

Agenda

4th Nuremberg Workshop on Methanation and Second Generation Fuels

Thursday, May 24th, 2018

9:30 Registration

10:00 Welcome address

J. Karl
FAU Erlangen-Nürnberg

1. Session: “Second Generation Fuels - Fundamentals and Trends”

Session Chair: Prof. Dr.-Ing. Markus Lehner, Montanuniversität Leoben

10:15 100 years of Methanation

B. Hansen
Haldor Topsoe, Denmark

11:00 Ammonia from steel mill gases

Ö. Yildirim
thyssenkrupp Industrial
Solutions, Germany

11:30 Use of agricultural residues for production
of biofuels and platform chemicals

S. Max
Clariant, Germany

Open Session (12:00 - 12:25)

Session Chair: Prof. Dr.-Ing. Jürgen Karl, FAU Erlangen-Nürnberg

- FABIENE: Flexible Supply of Electricity and Fuels from Gasification of Lignite in a Fluidized Bed
- Decentralized utilization of partially upgraded biogas for agricultural machinery
- Cross-sectoral e-fuel production
- Latest research on small-scale, fixed-bed methanation at TUM

C. Heinze, TU Darmstadt

A. Saidi, TH Ingolstadt

I. Koysoumpa
Mitsubishi Hitachi Power
Systems Europe

F. Fischer, TU Munich

Lunch break

1. Session: “Second Generation Fuels - Fundamentals and Trends”

Session Chair: Prof. Dr.-Ing. Markus Lehner, Montanuniversität Leoben

13:30 Diversity and Potential of archaeal Microorganisms for the biological Methanation

H. Huber
University Regensburg,
Germany

14:00 Opportunities and challenges of synfuels

F. Müller-Langer
DBFZ, Germany



2. Session: “Hydrogen and Carbon Sources”

Session Chair: John Bøgild Hansen, Haldor Topsoe, Denmark

14:30 Fuels and Chemicals from the Sun and Air - pilot test experiences

P. Simell
VTT, Finland

Coffee break

15:30 Dynamic production and use of hydrogen
in reversible SOEC/SOFC systems

M. Dillig
FAU Erlangen-Nürnberg,
Germany

16:00 Upgrade of CO₂ streams from biogas plants

T. Schildhauer
PSI, Switzerland

16:30 GoBiGas - technical success or fiasko

M. Seemann
Chalmers University, Sweden

18:15 *Guided sightseeing tour in the historic center of Nuremberg (tour starts at 18:15 in German and English)
Meeting point at “Schöner Brunnen” (Hauptmarkt, 90403 Nuremberg)*

19:00 *Conference dinner at Restaurant „Goldenes Posthorn“, Glöckleinsgasse 2, 90403 Nuremberg*

Friday, May 25th 2018

3. Session: “Flexibilization and Reactor Concepts”

Session Chair: Prof. Dr.-Ing. Martin Seemann, Chalmers University

- | | | |
|------|--|--|
| 9:00 | Heat Transfer Intensification in Catalytic Reactors by Optimized Catalyst Support Geometries | H. Freund
FAU Erlangen-Nürnberg,
Germany |
| 9:30 | ATMOSTAT Catalytic Methanation: From Pilot to Demonstration Units | E. Chauvin
ATMOSTAT, France |

Coffee break

- | | | |
|-------|---|---|
| 10:30 | Heatpipe cooled reactor concept for methanation | M. Neubert
FAU Erlangen-Nürnberg,
Germany |
| 11:00 | Process engineering for bio-methanation processes | L. Rachbauer
Bioenergy2020+, Austria |

Open Session (11:30 - 12:15)

Session Chair: Prof. Dr.-Ing. Jürgen Karl, FAU Erlangen-Nürnberg

- | | |
|---|---|
| <ul style="list-style-type: none"> • Spectroscopic Temperature Measurements in a Plasma-Assisted Gasification Process • The role of Power-to-Gas in a techno-economic model of a fully defossilised European energy system • Biogas upgrading by methanation at iron based catalysts • Dynamic methanation of CO₂ - Effects of concentration forcing • Latest activities on bio-SNG production at ECN part of TNO • Power-to-gas and methanation technology in the Czech Republic • Ceramic Membrane Reactors for the Synthesis of Methane and Methanol | <p>S. Will
FAU Erlangen-Nürnberg</p> <p>T. Brown, KIT</p> <p>M. Kühn, DBI Gas- und Umwelttechnik</p> <p>B. Kreitz, TU Clausthal</p> <p>E. Boymanns, ECN</p> <p>L. Polák & K. Stehlik, Rez</p> <p>J. Richter
Fraunhofer IKTS</p> |
|---|---|

Lunch break

4. Session: “Industrial Integration and Commercial Perspectives”

Session Chair: Peter Treiber, FAU Erlangen-Nürnberg

- | | | |
|-------|---|--|
| 13:45 | Thermochemical Synthesis Fuels Research in California - An Overview of Current Topics at UCSD, UCD, and West Biofuels | M. Long
University of California,
Davis, USA |
| 14:15 | Validation of a methanation model for bio-SNG production from plasma assisted waste gasification | M. Materazzi
University College London,
United Kingdom |

Coffee break

- | | | |
|-------|--|---|
| 15:15 | Combined Power-to-Gas and biomass gasification integrated to a steel plant | M. Lehner
Montanuniversität Leoben,
Austria |
| 15:45 | Progress in Methanol Synthesis Technology | T. Schuhmann
Air Liquide, Germany |
| 16:15 | Summary and Conclusions | J. Karl
FAU Erlangen-Nürnberg |

