

Call for Papers

‘iSEnEC‘

Integration of Sustainable Energy Conference 22nd and 23rd July 2020

Fürth, 11th December 2020: The **iSEnEC 2020** taking place on **22nd and 23rd July 2020 in Maritim Hotel Nuremberg**, continues the successful events of Isenec 2016 and 2018 conferences, but more focused. The conference has two general topics “Design of energy systems” and “Chemical and electrochemical storages”. Additionally “Start-ups” will find their platform while the upcoming event. iSEnEC 2020 will be directed by **Conference chairman Prof. Dr. Wolfgang Arlt, University of Erlangen-Nuremberg**.

All experts are asked to **submit abstracts** and apply for lecture or poster **until 19th December 2019**. The presentation should demonstrate the contribution to an energy system, the motto of this conference. Afterwards the Programme Committee will rank the abstracts and will put together an oral and a poster programme in two parallel sessions.

iSEnEC 2020 - main topics

1. Design of Energy Systems

Sustainable Energy Networks: Electricity and Gas

The session deals with research and development aspects of resilient energy grids and provides attendees with practical solution-oriented topics for network planning, operation and control. Major areas to be addressed are transmission, distribution and microgrids. Furthermore, the session topics are dedicated to the integration of renewable energy systems and storages including sector coupling concepts.

Future Energy Markets

The shift towards an energy system based on renewable sources not only poses technological challenges, but also raises market design issues. This session will focus on innovative contributions that analyse technology choice, investment, production and consumption decisions in future energy markets and also takes adjustments to the current framework conditions into account. Important topics include, but are not limited to decentralized smart energy markets and the consideration of sector coupling.

Modelling and optimization of electricity and gas networks (including TRR 154)

Methods for simulation and optimization are still one of the pillars in computational engineering bridging the gap between theory and practice. In this session we focus on new developments in this field, among them are the coupling of mixed-integer programming with nonlinear or PDE optimization, respectively, where uncertainties may play an additional role. Special attention will be given to the discussion on data-driven versus model-driven methods.

Photovoltaics: emerging trends in technology, application development and systems integration

The future energy supply will be based on a large extent on renewable electricity from photovoltaics and wind. Photovoltaics is already making visible contributions to the worldwide energy supply, but lacks significant volume compared to conventional fossil fuels. The central challenge for the next decade is the development of measures that can significantly accelerate the expansion of photovoltaics. This requires further technological advances - such as the current innovation push in the area of perovskite PV, new application developments - such as the integration of PV in facades or for energy-autonomous transport, as well as new market models for the combined expansion of photovoltaics, storage and distribution.

2. Chemical and electrochemical storages

On the way towards an energy system based on the spatially and temporally inhomogeneously produced renewable energy it is mandatory to find suitable energy storage solutions. In this track we will concentrate on latest developments in chemical energy storage. The scope encompasses Power-to-X scenarios such as hydrogen-based systems including fuel cells and water electrolysis e. g. using liquid organic hydrogen carrier systems, CO₂ reduction, but also synthetic fuels and advanced batteries.

3. Start-ups

The conference will - as usual - have a workshop for founders of start-ups. All participants are invited to attend, oral contributions are by invitation. In the field of sustainable energy production new firms with innovative technologies as well as business models are emerging. In this session we will discuss with the entrepreneurs, experience their strategies, innovations and business models. Although most of the start-up firms work on their own, they can also be considered as partners for cooperations with established firms.

The proceedings of the iSEnEC 2020 containing all final accepted scientific papers will be published by Springer Vieweg.

The conference can be booked until 15th April 2020 at the price of 430 EUR (Speaker/Presenter) or 690 EUR (Participant) plus VAT.

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About the person:

Prof. Dr. Wolfgang Arlt studied chemistry with a focus on physical chemistry at the University of Dortmund. During his doctorate he was involved in the development of the Dortmund database. In 1981 he moved to Bayer, where he worked on thermal separation processes like distillation and extraction and was responsible for the application of thermodynamics. Within the company he moved into polymer research in 1987 and held

a leading position in the construction of a production plant for a thermoplastic in Antwerp. After completing this work, he returned to the process engineering department in Leverkusen.

In 1992 he accepted a job offer as “Professor of thermodynamics and thermal process engineering” at the Technical University of Berlin. During this time he developed a recycling process for mixed thermoplastics (e.g. packaging material). He donated part of the proceeds from the corresponding patent to the Philotherm-Prize, founded by Prof. Dr. Helmut Knapp, which honours students for outstanding achievements in the field of thermodynamics. In 2004 he moved to the Friedrich-Alexander-University Erlangen-Nuremberg, where he has held the Chair for Thermal Process Engineering. In 2009 he founded the Siegfried-Peter-Prize for “High Pressure Technology”, which is usually awarded every two years for outstanding research work in the field of high pressure process engineering.

From 2011 to early 2017, he was spokesman for the scientific management of the Energy Campus Nuremberg, which he initiated. In 2018, he received the Emil-Kirschbaum-Medal for his pioneering developments in fluid process technology. Together with Prof. Dr. Peter Wasserscheid and Dr. Daniel Teichmann, he was nominated for the German Future Prize 2018 for his work on the development of liquid organic hydrogen carriers (LOHC).

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Wir bedanken uns für die Publikation und stehen Ihnen bei weiteren Fragen gerne zur Verfügung.

Mit freundlichen Grüßen
i.A.
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