

The most important chemical and biochemical congress - ECCE10+ECAB3+EPIC5

There can be no doubt that the most important congress on chemical and biochemical engineering this year was held in Nice, France, at the end of September 2015.

The tenth European Congress of Chemical Engineering (ECCE10) was held in conjunction with the third European Congress of Applied Biotechnology (ECAB3) and the fifth European Process Intensification Conference (EPIC5). It also included the fifteenth Congress of the French Society of Chemical Engineering (SFGP).

These events were organised by the SFGP and Live! By GL under the auspices of the European Federation of Chemical Engineering (EFCE) and the European Society of Biochemical Engineering Sciences (ESBES).

Approximately 1800 people from all around the world (67 nationalities) attended the conference. The participation of industrialists (25%) and students (31%) was highly remarkable. The scientific program was impressive, being composed of 5 symposia, 4 workshops, 6 plenary lectures, 82 keynotes and more than 700 oral communications organised in 202 sessions and 900 poster communications. These covered vast chemical and biochemical engineering topics, which reflected the latest scientific trends in their field.

For the first time in the history of this congress, a number of novel student events, including a student quiz, a thesis competition, a jobs forum and a breakfast meeting with senior researchers, was organised over the five days. These were greatly appreciated by the students, leaving them with unforgettable memories.



The exhibition area welcomed 39 companies in a very beautiful and pleasant space that was highly favourable for fruitful exchanges.

The next "rendez-vous" is in two years time in Barcelona!

Martine POUX – general coordinator

Nicolas ROCHE – coordinator

EFCE elects new Board

At its recent meeting in Nice, France, the General Assembly of the Federation re-elected its current President, **Professor Rafiqul Gani**, Lyngby, Denmark, and the two Vice-Presidents, **Professor Jean-Marc Le Lann**, Toulouse, France; and **Professor Mike Considine**, Sheffield, United Kingdom, for a second two-year term with effect from 1 January 2016. In addition, the newly elected members of the EFCE Executive Board, effective from 1 January 2016 for a two-year term, are:

Dr. Wridzer Bakker,
Arnhem, The Netherlands

Prof. Jerzy Baldyga, Warsaw, Poland

Prof. Ing. Jiri Drahos,
Prague, Czech Republic

Dr.-Ing. Hermann J. Feise,
Ludwigshafen, Germany

Prof. Flavio Manenti, Milan, Italy

Prof. Carlos Manuel Negro Alvarez,
Madrid, Spain

Mr. Francois Nicol, Limay, France

Dr. Bent Sarup, Søborg, Denmark

Prof. Eva Sorensen,
London, United Kingdom

Dr.-Ing. Andreas Schreiner,
Stein, Switzerland

Mr. Giorgio Veronesi,
Milan, Italy

Mr. Bruno Zelic,
Zagreb, Croatia

Inaugural Industrial Innovation Award for Process Intensification presented

For the first time, the EFCE Process Intensification Award for Industrial Innovation has been awarded by the EFCE Working Party on Process Intensification.

The innovation, by Austrian small enterprise Microinnova GmbH developed in co-operation with Fraunhofer ICT-IMM, Mainz, Germany, received the award in recognition of the continuous chemical process "Flow MiniPlant Technology". Flow Miniplant is an integrated, highly-flexible and modular platform technology, which analyses and optimises each step in the production chain of chemicals in relation to the desired outcome.

Essential improvements result from the use of highly efficient continuous flow processes in microreactors, as well as other intensification technologies. Flow Miniplant is particularly important for special and fine chemicals often used in pharmaceutical production.

All necessary process steps from lab experiments to industrial level production can be developed using the same Flow Miniplant platform.

Dirk Kirschneck, CEO of Microinnova, said: "Of course – everybody in our industry is talking



about process intensification. But we have interesting results. In the project that received the EFCE award, we were able to produce the desired chemical in one minute instead of 12 hours, equivalent to a factor 700.

"This impressed not only our customers, but also the EFCE jury. Without exaggeration I can say our Flow Miniplant technology usually provides better efficiency, a relevant cost reduction and quality improvements."

The award was presented at the EPIC 5 conference held in conjunction with ECCE10 and ECAB3 in Nice, France at the end of September 2015.

Life-Time Achievements Award presented to Jiří J. Klemeš

Earlier in 2015, during the PSE-2015/ ESCAPE-25 conference held in Copenhagen, Denmark, Professor Jiří J. Klemeš was presented with the Federation's Life-Time Achievements Award.

Professor Klemeš has been recognised for the role he played for almost forty years as a representative of the Czech and Hungarian EFCE Member Societies, an active member and chairman of the EFCE Working Party on Computer Aided Process Engineering (CAPE) and for his substantial services to chemical engineering education and qualifications.

The Award also acknowledges his contribution to the organization of numerous meetings, workshops and courses related to CAPE, process integration and modelling, and sustainability, including the ESCAPE and PRES series of events.



(L-R): Professor Rafiqul Gani, EFCE President; Professor Jiří J. Klemeš; and Professor Jean Marc Le Lann, EFCE Scientific Vice-President

Research that generates energy by mixing water receives EFCE award



Generating electricity can be as simple as mixing salt water and fresh water. The European Federation of Chemical Engineering (EFCE) has recognised a postdoctoral researcher at TU Delft whose PhD thesis detailed such a process with its Excellence Award in Membrane

Engineering.

Dr David Vermaas' PhD entitled 'Energy generation from mixing salt water and fresh water: smart flow strategies for reverse electrodialysis' focused on using ion exchange membranes to harvest renewable energy from mixing water streams with different salinities.

The difference in salinity between salt and fresh water streams, when separated by an ion exchange membrane, induces a potential difference. The redox reaction that occurs then converts ionic current into an electrical current.

Vermaas' research has been scientifically published in highly ranked journals within the field of membrane engineering, and in addition, his research has resulted in two patent applications.

EFCE recognised Vermaas, who completed his PhD within the Membrane Science and Technology research group at the University of Twente, the Netherlands, for his strong personal contribution to the field of membrane engineering.

On receiving the award, Vermaas said: "I was extremely happy to receive this award, and it is such a great honour to be recognised by the Federation. Moving forward, this award will really motivate me to continue my research in transport through ion exchange membranes as I find this a really exciting field to be working in."

Vermaas was presented with the Excellence Award in Membrane Engineering at the Euromembrane 2015 conference, which was held in Aachen, Germany in September 2015.

Distinguished Lecture in Thermodynamics announced



The third Distinguished Lecture of the EFCE Working Party on Thermodynamics and Transport Properties will be delivered by **Professor Cornelis Peters** at the fourteenth International Conference on Properties and Phase Equilibrium for

Product and Process Design (PPEPPD 2016), which will be held in Porto, Portugal from 22 – 26 May 2016.

Professor Peters was elected unanimously by the Selection Committee who thereby recognises his 40 years of research contributions to the fundamental understanding of phase theory. He has spent most of his career at Delft University of Technology, the Netherlands, and he also continues to mentor researchers and teachers in several universities worldwide (Petroleum Institute in Abu Dhabi, University of Maryland, Colorado School of Mines, and Petronas Technical University, Malaysia).

He has been a pioneer in the design, development and optimisation of new experimental methods to measure accurate thermodynamic and phase equilibrium properties. Reviews on high-pressure phase equilibria revealed that he has been one of the most active authors worldwide in the last 30 years, producing highly valuable data and insight in phase behaviour.

In parallel, he has been a world leader in the application of theoretical models for complex fluids and molecular simulation methods to explain physical phenomena at different length and time scales. His research has impact both in fundamental physical chemistry and thermodynamics but also in applications to industry.

Professor Peters has co-authored more than 250 peer-reviewed papers and 18 book chapters, he has authored/edited six books and has given more than 200 presentations (of which more than 50 were keynote/ plenary talks) in international conferences, universities and industry worldwide. His work has received more than 7,000 citations and has an H-index of 43.



European Symposium on Biochemical Engineering Sciences (ESBES) 2016

The European Society for Biochemical Engineering Sciences (ESBES) and the Institution of Chemical Engineers (IChemE) are delighted to present ESBES 2016. This major event will provide a platform for bioengineers and others to discuss the latest in research and industrial application of all aspects of biochemical engineering.

The ESBES symposium was first staged in 1996, in Dublin, Ireland, and is widely regarded as one of Europe's leading events in the biochemical engineering sector.

Taking place every two years the event stimulates scientific advances in the field and provides a platform for communication, education and interdisciplinary exchange. It also provides an important conduit between industry and academia, fostering the cooperation between international bioengineers.

As well as the chance to present, debate and discuss relevant topics and technologies related to industrial biotechnology and its contribution to sustainability, you'll also find out about:

- latest developments in biochemical engineering research
- latest EU research project results dissemination
- career opportunities for biochemical and process engineers

Sponsoring and exhibiting

There will be a trade exhibition of related products and services alongside the conference. With more than 350 attendees expected, from both industry and academia, ESBES are pleased to offer a range of sponsorship and exhibitor packages to suit every budget and organisation of any size, helping you to grow your business, raise your profile and brand recognition, as well as talk to future purchasing clients.

For more information on sponsorship packages, email: esbes2016@icheme.org

Call for papers

The call for papers inviting contributions to ESBES 2016 is open until 14 January 2016

To submit an abstract, complete the online form of no more than 500 words via

<https://goo.gl/OC0IMB>

Conference topics for ESBES 2016 include: bio-based economy; biocatalysis and biotransformation; bioenergy, biofuels & renewables; biopharmaceuticals; bioreactor engineering, single use bioreactors; biosensors and advanced analytical techniques for bioprocess monitoring; cell and tissue engineering; continuous bioprocessing; downstream processing; high throughput technologies in process development and monitoring; marine biotechnology, algae and photobiotechnology; modelling and control; nanobiotechnology; process analytical technologies and quality by design; protein and enzyme stability; scale-up and scale-down; and systems biotechnology and metabolic engineering.

For more information, visit the conference website at: www.esbes2016.org

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