



10th World Congress
of Chemical Engineering

Promoters:
WCEC EFCE ESBES

Organized by EFCE-Spain Group:
ANQUE Engineers SEQUI AIQS

10th World Congress OF CHEMICAL ENGINEERING — 11th European Congress OF CHEMICAL ENGINEERING — 4th European Congress OF APPLIED BIOTECHNOLOGY

www.wcce10.org

WCCE10

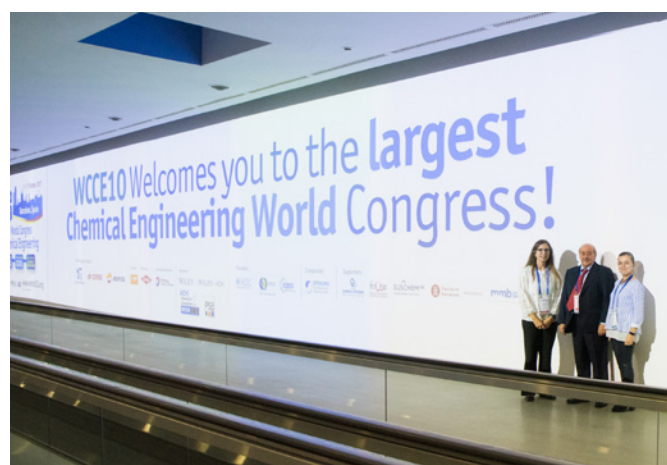
The largest chemical engineering world congress with more than 3,000 Delegates from more than 80 countries

There is no doubt; the most important congress on chemical and biochemical engineering last year was the WCCE10, held in Barcelona from October 1st to 5th.

Congress figures were staggering. Over 3.000 registered delegates, in an all-time record for all previous world congresses, shared the latest advances and trends of chemical engineering under the motto **"Solutions 4 Global Challenges"**. Chemical Engineering, as a bordering discipline that interacts with so many different fields of study, has worked and continues to work to solve these challenges. During the Congress, experts from the entire globe shared their findings and solutions to provide health, care, food, water, transportation and shelter for people.

The 10th World Congress of Chemical Engineering was held in conjunction with the 11th European Congress of Chemical Engineering and the 4th European Congress of Applied Biotechnology (WCCE10 + ECCE11 + ECAB4) and more than 20 specialised joint events including the successful ESCAPE27.

The World Chemical Engineering Council (WCEC), the European Federation of Chemical Engineering (EFCE) and the European Society of Biochemical Engineering Sciences (ESBES) promoted this "three in one" congress organised by the EFCE-Spain Group: ANQUE, SEQUI, AIQS and AEIC. Together they have summoned the best chemical engineers in the world from academia, business and industry with affluence over 3,000 delegates from more than 80 countries.



Left to right: Angeles Blanco (S&T Secretary), Félix García-Ochoa (S&T Chair) and Concepción Monte (S&T vicesecretary)

Welcome to the first 2018 issue of the EFCE News. If you have any comments on the newsletter please get in touch.

Hermann Feise
EFCE President

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The scientific programme was impressive, being composed of 7 main topics, 15 Joint events, 8 plenary lectures, 95 keynotes, more than 1,500 oral communications and around 2,000 poster communications

The Congress approached all current chemical engineering topics with an S&T programme that was focused on the current four grand global challenges: Energy, Water, Food & Nutrition and Health & Wellness, that are closely related to the UNs Sustainable Development Goals. Its theme, Solutions for Global Challenges, echoes what Chemical Engineering brings to the world: The answers to the problems that spur us.

The **scientific programme** was impressive, being composed of 7 main topics, 15 Joint events, 8 plenary lectures, 95 keynotes, more than 1,500 oral communications and around 2,000 poster communications. The programme covered all key chemical and biochemical engineering topics, and reflected the latest scientific trends in their field.

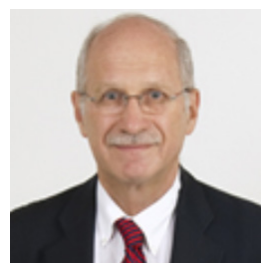


WCCE10 plenary speakers were internationally renowned figures approaching fascinating themes that provide solutions to Global Challenges

The **WCCE10 opening ceremony** was the framework of an outstanding ceremony to recognise the best, during these days [EFCE conferred highest honours at World Congress](#): an Honorary Membership the honour was conferred to Richard Darton, the Dieter Behrens Medal awarded to Sauro Pierucci and a Lifetime Achievement Award to Luis Puigjaner. In addition, various awards dedicated to young scientists, given by EFCE working parties and sections, were presented during this ceremony.

WCCE10 plenary speakers

WCCE10 plenary speakers were internationally renowned figures approaching fascinating themes that provide solutions to Global Challenges.



Prof. Ignacio E. Grossmann from Carnegie Mellon University Pittsburgh, USA, gave the inaugural plenary “*The future trends in research in Chemical Engineering*”. In his intervention, Prof. Grossmann offered a brief historical account of

the evolution of Process Systems Engineering, summarizing the major developments and advances that have taken place over the last 50 years in process simulation, process control, optimization, process synthesis and process operations and highlighting their key concepts and contributions. Prof. Grossmann has shown that many of these developments, which have a strong foundation in fundamentals of chemical engineering, numerical analysis, systems and control theory, mathematical programming, computer science and management science, have had significant impact in industry. Process engineering, he said, involves all stages of chemical products, from discovery and design to manufacturing and distribution. The plenary also outlined some of the future research challenges in Process Systems Engineering, including energy systems, sustainability, process intensification, smart manufacturing, materials design, and systems biology. Aside from leading to challenging research problems that might benefit from new tools like big-data and machine learning, he has defended that progress, in future research areas, will still rely on research advances in the basics and fundamentals of Process Systems Engineering and assured that chemical engineers are the “optimizers” of industry.



Prof. Jackie Y. Ying, director of the Singapore Institute of Bioengineering and Nanotechnology, delved directly in the Congress theme with her plenary "*Tackling Global Challenges with the Nanotechnology Toolbox*". Prof. Ying is a

pioneer in the world of chemical engineering as she has broken many age, cultural and gender barriers. She presented before an enthused audience how nanotechnology allows a unique design and functionalization of materials and devices at the nanometer scale for a variety of applications. How it provides a remarkable toolbox to create novel materials and systems that can help us to address major challenges in green chemical processes, global warming, clean energy, biotechnology, medicine and food safety. New materials, she said, should be economic and scalable as well as easy to transport and gave examples such as Zika virus paper based diagnosis or other methods to easily diagnose other illnesses.



Prof. Molly Stevens from Imperial College of London, recognised by The Times as one of the top ten scientists under the age 40, enlightened delegates with her intervention "*Bio-responsive hybrid materials for regenerative medicine*

and biosensing". Prof. Stevens presented bio-responsive hybrid materials and their growing importance with potential applications including drug delivery, diagnostics and tissue engineering. She connected their benefits with very real daily challenges in health with concrete examples and futuristic solutions.

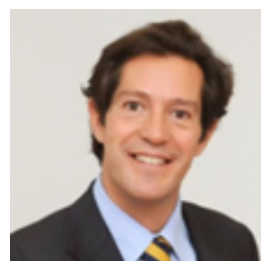


Plenary **Prof. Rakesh Agrawal**, P.V. Danckwerts Memorial Lecturer, spoke of "*Challenges and Opportunities for Chemical Engineering in an Emerging Solar Economy*". He offered a refreshing view on renewable energy. As he reminded the

audience, for most of its existence, humankind lived off solar energy that was harnessed over the same timescale as its use. Only in the last two centuries has it become dependent on fossil resources. The ability to store energy in a dense form and its ease of use led to unparalleled growth in science, technology and commerce, leading to a lifestyle for a common person that could not be

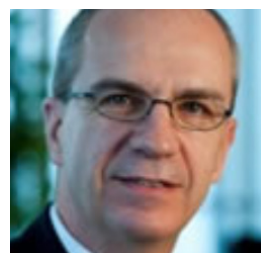
imagined before. Chemical engineering saw an unprecedented growth as use of oil, natural gas and coal became dominant for transportation, production of chemicals and other human needs. However, as the world population rises from 7 billion to 10 billion and lifestyle improves in most parts of the world, the rapid rise in demand for energy will put tremendous pressure on the availability of fossil resources. Solar radiation is the only power source that can meet daily needs for any foreseeable future. When on a daily basis, solar radiation becomes the main supplier for food, energy, water, chemicals and other human needs, chemical engineers will help us learn how to harness solar radiation as electricity, heat, biomass, H₂, etc. and transform some of these into usable forms such as fuels, fertilizers, chemicals, purified water. Moreover, he pointed, there are challenges related to large-scale storage of energy at GWh levels to mitigate the impact of intermittent availability.

Plenaries also offered a representative view of chemical industry with the interventions of top level executives from the world's largest chemical companies who closed the circle addressing Global Challenges and explaining their solutions in specific applications.



Miguel Paradinas, deputy CEO of Técnicas Reunidas presented the plenary entitled "*Engineering strategies for a growing world: TR Experience*". Paradinas reviewed the global oil and gas situation extrapolating demand and

use for the following ten, twenty years. He then presented the company's process engineering projects. Técnicas Reunidas (TR) is among the world's ten largest engineering companies. They realize 95% of their design and construction projects internationally. TR's key to success is its specialization in chemical process engineering and complex project management or "complexity management". It is also due to having their own technology in specific processes, like those of crude refining, petrochemicals and fertilizers, all basic core areas for the company.



Prof. Philippe A. Tanguy, Vice President of R&D Partnerships of Total made some brave declarations in an ambitious intervention: "*Solving Global Energy Issues*". Prof. Tanguy affirmed that the Climate

Paris agreement calls for a radical change to transform the present energy system into a more sustainable mix based on renewable energy sources, an increase of the system efficiency and energy sobriety, and greenhouse gas mitigation measures.

He defended that the development of technological innovation in power generation, mobility, and the chemical industry will be strong contributors to the success of this energy paradigm shift. However, he pointed that, depending on the energy applications considered, the degree of technological maturity of possible solutions varies significantly, as well as their capacity for practical deployment. He ventured that the energy transition trajectory will be country-specific as it depends on the local available resources, the system in place (energy mix, infrastructure, typology of consumption) and the societal context. To embark on this journey, there is not a single approach. A solution is devised in each case with long-term objectives, and financial scenarios, he said.



Peter Schuhmacher, president of process research and chemical engineering for BASF, during his presentation entitled "*Process Research in the Chemical Industry*" posed the growing need for food, clean water

and energy, limited resources and a booming world population. Reconciling all these factors is the greatest challenge of our time, he said. Innovations based on chemistry play a key role here, as they contribute decisively to new solutions. Effective and efficient research and development are a prerequisite for innovations as well as an important growth engine for BASF who works in interdisciplinary teams on innovative processes and products for a sustainable future. Schuhmacher showed how the chemical industry has always driven innovation with as examples like, synthetic dyes, ammonia as basis for fertilizers, polymers as e.g. raw material for insulation foams and packaging, synthetically produced vitamins, blockbuster fungicides and plant biotechnology. Over the years, however, the focus has shifted towards more advanced materials, system solutions and sustainable processes. These materials, solutions and processes can only be achieved by finding new ways to combine expertise in various disciplines such as chemistry, biology, physics, materials science and engineering. That means that innovations are based less on the

development of new chemicals and more on the combined strength of our scientific know-how. Digitisation becomes an important enabler for these innovations and will now be integrated in everyday life of R&D. Data science, fast access to integrated clean data and acceleration of modelling & simulation with supercomputing are the key factors of digitisation.



The closing plenary was offered by **James (Jim) R. Fitterling**, Chief Operating Officer for the Materials Science Division of DowDuPont, the new chemical giant, during his plenary he said "*the fourth industrial revolution is not*

coming, it's already here". He also assured that technology is meaningless without people calling to engage the workforce. He talked about the main goal of industry: to deliver solutions that help people.

Other conference highlights

It was also remarkable that for the first time in the history of the World Congress a previous **undergraduate student conference** was organised. This conference represented a unique opportunity for students to join with scholars from Chemical Engineering and other related areas coming from different countries. The Programme included three days of career information, a CV-Clinic, competitions, networking activities and a wide diversity of activities of academic, scientific and professional interest as well as the necessary space for entertainment.

A world **Chem-E-Car® competition** was one of the stars of this conference, combining science, engineering and entertainment for the sake of demonstrating the value of collective projects joining enthusiastic young people. 20 Chem-E-Car student teams from around the world competed with prototype cars powered by chemical reactions. Two other competitions were also scheduled, consisting on a presentation of posters and a Chemical Engineering Quiz. (World Chem-E-Car® Video <https://www.youtube.com/watch?v=HApQqXEEbLc>)

Tours to industrial plants in the Barcelona and Tarragona area as well as to selected stands of Expoquimia, including a guided visit to Smart Chemistry, Smart Future, Feique's project that showcases chemistry's enormous capacity to improve and change our world through



The winning Chem-E-Car® team

innovative solutions for the major issues that affect our lives was also organized as part of the Programme.

The **exhibition** area welcomed companies in a very beautiful and pleasant space that was highly favourable for fruitful exchanges. During these days took also place the 18th edition of Expoquimia, the International Chemistry Event organised by Fira de Barcelona, with a total of 393 direct exhibitors, Halls 2 and 3 of Fira de Barcelona's Gran Via venue congregated a broad sample of all the groups that make up one of the most dynamic sectors of the Spanish economy. Expoquimia 2017 occupied a surface area of over 17,500 sq. m in which 2,180 products were presented by 2,221 brands with 278 new products launched at an event which reconfirms it as the second biggest in the European Union. Over 35,000 visits were recorded to trade shows and events.

Finally, the conference closed with the **Barcelona Declaration**, which precisely, in relation to the UN's Sustainable Development Goals and the congress theme Solutions for Global Challenges, aims to raise awareness of society as to the contribution and importance of Chemical Engineering for the world and sends a call for action ([ChERD Journal, 129 \(2018\) A1-A2](#)).

The Declaration was supported by congress organisers and all chemical engineering confederation. It requests:

- That governments and organizations promote public and private investment in research, development and innovation, allowing freedom for research within ethical and safety boundaries.
- That governments consider all scientific

views when making decisions about how to solve the great challenges facing humanity. There should be public support of scientists and engineers, funds should be allocated by competitive calls, and peer review should be standard practice.

- That chemical and biochemical engineering, which brings together many disciplines and technologies, should be considered essential and therefore be supported by public research, development and innovation programs.
- That resources and education are made the centre of all strategies for addressing the Grand Challenges. Educating coming generations is the key to adapting to the new and changing world. Thus, education must be cherished. New and appropriate education systems and content must be developed and promoted, and made accessible for everybody. In this way we will find, as we have in the past, that human skill, ingenuity and endeavor will enable us to succeed.

Finally, it is worth noting the high participation of delegates in the social activities organised and the high level of satisfaction of delegates as reflected in the excellent results of the satisfaction surveys completed by more than 1,000 delegates.

A 10th World Congress of Chemical Engineering video summarising these days can be found at this link: www.youtube.com/watch?v=SYaSXY07TLw

The next great EFCE congress is in two years in Florence!

Carlos Negro, WCCE10 Chair



The Gala Dinner

Calls for Nominations

EFCE-EMS Joint Excellence Award in Membrane Engineering 2018



The EFCE is pleased to present the call for nominations for the EFCE-EMS Joint Excellence Award in Membrane Engineering 2018.

Launched in 2009 by the EFCE Section on Membrane Engineering, this award has been established

to recognise a PhD thesis or paper(s) of a young researcher which demonstrates the most outstanding contribution to research and/or practice in membrane engineering in the process industries.

In 2018, for the first time the Award is jointly presented by the EFCE and the European Membrane Society (EMS).

The award comprises a certificate, a travel grant of up to EUR 500 and complimentary registration to attend the Euromembrane 2018 conference, which will be held in Valencia, Spain, from 9 to 13 July 2018.

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

Nominations may be submitted by any PhD supervisor at a PhD-awarding institution in an EFCE Member Country or by an individual member of a Member Society of EFCE/EMS. The PhD thesis/paper(s) nominated must address a topic relevant to the field of membrane engineering. Only PhD theses or papers published between 1 January 2015 and 31 December 2017 are eligible for nomination. A nominated PhD thesis must have been completed and published and the PhD degree examined and awarded.

**Closing date for nominations:
30 March 2018**

For further information about the nomination procedure, eligibility and supporting documentation and the online nomination, please refer to the EFCE website: www.efce.info/ExcellenceAwardMembraneEngineering.

Lifetime Recognition Award in Mixing

The Lifetime Recognition Award is a triennial award, given to a person belonging to one of the EFCE member countries in recognition of an outstanding contribution to mixing science

and technology. The award is presented by the EFCE Working Party on Mixing and sponsored by Unilever. It comprises a certificate and a cash prize of EUR 1000. The award will be presented during the Gala Dinner of the 16th European Conference on Mixing which will be held in Toulouse, France, on 9-12 September 2018.

**Deadline for submission of nominations:
30 May 2018**

For further information and online nomination, please refer to the EFCE website: www.efce.info/LRAMixing.html

The following calls for nominations are still open:

2018 EFCE Excellence Award in Fluid Separations

This quadrennial award recognises a PhD thesis of a researcher or engineer which demonstrates an outstanding contribution to research and/or practice in fluid separations. Only PhD theses published between 1 January 2013 and 31 December 2017 are eligible for nomination.

Closing date for nominations: 14 March 2018

The Award is generously sponsored by Covestro



For further information and the online nomination, please visit the EFCE website at <http://www.efce.info/ExcellenceAwardFluidSeparations>

2018 Young Researcher Award in Mixing

The Young Researcher Award was established in 2000 to recognise the work of a young researcher in his/her early career, which demonstrates an outstanding contribution to research and/or practice in mixing. Any researcher under the age of 35 who has completed his or her PhD in the field of mixing at a European university and is currently active in the mixing research is eligible for nomination.

**The closing date for nominations is
20 March 2018.**

For further information and the online nomination, please refer to the EFCE website at http://www.efce.info/YoungResearcherAward_Mixing or the Working Party website at <http://wp-mixing.inp-toulouse.fr/>

EFCE Working Party and Section news

During the celebration of the **International Conference on Processing, Handling and Characterization of Particulate Materials (PARMAT2017)** organized by eight Working Parties of the European Federation of Chemical Engineering (EFCE) and in the frame of the WCCE10-ECCE11-ECAB4, Prof. Rimantas Kačianauskas from Vilnius Gediminas Technical University received a commemorative plaque on behalf of the Working Party on Mechanics of Particulate Solids for his outstanding contributions to the field.



Prof. Rimantas Kačianauskas (right) receiving the commemorative plaque from Prof. Álvaro Ramírez-Gómez (left), chairman of the EFCE Working Party on Mechanics of Particulate Solids

Events organised by or on behalf of EFCE

12th European PhD Workshop on Food Engineering and Technology Freising-Weihenstephan, Germany, 17-18 April 2018

Presentations of selected national PhD candidates in Food Engineering and Technology at European level

The workshop will be organised by the Section on Food of the European Federation of Chemical Engineering (EFCE) (see www.efce.info/section/food) in cooperation with the European Federation of Food Science and Technology (EFFoST) and Technical University of Munich, Food and Bioprocess Engineering.

Co-chairmen: Prof. Dr. Ulrich Kulozik (TU Munich) and Prof. Dr. Dietrich Knorr (TU Berlin)

The European Workshop on Food Engineering and Technology is organised every year with the best PhD students of Europe presenting their recent results. So far, it took place in Germany (2007, 2012, 2014 and 2017), France (2008), Italy (2009 and 2013), Serbia (2010), Spain (2011), and Switzerland (2015 and 2016). They were very successful events, of high quality and well received within the Food Engineering and Technology community. The 12th European Workshop will be held at the TU Munich in Germany.

Two valuable rewards of 2,500 € will be offered to the best presentation, selected from the PhD students' presentations for:

- **JULIUS MAGGI RESEARCH AWARD 2018,**

sponsored by Nestlé PTC Singen, DE (Focus: Food Product Engineering)

- **BÜHLER FOOD ENGINEERING AWARD 2018,** sponsored by Bühler AG, Uzwil, CH (Focus: Food Process Engineering)

6th International Conference on Population Balance Modelling - PBM2018

Ghent, Belgium, 7-9 May 2018 (EFCE Event No. 749)

This 6th International Conference on Population Balance Modelling (PBM2018), organised by Ghent University and the Technical University of Denmark – DTU, aims at bringing together researchers and practitioners with diverse backgrounds to allow exchange of ideas across various sub-fields that use population balances, and to provide opportunities for researchers to identify new domains to expand into and new tools to use.

The **programme** of PBM 2018 is now available at <http://www.pbm2018.ugent.be/programme/>!

Silver Sponsor: Dr. M. Wulkow Computing in Technology GmbH (CiT); Conference partner: Processes Open Access Journal

Register for PBM2018 [here](http://www.pbm2018.ugent.be/) until 26 April 2018! Deadline for early bird registration (including payment): **5 March 2018**. Students and/or early birds receive a 200 € discount.

Website: <http://www.pbm2018.ugent.be/>

ISCRE 25 – 25th International Symposium on Chemical Reaction Engineering
Florence, Italy, 20-23 May 2018
(EFCE Event No. 743)

Theme: *Engineering the chemical transformation by bridging science and technology*

The Conference will cover both the latest methodological developments as well as the many emerging applications of CRE to crucial technologies for energy conversion, environmental protection and sustainable chemicals production. Furthermore, the 2018 EFCE Excellence Award in Chemical Reaction Engineering will be presented.

Conference topics: Chemical Kinetics; Advances in Chemical Reactor Engineering and Design; Multiscale Approaches to Chemical Reaction Engineering; Novel Materials in Reaction Engineering; Gianni Astarita Young Investigator Award.

The technical programme will be available online by the end of April 2018.

Plenary Speakers: Domenico Elefante, Eni, Italy; Michael P. Harold, University of Houston, USA; Guy Marin, Universiteit Gent, Belgium; Katharina Kohse-Höinghaus, Universität Bielefeld, Germany; Ning Yang, Chinese Academy of Sciences, PR China; Ted Calverley, Dow Chemicals, USA.

Register now! Deadline for early registration: 23 March 2018

Website: <http://www.aidic.it/iscre25/>

28th European Symposium on Computer Aided Process Engineering - ESCAPE-28
Graz, Austria, 10-13 June 2018
(EFCE Event No. 745)

Practitioners and academics working in the field of Computer Aided Process Engineering are invited to present up-to-date original research and developments to the 28th Edition of the European Symposium on Computer Aided Process Engineering (ESCAPE-28). The ESCAPE series is organised every year by the EFCE Working Party on Computer Aided Process Engineering (CAPE). During ESCAPE28, the biennial EFCE Excellence Award to recognise outstanding PhDs will be presented.

Conference themes: Model Development and Simulation; Methods, Software and Tools;

Open Science Movement and Education; Process Synthesis, Process Design and Life Cycle Modelling; Process Operation and Control; Bioresources, Bioprocesses and Biomedical Systems; Environment and Energy; Food, (Bio-) Pharma, and Fine Chemicals.

Plenary speakers: Concepción (Conchita) Jiménez-González, GSK & N.C. State University, USA; Andreas Klamt, COSMO-RS & University of Regensburg, Germany; Stratos Pistikopoulos, Texas A&M University, USA; Fengqi You, Cornell University, USA.

Register now! Deadline for early registration: 29 March 2018

Website: <https://www.tugraz.at/events/escape28/>

CHISA and PRES 2018
Prague, Czech Republic, 25-29 August 2018 (EFCE Event No. 752)

The 23rd International Congress of Chemical and Process Engineering - CHISA 2018 Prague and the 21st Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction - PRES 2018 will be jointly held in Prague on 25-29 August 2018, organised by the Czech Society of Chemical Engineering and the EFCE.

Both the Congress CHISA and PRES Conference address the full spectrum of chemical and process engineering practice including current trends and future challenges.

The programme covers invited plenary lectures and keynote lectures, parallel lecture sessions, and poster sessions. Some symposia will be co-organised with the corresponding EFCE Working Parties and/or other recognised international bodies.

CHISA 2018 Topics: Reaction engineering, catalysis and kinetics; Distillation and absorption; Extraction and leaching; Membrane separations; Solid-liquid separations; Fluid flow and multiphase systems; Mixing; Computer aided process engineering; Particulate solids; Pharmaceutical engineering; Chemical engineering education; and a number of specialised symposia

PRES 2018 Topics: Process Integration for sustainable development; Process analysis, modelling and optimisation; Total Site Integration; Heat transfer and heat exchangers; Energy saving and clean technologies; Sustainable processing and production; Renewable and high efficiency utility systems; Footprint minimisation and

mitigation; Operations and supply chain management; Waste minimisation, processing and management; Batch process analysis and integration; Process network dynamics, flexibility and control; Industrial implementation and optimisation; Numerical fluid flow and heat transfer simulation; Sustainability and Process Integration teaching, learning and knowledge tools; and a number of special sessions.

Plenary speakers: Stefanie Hellweg, ETH Zurich, Switzerland; Raymond R. Tan, De La Salle University, Manila, Philippines; Aoife Foley, Queen's University Belfast, Northern Ireland.

Register now! Deadline for authors' registration: 30 April 2018

Website: <http://2018.chisa.cz/>

8th European Summer School on Electrochemical Engineering – ESSEE2018

Toulouse, France, 27-31 August 2018

The 8th ESSEE is organised by the EFCE Working Party on Electrochemical Engineering and the University of Toulouse III - Paul Sabatier. It promotes the sharing of knowledge and the networking in the field of electrochemical engineering and applied electrochemistry, specifically the application of chemical engineering concepts and methodologies to electrochemical processes and related technologies.

Early registration rates will be available until 30 June 2018

For further information, please visit:
<https://8essee2018.sciencesconf.org/>

16th European Conference on Mixing

Toulouse, France, 9-12 September 2018 (EFCE Event No. 746)

The successful series of European Conferences on Mixing, which is organised by the EFCE Working Party on Mixing, attracts academics and industrialists from all over the world to discuss progress on mixing technology, research and applications in the process industries. During the conference the Young Researcher Award and the Lifetime Recognition Award in Mixing will be presented

Topics: Single phase mixing, from turbulent to laminar flow; Analysis of mixing using advanced measurement techniques; Gas-liquid mixing applications; Solid-liquid mixing; Liquid-liquid

mixing; Mixing of products high viscosity and complex rheology; Mixing in reactive flows; Mixing in novel equipment type; Simulations and Computational Fluid Dynamics; Heat transfer and mixing.

Keynote speakers: Giuseppina Montante, University of Bologna, Italy; Andrea Ducci, University College London, UK; Richard Grenville, Philadelphia Mixing Solutions Ltd., USA; Matthias Kraume, Technical University of Berlin, Germany; François Bertrand, École Polytechnique de Montréal, Canada.

The call for papers is open! Deadline for abstract submission: 1 April 2018

Website: <http://inpact.inp-toulouse.fr/MIXING16/>

Distillation & Absorption 2018

Florence, Italy, 16-19 September 2018 (EFCE Event No. 737)

The international conference Distillation & Absorption 2018, to be held in Florence, Italy, will showcase the newest and best in distillation & absorption technology and will cover a broad range of fundamental and applied aspects. The event is organised by AIDIC, in close collaboration with the EFCE Working Party on Fluid Separations. The conference will include plenary contributions by outstanding speakers from both industry and academia, oral and poster presentations. Other special events include vendor exhibits, the DA2018 poster award and the presentation of the EFCE Fluid Separations Excellence Award.

Topics: Basic data and fundamental principles; Carbon capture and absorption; Conceptual process design and Life Cycle Analysis; Modelling and simulation; Control, operation, troubleshooting and manufacturing excellence; Reactive and hybrid separations; Emerging separations and technologies; Fine chemicals, pharma and bio based processes; Equipment design; Energy efficiency and technology.

Plenary Speakers: Regina Benfer, BASF SE, Germany; Izak Nieuwoudt, Koch-Glitsch, USA; Michele Viglianisi, ENI, Italy; Andrzej Gorak, University of Dortmund, Germany; Hanna Knuutila, NTNU, Norway.

Key dates: Notification of manuscript acceptance: 30 March 2018; deadline for final revised manuscript submission: 20 April 2018; Tentative programme: 15 May 2018; Registration deadline for authors: 30 June 2018

Website: <http://www.aidic.it/da2018/>

EFCE Events in 2019/20

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

Loss Prevention 2019 - 16th International Symposium on Loss Prevention and Safety Promotion in the Process Industries and accompanying exhibition
Delft, The Netherlands, 16-19 June 2019 (EFCE Event No. 750)

Welcome to the Loss Prevention 2019! After 45 years, this most prestigious conference in the world in the field of risk and safety related to the chemical and process industries, organised by the EFCE Working Party on Loss Prevention, has returned to the Delft University of Technology in the Netherlands.

Exchanging information, disseminating data and stimulating the development of new methods to reduce the risk of incidents/accidents in the process industries, is indeed a must and a need. Transfer to practice is as important as development of know-how, and many challenges are still to be addressed in order to make further progress in safety, and process safety in particular. To foster new ideas, the fourth EFCE Excellence Award in Process Safety for outstanding PhD research work will be presented at this conference.

Topics: Risk assessment and safety management; Human and organisational factors of risk and safety; Process safety engineering and technological innovations; Fires, explosions, and toxic releases; Simulation and modelling for safer processes; Physical security and cyber security in process plants; Learning from accidents and process safety education; Communication of risk and process safety information; Leadership, risk governance, and regulatory issues.

The call for papers is open. Deadline for abstract submission: 27 March 2018

Website: <http://www.lp2019.org>

ECCE12/ECAB5 - 12th European Congress of Chemical Engineering & 5th European Congress on Applied Biotechnology

Florence, Italy, 15-19 September 2019 (EFCE Event No. 744)

**The website will open soon!
Save the date!**

21st International Symposium on Industrial Crystallization - ISIC21
Potsdam, Germany, 8-11 September 2020 (EFCE Event No. 751)

Website: http://www.dechema.de/ISIC_21
Save the date!

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