



Program

Hydrogen and Syngas - Platform for a sustainable future

Petrochemistry Division

Conversion of Carbon Carriers Division

October 28 - 29, 2025, Essen



Cover Design & Image Source

DIE NEUDENKER®, Darmstadt | DGMK e.V., Hamburg

2019 FrankHH/Shutterstock.com

CONTENT

Welcome	2
Scientific Committee	3
Program Overview	4
Scientific Program -Tuesday	5
She Drives Energy Workshop	8
Conference Dinner	8
Scientific Program - Wednesday	9
Postersession	16
General Information	24

WELCOME

Dear ladies and gentlemen,

with great pleasure we welcome you, also in the name of the organizing committee and the board of the DGMK division of Petrochemistry and the division of Conversion of Carbon Carriers, the Industrial Chemistry division of the Società Chimica Italiana (SCI) and the ÖGEW to our joint conference 2025, which is also the 33rd edition of the DGMK Petrochemistry Conference and 17th K³/C³ - Conference of the DGMK Division Conversion of Carbon Carriers, here at the "Haus der Technik" in Essen.

We are very glad to provide you with a great opportunity for networking and scientific exchange, in addition to a splendid scientific conference program. We are looking forward to 7 invited keynote lectures and 19 lectures, as well as a 30 poster presentations around this year's main topic *"Hydrogen and Syngas - Platform for a sustainable future"*.

We hope that you will enjoy this conference as much as we do and look forward to many lively discussions.

Prof. Dr.
Dieter Vogt
Chairman DGMK-Division
"Petrochemistry"

Dipl.-Ing. Dipl.-Wirtsch.Ing.
Tilman Bechthold
Chairman DGMK-Division
"Conversion of Carbon Carriers"

SCIENTIFIC COMMITTEE

Tilman Bechthold, RWE Power AG, Essen

Dr. Michael Bender, BASF SE, Ludwigshafen

Dr. Karsten Büker, thyssenkrupp Uhde GmbH, Dortmund

Prof. Dr. -Ing. Jakob Burger, TU München, Straubing

Dr. Alexander Gammersbach, Ineos Manufacturing Deutschland GmbH,
Köln

Dr.-Ing. Stefan Guhl, TU Bergakademie Freiberg, IEC, Freiberg

Dr. Harald Häger, Evonik Performance Materials GmbH, Marl

Prof. Dr. Marco Haumann, Friedrich-Alexander-Universität
Erlangen-Nürnberg, Erlangen

Prof. Dr. Andreas Jess, Universität Bayreuth, Bayreuth

Prof. Dr. Johannes A. Lercher, Technische Universität München, München

Dr. Mario Marchionna, Saipem S.p.A., San Donato Milanese

Dr. Matthias Müller-Hagedorn, BASF SE, Ludwigshafen

Prof. Dr. Jörg Sauer, KIT, Karlsruhe

Prof. Dr. Jennifer Strunk, Technische Universität München, München

Dr. Andreas J. Vorholt, Max-Planck-Institut für Chemische
Energiekonversion, Mülheim an der Ruhr

Prof. Dr. Dieter Vogt, Technische Universität Dortmund, Dortmund

Dr. Bryce Williams, AIR LIQUIDE Forschung und Entwicklung GmbH,
Frankfurt

PROGRAM OVERVIEW

Tuesday, October 28, 2025	
09.30 - 09.45	Opening and Welcome Address
09.45 - 11.30	Political & economic framework
11.30 - 11.45	Coffee Break
11.45 - 13.15	Carbon Capture
13.15 - 14.15	Lunch Break
14.15 - 16.10	Hydrogen & syngas
16.10 - 18.00	Poster Session & Coffee
18.00 - 18.50	She Drives Energy Workshop
19.00	Conference Dinner
Wednesday, October 29, 2025	
08.30 - 10.50	Chemistry for hydrogen logistics
10.50 - 11.15	Coffee Break
11.15 - 12.30	Valorisation of biomass
12.30 - 13.30	Lunch Break
13.30 - 15.25	Methanol & Fischer Tropsch synthesis
15.25 - 16.00	Coffee Break
16.00 - 17.55	Oxo chemistry
17.55 - 18.00	Concluding remarks & Conference summary

TUESDAY, OCTOBER 28, 2025

OPENING AND WELCOME ADDRESS

- 09.30 h **Gesa Netzeband**
Managing Director, DGMK e.V.
- 09.35 h **Dieter Vogt**
Chairman DGMK-Division Petrochemistry

SESSION: POLITICAL & ECONOMIC FRAMEWORK

Chairperson: Tilman Bechthold

- 09.45 h **Keynote Lecture: From Ambition to Infrastructure: The Industrial Imperative for Hydrogen and Syngas**
B. Bergt
Die Gas- und Wasserstoffwirtschaft - früher Zukunft Gas, Berlin, Germany
- 10.25 h **Keynote Lecture: Transition to Green Molecules: Opportunities and Hurdles of the Regulatory Framework**
L. Wunderlich
en2x | Wirtschaftsverband Fuels und Energie e.V., Berlin, Germany
- 11.05 h **Power-to-X in Chile, Namibia, and Saudi Arabia: A Systematic Cross-Regional Assessment of Costs, Emissions, and Land Use**
U. Langenmayr¹, V. Slednev¹, P. Heinzmann^{1,2}
¹Karlsruhe Institute of Technology, ²BASF, Karlsruhe Institute of Technology

- 11.30 h **Coffee Break**

TUESDAY, OCTOBER 28, 2025

SESSION: CARBON CAPTURE

Chairperson: Jakob Burger

11.45 h Keynote Lecture: Direct bicarbonate to syngas as an integrated route to unlock carbon utilization at scale

N. Friederichsen

Greenlyte Carbon Technologies GmbH, Essen

12.25 h Amino Acid based Carbon Capture Technology - from DAC to point sources applications

R. Gesthuisen², U. Dietz¹, J. Nottbohm², T. Bittner²

¹CBL – Carbon Beyond Limits GmbH and Co.KG, ²INEOS Manufacturing Deutschland GmbH

12.50 h Evaluating Electrochemical Mineral Trapping for Carbon Dioxide Removal: Insights from Experiments and Predictive Modeling

D. Groh¹, J. Staudt¹, K. Kanokkanchana², M. Ibañez¹, N. Plumeré², J. Burger¹

¹Technical University of Munich, Campus Straubing for Biotechnology and Sustainability, Laboratory of Chemical Process Engineering, Straubing, Germany, ²Technical University of Munich, Campus Straubing for Biotechnology and Sustainability, Professorship for Electrobiotechnology, Straubing, Germany

13.15 h Lunch Break

SESSION: HYDROGEN & SYNGAS

Chairperson: Michael Bender

14.15 h Keynote Lecture: Pathways to Low Carbon Hydrogen

A. Behrens, J.-P. Bohn, N. Schödel

Linde GmbH, Linde Engineering, Pullach, Germany

14.55 h Decarbonization of Syngas and Hydrogen Production

M. Marchionna

Saipem SpA, Milano, Italy

15.20 h Experimental Investigation of Syngas Purification from Biogenic Residue Gasification

L. Hassel, J. Kaltenmorgen, F. Panitz,

M. Siodlaczek, P. Eiden, J. Ströhle, B. Epple

Institute for Energy Systems and Technology, Technical University of Darmstadt, Germany

15.45 h Novel Joule-heated Reactor based on Radial Current and Flow for the Intensification of Endothermic Catalytic Processes

L. Cozzarolo¹, F. Romanelli¹, C. Ferroni¹,

M. Ambrosetti¹, B. Mello Gabbrielleschi²,

M. Bracconi¹, M. Maestri¹, G. Groppi¹, A. Beretta¹,

B. Williams², E. Tronconi¹

¹Laboratory of Catalysis and Catalytic Processes, Politecnico di Milano, Milan, Italy, ²Air Liquide Forschung und Entwicklung GmbH, Frankfurt, Germany

TUESDAY, OCTOBER 28, 2025

POSTER SESSION & COFFEE

Chairperson: Andreas Jess

16.10 h **Poster Intro** in Conference hall "Saal B"

16.20 h **Poster Session - Further information on page 16**

SHE DRIVES ENERGY WORKSHOP

ROOM: 413

18.00 h **Recognize, Challenge, Overcome: Addressing
Unconscious Bias in the Energy Industry**

M. Baumeister

Network Coordinator of She Drives Energy



About the WORKSHOP:

Whether we know it or not, we all have unconscious biases. These learned stereotypes are automatic, unintentional and deeply ingrained in our belief systems. Although they often seem harmless, they influence our behavior and can also arise and impact us in our workplaces.

This interactive workshop aims to inspire and equip women in the energy sector to recognize, navigate, challenge and overcome unconscious biases and stereotypes. We will share personal experiences and lessons learned, explore the impact of unconscious bias, and discuss practical steps to break down barriers. By exchanging experiences and strategies, this workshop encourages attendees to believe in their potential, support each other, and actively contribute to a more inclusive and equitable future of the circular economy.

CONFERENCE DINNER

19.00 h RoseMarie Essen
Kettwigerstr. 36, 45127 Essen

WEDNESDAY, OCTOBER 29, 2025

SESSION: CHEMISTRY FOR HYDROGEN LOGISTICS

Chairperson: **Moritz Wolf**

08.30 h Keynote Lecture: Potential of Dimethylether as a large-scale chemical hydrogen carrier

A. Peschel

Forschungszentrum Jülich GmbH, Institut für nachhaltige Wasserstoffwirtschaft (INW), Jülich, Germany

09.10 h Catalysts for Hydrogen Storage based on Liquid Organic Hydrogen Carriers

B. Bong, C. Mebrahtu, R. Palkovits

Institute for a Sustainable Hydrogen Economy,
Forschungszentrum Jülich GmbH, Institute of Technical and Macromolecular Chemistry, RWTH Aachen University, Aachen, Germany

09.35 h Advanced Catalyst and Reactor Engineering for Efficient Hydrogen Release from Perhydro-Benzyltoluene

E. Herzinger, H. Park, J. Weimann, J. Berger,

O. Kirlangıcıoğlu, J. Biesinger, M. Wolf

Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

10.00 h Light-assisted thermal catalysis for hydrogen storage in a “methanol economy”

M. Rehner, K. Blank, J. Huang, J. Strunk

Technical University of Munich, Chair for Industrial Chemistry and Heterogeneous Catalysis, Garching, München, Germany

10.25 h **CO₂ methanation as a strategy for green H₂ storage and distribution: Experimental optimisation and process design**

M. Tommasi¹, A. Gramegna^{1,2}, S. Romegialli^{1,2},
G. Ramis³, I. Rossetti^{1,2}

¹Chemical Plants and Industrial Chemistry Group, Dip. Chimica, Università degli Studi di Milano and CNR-SCITEC, Milan, Italy, ²INSTM Unit Milano-Università, Dip. Chimica, Università degli Studi di Milano, Milan, Italy, ³Dip. DICCA, Università degli Studi di Genova and INSTM Unit-Genova, Genoa, Italy

10.50 h **Coffee Break**



She Drives Energy – Network of Women in Energy Technology

SHE DRIVES ENERGY aims to increase the visibility of women in the industry by creating space for inspiration, exchange of ideas and knowledge transfer in technical areas to ensure a sustainable and successful industry.

Driving Energy - Podcast

What moves the 'energy' women of our time? Why this industry? Why now? What is important to them and what drives them?. Our podcast is for everyone who wants to help shape the energy world of today.



LISTEN ON



SESSION: VALORISATION OF BIOMASS

Chairperson: Dieter Vogt

- 11.15 h A chemical and engineering analysis of the conversion of biomass to lactic acid using POMs under nitrogen atmosphere**
E. Hundt, J.-D. Krueger, A. Pawlig, L. Schidowski, I. Wirth, M.-J. Poller, D. Voß, J. Albert
Institute of Technical and Macromolecular Chemistry, University of Hamburg, Hamburg, Germany
- 11.40 h Transforming wet biomass waste into sustainable methanol: Concept study of a competitive and mild process route**
P. Nathrath¹, F. Kroll², D. Karmann², V. Haagen², D. Weber³, T. Franken³, M. Geißelbrecht², P. Schühle¹
¹Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany, ²Forschungszentrum Jülich GmbH, Helmholtz Institute Erlangen-Nürnberg for Renewable Energy, Erlangen, Germany, ³Technical University Darmstadt, Darmstadt, Germany
- 12.05 h NET-Fuels - Integrating negative emission technologies in biofuels production**
C. Groves, M. Meiller, F. Lehner
Fraunhofer UMSICHT, Sulzbach-Rosenberg, Germany

12.30 h Lunch Break

WEDNESDAY, OCTOBER 29, 2025

SESSION: METHANOL & FISCHER TROPSCH SYNTHESIS

Chairperson: Jennifer Strunk

13.30 h Keynote Lecture: The role of hydrogen and syngas for coupling energy transformation and circular economy

F. Scheiff

Karlsruher Institut für Technologie, Engler-Bunte-Institut,
Karlsruhe, Germany

14.10 h Excellent T Control in Compact Fischer-Tropsch Reactor with AI Packed POCS

M. Panzeri, C. G. Visconti, G. Groppi, E. Tronconi

Laboratory of Catalysis and Catalytic Processes, Politecnico di Milano, Milan, Italy

14.35 h Shaping of a methanol catalyst: Parameter study of the tableting of CuO/ZnO/ZrO₂

F. Neumann, M. Herfet, S. Grewe, L. Warmuth,
T.A. Zevaco, T.N. Otto, M. Zimmermann, S. Pitter,
M. Wolf

Institute of Catalysis Research and Technology (IKFT),
Karlsruhe Institute of Technology (KIT), Eggenstein-
Leopoldshafen, Germany

WEDNESDAY, OCTOBER 29, 2025

**15.00 h Towards Sustainable Ethene Production:
Modified Fischer-Tropsch Synthesis from CO₂
and H₂**

K. Laichter¹, A. Chowdhury¹, V. Hagen², T. Liese³,
M. Doeker³, F. Buschsieweke³, J. Hannes³, F. Heck⁴,
H.-J. Woelk⁴, I. J. Graef⁴, T. E. Müller¹

¹Carbon Sources and Conversion, Ruhr-Universität Bochum,

²Rubokat GmbH, Bochum, ³RWE Power AG, Essen, ⁴Heraeus
Precious Metals GmbH & Co. KG, Hanau, Germany

15.25 h Coffee Break

ANNOUNCEMENT



**25TH
WPC ENERGY
CONGRESS**

Riyadh, 26-30 April 2026

SESSION: OXO CHEMISTRY

Chairperson: **Alexander Gammersbach**

16.00 h Keynote Lecture: New roads in oxo catalysis via solid catalyst design and tandem reaction integration

G. Prieto

Instituto de Tecnologia Quimica, ITQ, Valencia, Spain

16.40 h Enzyme-Inspired Gel Materials: Tuneable Gels for Hydroformylation

P. McNeice¹, W. Leitner^{1,2}, A. J. Vorholt¹

¹Max Planck Institute for Chemical Energy Conversion, Mülheim a.d. Ruhr, Germany, ²RWTH Aachen University, Aachen, Germany

17.05 h From Syngas to Alcohol E-fuels –Scale up from lab to miniplant

H. Stieber¹, S. Popp¹, W. Leitner^{1,2}, G. Prieto³, A. J. Vorholt¹

¹Max Planck Institute for Chemical Energy Conversion, Mülheim a.d. Ruhr, Germany, ²Institute of Technical and Macromolecular Chemistry, RWTH Aachen University, Aachen, Germany, ³ITQ Institute for Chemical Technology (CSIC-UPV), Valencia, Spain

WEDNESDAY, OCTOBER 29, 2025

- 17.30 h **Upstream and Feedstock Requirements for
Cost-Competitive Green Methanol Production**
M. Checinski, R. Krähnert, H. Mehmke, J. von der Ohe
C1 Green Chemicals AG, Berlin Adlershof, Germany
- 17.55 h **Concluding Remarks and Conference Summary**
Tilman Bechthold
RWE Power AG, Essen, Germany

SOCIAL MEDIA



POSTER SESSION AND COFFEE

Survey of Posters on Display: Andreas Jess

ROOM: WANDELGANG B NORD & B SÜD

16.20 – 18.00 h

08 Catalyst study for selective catalytic oxidation of residual ammonia for purification of green hydrogen from ammonia cracking

A. Sack^{1,2,3}, A. Gradel¹, H.-P. Schmid⁴, J. Wünnig⁴, T. Plessing¹,
A. Jess^{2,3}

¹Institute for hydrogen and energy technology, University of Applied Sciences Hof, ²Chair of Chemical Engineering, University of Bayreuth, ³Center of Energy Technology, University of Bayreuth, ⁴WS GmbH, Renningen, Germany

09 Elevating the C₂ to C₄ Chemistry

M. Belleflamme¹, F. S. Heinen^{1,2}, S. Mersmann¹, A. J. Vorholt¹

¹Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, ²Institut für Technische und Makromolekulare Chemie, RWTH Aachen University, Aachen, Germany

10 Power2ValueChemicals: Evaluating the Suitability of CO₂-Derived CO for the Chemical Industry

L. Steinwachs¹, A. Bauer², E. Jodat², R. Eichel², R. Pastusiak³,
E. Simon³, M. Kristen⁴, R. Franke⁴, A. Vorholt¹

¹Max-Planck-Institut für Chemische Energiekonversion, Mülheim a.d. Ruhr, ²Forschungszentrum Jülich IEK-9, Jülich, ³Siemens Energy Global GmbH & Co KG, München, ⁴Evonik Oxeno GmbH & Co. KG, Marl, Germany

12 Microwave-Assisted Catalytic Polymer Cracking into Hydrogen at Low Temperatures Using Ionic Liquids and Nanoparticles

K. Bürner, M. Haumann

Friedrich-Alexander-Universität Chemische Reaktionstechnik, Erlangen, Germany

13 From Syngas to Alcohol E-fuels –Scale up from lab to miniplant

H. Stieber¹, S. Popp¹, W. Leitner^{1,2}, G. Prieto³, A. J. Vorholt¹

¹Max Planck Institute for Chemical Energy Conversion, Mülheim a.d. Ruhr, Germany, ²Institute of Technical and Macromolecular Chemistry, RWTH Aachen University, Aachen, Germany, ³ITQ Institute for Chemical Technology (CSIC-UPV), Valencia, Spain

14 Tandem Fischer-Tropsch Synthesis and Reductive Hydroformylation under Mild Conditions for Optimized Higher Oxygenate E-Fuels

S. Popp¹, H. Stieber¹, W. Leitner^{1,2}, G. Prieto³, A. J. Vorholt¹

¹Max Planck Institute for Chemical Energy Conversion, Mülheim a.d. Ruhr, Germany, ²Institute of Technical and Macromolecular Chemistry, RWTH Aachen University, Aachen, Germany, ³ITQ Institute for Chemical Technology (CSIC-UPV), Valencia, Spain

15 Development and Enhancement of Iron-Based Catalysts to Boost the Conversion of CO₂ to Liquid Hydrocarbons

F. Maj, A. Jess

Chair of Chemical Process Engineering, Faculty of Engineering, University of Bayreuth, Bayreuth, Germany

16 WasteWood2Fuel – Development of a technology for the decentralised synthesis of liquid fuels from solid biogenic residues

S. Kolb, C. Kern, A. Jess

Chair of Chemical Engineering, University of Bayreuth, Bayreuth, Germany

17 Homogenous catalyst recovery by nanofiltration for the production of a potential hydrogen carrier such as formic acid from biomass

L. Schidowski, D. Voß, M. Poller, J. Albert

Institute of Technical and Macromolecular Chemistry, Universität Hamburg, Hamburg, Germany

18 Advanced biphasic selective glycerol oxidation in a jet loop reactor using polyoxometalates

I. C. Wirth, D. Niehaus, D. Voß, J. Albert

University Hamburg, Hamburg, Germany

19 Carbon-Encapsulated Magnetic Nanoparticles for Magnetocatalytic CO₂ Hydrogenation to CO

J. Hu, W. Leitner, A. Bordet

MPI für Chemische Energiekonversion, Mülheim an der Ruhr, Germany

20 Improving Reactivity in Biphasic Hydroformylation of Long-Chain Olefins

F. S. Heinen^{1,2}, A. J. Vorholt¹

¹Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr

²Institut für Technische Chemie und Makromolekulare Chemie (ITMC),
RWTH Aachen University, Aachen, Germany

21 Continuous Reductive Hydroformylation in a Segmented Slug Flow Reactor Using a Single Catalyst Enabled by CO-Degassing

J.N. Belting, P. Pey, D. Vogt, T. Seidensticker

Laboratory of Industrial Chemistry, TU Dortmund, Dortmund, Germany

27 Synthesis of suitable catalysts to produce synthesis gas through dry reforming of methane for green kerosene

M. Bachstädt, A. Jess

Chair of Chemical Engineering, Center of Energy Technology (ZET)

University of Bayreuth, Bayreuth, Germany

28 Development of catalyst recycling strategies for the hydroformylation of olefins using methanol as a syngas source

J. T. Groteguth¹, S. Stahl¹, J. Mädicke^{1,2}, W. Leitner^{1,2}, A. J. Vorholt¹

¹Max Planck Institute for Chemical Energy Conversion, Mülheim a.d. Ruhr,

Germany, ²Institute of Technical and Macromolecular Chemistry, RWTH

Aachen University, Aachen, Germany

29 Polyoxometalates and strongly non-ideal solvent mixtures (SNISMs) towards boosting acid-catalysed esterification reactions

L. Prawitt¹, P. Figiel², C. Held², M. Poller¹, J. Albert¹

¹Institute for Technical and Macromolecular Chemistry, University of

Hamburg, Hamburg, Germany, ²Department of Biochemical and Chemical

Engineering, TU Dortmund, Dortmund, Germany

31 Photocatalytic processes for energy storage

S.N. Degerli¹, M. Tommasi², A. Gramegna^{1,2}, I. Rossetti^{1,2},
G. Ramis³

¹INSTM Unit Milano-Università, Dip. Chimica, Università degli Studi di Milano, Milan, Italy, ²Chemical Plants and Industrial Chemistry Group, Dip. Chimica, Università degli Studi di Milano and CNR-SCITEC, Milan, Italy, ³Dip. DICCA, Università degli Studi di Genova and INSTM Unit-Genova, Genoa, Italy

32 CO₂ Assisted Primary Amine Isolation and Catalyst Recycling in the Homogeneously Catalyzed Nitrile Hydrogenation and Alcohol Amination

B. Rienhoff, N. Oppenberg, F. Zolthoff, D. Vogt, T. Seidensticker
TU Dortmund University, Laboratory of Industrial Chemistry, Germany

34 Challenges of catalyst development for the load-flexible and integrated production of molecular hydrogen carriers from CO₂ and water

T. Duyster¹, C. Mebrahtu^{1,2}, R. Palkovits^{1,2}

¹Forschungszentrum Jülich GmbH, Institut für nachhaltige Wasserstoffwirtschaft, Jülich, Germany, ²Institute for Technical and Macromolecular Chemistry, RWTH Aachen University, Aachen, Germany

38 Sustainable Hydrogen Generation via Continuous Dehydrogenation of Biomass-derived Formic Acid

T. Hein, P. Schühle

Institute of Chemical Reaction Engineering, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany

40 Production of Syngas via Dehydration of Biogenic Aqueous Formic Acid coupled with the Water-Gas Shift Reaction

E. Hoffmann, P. Schuehle

Institute of Chemical Reaction Engineering (CRT) at Friedrich-Alexander University (FAU) Erlangen Nuremberg, Germany

45 Shaping Methanol Synthesis from CO₂: Phase Transitions, Residence Time, and Reactor Design

A. Böhmeke¹, K. Laichter¹, G. Nell², T. E. Müller¹

¹Carbon Sources and Conversion, Ruhr-Universität Bochum, ²Parr Instrument GmbH, Frankfurt, Germany

46 Towards Sustainable Ethene: Techno-Environmental Assessment of a Modified Fischer-Tropsch Pathway from CO₂ and H₂

M. Hebenbrock¹, V. Hagen², T. E. Müller¹

¹Carbon Sources and Conversion, Ruhr-Universität Bochum, ²Rubokat GmbH, Bochum, Germany

47 Selective Hydrogenation of Renewable Raw Materials Using Commercial Catalyst Systems

D. Pietschmann, J. Bernstein, D. Vogt, T. Seidensticker

Laboratory of Industrial Chemistry/Department of Biochemical and Chemical Engineering, TU Dortmund University, Dortmund, Germany

48 Carbon Capture and Hydrogen Plants - Overcoming Challenges and Optimizing Integration

A. Wincierz

Siemens AG, Karlsruhe, Germany

50 Operando spectroscopic techniques to investigate molecular catalysts in flow

R. S. Medhekar¹, A. Sobolev², M. Gerlach², C. Hamel², W. Leitner^{1,3},
Andreas J. Vorholt¹

¹Max-Planck-Institut für Chemische Energiekonversion, Mülheim a.d.Ruhr,

²Otto-von-Guericke-Universität Magdeburg, Magdeburg, ³Institut für Technische Chemie und Makromolekulare Chemie (ITMC), RWTH Aachen University, Aachen, Germany

51 Linear, Aliphatic Polymer Precursors from Local Plant Oils through Cross Metathesis and Isomerizing Functionalisation

J. Hommes, D. Vogt, T. Seidensticker

TU Dortmund University, Laboratory of Industrial Chemistry, Dortmund, Germany

52 Direct, tandem catalysis synthesis of higher alcohols from syngas: The influence of water on reaction rates and alcohol (regio)selectivity

F. Fiore¹, A. Rodriguez-Gomez¹, D. De Baker¹, M. Claeys²,
A. J. Vorholt³, G. Prieto¹

¹ITQ Instituto de Tecnología Química (UPV-CSIC), Valencia Spain, ²Catalysis Institute, Department of Chemical Engineering, University of Cape Town, Rondebosch South Africa, ³Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany

53 Property-performance relationship assessment of tailored nanoparticles for alkaline water electrolysis

T. S. Sicila Mary^{1,2,3}, A. Barthelmeß², M. Wolf^{2,4}, J. Schröder¹

¹Institut für Technische Chemie und Polymerchemie, Karlsruher Institut für Technologie (KIT), Karlsruhe, Germany, ²Institut für Katalyseforschung und -technologie (IKFT), Karlsruher Institut für Technologie (KIT), Eggenstein-Leopoldshafen, Germany, ³Technical University of Munich (TUM), Munich, Germany, ⁴Engler-Bunte-Institut, Karlsruher Institut für Technologie (KIT), Karlsruhe, Germany

56 Methanolation of Olefins: Versatile low-pressure synthesis of various alcohols from olefins and methanol

S. Stahl^{1,2}, J. T. Vossen^{1,2}, J. Mädicke^{1,2}, S. Popp^{1,2}, W. Leitner^{1,2}, A. J. Vorholt¹

¹Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany, ²Institute for Technical and Macromolecular Chemistry, RWTH Aachen University, Aachen, Germany

Subject to change!

GENERAL INFORMATION

Venue

Haus der Technik
Hollestr. 1 | 45127 Essen | Germany

Registration Desk

Opening Hours

Tuesday, October 28, 2025	08.45 h – 18.00 h
Wednesday, October 29, 2025	08.00 h – 17.00 h
Phone +49 151 56005706	

WLAN

Access: HDT WLAN; Password: Willkommen

Conference Preprints

Lectures and posters presented at the DGMK-Conference are published in full length in the DGMK-Conference Proceedings. These publications are registered under ISBN and ISSN. The DGMK-Conference Proceedings will be given to each conference participant in a digital format.

Disclaimer

DGMK assumes no liability for loss or damage to items brought along.

Organiser

DGMK Deutsche Wissenschaftliche Gesellschaft für nachhaltige Energieträger, Mobilität und Kohlenstoffkreisläufe e.V.
Große Elbstraße 131 | 22767 Hamburg | Germany

Become a member of DGMK

... and take advantage of networking & exchange with a community of peers across the energy industry.

Your member benefits at a glance:

- Both print and online versions of the magazine EEK TECHNOLOGY & TRANSFORMATION OF FOSSIL AND GREEN ENERGIES
- Discounted participation fees at DGMK events and selected partner events
- Exchange opportunities in our network from science and industry
- Regular mailings regarding our attractive event calendar; Invitations to current workshops and conferences
- 50 percent discount on research reports and conference proceedings

Special offers for students:

- Reduced membership fee
- Free access to annual conferences (if registered in time).
- Opportunity to connect with university researchers and potential employers
- Information on current topics and trends in research

Further information: www.dgmk.de



