

# Giorgio Veronesi elected as new EFCE President

## New Vice-Presidents and new trustees to join Executive Board in 2022



EFCE will begin 2022 with a new President, new Executive and Scientific Vice-Presidents, and a new composition of its Executive Board, following elections held at the Executive Board meeting and General Assembly on 27 September 2021.

**Giorgio Veronesi** was elected as the next President of EFCE. He has 40 years of experience in the international engineering and construction sector and held various senior positions at engineering contractors including Foster Wheeler, Tecnimont, Siirtec Nigi and Techint. Veronesi is a member of the Executive Committee of AIDIC and first joined the Executive Board in 2016 as a trustee, serving as Executive Vice-President from 2018-2021. His priorities for his Presidency are:

- improving the integration and exchange between academia and industry;
- developing a closer link to a fast-moving society;
- assisting, helping, creating opportunities for students and young chemical engineers; and
- promoting participation of female members, to rectify the current imbalance in representation.

He said: "I believe that President should ensure that EFCE's vision, views and processes are fit for dealing with a fast-changing environment and global challenges such as the energy and

environmental transition and digitalization, on top of sudden crises such as COVID 19, which shook the lives of people in all the continents.

I would like to take this opportunity to express my thanks and deep appreciation to Hermann Feise and David Bogle, out-going President and Scientific Vice-President of EFCE, respectively, for their vision, hard work and always active

Welcome to the year-end 2021 issue of the EFCE News. If you have any comments on the newsletter please get in touch.

With kind regards

*Hermann Feise*  
EFCE President

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contribution to the Federation, in particular in these difficult years. It has been an honor and a pleasure working with them as fellow officers."

EFCE's new Scientific Vice-President will be **Professor Petr Kluson**. He is a Research Professor at the Institute of Chemical Process Fundamentals of Czech Academy of Sciences, and a Lecturer at Faculty of Science, Charles University in Prague. He is a secretary of the Czech Society of Chemical Engineering, and the scientific Chairman of CHISA Congresses. Kluson joined the EFCE Executive Board in 2018 as a trustee.

He commented: "I strongly believe in the importance of the rich professional community life. I see as very inspiring, and important, to take part in the effort when the community representatives work for the benefit of its members."

**Professor Jarka Glassey**, professor of chemical engineering at the University of Newcastle, UK, and former Vice President Learned Society at IChemE, was elected as the new Executive Vice-President.

She sees the EFCE's immediate challenges as: effectively supporting chemical engineers in their contribution to addressing the grand societal challenges of climate change, healthcare in the face of the ongoing pandemic, transition to carbon-neutral and circular economy and a rapid digital transformation of the manufacturing industries. The EFCE will also need to adjust to new ways of working with its members and ensure that they can continue exchanging good practice and maintain networking in the rapidly changing environment caused by pandemic restrictions.

In addition to the three (Vice-)Presidents, EFCE welcomes two newly-elected trustees to the Executive Board who are Antonis Kokossis (Greece) and Tomasz Sosnowski (Poland), together with Andreas Förster, the new CEO of DECHEMA and newly appointed representative of the General Secretariat in Frankfurt.

They are joining the re-elected trustees, Elisabetta Brunazzi (Italy), Michael Considine

***"I am very grateful that EFCE will have a great team to lead it though the next two years. The new team is excellently placed to shape the restart after the pandemic and deepen our relationship with ESBES."***

***– Dr. Hermann J. Feise,  
current President of EFCE***

(United Kingdom), Antoon ten Kate (The Netherlands), Alexis Pey Torruella (Spain), Patrick Piccione (Switzerland), Álvaro Ramirez-Gomez (Spain), Maurizio Rovaglio (Italy), Eric Schaer (France), and Michael Wilk (Germany). and the appointed trustees Andreas Förster (DECHEMA), François Nicol (SFGP), and Jon Prichard (IChemE) who represented the three EFCE General Secretariats.

Retiring from the Executive Board at the end of 2021 are: Thaddeus Anim-Somuah (Belgium), Adisa Azapagic (United Kingdom), Ferenc Friedler (Hungary), Hilke Lorenz (Switzerland) and Willi Meier (Germany – since September 2021).

EFCE is very grateful for the hard work and the many hours of their time all members of the Executive Board have spent working on behalf of the Federation and would like to cordially thank them for their effort.

The out-going President, Dr. Hermann J. Feise, congratulated the new elected President, the Vice-Presidents and the members of the Board of Trustees. He said: "I am very grateful that EFCE will have a great team to lead it though the next two years. The new team is excellently placed to shape the restart after the pandemic and deepen our relationship with ESBES."

## Virtual ECCE13 & ECAB6 2021 – A great event – in many dimensions

130 monitors, 65 people in the background, several terabytes of data volume - this does not describe the bridge of a cruise ship or the key data for a small satellite launch, but the 13th European Conference on Chemical Engineering and 6th European Conference on Applied Biotechnology, in short ECCE & ECAB 2021. The technical and organizational effort in the background of such a large event is not to be underestimated, since more than 500 lectures in 13 parallel strands, 215 posters and various special formats had to be coordinated and supported. The fact that the organizers and, above all, the committee were highly committed and recruited chairpersons virtually up to the last minute paid off: In the end, it was possible to run a very attractive and diverse program from Monday to Thursday almost without any gaps, without any technical problems and with expert support for all sessions. 235 hours of live streaming went over the air!

### A program for every field of expertise

ECCE and ECAB fully lived up to their claim of covering all facets of the chosen motto "Engineering the Future". The spectrum of topics ranged from raw materials and their availability - including CO<sub>2</sub> - to the handling of energy and water resources and deep into the details of process engineering. Biological production systems with their various aspects and overarching topics such as education and training also found their place in the program. Short presentation sessions followed by the opportunity for joint discussion of all contributions ensured a lively exchange and that everyone could ask their questions. The same applied to the posters: Here, the "wonder.me" platform offered the opportunity to engage in informal conversation with the authors after a stroll through the virtual poster

exhibition or one of the poster flashtalks. The opportunity to actively participate in the voting for the poster awards was also used by many participants. In the end, Laura Marie Helleckes from Forschungszentrum Jülich was able to secure 1st place for her poster on "Automated high-throughput strain characterization". Second place went to Robin Dinter from TU Dortmund University with a photoreactor concept, and third place went to Katrin Rosenthal and Alexander Behr from TU Dortmund University with a contribution on biocatalytic reactor concepts.

### Plenary lectures: Spotlights on pandemics and climate change

The diversity of topics was also reflected in the outstanding plenary lectures. In his highly engaging talk, Jirí Drahos drew connections between his field of science, chaotic systems, and the political arena in which he travels today. The cutting-edge field of pharmaceutical production was covered by two speakers, Michael Doherty and Luis Freitas dos Santos; while Michael Doherty, University of California, looked at continuous production research from a university perspective, Luisa Freitas Dos Santos, Vice President Global Clinical Supply Chain at GlaxoSmithKline, described how the pandemic has directly impacted operations and methods in a global pharmaceutical company. Emily Nguyen from Palantir Technologies described how global supply chains can become more resilient thanks to digitalization and what challenges the pandemic has revealed here.

The chemical industry faces completely different, but no less significant challenges. Melanie Maas-Brunner, CTO of BASF, presented the strategies the company is pursuing on its way to CO<sub>2</sub>-free chemical production, which rest on several pillars ranging from the electrification of processes to chemical recycling.

## ChemCar – the miniature race

ChemCar - that's usually the lunch break meeting place where seasoned industry experts and dignified professors get carried away with enthusiasm and cheer loudly for their teams. That's hard to do in a virtual space. But digitalisation did make it possible to turn the competition into a global event: Seven teams, including one from Iran and three from Indonesia, rose to the challenge of convincing with concept and precision. In the end, first place went to the "Spring O2'clock" team from RWTH Aachen University, nicknamed "Wheely," followed by Team "Spectronics" from the University of Surabaya, Indonesia, and the pHantasticCar, which was developed at TU Dortmund University.

## For the next generation: student and doctoral program

For students and young scientists, networking is particularly important on the one hand. On the other hand, many questions arise in this phase of life beyond professional competence: What career do I want to pursue? How can I find a good start to my professional life? This is where the practical exchange of experience is particularly important. The "creative young process engineers", kjVIs, had prepared a program for the virtual ECCE and ECAB that was designed to do just that. Despite all the weighty questions, however, there was no shortage of fun, not least in the "Expert vs Audience" quiz, in which this year the expert had to admit defeat to the assembled broad knowledge of the audience.

## Science Slam – Science with fun

And ECCE and ECAB offered another special program item: In a science slam, six researchers presented their work in a compact and entertaining way. Sofia Garcia Fracaro walked off the screen as the winner; she is working on "Immersive technologies applied for training of operators in the chemical industry". See an interview with her on the following page.

Roos Goedhart and Theresa Jaster took 2nd and 3rd place.

## The conclusion: It was great... but

The ECCE and ECAB showed what a virtual conference can do: Impart a lot of knowledge and enable the exchange of information worldwide, regardless of distances and time zones. It can provide new professional contacts and initiate a very straightforward dialogue. It can even provide a different setting for a competition that thrives strongly on the emotion of the audience. In terms of scientific breadth and depth, such a virtual conference need not hide from any face-to-face event; in some cases, the virtual setting even significantly reduces the barriers to participation.

Nevertheless, there is also something missing: the infectious enthusiasm, the chance encounter or the personal conversation over beer and pretzels cannot be recreated in the digital space. And that's also what a big conference is about, in addition to the scientific content: The atmosphere that inspires and the exchange that leads to new ideas.

And that's exactly what there will be at the next edition of ECCE and ECAB: From September 17 to 21, 2023, EFCE, ESBES and DECHEMA invite you to Berlin, and then it will be once again: what can technical chemists, process engineers and biotechnologists do for the future?

We are looking forward to it!

# Immersed in Technology

## Interview with Sofia Garcia Fracaro winner of the first ECCE/ECAB science slam

Wednesday, September 22nd, 2021 during the joint European Congress on Chemical Engineering and European Congress of Applied Biotechnology, EFCE held its first ever Science Slam. Six contestants from the Netherlands, Switzerland, Spain and Germany competed for the title of the first EFCE Science Slam winner and a 300 € cash prize. The Science Slam was sponsored by BASF.

The first EFCE Science Slam was won by Sofia Garcia Fracaro with a slam titled "Immersive technologies applied for training of operators in the chemical industry". Sofia is a Marie Skłodowska-Curie Ph.D. Researcher at Merck for the ETN-Charming Project. With a Chemical Engineering degree from Argentina and a Fulbright Scholarship at Illinois Institute of Technology in Chicago she now researches the effectiveness and efficiency of immersive learning environments and serious gaming applications when applied for the training of chemical operators and technicians.

### We asked Sofia about her experience with the Science Slam:

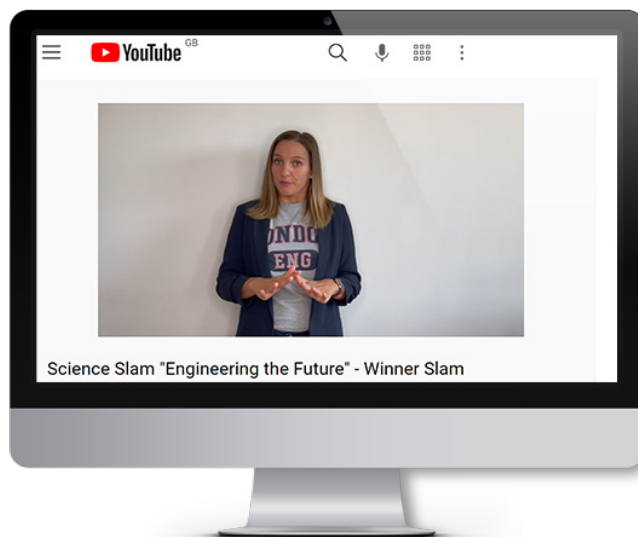
#### What motivated you to participate in the Science Slam at ECCE/ECAB 2021?

In the past years, I realized that I really enjoy filming and editing videos, and giving presentations. I have attended several trainings for science communication, but I had never participated in a science communication competition. To be honest, this was something pending in my "objectives list" but I was a little bit scared.

But as soon as I saw the call for the Science Slam, I knew that this was my chance to get out of my comfort zone and do it! Also, as my project CHARMING had an important role in the ECCE/ECAB 2021, I thought it could be a great addition to the event to try to explain my research with a little bit of fun, complementing the academic presentations and demonstrations of our prototypes. It was the perfect opportunity.

#### Why "Immersive technologies ... for training ..."? Tell EFCE Newsletter readers (in a few words) about the live presentation that you made.

Learning and training are very important in every stage of our lives. It is especially important when



you are working in the industry, for example in the Chemical Industry. And here training is a key element because we want to avoid mistakes that can evolve in accidents, that affect us all! BUT these trainings are many times ineffective and boring. That is why I am doing research about how we can improve the traditional trainings, which usually are PowerPoint presentations, using immersive technologies, such as Virtual Reality or Augmented Reality. So that we can re-design the training sessions to be more effective, more efficient, and more motivating.

#### The Science Slam promotes creative means for communicating research to non-scientific audiences. How did your research in immersive methods help you deliver a successful performance?

I have to admit that the topic of my research has helped me in creating a "cool" and interesting video. Immersive technologies have that benefit, the things that you can do and show in the immersive world are an innovative topic, and they always look great in camera.

In addition, I am a chemical engineer doing research on learning with virtual reality. For the past two and a half years I have had to learn (what it seemed like) an infinite number of new concepts and get familiarized with new topics, such as learning theories or development of the virtual reality software! This learning process has shaped me and encouraged me to think way outside the box.

I think that was key for my Science Slam presentation. I feared the lack of audience and feedback in this virtual Science Slam, but there is always a way! And what a better way to present my innovative research than an innovative presentation.

### **Would you recommend the experience to other researchers? Why?**

Definitely YES! The process of writing the Science Slam script is not easy, because it is not just outlining scientific results, it is about telling a story. We want to captivate the public with our research, in a way that they understand it and can take a message home. The key is to identify the WHY are we doing our research, the HOW are we doing it, and WHAT is our goal.

These are not always easy to recognize and is even harder to describe them in a simple way that everyone can understand. Sometimes the connections between those concepts are clear in our head, but we forget that we are very deep in the research topic and that other people will not see these connections between the why-how-what that easily. We need to make it explicit and as clear as possible.

It took me weeks of writing and re-writing, asking for feedback and re-writing. But the process and results are worth it. Now I have the confidence

that I can talk about my research with anyone! And that they won't fall asleep of boredom (or at least that is what I hope!).

### **Any tips that you would like to give to prospective Science Slam participants?**

My main tip is: Rehearse Rehearse Rehearse! For me, the key was to know what to say and how to say it! It was also helpful to search online recordings of past Science Slam winners to know what to expect and what is expected from you! And I have found very useful the book "SELL YOUR RESEARCH: Public Speaking for Scientists" written by Alexia Youknavsky and James Bowers.

Finally, try to find your way to communicate the content in an entertaining way, but keep in mind that you should feel comfortable doing it! Not because all the winners sing a song, you should do it. Be true to your style and it will come out naturally.

*EFCE presents the winning slams of the first EFCE Science Slam at its YouTube channel <https://www.youtube.com/channel/UCxuvfbb5ST3DMHLAwZ6326w>. More information about Sofia's research and the CHARMING-ETN can be found at <https://charming-etn.eu/>*

## **Working Party News**

### **Change of Chairmanship**

**Professor Francesco Picchioni**, University of Groningen, The Netherlands, has been elected as the new Chair of the Section on Product Design and Engineering. His 3-year term of office will start on 1 January 2022. He will replace Dr. Stefan Kaufmann, who held this position for position four years.

### **Report from the 9th PhD-student workshop on Polymer Reaction Engineering**

This year's PhD-student workshop by the Working Party on polymer reaction engineering (WPPRE) was a full success. It was held from November 23rd to 25th as an online event. To provide a workshop experience similar to the usual face-to-face procedure, a combination of three individual

online platforms (zoom, miro and wonder) were combined. Via these three platforms, successful presentation sessions, poster sessions as well as lively discussions and networking opportunities were established for the participants to enjoy. The workshop was well received by the PRE community, with 67 registered participants it was the largest PhD-student workshop ever hosted by the working party. Hereby, the participants were associated with fourteen different universities and institutes as well as nine companies from all over the world. The workshops program included 16 presentations and 10 posters concerned with various topics such as inline spectroscopy, polymerization techniques as well as process modeling. Herewith, the best presentation was awarded with the best contribution prize kindly sponsored by Wiley. Overall, participants received a broad overview of up-to date research topics and new advances in polymer reaction engineering.

# Passing of some significant chemical engineers who had a major impact on European and global chemical engineering



## John Villadsen

was one of the pioneers of modern Chemical Engineering. John's early contribution was in Reaction Engineering developing the method of orthogonal collocation which

enabled calculation of the concentration gradient in catalytic pellets. He moved into Biotechnology in the 1980s and was known for emphasizing the need for applying fundamental concepts and rigorous principles from chemical engineering in the design of bioprocesses.

He spent most of his career at the Technical University of Denmark, first in the Department of Chemical Engineering and then in 1986 at the newly founded Department of Biotechnology. He was active in the EFCE Chemical Reaction Engineering Working Party and in the formation of ESBES, the European Society for Biochemical Engineering Sciences which emerged from the European Federation of Biotechnology in 2009. John passed away peacefully on 22nd July 2021 at the age of 85. He was a true giant of European Chemical Engineering. Chemical Engineering Science has published an obituary by his colleague and long term collaborator Jens Nielsen CEO of Bioinnovation Institute (<https://www.sciencedirect.com/science/article/pii/S0009250921008721?via%3Dihub>).

There is an appreciation of his life by DTU Chemical Engineering Head Kim Dam-Johansen and Jens Nielsen at <https://www.dtu.dk/english/news/2021/07/mindeord-john-villadsen?id=6db1e03c-6eff-4e87-bc1d-a53835cf3b99>

**Scott Fogler**, well known for his Chemical Reaction Engineering contributions and his textbook *Elements of Chemical Reaction Engineering*, passed away on 25th August 2021. Scott was Arthur F. Thurnau Professor and Vennema Professor of Chemical Engineering at the University of Michigan where he spent most of his career. As a committed teacher he won a number of awards and authored a book *Strategies for Creative Problem Solving*. He was an inveterate traveller and well known in Europe including spending several sabbaticals at University College London. Most recently he gave a plenary lecture at the ECCE/ECAB conference in Florence in 2019 and was proud to be *doctor honoris causa* 2016 of the Universitat Rovira i Virgili in Tarragona. An appreciation of his life can be found at <https://che.engin.umich.edu/2021/08/24/remembering-h-scott-fogler/>

**David Wood** was Professor of Chemical Engineering at the University of Melbourne in Australia and served also as Dean of Engineering there. As Congress Chair for the 6th World Congress of Chemical Engineering held in Melbourne in 2001 he oversaw the signing of the Melbourne Declaration on sustainable development and the establishment of the World Council of Chemical Engineering. He was appointed President of the World Council which he stepped down from in early 2012. He was instrumental in forging strong links with Chinese Chemical Engineering and was Honorary Professor at Tianjin University. He passed away on October 26th 2021.

# EFCE Awards 2022 – Calls for nominations

## EFCE International Fellow Award in Recognition of dedicated service and notable contributions to the advancement of the field of Electrostatics

The European Federation of Chemical Engineering (EFCE) and its Working Party on Static Electricity in Industry are pleased to announce the call for nominations for its prestigious **International Fellow Award** in recognition of dedicated service and notable contributions to the advancement of the field of electrostatics. Research, teaching, standardization or any other relevant contribution can be considered.

The award consists of a certificate and will be delivered during the plenary session during *Electrostatics 2022* conference to be held in Wroclaw on 28-31 March 2022.

A short paragraph (10 lines) explaining why the proposed person deserves the International Fellow Award has to be added to the nomination. Any additional information can also be added. Nominations have to be sent to [electrostatics2021@pwr.edu.pl](mailto:electrostatics2021@pwr.edu.pl).

**The closing date for nominations is 1 March 2022.**

Further information about the nomination procedure, eligibility, supporting documentation, etc., can be obtained from the Electrostatics 2022 conference at: <http://www.electrostatics2021.pwr.edu.pl/wp/>

## 2022 EFCE Michael L. Michelsen" Award

The European Federation of Chemical Engineering (EFCE) and its Working Party on Thermodynamics and Transport Properties (WP TTP) are pleased to announce the call for nominations for its prestigious **Michael L. Michelsen Award** (previously called Distinguished Lecture in Thermodynamics and Transport Properties) to recognize an outstanding research career and achievements within the field.

A nominated candidate should have made significant contribution and/or achievements for the advancement of science and technology

within Thermodynamics and Transport Properties (TTP) and has to be active in a European institution.

The award comprises a certificate and EFCE press communication, a travel/accommodation grant (not exceeding EUR 500) and fee waiver to attend the 32nd European Symposium on Applied Thermodynamics - ESAT 2022 in Graz, Austria, on 17-20 July 2022 (website: <https://www.tugraz.at/events/esat2022/home/>) where the award will be presented.

Furthermore, the laureate will be invited to deliver a keynote lecture at the ESAT Symposium.

**The closing date for nomination is 17 January 2022.**

Further information about the nomination procedure, eligibility, and supporting documentation and the online submission form are available on the EFCE website at: [https://efce.info/MichaelMichelsenAward\\_TTP](https://efce.info/MichaelMichelsenAward_TTP).

## The following calls for nominations are still open:

- **EFCE Excellence Award in Recognition of an Outstanding PhD Thesis on CAPE 2022**

Closing date for nomination:  
**31 December 2021.**

Further information: <https://www.efce.info/ExcellenceAwardCAPE.html>

- **EFCE Excellence Award in Process Safety**

Closing date for nominations:  
**15 January 2022.**

Further information: <https://www.efce.info/ExcellenceAwardProcessSafety.html>

- **2nd Lifetime Recognition LPS Award 2022**

Closing date for nominations:  
**15 January 2022.**

Further information: <https://www.efce.info/LifetimeRecognitionLPSAward.html>

- **EFCE Excellence Award in Fluid Separations 2022**

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

*The Excellence Award is generously sponsored by Evonik*

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



# Member Society News

## World Congress on Particle Technology (WCPT9)

The **9th World Congress on Particle Technology (WCPT9)** will be held in **September 18-22, 2022**, in Madrid (Spain) as an in-person event. WCPT is the world's major scientific congress for particle and bulk solids technology under the auspices of the World Assembly of Particle Technology, representing main societies and federations around the world. The organization will be carried out by the Spanish Association of Chemists and Chemical Engineers (ANQUE) with the support of the European Federation of Chemical Engineering (EFCE), the Spanish Federation of the Chemical Industry (FEIQUE), the Spanish Association of Solids Technology (TECHSOLIDS) and the Spanish Forum Chemistry & Society (FQyS).

WCPT9 aims to count with 8 plenaries, 50 keynotes, around 200 oral presentations, 150 flash oral presentations and 200 poster communications covering a wide range of areas related to particle technology. Under the theme "Exploring beyond limits", WCPT9 aims to engage the whole community on particle technology in the different continents and their countries through an outreach and promotion program specifically designed for this purpose.

Particle technology has significantly contributed since many years ago to achieve a better life, providing solutions not only to improve industrial processes (chemical, pharmaceutical, food production, mining, energy, ...) but also to protect our environment, to provide us health care, to preserve nature,... In this regard, the scientific program of WCPT9 has been structured in ten topics: particulate solids handling, particle and particulate systems characterizations, particle processing, particle-fluid systems, particle formation and design, particle separation, aerosol particles, nanotechnology, modelling and simulations and science, technology, engineering and design of particle-based materials and products. Together with specialized joint events on specific topics is aimed during the celebration of WCPT9 to explore beyond the frontiers of knowledge, stimulate discussions and derive conclusions that pave the way for a more sustainable development of our society. We welcome sponsors and exhibitors to be part of this great event with world-wide impact that continues regularly being celebrated every four



years for over a quarter of a century. A guide with different opportunities for sponsorship and exhibitors can be found at <https://wcpt9.org/wp-content/uploads/WCPT9-Sponsorship-Opportunities-Exhibition-Guide-2.pdf>.

**Call for abstracts open! Deadline for abstract submission: 1 March**

More information at: <https://wcpt9.org/home/>

**The organizers of WCPT9 look forward to welcoming you in Madrid, in September 18-22, 2022. JOIN US!**

Carlos Negro (*Congress Chair*)

Hermann J. Feise (*Int. Adv. Comm. Chair*)

Álvaro Ramírez-Gómez (*Sci. Comm. Chair*)

Ernesto Castañeda (*Organiz. Comm. Chair*)

# News from the European Process Safety Centre



## European Conference on Plant & Process Safety postponed

The Belgian government announced new Corona measures that do not support a face-to-face conference in Antwerp in December 2021.

Therefore the 2nd [European Conference on Plant & Process Safety](#) has been postponed to 8 & 9 March 2022.

Please have a look at the program full of recognized speakers from industry and mark your calendar with the new date.


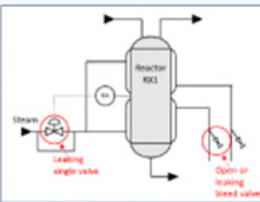
[Registration](#) is open on the website.

We look forward to having a great full face to face event together with you on March 8 & 9 in 2022.


### High Reactor Pressure

EPSC Learning Sheet December 2021

**What Happened:**  
A reactor was bypassed for a longer period without draining the isocyanate solution. Steam leaked through a closed control valve to the reactor jacket. The reactor temperature raised, and the remaining material started to polymerize resulting in high pressure and plugs.



**Process Safety Fundamental:**  
Apply double isolation

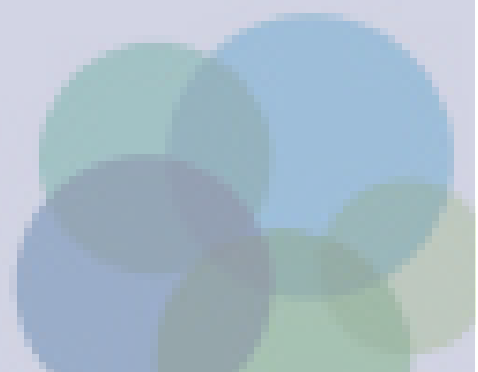


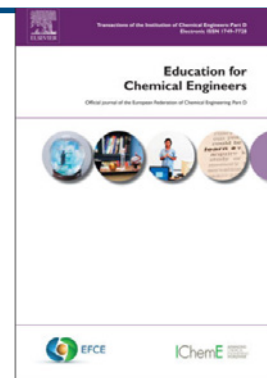
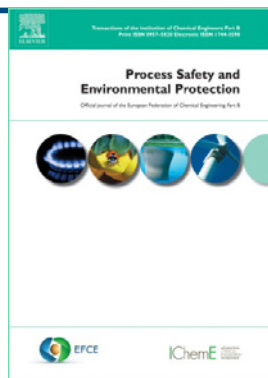
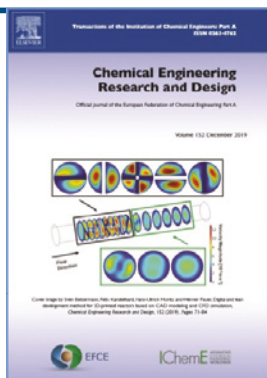
**Aspects:**

- Do not rely on a single valve to isolate equipment
- Steam flows are erosive and steam valves can leak. Inspect

## December EPSC Learning Sheet

The [December EPSC Learning Sheet](#) is about a near miss where the reactor pressure raised unexpectedly. The cause was found to be related to a leaking steam valve. Such valves can erode internally and one cannot rely on its full closure. The EPSC Process Safety Fundamentals (PSF) help in providing practical solutions to avoid incidents with hazardous chemicals. The [Learning Sheets](#) and [PSF](#) are freely available in many local languages enabling a discussion with the team on operational sites.





## 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:

### **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>

## 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** January 2022 issue (Volume 177)  
<https://www.sciencedirect.com/journal/chemical-engineering-research-and-design/vol/177/suppl/C>

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

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

Freely available content:

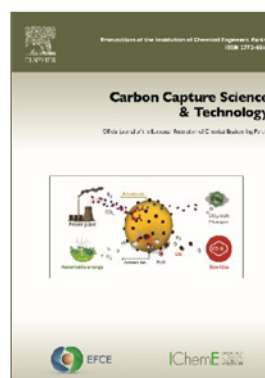
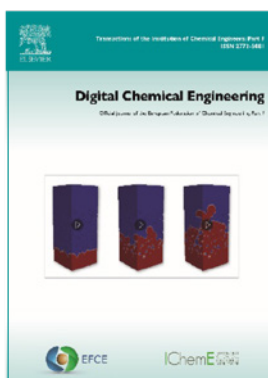
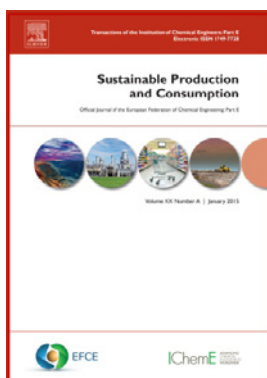
- **NEW** January 2022 issue (Volume 157)  
<https://www.sciencedirect.com/journal/process-safety-and-environmental-protection/vol/157/suppl/C>

### **Food and Bioproducts Processing**

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

Freely available content:

- **NEW** January 2022 issue (Volume 131)  
<https://www.sciencedirect.com/journal/food-and-bioproducts-processing/vol/131/suppl/C>



## **Education for Chemical Engineers**

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

Freely available content:

- **NEW** January 2022 issue (Volume 38)  
<https://www.sciencedirect.com/journal/education-for-chemical-engineers/vol/38/suppl/C>

## **Sustainable Production and Consumption**

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

Freely available content:

- **NEW** January 2022 issue (Volume 29)  
<https://www.sciencedirect.com/journal/sustainable-production-and-consumption/vol/29/suppl/C>
- Circular economy and sustainability: The role of technology, producers, consumers and policy  
<https://www.sciencedirect.com/journal/sustainable-production-and-consumption/special-issue/10KMBLJ8KVL>

## **Digital Chemical Engineering**

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## **Carbon Capture Science & Technology**

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

Details as follows:

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

**Special Issue:** Machine Learning in Hydrogen Production (Manuscript submission deadline **31 December 2021**)

<https://www.journals.elsevier.com/chemical-engineering-research-and-design/call-for-papers/special-issue-machine-learning-in-hydrogen-production>

**Special Issue:** Development and Application of Membranes for Challenging Environments (Manuscript submission deadline **31 December 2021**)

<https://www.journals.elsevier.com/chemical-engineering-research-and-design/call-for-papers/development-and-application-of-membranes>

**NEW Special Issue:** Chemical Engineering in Latin America: Challenges and Opportunities (Manuscript submission deadline **31 May 2022**)

<https://www.journals.elsevier.com/chemical-engineering-research-and-design/call-for-papers/special-issue-chemical-engineering-in-latin-america-challenges-and-opportunities>

**NEW Special Issue:** Extended Application of Biomass-based Activated Carbon in Water and Wastewater Treatment (Manuscript submission deadline **31 March 2022**)

<https://www.journals.elsevier.com/chemical-engineering-research-and-design/call-for-papers/special-issue-extended-application-of-biomass-based-activated-carbon-in-water-and-wastewater-treatment>

**NEW Special Issue:** Intelligent Green Oil and Gas Engineering (Manuscript submission deadline **31 May 2022**)

<https://www.journals.elsevier.com/chemical-engineering-research-and-design/call-for-papers/special-issue-intelligent-green-oil-and-gas-engineering>

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

**Special issue:** Recent Advances in Thermochemical Transformation of Biomass to Bio-oil, Biochar and Syngas and its Upgrading

Methods (Manuscript submission deadline **15 December 2021**)

<https://www.journals.elsevier.com/process-safety-and-environmental-protection/call-for-papers/special-issue-recent-advances-in-thermochemical-transformati>

**Special issue:** Process Safety on Utilization of Emerging Energy (Manuscript submission deadline **31 December 2021**)

<https://www.journals.elsevier.com/process-safety-and-environmental-protection/call-for-papers/special-issue-process-safety-on-utilization-of-emerging-energy>

**Special issue:** Resilience Assessment and Management (Manuscript submission deadline **31 March 2022**)

<https://www.journals.elsevier.com/process-safety-and-environmental-protection/call-for-papers/special-issue-resilience-assessment-and-management>

### **Education for Chemical Engineers**

**NEW Special issue:** Accreditation (Manuscript submission deadline **30 April 2022**)

<https://www.journals.elsevier.com/education-for-chemical-engineers/call-for-papers/special-issue-accreditation>

### **Sustainable Production and Consumption**

**Special issue:** Trends in Biodiversity for Bioeconomy (Manuscript submission deadline **30 December 2021**)

<https://www.journals.elsevier.com/sustainable-production-and-consumption/call-for-papers/special-issue-on-trends-in-biodiversity-for-bioeconomy>

**Special issue:** Digital Transformation for Sustainable Production and Consumption (Manuscript submission deadline **31 May 2022**)

<https://www.journals.elsevier.com/sustainable-production-and-consumption/call-for-papers/special-issue-on-digital-transformation-for-sustainable-production-and-consumption>

**Special issue:** Circular Economy as a Driver for Achieving Sustainable Production and Consumption (Manuscript submission deadline **31 July 2022**)

<https://www.journals.elsevier.com/>

[sustainableproduction-and-consumption/call-for-papers/special-issue-on-circular-economy-as-a-driver-for-achieving-sustainable-production-and-consumption](https://www.journals.elsevier.com/sustainable-production-and-consumption/call-for-papers/special-issue-on-circular-economy-as-a-driver-for-achieving-sustainable-production-and-consumption)

### **Digital Chemical Engineering**

**Special issue:** Modeling, Control and Monitoring of Process Systems in the Era of Big Data (Manuscript submission deadline **31 January 2022**)

<https://www.journals.elsevier.com/digital-chemical-engineering/call-for-papers/special-issue-on-modeling-control-and-monitoring-of-process-systems-in-the-era-of-big-data>

**Special issue:** Machine Learning for Chemical Processes (Manuscript submission deadline **31 January 2022**)

<https://www.journals.elsevier.com/digital-chemical-engineering/call-for-papers/special-issue-on-machine-learning-for-chemical-processes>

**Special issue:** Advances in the Digitalisation of the Process Industries (Manuscript submission deadline **31 December 2021**)

<https://www.journals.elsevier.com/digital-chemical-engineering/call-for-papers/special-issue-on-advances-in-the-digitalisation-of-the-process-industries>

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

**Special issue:** New Trends in Membrane Technology for Carbon Capture (Manuscript submission deadline **31 January 2022**)

<https://www.journals.elsevier.com/carbon-capture-science-and-technology/call-for-papers/special-issue-on-new-trends-in-membrane-technology-for-carbon-capture>

**Special issue:** Solid Sorbents for Carbon Capture (Manuscript submission deadline **31 January 2022**)

<https://www.journals.elsevier.com/carbon-capture-science-and-technology/call-for-papers/special-issue-on-solid-sorbents-for-carbon-capture>

**Special issue:** Nanomaterials Tailored for CO<sub>2</sub> Science (Manuscript submission deadline **28 February 2022**)

<https://www.journals.elsevier.com/carbon-capture-science-and-technology/call-for-papers/special-issue-on-nanomaterials-tailored-for-co2-science>

# Events organised by or on behalf of EFCE in 2022

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

## 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.

### 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.

**Invited lecture:** Dr. Poupak Mehrani, University of Ottawa, Canada.

**The call for papers for manuscripts to be presented at the conference is open.**

**Deadline: 1 March 2022.** The papers will be published in the Conference proceedings in electronic form. They can be full papers or extended abstracts. Instructions will be given on the Conference website.

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

## ACHEMA 2022 Frankfurt am Main, Germany, 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!

**Digital Hub:** Venue for digital players at the heart of ACHEMA: <https://www.achema.de/en/the-achema/digital-hub>

**PRAXISforums:** The PRAXISforums take place within close proximity to the exhibition groups. Short presentations cover current issues on production, best practices and ready-to-use technologies, always with an eye on application.

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

## PMB2022 - 7th International Conference on Population Balance Modelling Lyon, France, 7-9 June 2022 (EFCE Event No. 785)

PBM2022 is organised by Université Claude Bernard Lyon1 with involvement of several EFCE Working Parties related to the field. It aims to bring together researchers from academia and industry to exchange about the recent progresses in the various fields employing population balances. PBM2022 covers the different application fields of population balances.

**Topics:** Contribution and challenges of PBM in practical / novel applications; Identification and uncertainty analysis of PBM; Experimental approaches, monitoring; Solution methods of PBM, stochastic PBM; Multiscale coupling of PBM

**The call for papers is open.**

**Deadline: 15 December 2021**

**Website:** <http://pbm2022.univ-lyon1.fr/en/pages/pbm-2022-home>

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

The ESCAPE-32 event is organized under the auspices of the EFCE Working Party on Computer Aided Process Engineering (CAPE-WP), Institut National Polytechnique de Toulouse (Toulouse INP) and Société Française de Génie des Procédés (SFGP)

**Topics:** Modelling and Simulation, Product/ Process Synthesis and Design, Large Scale Design

and Planning/Scheduling, On Line Model Based Applications and Control, Concepts, Methods and Tools, Digitalization and Artificial Intelligence, CAPE Applications Addressing Societal Challenges, Education in CAPE and Knowledge Transfer.

**Website:** <https://escape32.inp-toulouse.fr/en/index.html>

### **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.

**Topics:** The topic matrix is available at: <https://www.lossprevention2022.org/topics/>

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

### **17th European Symposium on Comminution & Classification - ESCC2022**

**Toulouse, France, 27-29 June 2022 (EFCE Event No. 786)**

17th European Symposium on Comminution & Classification (ESCC) will take place at the University of Toulouse, France from Monday, June 27th to Wednesday 29th, 2022. The event will be organised by INP Toulouse on behalf of the EFCE Working Party on Comminution and Classification.

This event will combine the fundamentals of breakage, advanced models and comminution and classification processes on mineral processing, biorefinery, food, pharmaceutical, chemical and materials industries as well as recycling industries and waste processing. The program will include plenary and keynote lectures from leading comminution and classification experts from all over the world, poster sessions and exhibitions by instrument manufacturers. You are cordially invited to come to Toulouse in 2022 to be part of ESCC, which will bring together experts in comminution and classification technologies from industry and academia.

**Topics:** Fundamentals of particle breakage; Innovative methods for particulate characteri-

zation; Coarse grinding and classification processes, especially for minerals, ores, cement, ...; Grinding, dispersing and classification of fine particles, micro and nanomilling applied to pharmaceutical, chemical, material and electronic industries ...; Cell disintegration and recovery of high value-added products in biorefinery, green processes, food industries, ...; Grinding for recycling industries and waste processing : plastics, WEEE, construction and demolition wastes, agricultural wastes, solar panels, wind turbines, ...; Mechanochemical and mechanofusion processes, mechanical bulk and surface transformations; Transport and process modelling across length scales (CFD, multiphase flow, DEM, PBM, ...); Wear, erosion and product contamination. Plant operation, innovations in milling and classification technologies including automation, machine learning, in line sensors, ...

**The call for papers is open. Abstract submission deadline: 15 January 2022**

**Website:** <https://esc2022.sciencesconf.org/>

### **CHISA 2022 – 25th International Congress of Chemical and Process Engineering**

**Prague, Czech Republic, 21-25 August 2022 (EFCE Event No. 787)**

The Czech Society of Chemical Engineering (CSCHE) invites you to the upcoming CHISA in the very beautiful city of Prague to celebrate 60 years of CHISA Congresses in 2022 under the motto "The place, where people meet people and science meets culture". MARCHES 2022 – the MARKET of CHEMICAL Engineering and Services will also take place during the CHISA 2022

**Topics:** I. Global Thoughts; II. Energy; III. Matter In Motion; IV. Not Only Faster; V. Particles; VI. Green Issues; VII. You must know; VIII. College; The Wiley-VCH Poster Session.

For details see: <http://2022.chisa.cz/scientific-program/#main-topics>

**Plenary speakers:** Prof. Robert Schlögl, Max Planck Institute for Chemical Energy Conversion, Berlin, DE; Prof. David Fernandez Rivas, University of Twente, NL; Prof. Matthias Kraume, Technical University Berlin, DE; Prof. Yoel Sasson, Hebrew University of Jerusalem, IL

**The Call for papers is open. Deadline for abstract submission: 31 January 2022**

Posters may be accepted up to the beginning of the Congress but only those received before 31 May 2022 will be included in the final program.

**Website:** <https://2022.chisa.cz/>

## **Distillation & Absorption 2022** **Toulouse, France,** **18–21 September 2022** **(EFCE Event No. 780)**

Distillation & Absorption 2022 will showcase the newest and best in distillation & absorption technology and will cover a broad range of fundamental and applied aspects. The conference series is the main international forum for research, development, standards and applications related to this domain, and will bring together industry, academic researchers and students to share and discuss the latest developments in the field. The conference is supported by the Société Française de Génie des Procédés (SFGP) working closely with the EFCE Working Party on Fluid Separation (<http://efce.info/Fluid+Separations.html>).

**Topics:** Basic data; Modelling, Simulation, IA methods (hybrid modelling, digital twin,...); Hybrid and Multifunctional Processes (modularity, flexibility, intensification,...); Equipment design, technology and innovation (additive manufacturing, centrifugal separation,...); Control, Process operation and troubleshooting; Energy and sustainability in separation processes (efficiency, renewable energy, new concepts, CO<sub>2</sub> capture,...); Biobased separation processes; Mobile/On-board separation processes (embedded processes in cars, ships, aircrafts, satellites); CO<sub>2</sub> capture.

Associated with the conference, the call for nominations for the 2022 EFCE EXCELLENCE Award in Fluid Separations is open. The award is sponsored by the EFCE and Evonik company.

**Plenary speakers:** Andreas Bode, BASF SE; Søren Bøwadt, Health and Digital Executive Agency (HaDEA); Veronique Pugnet, TOTAL; Bernard Saulnier & Mikael Wattiau, Air Liquide R&D; Michael Schultes, Ruhr-Universität Bochum; & Daniel R. Summers, FRI's Design Practices Committee

**Website:** <http://da2022.org/fr/index.html>

## **9th World Congress of Particle Technology** **Madrid, Spain, 18-23 September 2022** **(EFCE Event No. 784)**

For details, see "Member Society News" above

**Website:** <https://www.wcpt9.org>

## **Energy, Environment & Digital Transition** **Milano, Italy, 16-19 October 2022** **(EFCE Event No. 781)**

The event is organised by the Italian EFCE Member

Society AIDIC, the Italian Association of Chemical Engineering.

The overall objective of E2DT conference is to gather and provide a view on available, up-to-date evidence on positive and negative environmental effects of the energy and digital transformation in a holistic way and the opportunities for new technology to drive innovation. The focus will be on energy, GHG aspects, climate/human related risks, and how digitalization could create significant advantages while accelerating the transition.

**Topics:** Technology process on renewable energy generation and use; Carbon capture and storage technology; Hydrogen energy: production and storage; Help energy consumers to make more sustainable decisions; Mobilizing industry for a clean and circular economy; Zero pollution ambition for a toxic-free environment; Preserving and restoring ecosystems and biodiversity; Energy storage and battery technology; Energy transportation and transmission; Mobilizing society for the energy transition; How digital evolution can help zero carbon footprint challenge

The call for papers is open. Deadline for abstract submission: **15 December 2021**

For requirements and procedural aspects of the submission of abstracts, please kindly refer to the following link: <https://www.aidic.it/e2dt/page.php?pipe=testoabstract>

Selected papers will be presented during the conference and published into Chemical Engineering Transactions <https://www.cetjournal.it>

**Website:** <https://www.aidic.it/e2dt/>

## **Contact**

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Every effort is made to ensure the factual accuracy of the content of this e-newsletter, but EFCE cannot accept any responsibility for errors.





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*christmas*  
— & —  
★ **HAPPY** ★  
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