The Event

Due to the outbreak of the Corona pandemic, we already had to postpone the 5th edition of our workshop for one year. As the pandemic continues to evolve, we will hold the workshop as an online event via Zoom in 2021. We endeavor to conduct a lively scientific exchange nonetheless. In addition to the talks by our invited speakers, the popular *Open Session*, in which participants can present their latest research activities and results, will be reinitiated. Furthermore, the use of slideshows during the meeting breaks is aimed to provide the audience with brief information concerning research projects with the respective contact information. If you are interested to contribute to one of these formats, please refer to the additional information below and indicate your request accordingly when registering.

The Open Session

We invite you to present your latest research activities and results at the *Open Session*. Please note the following:

- Following the registration, a confirmation email will be sent with further information.
- Similar to our last workshops, the duration of your presentation will be 5 – 10 minutes depending on the number of participants.

The Slideshow

You are warmly invited to contribute to the slideshow to be broadcasted during the meeting breaks. Please note the following:

- Only research-related content will be presented.
- Select an assigned session for your content in the registration process.
- The slides need to be submitted until Friday, May 14th 2021 to Mr. Markthaler (simon.markthaler@fau.de).
- Material should be sent in PDF or PPT/PPTX format.
- Multimedia content is welcome.
- Please provide up to 3 slides per project.
- Adapt the content to a pace of 20 seconds per slide.
- Provide your contact information on the last slide.

Registration

Please register until **Friday, May 7th 2021** by Fax (+49 911 5302 9030) or **preferably via** www.evt.tf.fau.eu.

Name _____

Title _____

Company/ Organization _____

Address _____

ZIP, Town _____

Country _____

Telephone _____

Email _____

- ☐ I plan to give a presentation during the *Open Session*.
- ☐ I plan to provide slides for the slideshow related to the following session:
  - Second Generation Fuels - #ScienceForFuture
  - Hydrogen and Carbon Sources
  - Innovative Reactor Concepts
  - Biological Synthesis

No registration fee for the online event!

We will send the dial-in data for the online event to registered attendees in good time prior to the workshop. The presentations and slides from the slideshow are available online after the workshop.

Contact:

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This workshop disseminates results of the project i³upgrade. The project received funding from the Research Fund for Coal and Steel under grant agreement number 800659.

FRIEDRICH-ALEXANDER UNIVERSITÄT ERLANGEN-NÜRNBERG
TECHNISCHE FAKULTÄT

Invitation to the

5th Nuremberg Workshop

Methanation and 2nd Generation Fuels

May 27th – 28th 2021
online

Chair of Energy Process Engineering
Friedrich-Alexander University Erlangen-Nürnberg

ENERGIE CAMPUS NÜRNBERG

About this Workshop

Dear Colleagues,

Similar to other highly estimated events, we unfortunately had to postpone last year's 5th Nuremberg workshop on "Methanation and Second Generation Fuels". Despite the ongoing pandemic, we are determined not to skip the workshop again this year, and therefore are excited to invite you to this year's online edition of the well-established event.

Among the exciting topics we aim to address: the intensifying discussion on the role of hydrogen in a future energy economy, the pressing question of the origin of "green" *-not fossil-* carbon for the production of synthetic energy carriers, and the advancement of chemical storage technologies as increasingly obvious #ScienceForFuture, inspired by a maturing "Fridays-for-Future" movement.

With an abundance of ongoing projects and exciting developments around the world, we are confident that the discussions raised during the online event will further spark your interest and sharpen your awareness. We look forward to your intensive participation.

Once again, we are glad to announce the 5th workshop of this series and to welcome the renowned key researchers, companies and research groups from all over Europe and beyond. We look forward to discussing their presentations and latest results, recent products and developments. We appreciate your interest and kindly encourage you to present your latest news in the *Open Session*.

We are looking forward to meeting you virtually at the Energy Campus in Nuremberg!

Prof. Dr.-Ing. Jürgen Karl

Prof. Dr. Katharina Herkendell

Chair of Energy Process Engineering
Friedrich-Alexander University Erlangen-Nürnberg

Thursday, May 27th 2021

1. Session: Second Generation Fuels - #ScienceForFuture

9:30	Welcome address	J. Karl, FAU Erlangen-Nürnberg
9:45	(next) 100 years of Fischer-Tropsch synthesis	R. Rauch, Karlsruher Institut für Technologie (KIT)

Coffee break - Slideshow

10:45	CO_2 for a clean performance: Rheticus project	G. Schmid, SIEMENS
11:30	Power-to-X strategies	R. Bank, MAN Energy Solutions

Lunch break – Slideshow

Open Session

13:00	Latest news from the audience	

2. Session: Hydrogen and Carbon Sources

14:00	Direct Air Capture (DAC) - Providing CO_2 for Power-to-X applications	A. Bechem, Climeworks AG
14:30	"Windgas"	N. Zösch, Stadtwerk Haßfurt

Coffee break - Slideshow

15:15	Sewage gas processing in Spain	J. Guilera, Catalonia Institute for Energy Research
15:45	The EXYTRON energy factory® - a flexible and decentral European solution	K. Haas, EXYTRON GmbH
16:15	Biogenic syngas	R. Ljunggren, CORTUS Energy

Friday, May 28th 2021

3. Session: Innovative Reactor Concepts

9:00	Store&Go – The demonstration site at Falkenhagen	T. Kolb, Karlsruher Institut für Technologie (KIT)
09:30	Dynamic methanation of steelgases with a heat pipe cooled reactor concept	A. Hauser, FAU Erlangen-Nürnberg
10:00	Innovative concept for methanol synthesis using unconventional gases as feedstock	S. Haag, Air Liquide F&E

Coffee break - Slideshow

10:45	Compact reactors for methanation – Status and perspectives	P. Pfeifer, Karlsruher Institut für Technologie (KIT)

Open Session

11:15	Latest news from the audience	

Lunch break - Slideshow

4. Session: Biological Synthesis

13:00	The development of electrode architectures for bioelectrochemical reactors	K. Herkendell, FAU Erlangen-Nürnberg
13:30	New strategy for large scale hydrogen production using purple bacteria	C. Autenrieth, Universität Stuttgart

Coffee break - Slideshow

14:15	The ORBIT-Project: Biological methanation in a trickle-bed reactor – key results and next steps	M. Sterner/M. Heberl OTH Regensburg
14:45	Use-cases for biological methanation	J. Klückers, MicrobEnergy
15:15	Summary and conclusions	J. Karl, FAU Erlangen-Nürnberg