

## EFCE recognises research in electrolyte thermodynamics



**Research that provides a practical modelling solution to systems containing electrolytes has been recognised by the European Federation of Chemical Engineering (EFCE).**

Dr Bjørn Maribo-Mogensen, who completed his PhD at the Department of Chemical and

Biochemical Engineering, Technical University of Denmark (DTU) under the supervision of Professor Georgios M. Kontogeorgis and Associate Professor Kaj Thomsen, has been named the winner of the 2015 EFCE Excellence Award in Thermodynamics and Transport Properties.

Dr Maribo-Mogensen, now a Physical Property Specialist at Linde Engineering, Munich, Germany, successfully modelled an equation of state for electrolytes with applications in the oil and gas industry as part of his research.

He also developed a deeper understanding of the different models currently used for electrostatic interactions, comparing the Debye-Hückel model with the mean spherical approximation (MSA) theory.

Dr Maribo-Mogensen's thesis has led to the development of engineering software that has substantial potential for industrial applications, such as describing the effects of electrolytes on natural gas sweetening, hydrates modelling and biofuels processing.

Dr Maribo-Mogensen said: "During the course of my PhD, I have been trying to find the right balance between making my research scientifically relevant and yet useful for industrial applications. Little did I know that the journey I started back in 2010 would lead to being the recipient of this Excellence Award.

"I am honoured to receive this recognition for my work which would not have been possible without the lasting support from

my family, colleagues and supervisors. The award will motivate me to continue pursuing challenging goals and contribute to research in thermodynamics and transport properties."

Professor Jean-Noel Jaubert, chair of the selection, said: "Dr Maribo-Mogensen's PhD work is characterised by a pioneering, novel and highly independent work on electrolyte thermodynamics. This is a highly relevant topic with immense practical applications, but also a topic where numerous questions are still open. He achieved remarkable results and the committee unanimously decided to award him the prize."

Dr Maribo-Mogensen has been awarded the Excellence Award in Thermodynamics and Transport Properties for his thesis '*Development of an electrolyte CPA (cubic-plus-association) Equation of State for Applications in the Petroleum and Chemical Industries*' at the 28th European Symposium on Applied Thermodynamics (ESAT).

ESAT was held in Athens, Greece, from 11 – 14 June 2015.

### Last minute call for posters for ECCE10 + ECAB3 + EPIC5

The call for papers for the tenth European Congress of Chemical Engineering held jointly with the third European Congress of Applied Biotechnology and the fifth European Process Intensification Conference (ECCE10 + ECAB3 + EPIC 5) is still open for those who wish to present new results or for those who missed the first call for papers.

To submit a poster presentation before the deadline of 30 August, visit: <http://bit.ly/110Wcdx>

The joint congresses, ECCE10 + ECAB3 + EPIC5, will be held in Nice, France, from 27 September - 1 October 2015. Visit the congress website for more information: <http://www.ecce2015.eu/>

## Event Report: XXI International Conference on Chemical Reactors

**CHEMREACTOR-21 (EFCE Event 726)  
Delft, The Netherlands,  
22-25 September 2014**



XXI International Conference on Chemical Reactors CHEMREACTOR-21 was organized by Boreskov Institute of Catalysis of the Siberian Branch of the Academy of Sciences together with Delft University of Technology. Held under the auspices of EFCE, the conference took place in the Aula Congress

Centre of the Delft University of Technology. This conference series has a long tradition that goes back to the 1960s with its founder, **Professor Mikhail Slin'ko**, being a specialist in chemical engineering. So in a fitting tribute, the CHEMREACTOR-21 conference was devoted to the **100th anniversary** of his birthday.

Traditionally, the CHEMREACTOR conference is opened by an honorary lecture dedicated to the memory of Professor Slin'ko. This honor is granted to the world top level expert in the field of chemical reaction engineering. The choice of the memorial lecturer is decided on a competitive basis by members of the International

Scientific Committee. For CHEMREACTOR-21, the entire first day of the conference program was dedicated to the memory of its founder. The memorial lecture by Professor Valentin Parmon was focused on the role of Professor Mikhail Slin'ko in the development of ideas on mathematical modelling of chemical processes and reactors in Russia, and worldwide. Professor Marina Slin'ko (Institute of Chemical Physics RAS, Moscow, Russia), the daughter of Professor Mikhail Slin'ko, also talked about her father as a person and a scientist.

Two brilliant plenary honorary lectures were presented by famous experts in the field of the chemical technology: **Professor Jacob A. Moulijn** from Delft University of Technology; and **Professor Dan Luss** from the University of Houston, USA.

The scientific program comprised of **8 plenary lectures, 8 keynote lectures, 56 oral and 110 poster presentations**. The plenary lectures were presented by well-known scientists in the field of the chemical technology such as: **Professor Guy Marin**, Ghent University, Belgium; **Professor Marc-Olivier Coppens**, University College London, UK; **Professor J.A.M. Hanns Kuipers**, Eindhoven University of Technology, the Netherlands; **Professor Alirio E. Rodrigues**, University of Porto, Portugal; **Professor Liang-Shih Fan**, The Ohio State University, Columbus, Ohio, USA; and **Professor Tapio Salmi**, Åbo Akademi, Turku, Finland.

The four-day scientific program focused on the following topics:  
**Advances in Chemical Reactors**  
**Fundamentals:** Chemical Reactions Kinetics; Energy & Mass Transfer in Chemical Reactors; Fundamentals of Hydrodynamics and Fluid Flow

## The "Distillation" set won PROSE AWARD 2015 in Chemistry & Physics

The most comprehensive three-volume textbook on "Distillation" edited by Andrzej Gorak, Zarko Olujic, Hartmut Schoenmakers and Eva Sorensen, won the PROSE award in Chemistry & Physics in Washington, DC, in February 2015.

The three textbooks, namely: Fundamentals and Principles; Operations and Applications; and Equipment and Processes; published by Elsevier, represents a wealth of knowledge put together by 42 top researchers and company representatives.

The PROSE Awards annually recognize the very best in professional and scholarly publishing by bringing attention to distinguished books, journals, and electronic content in over 40 categories. The award is widely known as the "Oscar" in specialised literature and has been granted since 1976 by the Professional and Scholarly Publishing Division of the Association of American Publishers.

More info at: <http://www.proseawards.com/current-winners.html>

in Chemical Reactors; Specialized Software for Development of Chemical Reactors and Flow-Sheeting of Reactive Processes

- **Chemical Reaction Engineering and Reactors Design – Novel Approaches, Modelling, Scale-Up, Optimization:** Mathematical Simulation and CFD Studies of Chemical Reactors; New Designs of Chemical Reactors (e.g. Structured Reactors, Membrane Reactors, Micro reactors); Novel Approaches in Chemical Reaction Processes Engineering (e.g. Microwave/ Induction Heated Reactors, Ultrasonic Reactors, Unsteady-State Forcing and Sorption Enhancement in Chemical Reactors, Multifunctional Reactors)
- **Chemical Reactors and Technologies for Emerging Applications:** Environmental Protection and Utilization of Wastes; Processing of Biomass and Renewable Feedstocks; Production of Novel Nano-Structured Carbon Materials
- **Advanced Processing of Fossil Hydrocarbon Feedstocks:** Modern Reactive Technologies for Natural Gas, Oil and Coal Processing; Chemical Processes for Intensification of Oil Production; Natural Chemical Reactors for In-Situ Processing of Oil and Coal in Deposits; Chemical Reactors and Processes for Treatment of Heavy Hydrocarbon Feedstock and Shale Oil
- **Special Section: Photo-catalytic reactors**

CHEMREACTOR-21 brought together around 180 participants from 37 countries worldwide. The event provided the opportunity for participants to exchange new ideas and to receive new information on many important issues within chemical engineering. The participants appreciated the conference scientific program, whose traditional identification mark is a combination of the in-depth fundamental presentations with reports that have a high practical importance.

The meeting of Working Party for Chemical Reaction Engineering (CRE) was organized by the Chairman of WP CRE, Professor Guy Marin, during the conference.

The Proceedings of the conference CHEMREACTOR are being published in the Chemical Engineering Journal (Elsevier Science).

And finally, organisers have received invitations from participants to hold the next CHEMREACTOR conference in the UK, Romania, Italy, Poland or Czech Republic.

## Upcoming EFCE events

### 26th European Symposium on Computer-Aided Process Engineering (ESCAPE '26) Portorož, Slovenia, 12 – 15 June 2016 (EFCE Event No. 734)

The Symposium is co-organised by the Faculty of Chemistry and Chemical Engineering, University of Maribor, Slovenia, and the EFCE Working Party on Computer Aided Process Engineering (CAPE). The organising committee is gearing up for an exciting and informative conference programme including plenary and keynote sessions, oral and poster presentations on a variety of topics, and not forgetting an exciting social programme for participants from all around the world.

**Themes:** Process-product Synthesis, Design and Integration; Modelling, Numerical analysis, Simulation and Optimization; Process Operations and Control; Green Bioprocess Engineering and Advances in Biomedical Engineering; CAPE/PSE in Environmental Engineering; CAPE/PSE in Sustainable Energy Applications; CAPE Applications; Education in CAPE/PSE

**Plenary speakers:** Adisa AZAPAGIC, UK; Ana BARBOSA PÓVAO, Portugal; Hermann FEISE, Germany; Rafiqul GANI, Denmark; Jiri Jaromir KLEMES, Hungary; Nick SAHINDIS, USA; Jean-Marc LE LANN, France.

**The Call for Papers is open.** You are kindly invited to submit an abstract for the ESCAPE 26 Symposium. Oral and poster contributions are both welcome on subjects within the scope of the conference. The deadline for abstract submission is **1 September 2015**. Submit an abstract at: <http://escape26.um.si/call-for-papers/>

**Exhibition and Sponsorship:** ESCAPE'26 will be accompanied by an exhibition of instrumentation, columns, software, accessories and literature on various techniques in connection with the conference. The different sponsorship, advertisement and exhibition options are provided at: <http://escape26.um.si/exhibition-sponsorship/>

Visit the Symposium website here: <http://escape26.um.si/>

## Top European scientists discuss latest research

**In March 2015, the Bühler Technology Group invited international PhD students at European level to present their research projects. Bühler's Food and Feed Safety expert, Nicolas Meneses, hosted the event with leading food engineering professors and representatives from Nestlé and Barilla also in attendance. They awarded Cornelia Koller from the University of Zurich (ETH Zurich), Switzerland with the 2015 Julius Maggi Research Award, which comprised of €2,500 cash prize.**

The 9th European PhD Workshop on Food Engineering and Technology, hosted by Bühler at its headquarters in Uzwil, Switzerland, was held on 24 and 25 March 2015. The workshop was held in collaboration with the European Federation of Food Science and Technology (EFFoST) and the European Federation of Chemical Engineering (EFCE).

17 PhD students from 12 European cities were selected to present their research papers on subjects at the interface between food and engineering, and of particular relevance, for industry. Ten leading food engineering professors from universities all over Europe and industry partners Nestlé and Barilla, attended the event and helped evaluate the projects.

Prof. Dr. Dietrich Knorr, Chairman of EFCE's Section on Food, said: "The presentations ranged from very good to excellent and were overall impressive. Because of the constant increase in quality of the research performed and the professional way of presentations it becomes more and more difficult to select among the top candidates."

The three finalists were Juhani Sibakov (VTT Technical Research Centre of Finland Ltd, Finland); Katharina Kelemen (Karlsruhe Institute of Technology, Germany); and Cornelia Koller (ETH Zurich, Switzerland).

This year's Julius Maggi Research Award, sponsored by Nestlé PTC Singen, was awarded to Cornelia Koller from ETH Zurich for her project on 'High-Pressure Micro-Foaming of Fat-Continuous Confectionary Systems'.

Dr.-Ing. Ulrich Bobe from Nestlé's Science and Technology Department, PTC Singen, said: "The Julius Maggi Award was initiated to inspire, motivate and to recognize the efforts of the best food engineering PhDs each year. As usual, we will again invite all top three candidates to present their work at the Nestlé Product and Technology Center in Singen."



Dr. -Ing. Nicolas Meneses, Food & Feed Safety expert at Bühler, said: "We are very proud of having hosted this prestigious event. The workshop was an excellent platform for us to discuss main challenges in the food industry and potential answers with highly qualified young researchers. It is also an opportunity to give students real-life insights and excite them to pursue a career in our industry."

The European PhD Workshop on Food Engineering is organized every year with the best PhD students from Europe. PhD candidates in Food Engineering and Technology can submit research projects on any subject at the interface between food and engineering. For more details, please visit: <http://www.phdfoodworkshop.com/en/>

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