https://www.sciencedirect.com/journal/chemical-engineering-research-and-design>

Freely available content:

- **NEW Special Issue** – 9th International Granulation Workshop <https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/special-issue/10R8ZHTSGL7>
- **NEW** January 2021 issue (Volume 165) (Available for free until the end of 2021) <https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/vol/165/suppl/C>
- Climate Change special issue (content from all IChemE journals brought together in this special collection) <https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/special-issue/10PKDRV23KV>

Process Safety and Environmental Protection

<https://www.sciencedirect.com/journal/process-safety-and-environmental-protection>

Freely available content:

- **NEW Special Issue** – Catalysis Engineering for Environmental Applications <https://www.sciencedirect.com/journal/process-safety-and-environmental-protection/special-issue/10P3L90VKQW>

- **NEW** January 2021 issue (Volume 145) <https://www.sciencedirect.com/journal/process-safety-and-environmental-protection/vol/145/suppl/C>
- Climate Change special issue (content from all IChemE journals brought together in this special collection) <https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/special-issue/10PKDRV23KV>

Food and Bioproducts Processing

<https://www.sciencedirect.com/journal/food-and-bioproducts-processing>

Freely available content:

- **NEW** January 2021 issue (Volume 125) <https://www.sciencedirect.com/journal/food-and-bioproducts-processing/vol/125/suppl/C>
- Climate Change special issue (content from all IChemE journals brought together in this special collection) <https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/special-issue/10PKDRV23KV>

Education for Chemical Engineers

<https://www.sciencedirect.com/journal/education-for-chemical-engineers>

Freely available content:

- **Special Issue** - Remote delivery of practical skills in chemical engineering education <https://www.sciencedirect.com/journal/education-for-chemical-engineers/special-issue/1040RH69WVP>
- **NEW** January 2021 issue (Volume 35) <https://www.sciencedirect.com/journal/education-for-chemical-engineers/vol/34/suppl/C>

Sustainable Production and Consumption

<https://www.sciencedirect.com/journal/sustainable-production-and-consumption>

Freely available content:

- **NEW** January 2021 issue (Volume 25)
<https://www.sciencedirect.com/journal/sustainable-production-and-consumption/vol/25/suppl/C>
- Climate Change special issue (content from all IChemE journals brought together in this special collection) (Available for free until the end of 2020)
<https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/special-issue/10PKDRV23KV>

Invitation to submit papers

We have a number of special issues planned that are currently open for submission. Submissions from all welcome! If you require any further information then please contact Managing Editor Catherine Cliffe ccliffe@icheme.org

Details as follows:

Chemical Engineering Research and Design

Special Issue: Multi-scale Approaches in Bubble Column Fluid Dynamics (Manuscript submission deadline **31 March 2021**)

<https://www.journals.elsevier.com/chemical-engineering-research-and-design/call-for-papers/multi-scale-approaches-in-bubble-column-fluid-dynamics>

Special Issue: Recent Advances in Continuous Crystallization (Manuscript submission deadline **30 June 2021**)

<https://www.journals.elsevier.com/chemical-engineering-research-and-design/call-for-papers/special-issue-recent-advances-in-continuous-crystallization>

Process Safety and Environmental Protection

Special Issue: Data-Driven Risk Analysis (Manuscript submission deadline **31 December 2020**)

<https://www.journals.elsevier.com/process-safety-and-environmental-protection/call-for-papers/special-issue-on-data-driven-risk-analysis>

Special issue: Safety and Risk Analysis in Digitalized Process Operations (Manuscript submission deadline **31 March 2021**)

<https://www.journals.elsevier.com/process-safety-and-environmental-protection/call-for-papers/special-issue-safety-and-risk-analysis-in-digitalized-process>

Special issue: Safety, environmental and risk management related to Covid-19 (Manuscript submission deadline **31 March 2021**)

<https://www.journals.elsevier.com/process-safety-and-environmental-protection/call-for-papers/safety-environmental-and-risk-management-related-to-covid-19>

Special issue: Air Pollution Prevention and Identification of Pollution Sources from Chemical Industrial Parks (Manuscript submission deadline **31 March 2021**)

<https://www.journals.elsevier.com/process-safety-and-environmental-protection/call-for-papers/air-pollution-prevention-and-identification-of-pollution>

Special issue: Emerging Trends in Thermocatalytic, Photocatalytic, Electrocatalytic, Photoelectrocatalytic and Biological Conversion of Harmful Gases into Benign Compounds for Environmental Protection (Manuscript submission deadline **31 March 2021**)

<https://www.journals.elsevier.com/process-safety-and-environmental-protection/call-for-papers/emerging-trends-in-thermocatalytic-photocatalytic>

Special issue: Industry 4.0 and Digitization for Environmental Protection and Processes Safety (Manuscript submission deadline **31 March 2021**)

<https://www.journals.elsevier.com/process-safety-and-environmental-protection/call-for-papers/special-issue-on-industry-40-and-digitization>

Sustainable Production and Consumption

Special issue: Future of Sustainable Production and Consumption: Lessons from the COVID-19 Pandemic (Manuscript submission deadline **18 January 2021**)

<https://www.journals.elsevier.com/sustainable-production-and-consumption/call-for-papers/future-of-sustainable-production-and-consumption>

Special issue: International Trade and Climate Change (Manuscript submission deadline **10 June 2021**)

<https://www.journals.elsevier.com/sustainable-production-and-consumption/call-for-papers/international-trade-and-climate-change>

Events organised by or on behalf of EFCE in 2021/22

An extended list of events is available at <http://www.efce.info/events.html>

CHISA 2021 VIRTUALLY – 24th International Congress of Chemical and Process Engineering

*Online, 15–18 March 2021
(EFCE Event No. 772)*

See 'News from CHISA'.

EEM21 - 7th International Congress Engineering, Environment and Materials in Processing Industry *Jahorina Mountain, East Sarajevo, Bosnia and Herzegovina, 17-19 March 2021 (EFCE Event No. 777)*

For the 7th time, the International Congress on Engineering, Environment and Materials in Processing Industry is organised by the Faculty of Technology, University of East Sarajevo.

EEM21 will continue to bring together leaders from industry and academia to exchange and share their experiences, present research results, explore collaborations and to spark new ideas, with the aim of developing new projects and exploiting new technology for sustainable applications. The purpose of the event is to discuss the current topical issues, in a comprehensive and multidisciplinary manner, concerning sustainable development and protection of the environment and their application in science, technology and processing industry.

Topics: Chemical and Electrochemical Engineering; Food Engineering and Biotechnology; Environmental Engineering; Materials and Material Characterization; Nanotechnology; Inorganic Chemistry and Technology; Organic Chemistry and Technology, Polymers; Plasma Technology; Energy Efficiency and Renewable Energy Sources; Textile Engineering; Corrosion and Protection of Materials and Thermal Power Plants; Metallurgy; Management in the Processing Industry; General Sections.

Register NOW!

Website: <https://eem.tfzv.ues.rs.ba/>

ESCAPE-31 – 31st European Symposium on Computer Aided Process Engineering *Istanbul, Turkey, 6-9 June 2021 (EFCE Event No. 776)*

ESCAPE-31 event is organized under the auspices of the EFCE Working Party on Computer Aided Process Engineering (CAPE-WP), the Chamber of Chemical Engineers of Turkey (KMO), and Koc University, Istanbul. ESCAPE-31 aims to bring together researchers and practitioners of computer-aided process engineering (CAPE) community and provide a forum to present and evaluate emerging research methods and concepts, and to learn from industrial case studies.

Themes:

(1) Process-product synthesis, design and integration; (2) Methods, models and computational tools for PSE; (3) Process control and operations; (4) CAPE/PSE in energy/water/food nexus and sustainability; (5) Process operations and supply chains; (6) PSE in biological systems and processes; (7) Education in CAPE/PSE & knowledge transfer.

Plenary speakers: Marc-Olivier Coppens, University College London; Stratos Pistikopoulos, Texas A&M University; Gintaras V. (Rex) Reklaitis, Purdue University.

Register NOW!

Website: <https://www.escape31.org/>

12th European Symposium on Electrochemical Engineering – ESEE 2021

*Leeuwarden, The Netherlands,
New date: 13-17 June 2021
(EFCE Event No. 766)*

The 12th European Symposium on Electrochemical Engineering - ESEE 2021 is organised by the EFCE Working Party on Electrochemical Engineering in cooperation with Wetsus.

The scope of ESEE is "Electrochemistry for electrification and energy transition toward a sustainable future", which captures the

aim of the organisers to showcase scientific advances in physical, chemical and biochemical routes towards a future where electrochemical engineering is part of a sustainable society, closing resource cycles and contributing to zero-pollution mobility and manufacturing.

Topics: Electrocatalysis and electrochemical technologies; Safe water and air; Corrosion science for durable materials; Water electrolysis and fuel cells; Novel energy storage devices, batteries, and electrochemical capacitors; Bioelectrochemistry for energy conversion and resource recovery; Green capture and conversion of CO₂; Electrochemical recovery of raw materials; Advanced membranes and electrodes for selective ion removal; General session.

Invited speakers: Matthias Wessling; Menachem Elimelech; Martin Z Bazant; Elif Karatay; Geoff Kelsall; Matthew Suss; Manuel Andres Rodrigo; Xiao Su.

On the occasion of the ESEE2021 the EFCE Working Party will present its prestigious **Carl Wagner Medal of Excellence in Electrochemical Engineering**.

The call for abstracts opened on **November 1, 2020. Deadline: 15 January 2021**

Website: <http://www.electrochemical-engineering.eu/2021/>

17th European Conference on Mixing Porto, Portugal, 27-30 June 2021 (to be postponed) (EFCE Event No. 773)

The Mixing Conference is organised by the University of Porto on behalf of the EFCE Working Party on Mixing.

Website: <http://mixing17.eu/>

21st International Symposium on Industrial Crystallization-ISIC 21 Potsdam, Germany. New date: 30 August–2 September 2021 (EFCE Event No. 751)

The symposium is organised under the auspices of the EFCE's Working Party on Crystallization and, has become the premier international conference in the field of industrial crystallization.

The 21st ISIC provides a meeting and a discussion forum for scientists and engineers from academia and industry as well as suppliers of crystallization and related analytical

Save the date!

ESCAPE-32 – 32nd European Symposium on Computer Aided Process Engineering Toulouse, France, 12-15 June 2022 (EFCE Event No. 778)

ESCAPE-32 is organised by INP Toulouse in co-operation with the EFCE Working Party on Computer Aided Process Engineering.

Website: coming soon

equipment. The conference program will include lectures and poster sessions. A concomitant exhibition and introductory tutorials will complete the event.

Main Topics: Fundamentals of crystallization; Crystallization and precipitation in fine chemical, specialty & life-science industries; Developments in large scale industrial crystallization; Contributions of crystallization to sustainability; Integrated process design: Crystallization in the industrial process chain.

Plenary and Evening speakers: Prof. Beatrice Biscans, France; Prof. Richard Braatz, USA; Prof. Helmut Cölfen, Germany; Prof. Juanma Garcia-Ruiz, Spain; Dr. Daniel Green, USA; Dipl.-Ing. Christian Melches, Germany.

Website: https://dechema.de/en/ISIC_2021

XXIV International Conference on Chemical Reactors – CHEMREACTOR-24 Milan, Italy, New date: 12–17 September 2021 (EFCE Event No. 769)

The XXIV International Conference on Chemical Reactors – CHEMREACTOR-24 is organised by the Boreskov Institute of Catalysis, Russia jointly with the world famous Politecnico di Milano, Italy.

Main topics: Advances in Chemical Reactor Fundamentals; Chemical Reaction Engineering and Reactor Design – Novel Experimental Approaches, Modeling, Scale-Up and Optimisation; Chemical Reactors and Technologies for Targeted Applications; Advanced Processing of Conventional and Unconventional Hydrocarbon Feedstocks.

Plenary speakers: Prof. Guy Marin; Prof. Annemie Bogaerts; Prof. Ib Chorkendorff; Prof. Fausto Gallucci; Prof. Freek Kapteijn; Dr. Carlo Perego.

Register NOW!

Website: <http://conf.nsc.ru/CR-24/en/>

**ECCE13 & ECAB6–
13th European Congress of
Chemical Engineering & 6th
European Congress on Applied
Biotechnology**

**Berlin, Germany, 19-23 September
2021 (EFCE Event No. 767)**

Motto: Engineering the Future

See ECCE13 & ECAB6 Call for papers above

**The call for papers is open. Deadline for
abstract submission: 31 January 2021.**

Website: <http://ecce-ecab2021.eu/>

Twitter: #ecceecab21

Electrostatics 2022

**Wroclaw, Poland,
New date: 28 March – 1 April 2022
(EFCE Event No. 774)**

Electrostatics 2021 has become Electrostatics 2022. The Conference is organised by the Wroclaw University of Science and Technology in co-operation with the EFCE Working Party on Static Electricity in Industry.

Electrostatics 2022 provides a unique interdisciplinary forum for discussion about the electrostatic phenomena and its industrial applications. Fundamentals, hazards, applications, measuring techniques, standards and other related topics are within the scope of the conference.

Besides, the interdisciplinary composition of the conference gives the best opportunity to get inspired by solutions in other fields and promote relationships for innovation and breakthroughs.

Topics :

1. Applications and Industry; 2. ESD; 3. Fundamentals; 4. Hazards; 5. Liquids; 6. Solid and Powders; 7. Gases; 8. Measuring Techniques; 9. Standards; 10. History of Electrostatics.

All steps of the conference have been started again including a new call for papers. Deadline for paper submission: 15 December 2020.

Please check the conference website for details.

Website: <http://www.electrostatics2021.pwr.edu.pl/wp/>

ACHEMA 2022

**Frankfurt am Main, Germany,
New date: 4-8 April 2022 (EFCE
Event No. 775)**

Feel the heartbeat of our industry! The process industry is the innovation driver of the world economy and the pacemaker for numerous industrial sectors

Practically all global value chains profit in one way or another from the achievements of chemistry, biotechnology and process engineering. ACHEMA is the central arena of the process industry. Nowhere is the heartbeat of our industry faster, more intense, up-to-date, innovative and international than here.

Take this opportunity to forge new contacts, to build up business relations and find solutions for your current projects!

At the ACHEMA Congress, researchers, developers and users get together to discuss what's needed, what's possible and what will be the next big thing in the process industries.

Website: <https://www.achema.de/en/>

Save the date!

**17th International Symposium
on Loss Prevention and Safety
Promotion in the Process Industries
– Loss Prevention 2022
Prague, Czech Republic, 5-8 June
2022 (EFCE Event No. 765)**

The 17th International Symposium on Loss Prevention and Safety Promotion in the Process Industries and accompanying exhibition is organised by the Faculty of Safety Engineering - VSB Technical University of Ostrava and the EFCE Working Party on Loss Prevention.

The traditional topics are: Risk assessment, Security & Safety, Lessons learnt / Case studies, Human & organizational factors, and Leadership and risk communication. They are related to the following new challenges: Global aspects & methodology, Industry 4.0, Safe energy, New material hazard, Others.

The call for papers is open. Abstract submission deadline: **15 May 2021**

Website: <http://www.lossprevention2022.org>



*Merry Christmas
and a
Happy New Year!*

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