



## Excellence Award in Process Intensification presented to Matteo Antognoli



**Dr. Matteo Antognoli** is the winner of the 2023 Excellence Award in Process Intensification of the European Federation of Chemical Engineering (EFCE). The Award recognizes his outstanding PhD thesis on "*Mixing and chemical reactions in microchannels: experimental and numerical analysis*",

completed at the University of Pisa, Italy, under the supervision of Prof. Elisabetta Brunazzi and Prof. Chiara Galletti. Part of the activity has been carried out at the University of California, Los Angeles (UCLA), USA, under the supervision of Prof. Dino Di Carlo. Matteo Antognoli currently holds the position of research fellow at the University of Pisa.

Against the background of constantly growing demands for resource- and climate-friendly process control, micro-process engineering is becoming increasingly important, as it enables very defined chemical reactions with high yields and selectivity.

Dr. Antognoli's thesis reports an experimental study combined with numerical modelling of passive microreactors, where mixing is promoted without the help of external energy sources. The aim of the thesis was to understand how the flow regimes can influence the mixing and the reaction yield in simple geometries at different operating conditions related to working fluids, reaction and flow rate.

Dr. Antognoli's work greatly contributed to the knowledge on CFD methodology and how the most accurate results can and must be achieved and, secondly, to novel micromixer/microreactor design. He finally presented the design optimisation of microchannels with pillars for mixing processes using the opensource

Dear Readers,

Welcome to the June 2023 issue of EFCE News! This issue contains information about upcoming EFCE events, awards, Working Party and Section news and many more. If you have any comments/suggestions, please contact us.

With kind regards

Giorgio Veronesi  
EFCE President

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FlowSculpt software and through this has demonstrated a valuable engineering approach for rapidly assessing the global performance of (pillar) microchannels for mixing operations.

The jury described the candidate's thesis as an excellent piece of research work, which has made a truly outstanding contribution to process intensification – particularly miniaturization and microreactors – in terms of numerical (CFD) and experimental methods required for accurate data acquisition. "His methods are rigorous and allow outstanding data sets to be achieved, thereby offering the possibility to further the understanding of underlying physical and chemical phenomena occurring in miniaturized devices."

Nominating him for the Award, Prof. Brunazzi wrote: "Dr. Antognoli's soft skills – such as collaboration, teamwork, and determination – and his deep understanding of the mixing-reaction relationship coupled with the new-concept design method of microfluidic reactors are undoubtedly recognized by the researchers of UCLA and the Ph.D. thesis referees."

The award was presented on 31 May 2023 at the opening ceremony of the 8th European Process

Intensification Conference-EPIC 8 (website: <https://epic2023.pw.edu.pl/>), held in Warsaw Poland on 31 May - 2 June 2023. He was invited to give a scientific presentation on his doctoral work on 1 June 2023.

The 2023 Excellence Award in Process Intensification is generously sponsored by **Microinnova Engineering GmbH**.



#### **About the sponsor**

*Microinnova Engineering GmbH designs efficient chemical synthesis 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. The product portfolio ranges from process development to production plant solutions in tons-per-hour scale. Microinnova has a special focus on modular plant technology.*



## **EFCE support for grant proposals**

Disseminating the results of research projects and magnifying their impact is a key consideration for grant applications and something that EFCE can help with.

EFCE recently created a new policy that clarifies how it can support colleagues for grant proposal applications by helping to share the results of a research project and magnify its impact. We are happy to support any project proposals aligning with the EFCE charitable objects and the mission of EFCE - to advance the science and of chemical engineering, and public understanding of its impacts. We hope this new approach helps the community to secure funding for important research work developing solutions for a range of societal challenges we are facing.

**Any colleagues applying for research grants wishing to use this opportunity should check out the details of the policy shown on the EFCE website**

[https://efce.info/Supporting\\_the\\_Community.html](https://efce.info/Supporting_the_Community.html)

# Croda wins 2023 Process Intensification Award for Industrial Innovation

EFCE, its Working Party on Process Intensification ([https://efce.info/WP\\_PI.html](https://efce.info/WP_PI.html)) and the sponsor EUROPIC are pleased to announce that the 2023 Process Intensification Award for Industrial Innovation has been awarded to "**Continuous production of a functional Consumer Care ingredient**" developed by Croda International Plc, in the United Kingdom.

## CRODA

Croda has successfully converted the batch production of one of Croda's key personal care products into continuous production using NiTech continuous reactor. This was achieved through collaborative development involving four organisations to understand and overcome the technical challenges required to move from a batch to continuous process.

Croda had gone through extensive trials at lab and on-site pilot scale. The pilot plant was designed and constructed utilising data from the lab experiments to deliver the first demonstration of this industrial process which was able to manufacture tons of product per day. By the end of the trials, the process had been run continuously by the production team in fully automated mode for more than two days, generating very little waste. A full industrial scale production unit has now successfully been commissioned at a Croda site.

The change enables a doubling of their production capacity without a building expansion, as well as showcasing a novel technology with potential applications worldwide in Croda's manufacturing sites. In addition, the full-scale process delivered a saving of water and significant CO2 reduction compared to the batch process by delivering a more efficient continuous process with lower batch-to-batch variability and inline analysis.

The jury stated: "Croda developed a new process starting from laboratory and via pilot plant completing the cycle by ending in a full production plant. The project delivered significant benefits in both processing time, CAPEX and OPEX and

reduced environmental impacts, fulfilling PI principles being faster, cheaper and better."

Established in 1925, **Croda** ([www.croda.com](http://www.croda.com)) is the name behind sustainable, high performance ingredients and technologies in some of the world's most successful brands: creating, making and selling speciality chemicals that are relied on by industries and consumers everywhere.

Croda is a FTSE 100 company with over 5,800 passionate and innovative employees, working across manufacturing sites and offices around the world with a shared Purpose to use Smart science to improve lives™. As part of this Purpose, and with around two thirds of its organic raw materials already from bio-based sources, Croda has committed to be the most sustainable supplier of innovative ingredients, becoming Climate, Land and People Positive by 2030.

The award was presented on 31 May 2023 at the 8th European Process Intensification Conference - EPIC 8 (conference website: <https://epic2023.pw.edu.pl/>), held in Warsaw Poland on 31 May - 2 June 2023. Croda colleagues involved in the innovation are invited to give a presentation on 2 June 2023.

The 2023 Excellence Award in Process Intensification is generously sponsored by the **European Process Intensification Centre – EUROPIC**.

The logo for EUROPIC, featuring the word "europic" in a lowercase, blue, sans-serif font. The letter "o" is stylized with a colorful, multi-colored circular graphic behind it.

### **About the sponsor**

*EUROPIC's mission is to support its members by structurally addressing the global trends and challenges facing the process/chemical industry by accelerating knowledge and technology transfer in the field of process Intensification (PI) and its application in the real world. EUROPIC's products and services are inextricably linked with tackling specific global challenges such as: sustainability, digitalisation, manufacturing of new advanced materials and modularization. It is a unique industry-driven platform set up in 2009 by a coalition of major European businesses. See <https://europic-centre.eu/>*

# EFCE SpotLight Talks

by the Working Parties  
and Sections

from  
24 May  
to  
5 June  
2023



EFCE

European Federation of Chemical Engineering

8 Webinars

## Recordings of 5th Spotlight Talks Series

From 24 May to 5 June 2023 the 5th series of virtual Spotlight Talks was organised by the EFCE Working Parties and Sections. This series showcases **8 webinars** involving the following Working Parties and the Sections: Characterization of Particulate Systems, Chemical Engineering as Applied to Medicine, Crystallization, Early Career Chemical Engineers, High Pressure Technology, Multiphase Fluid Flow, Quality by Design, Static Electricity in Industry, Thermodynamics and Transport Properties.

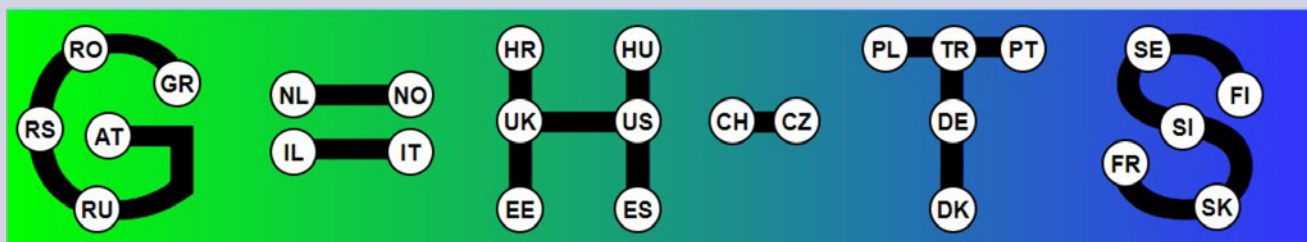
Again, these talks are now seen by the community of practicing (bio)chemical and process engineers as an important means for sharing and disseminating the latest knowledge in chemical engineering science and attracted great attention

**The recordings of the 5th Spotlight Talks are now available on [EFCE's YouTube Channel](#) or via [https://efce.info/Spotlight\\_Talks.html](https://efce.info/Spotlight_Talks.html)** Recordings of previous Spotlight Talks are also available on our [YouTube Channel](#)

## Working Party and Section News in Brief

### New WP TTP logo

In February 2023, the [Working Party on Thermodynamics and Transport Properties](#) introduced their new logo:





## ECCE14 & ECAB7 News

### 14th European Congress of Chemical Engineering and 7th European Congress of Applied Biotechnology

**Berlin, Germany, 17-21 September 2023**

***Motto: Chemical and Biochemical Engineering – Acting Together***

Here is a brief update on the joint conference of EFCE and ESBES.

The conference programme is now available <https://ecce-ecab2023.eu/Programme>.

Consisting of 15-16 parallel tracks each day, it will feature sessions on all topics from all areas of chemical engineering and applied technology. **Deadline for Last Minute Posters: 14 Juli 2023** (see <https://ecce-ecab2023.eu/cfp>)

Two programme highlights will be the ChemCar competition and the science slam during the lunch break and in the evening of Tuesday, 19 September 2023.

**Registration is now open, you may benefit from the early bird rate until 15 July 2023.**

Jürgen Dahlhaus, SVP Chemicals and Catalysis Research at BASF, our Gold sponsor, and Benjamin List, Chemistry Nobel laureate of 2021 and plenary speaker, gave us their views on the conference and other topics. You'll find the interviews on <https://ecce-ecab2023.eu/news.html>

Please find below the full listing of plenary lectures and sponsors/exhibitors:

#### Plenary lectures:

- *Catalysis for a better world*  
Prof. Benjamin List, Director of the Max Planck

Institute for Coal Research and Nobel Laureate in Chemistry, Mülheim an der Ruhr/DE

- *(Bio)chemical engineers of the 21st century - Are we preparing them well for their professional future?*  
Prof. Jarka Glassey, Newcastle University, Newcastle upon Tyne/UK
- *Process Engineering in Food: Food security and Nutrition for all*  
Dr. Christoph Hartmann, Head of Academic Alliances & Expertise Development, Société des Produits Nestlé S.A., Vevey/CH
- *Affinity Proteins for Biotechnological and Medical Purposes*  
Prof. Sophia Hober, KTH Royal Institute of Technology, Stockholm/S
- *Plenary Lecture of the Early Career Chemical Engineers*  
*A systems engineering approach for novel and sustainable value chains in life sciences*  
Dr. Maria Papathanasiou, Imperial College London/UK
- *We change the world and the world changes us: the Anthropocene through the lenses of evolution*  
Prof. Telmo Pievani, University of Padua/I

### **Sponsors (as of 1 June 2023):**

BASF SE (Gold Sponsor)

### **Exhibitors (as of 1 June 2023):**

Berghof Products + Instruments GmbH; Bio PAT e.V.; De Gruyter; DHCAE Tools; DyssolTEC GmbH; EFCE/ESBES; Fink Chem + Tec GmbH GmbH; Fraunhofer Chemistry Alliance; Getinge Deutschland GmbH; Hamilton Bonaduz AG; HNP Mikrosysteme GmbH; ILS-Integrated Lab Solutions GmbH; Kreienbaum Neoscience GmbH; Kuhner Shaker GmbH; octapharma Handelsgesellschaft mbH; Scientific Bioprocessing, Inc. (SBI); SOPAT GmbH.

Exhibition space is still available. Companies may consider taking part in the exhibition and having a look at the attractive [packages and options](#). If you have any questions, you can contact Chereén from DECHEMA e.V. via e-mail: [chereen.semrau@dechema.de](mailto:chereen.semrau@dechema.de)

## **Science Slam – call for participation**

That feeling when you have a research topic and know it hits different, and you want to share it with the world. We get it – same. We have set the stage for you. We help you bring your

act from the lab to debut following this year's conference theme ACTING TOGETHER.

We are looking for you – young scientists, who want to flex their passion in a fun and exciting way.

### **Ready for the spotlight?**

### **Join the ECCE14 & ECAB7 Science Slam 2023 on September 19 in Berlin!**

Climb the stage and compete with other researchers. Get creative and share a topic you love in a seven-minute performance. Prizes await the top three winners!

Email your applications by **17 July 2023** with your title/topic, university/institute and a short teaser (appr. 100 words) to [lea.rapp@basf.com](mailto:lea.rapp@basf.com) & [anna.bohnenkamp@basf.com](mailto:anna.bohnenkamp@basf.com)

We can't wait to see you take the stage!

The Science Slam is organised and hosted by BASF SE and the money prizes of the TOP 3 are sponsored by EFCE.

**More information at:** [https://ecce-ecab2023.eu/Youth\\_Activities.html](https://ecce-ecab2023.eu/Youth_Activities.html)

**Please find more updated information on the conference website at** <https://ecce-ecab2023.eu/>

## **Travel grants for early career engineers**

EFCE has launched a new travel grant, designed to help early career chemical engineers attend EFCE conferences.

Conferences are an important way for early career engineers to present their work and to develop important networks to further their careers. EFCE's new travel grant policy allows the Federation to award grants to help cover the travel costs for early career engineers who are either a member of the EFCE Early Career Section or an early carer member of an EFCE member society.

Grants will be available for various EFCE events throughout the year. Grant applications will be evaluated by the EFCE Early Career Engineers Section and awarded on merit. Recipients will be expected to help spread awareness of the events they are attending through social media.

**The call for applications for the EFCE Travel Grant to attend ECCE14&ECAB7 in Berlin on 17-21 September 2023 is open.**

**Deadline: 15 July 2023**

**For more details,** <https://efce.info/TravelGrant.html>

# Chemical Engineering as Applied to Medicine: 4th European Forum on New Technologies (EFNT) and inaugural meeting of the EFCE section

5 December 2022, Paris, France

The 4th European Forum on New Technologies "Chemical Engineering as Applied to Medicine", an event series organised by EFCE, gathered 37 people from 11 countries (France: 10; UK: 8; Italy: 4; Czech Republic: 3; Germany: 3; Finland: 2; Spain: 2; The Netherlands: 2; Poland: 1; Portugal: 1; Brazil: 1). Six people represented the industrial sector (e.g., AstraZeneca, Boehringer Ingelheim, Philip Morris Products, Sanofi, Veolia), other participants were affiliated with academia.

The scientific event was connected to the kick-off meeting of the new EFCE Section "Chemical Engineering as Applied to Medicine" (ChemE-Med) – see below. The Forum was opened by Giorgio Veronesi, the President of EFCE, who welcomed all participants. A short welcome also was given by Francois Nicol, the president of SFGP and Martine Poux (SFGP-EFCE), the organizer of EFNT. Then a short introduction was done by David Bogle and Tomasz Sosnowski, who briefly defined the background and scope of a new EFCE Section "Chemical Engineering as Applied to Medicine".

The scientific program of 4th SFNT was divided into 3 parts:

- **Part A** "Physiology and chemical engineering – the obvious link" (3 lectures + discussion),
- **Part B** "Chemical Engineering in the specific



challenges of medicine" (4 lectures + discussion)

- **Part C** "Advancements of medical technologies and products via Chemical Engineering approach" (4 lectures + discussion).

After the scientific programme, the participants could declare their interest in joining the Section "Chemical Engineering as Applied to Medicine".

David Bogle, former EFCE Scientific Vice President, who had proposed the Section to the EFCE Executive Board, convened the inaugural meeting of the Section.

17 participants from 8 countries (UK, IT, GE, CZ, FR, ESP, NED, POL, POR) joined the new Section and elected the Section Chair, Prof. Tomasz Sosnowski (Warsaw University of Technology, Poland) and the Secretary, Prof. Davide Manca (Politecnico di Milano, Italy).



From left to right: Giorgio Veronesi (President of EFCE), David Bogle (former Scientific Vice-President of EFCE), Tomasz Sosnowski (Chair of "ChemE-Med" Section), Davide Manca (Secretary of "ChemE-Med" Section), Petr Kluson (Scientific Vice-President of EFCE in December 2022)

### Proposed future activities:

- Sessions B at the ECCE/ECAB conference in Berlin 2023 are directly relevant to the topics of ChemE-Med.
- It was agreed that the Section would offer a session in the next EFCE series of Spotlight talks in April/May 2023 (half day online sessions with 3 or 4 invited talks).
- Two-day conference. The meeting should include talks and posters and encourage participation in the Section.
- Contribution to an advanced textbook based on recent research to be published by DeGruyter.
- Cooperation with the EFCE Working Party on

Education about how to incorporate the topics into the already crowded Chemical Engineering curricula.

- Section website at the EFCE website.
- Joint meeting with an appropriate professional body from Medicine.
- Summer School for PhDs and postdocs (2024).

It was recognised that there could be some overlap with other EFCE WPs and Sections (e.g. Membrane Engineering), ESBES Section (e.g. Regenerative Medicine) and other professional society groups (e.g. in medicine, pharmacology, pharmaceutical manufacturing, control, sensor development). Collaboration with these groups will be encouraged.



## In Memoriam of Jiri Klemes (1945-2023)

At the opening of EFCE Executive Board meeting in Milan on April 28, 2023, I remembered the very outstanding figure of Prof. Jiri Klemes, who passed away last January.

He was a very much appreciated person, who gave an important contribution to the Chemical Engineering community through his research and his teaching activities.

Reading his CV one is very much impressed by the amount of contributions to books, magazine editorials, referenced journals, articles and conference proceedings - a really huge amount of documents! -; by his activity in many different universities around the world; by his contribution to further professional development in many industries in Europe, Asia and Africa; finally even by the number of his spoken languages: 11 in a world where 3 or 4 represent already a good standard!

I will just mention his teaching experience, that spread from 1984 to 2023. He taught undergraduate and postgraduate courses at Brno Technical University and Prague Institute of Chemical Technology, Prague in Czechoslovakia; University of Manchester Institute of Science and Technology - UMIST and the University of Manchester, UK, and University of Pannonia in Hungary. Jiri supervised Dissertations and Theses at Prague Institute of Chemical Technology, Brno Technical University in the Czech Republic, University of Manchester Institute of Science and Technology - UMIST and The University of Manchester, UK; Tyndall Centre for the Research on Climate Change in the UK and the University of Pannonia in Hungary. He was running a Collaboration PhD Project with University of Maribor, Slovenia. He was PhD co-supervisor and from 2012 a Distinguished Visiting Professor at University of Technology in Malaysia, South China University of Technology, Guangzhou, Cracow Politechnic University, Poland, and at Xi'an Jiaotong University, Xi'an Shaanxi, China.

As I said, an outstanding person, but at the same time a well-liked teacher, colleague, and friend to many, who remember him with great affection.

The CAPE Working Party has arranged a full program to honor him during the ESCAPE-33 conference in Athens next June: a very right way to remember him, that he would have liked very much.

*Giorgio Veronesi*  
EFCE President



# Change to the position of EFCE Scientific Vice-President



In March 2023, Professor Petr Kluson regrettably had to decide to step down from his position of EFCE Scientific Vice-President for personal reasons. EFCE and its Executive Board express their heartfelt thanks to Petr for his great commitment to the

Federation and his outstanding support to EFCE's scientific activities. We wish him all the best for the future.

For the remaining months of the term of office until the end of the year, at its recent meeting the Executive Board co-opted the charity trustee **Professor Michael (Mike) Considine** to this position.

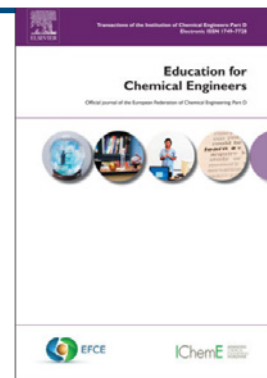
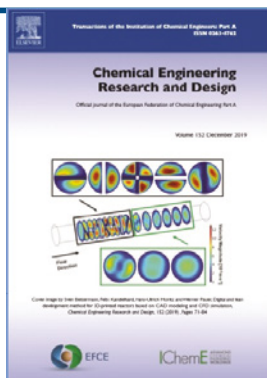
Professor Mike Considine has over 40 years of experience in process safety. Initially he worked in process safety positions in the chemical, nuclear and insurance industries. In 1987, he joined BP in a corporate process safety role and went on to head a corporate team responsible for formulating policy and guidelines and providing advice on all aspects of major hazard management. In 2010 he left BP to establish his own consultancy working for a number of international oil and energy companies. In 2013, he was appointed as Professor in Process Safety and Loss Prevention at Sheffield University and also course Course Director for the MSc in Process Safety and Loss Prevention. He retired from Sheffield University at the end of 2019.

He was a winner of two BP Chairman's Awards and the IChemE Moulton Medal. In 2007 he was awarded the IChemE Franklin Medal for "outstanding contribution to process safety over a number of years" and in 2011 he was awarded the Arnold Greene medal for "the most meritorious long-term contribution to the progress of the Institution".

He was Executive Vice President of the European Federation of Chemical Engineers, from 2014-2018 and is currently a member of the Executive Board.

## Key Skills and Experience

- World recognised expert in process safety and loss prevention.
- Particular area of specialisation in Quantified Risk Assessment, with more than 30 years of experience in conducting, leading and managing QRA studies.
- Responsible for formulating policy and guidelines on QRA for a number of major oil and gas companies.
- Former head of a corporate team in a major oil company responsible for setting major hazards policy.
- Organiser and presenter at numerous seminars and conferences and recipient of a number of professional awards.
- Experience of working in the chemical, nuclear, regulatory, insurance and oil and gas sectors.
- Extensive experience of managing technical teams and consultancy projects
- Good organisational and leadership skills, with experience of setting direction and objectives for a highly technical team, recruitment and development of professional engineers and managing a multi-million dollar budget.
- Connected within the process safety and loss prevention community with experience of working with others in academia, industry and regulators via professional institutions and industry bodies. International experience of leading and working with professional and industry bodies. Experience of developing and working with internal networks within large global organisations.
- Good technical project management skills. Excellent verbal and written communication skills.
- Good understanding of the assessment and management of risks in high hazard industries.



## News about the official EFCE journals

For the latest updates on published papers, freely available content and editor and author interviews please follow the journals on Twitter and LinkedIn:

**NEW Chemical Engineering Research and Design is now on LinkedIn**

Follow the journal at <https://www.linkedin.com/company/chemical-engineering-research-and-design/>

### LinkedIn

**Sustainable Production and Consumption**

<https://www.linkedin.com/company/sustainable-production-and-consumption/>

### Twitter

**Chemical Engineering Research and Design**

<https://twitter.com/ChemEngResDes>

**Digital Chemical Engineering**

<https://twitter.com/DChEJournal>

**Carbon Capture Science & Technology**

<https://twitter.com/CCSTJournal>

**Education for Chemical Engineers**

<https://twitter.com/ECEJournal>

**Process Safety and Environmental Protection**

<https://twitter.com/PSEPJournal>

**Food and Bioproducts Processing**

<https://twitter.com/FBPJournal>

**Sustainable Production and Consumption**

<https://twitter.com/SustProdCons>

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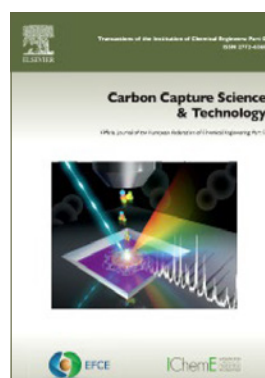
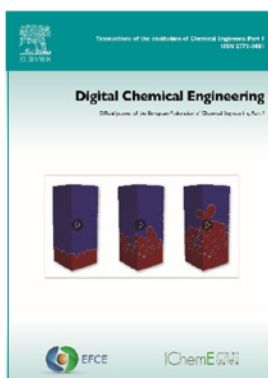
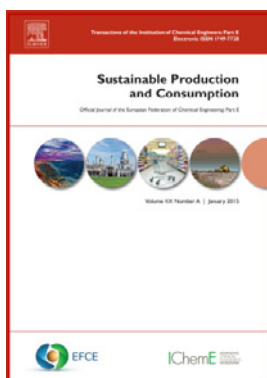
The following articles / issues are set for free access periods. In addition to these, articles that are published via the open access route in the journal are also freely available to all. These are identified in ScienceDirect by a green dot. It is possible sign up to an RSS alert specifically to inform 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** Extended Application of Biomass-based Activated Carbon in Water and Wastewater Treatment



<https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/special-issue/103H61T5785>

- January 2023 issue (Volume 189)  
<https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/vol/189/suppl/C>
- Women in Chemical Engineering  
<https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/special-issue/100DXCW7KVH>
- 100 years of IChemE  
<https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/special-issue/10QRQR0JV67>

### **Process Safety and Environmental Protection**

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

Freely available content:

- January 2023 issue (volume 169)  
<https://www.sciencedirect.com/journal/process-safety-and-environmental-protection/vol/169/suppl/C>

### **Food and Bioproducts Processing**

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

Freely available content:

- January 2023 issue (Volume 137)  
<https://www.sciencedirect.com/journal/food-and-bioproducts-processing/vol/137/suppl/C>

### **Education for Chemical Engineers**

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

Freely available content:

- January 2023 issue (Volume 42)  
<https://www.sciencedirect.com/journal/education-for-chemical-engineers/vol/42/suppl/C>

### **Sustainable Production and Consumption**

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

Freely available content:

- January 2023 issue (Volume 35)  
<https://www.sciencedirect.com/journal/sustainable-production-and-consumption/vol/35/suppl/C>

### **Digital Chemical Engineering**

**Gold Open Access – APC (Author Processing Charge) fully waived on all submissions received before 29 May 2023**

Freely available content:

- **NEW** All content freely available at:  
<https://www.sciencedirect.com/journal/digital-chemical-engineering>

### **Carbon Capture Science & Technology**

**Gold Open Access – APC (Author Processing Charge) fully waived on all submissions received before 30 June 2023**

Freely available content:

- **NEW** All content freely available at:  
<https://www.sciencedirect.com/journal/carbon-capture-science-and-technology>

### **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](mailto:ccliffe@icheme.org)

Details as follows:

### **Chemical Engineering Research and Design**

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

**NEW** Special Issue: Challenges and Opportunities in Advanced Processes based on Distillation for Sustainable Processes (Manuscript submission deadline **31 October 2023**)

## ***Process Safety and Environmental Protection***

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

**NEW** Special Issue: Progress and Critical Challenges in Biogas and Biohydrogen Production Processes (Manuscript submission deadline **15 February 2024**)

## ***Food and Bioproducts Processing***

<https://www.sciencedirect.com/journal/food-and-bioproducts-processing/about/call-for-papers>

**NEW** Special Issue: Artificial Intelligence and Machine Learning in Food & Bioproducts Processing (Manuscript submission deadline **31 July 2023**)

**NEW** Special Issue: Sustainable Biorefining and Biofractionation Technologies (Manuscript submission deadline **31 October 2023**)

## ***Sustainable Production and Consumption***

<https://www.sciencedirect.com/journal/sustainable-production-and-consumption/about/call-for-papers>

Special issue: Responding to the climate emergency: metrics and tools for rational action (Manuscript submission deadline **31 July 2023**)

## ***Digital Chemical Engineering***

<https://www.sciencedirect.com/journal/digital-chemical-engineering/about/call-for-papers>

Special issue: Ethics and Responsible Technology (Manuscript submission deadline **15 July 2023**)

Special issue: AI for intelligent decision making of process and energy systems (Manuscript submission deadline **15 July 2023**)

## ***Carbon Capture Science & Technology***

<https://www.sciencedirect.com/journal/carbon-capture-science-and-technology/about/call-for-papers>

Special issue: Accounts of Carbon Capture Research (Manuscript submission deadline **31 July 2023**)

# EFCE Events in 2023/24

## Organised by or on behalf of EFCE

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

### 33rd European Symposium on Computer-Aided Process Engineering (ESCAPE-33) Athens, Greece, 18-21 June 2023 (EFCE Event No. 794)

The ESCAPE-33 event is organized under the auspices of the [European Federation of Chemical Engineering](#), its [CAPE Working Party](#) (CAPE-WP), the [Technical Chamber of Greece](#), the Pan Hellenic Association of Chemical Engineers, and the [National Technical University of Athens](#). ESCAPE-33 will host free training sessions in data modelling, simulation and commercial optimization software for conference participants.

**Programme:** The scientific programme is available at: <https://era.eventsair.com/escape-33> and will include a Special Session in memory of Prof. Christodoulos Floudas, various special workshops and an EURECHA student contest.

**Plenary speakers:** Gregory Stephanopoulos, MIT; Fengqi You, Cornell University; Larry Biegler, CMU; Venkat Venkatasubramian, Columbia University; Tony Kiss, TU Delft; David Bogle, UCL.

**Awards:** Special awards and winners are reserved for the best papers and posters of the conference. Each award consists of certificate and cash prizes.

**Register NOW!**

**Website:** <https://escape33-ath.gr/>

### 13th European Symposium on Electrochemical Engineering – 13th ESEE2023 Toulouse, France, 26–29 June 2023 (EFCE Event No. 793)

The 13th ESEE 2023 is organised by the Université de Toulouse III Paul Sabatier, Laboratoire de Génie Chimique in cooperation with the EFCE Working Party on Electrochemical Engineering.

The scientific programme will focus on Electrochemical Engineering as the key enabling overcoming current societal problematics: ENERGY - ENVIRONMENT - LIFE...

**Programme:** The scientific programme is in preparation.

**Special Issue:** Following the symposium, a Special Issue is planned at the journal *Electrochimical Acta*. The issue is expected to contain 20-25 papers, selected between oral and/or poster presentations given during the symposium. Researchers are invited to indicate (during their registration or later/before the end of the symposium) if they wish to submit an extended manuscript as publication in the special issue.

**Sponsors:** Université Toulouse III – Paul Sabatier; EURODIA ED Technologies; La Société Chimique de France

**Award:** The 2023 Carl Wagner Medal of Excellence in Electrochemical Engineering will be presented during the Symposium.

**Register NOW!**

**Website:** <https://13thesee2023.sciencesconf.org>

### 17th European Conference on Mixing Porto, Portugal, 2–5 July 2023 (EFCE Event No. 773)

Mixing 17 is organised by the University of Porto on behalf of the EFCE Working Party on Mixing.

Mixing is at the heart of most chemical processes, and it is generally the cornerstone when moving from lab to industrial processes. The widespread of CFD, and advanced fluid mechanics experimental techniques led to great evolutions on this field of chemical engineering over the last decades. The European Conferences on Mixing have been a privileged forum attracting academics and industrialists from all over the world to discuss progress on mixing technology, research, and applications in the process industries. Mixing 17 will run under the unifying theme **“Mixing as a solution for fundamental problems of modern societies”**.

**Programme:** The programme schedule is available at: <http://mixing17.eu/programme/>

**Plenary Speakers:** Prof. Harry Van den Akker,

University of Limerick, Ireland; Prof. Martina Micheletti, University College London, UK; Dr. Irina Ramos, AstraZeneca, USA; Bento Amaral, Universidade Católica Portuguesa, Portugal.

**Special Issue:** Following Mixing17, selected contributions will be given the opportunity to submit a full paper to Chemical Engineering Research & Design journal (Elsevier) for publication in a special issue dedicated to the conference.

**Award:** The 2023 Young Researcher Award in Mixing and the 2023 Alvin and Helen Nienow Lifetime Recognition Award in Mixing will be presented during the Symposium.

**Register NOW!**

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

## **8th European Drying Conference – EuroDrying 2023** **Łódź, Poland, 4–7 July 2023 (EFCE Event No. 791)**

The Lodz University of Technology, Poznan University of Technology and EFCE Working Party on Drying are proud to invite you to the 8th European Drying Conference in Łódź, Poland.

Welcome to the fascinating city of four cultures in which technology is intertwined with culture and modernity with history. In Łódź, the city of manufacturers, everyone will find something for themselves.

**Topics:** Fundamentals, modelling and simulation; Physical properties and product quality; Industrial processes and equipment; Measurement and process control; Environmental issues; Process intensification; Drying of gases and liquids; Drying of powdered solids; Drying of biomass for energy applications; Drying of food and agricultural materials; Drying of biological and pharmaceutical materials; Drying of chemicals and polymers; Drying of wood, pulp and paper and forest products.

Conference participants will have the opportunity to publish selected papers in Special Issue of Drying Technology journal.

**Register NOW! Deadline for regular registration fee: 20 June 2023**

**Website:**  
<https://www.eurodrying2023.p.lodz.pl/>

## **11th PhD-Student Workshop on**

## **Polymer Reaction Engineering** **Potsdam, Germany,** **8–10 September 2023 (EFCE WP Student event)**

The EFCE Working Party on Polymer Reaction Engineering is pleased to announce its 11th PhD-Student Workshop. It will be held as direct follow-up event to the 14th International Meeting on Polymer Reaction Engineering (PRE) on 5-10 September 2023 (conference website: <https://dechema.de/en/PRE2023.html>). The workshop is specifically designed for PhD students seeking contact with fellow students and the polymer industry. They are encouraged to present their PhD topic to a professional audience and at the same time meet industry representatives and potential employers in person.

**Registration fee:** 100 € for PhD students

**Registration deadline:** 2 July 2023

For further information, the abstract submission guidelines and registration form, visit the website: [https://www.chemie.tu-darmstadt.de/busch/forschung\\_akbusch/wppre/formular.en.jsp](https://www.chemie.tu-darmstadt.de/busch/forschung_akbusch/wppre/formular.en.jsp)

## **Baldyga technical seminar “Mixing meets reality”** **Berlin, Germany, 14-15 September 2023 (EFCE WP Student event)**

The Department of Chemical and Process Engineering together with the EFCE Working Party on Mixing are organizing a seminar for PhD students in the field of mixing and stirring.

The seminar will be held at our experimental facility ACK in Berlin ([location and directions](#)).

The main focus will be on open and informal discussion of the following topics:

- Experimental techniques
- Computational techniques
- Data analysis & interpretation
- Scientific writing
- Problems and solutions

Interested PhD students can register [here](#) soon.

For further information, please contact [Lena Hohl](#).

## **ECCE14 & ECAB8 - 14th European Congress of Chemical Engineering**

**& 7th European Congress of Applied  
Biotechnology**  
**Berlin, Germany,**  
**17-21 September 2023**  
**(EFCE Event No. 782)**

*Chemical and Biochemical Engineering Acting Together* is the general theme reflecting that today's global challenges demand the joint efforts of the chemical and biochemical engineering communities. ECCE&ECAB2023 will showcase cutting-edge solutions: sustainable processes and products, new materials, solutions for energy storage, novel therapeutics and other most urgently needed innovations.

**Detailed topics list:** <https://ecce-ecab2023.eu/topics>

**Register NOW! Deadline for early bird registration: 15 June 2023**

**Website:** <https://ecce-ecab2023.eu/>

**2nd International Conference on  
ENERGY, ENVIRONMENT & DIGITAL  
TRANSITION – E2DT**  
**Palermo, Italy, 22-25 October  
2023 (EFCE Event No. 797)**

The conference aims to bringing together researchers, engineers, executives, representatives of the institutions to map the transition towards net zero carbon and fully renewable energy, driven by the recognition that global CO<sub>2</sub> emissions must be drastically reduced to keep global warming below the 1.5 °C target.

The objective is to provide up-to-date evidence on positive and negative environmental effects of the energy transition and on new technologies to drive/accelerate it.

**Topics:** I – Energy and other resources from the sea; II – Methanol as energy vector; III – Hydrogen: production, storage and utilization; IV – Carbon capture and storage technology; V - Production of chemicals, fuels and energy from biomass and waste; VI – How industry is adapting to the new challenges; VII – Sustainability in hard to abate sectors; VIII – Sustainable energy production and storage; IX – Applications of digitalization to energy transition; X – Energy transition and risk management.

The full set of final selected papers will be published into Chemical Engineering Transactions Journal,

indexed by SCOPUS and SCHOLAR

**Sponsors:** ENI (Platinum sponsor); MASOL, Maire TECNIMONT (Gold sponsors); Orim (Silver sponsor)

**Register NOW! Deadline for early bird registration: 15 July 2023**

**Website:** <https://www.aidic.it/e2dt2023>

**ACHEMA 2024**  
**Frankfurt, Germany, 10-14 June  
2024 (EFCE Event No. 796)**

Modern, interactive and always up to date: With a unique range of topics, exciting innovations and new event formats, the world's leading trade show for the process industries brings together experts, decision makers and trendsetters from all over the world. The ACHEMA Innovation Themes take you on a deep-dive into key areas driving innovation in process industries. Each innovation theme brings you dedicated live stages, a scientific conference programme and visionary highlight sessions from the process industries.

Join ACHEMA 2024 as an exhibitor and/or lecturer.

**ACHEMA Congress:** From research to application – the perfect stage to exchange ideas and discuss solutions.

**The call for papers is open. Deadline for abstract submission: 6 October 2023**

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

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