



Program

Processes for Resilient Supply of Carbon Carriers, Fuels and Chemicals

Petrochemistry Division

Conversion of Carbon Carriers Division

October 8 - 9, 2026, Essen



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SCIENTIFIC COMMITTEE

Tilman Bechthold, RWE Power AG, Essen

Dr. Michael Bender, BASF SE, Ludwigshafen

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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, FAU Erlangen-Nürnberg, Erlangen

Prof. Dr. Andreas Jess, Universität Bayreuth, Bayreuth

Prof. Dr. Johannes A. Lercher, TU München, München

Dr. Mario Marchionna, Italian Chemical Society

Dr. Matthias Müller-Hagedorn, BASF SE, Ludwigshafen

Prof. Dr. Jörg Sauer, KIT, Karlsruhe

Prof. Dr. Jennifer Strunk, TU München, München

Dr. Andreas J. Vorholt, MPI für Chemische Energiekonversion, Mühlheim an der
Ruhr

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

WELCOME

Dear ladies and gentlemen,

it is my great pleasure to invite you on behalf of the DGMK divisions "Petrochemistry" and "Conversion of Carbon Carriers", the Industrial Chemistry division of the Società Chimica Italiana (SCI) and the ÖGEW to the 2026-edition of our successful joint conference at the "Haus der Technik" in Essen.

With our conference "Processes for Resilient Supply of Carbon Carriers, Fuels and Chemicals" we focus on a crucial aspect of the energy transition, which is the appropriate balance between sustainability (e.g. low greenhouse gas emissions) on the one hand and affordability and security on the other hand when it comes to the production of carbon carriers, fuels and chemicals. You can expect intriguing and elaborate key notes, lectures and poster sessions given by senior experts from science and industry. This also means a great opportunity for intensive discussions about technologies, processes and the latest developments in this field.

We are sure you are going to enjoy the conference and the great opportunity for networking and exchange and we look forward to many intensive and inspiring conversations.

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

PROGRAM OVERVIEW

Thursday, October 8, 2026	
09.30 - 09.50	Opening and Welcome Address
09.50 - 11.20	Methanol Synthesis
11.20 - 11.35	Coffee Break
11.35 - 13.15	Methane Pyrolysis, Hydrogen, Ammonia Cracker
13.15 - 14.15	Lunch Break
14.15 - 15.05	Electrification of Chemical Processes
15.05 - 16.50	Postersession & Coffee
16.50 - 17.50	Award of the "Carl-Zerbe Preis"
19.00 - 23.00	Conference Dinner
Friday, October 9, 2026	
08.30 - 09.50	Big data & Resilience
09.50 - 10.10	Coffee Break
10.10 - 12.45	Methanol-to-X, Fischer-Tropsch, e-fuels, SAF
12.45 - 13.30	Lunch break
13.30 - 15.50	Chemical Recycling
15.50 - 16.05	Coffee Break
16.05 - 18.00	Plasma Pyrolysis
18.00 - 18.05	Concluding Remarks & Conference Summary

THURSDAY, OCTOBER 8, 2026

OPENING AND WELCOME ADDRESS

- 09.30 h** **G. Netzeband**
Managing Director, DGMK e.V.
- T. Bechthold**
Chairman DGMK-Division Conversion of Carbon Carriers
- S. Hölbfner**
President ÖGEW

SESSION: METHANOL SYNTHESIS

Chairperson: Marco Haumann

- 09.50 h** **Keynote Lecture: Refinery Transformation - Regulation and its Impact on Value Chains**
 L. Wunderlich
en2x, Berlin, Germany
- 10.30 h** **Step-wise Technology Pathways to Decarbonization**
 J.-P. Bohn
LINDE Engineering, Chemical and Process Technology Development, Pullach, Germany
- 10.55 h** **Methanol Production from Steel Mill Gases - Comparison of Plant Performance for Different Carbon Sources**
 J. Voß, V. Angenedt, **T. Schulzke**
Fraunhofer UMSICHT, Carbon Utilization and Synfuels, Oberhausen, Germany
- 11.20 h** **Coffee Break**

THURSDAY, OCTOBER 8, 2026

SESSION: METHANE PYROLYSIS, HYDROGEN, AMMONIA CRACKER

Chairperson: Harald Häger

- 11.35 h** **From the Lab to the Field: Air Liquide's R D-driven De-Risking Strategy for the Commercialization of Ammonia Cracking Technology**
S. Trunk¹, R. Schmidt¹, V. Ren², G. Lodier², P. Del-Gallo², M. Madelain², B. Dhungel³, D. Ulber⁴, T. Wurzel⁵, F. Cock⁶
¹Air Liquide Forschung und Entwicklung GmbH, Frankfurt, Germany, ²Air Liquide Research & Development, France, ³Air Liquide R & D, Newark, United States, ⁴Air Liquide Engineering & Construction, Frankfurt, Germany, ⁵Air Liquide Large Industries, WBL, Frankfurt, Germany, ⁶Air Liquide Large Industries, Zaventem, Belgium
- 12.00 h** **Compact and efficient ammonia cracker for decentralized hydrogen production**
D. Gashnikova, R. Zapf, C. Hofmann, G. Kolb
Fraunhofer Institute for Microengineering and Microsystems IMM, Mainz, Germany
- 12.25 h** **Hydrogen and Solid Carbon Production by Discharge Plasma Decomposition in Liquid-Phase Hydrocarbons**
Y. Katsuragawa, H. Ueda, M. Asahara, T. Harigai, T. Miyasaka
Gifu University, Gifu, Japan
- 12.50 h** **Inductively Heated Moving-Bed Reactors for Methane Pyrolysis**
S. Schütz^{1,2}, G. Stubbe¹, S. Möhring,
T. E. Müller²
¹VDEh-Betriebsforschungsinstitut GmbH (BFI), Düsseldorf, Germany, ²Carbon Sources and Conversion, Ruhr-Universität Bochum, Germany
- 13.15 h** **Lunch Break**

THURSDAY, OCTOBER 8, 2026

SESSION: ELECTRIFICATION OF CHEMICAL PROCESSES

Chairperson: Andreas Vorholt

14.15 h **Novel Joule-Heated Radial Reactors with Spatially Distributed Heat Generation for the Intensification of Steam Methane Reforming**

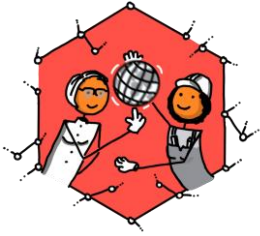
L. Cozzarolo¹, F. Romanelli¹, F. Poma¹,
M. Ambrosetti¹, M. Bracconi¹, P. Baj², T. Podolak²,
M. Maestri¹, A. Beretta¹, G. Groppi¹, B. Mello-Gabbrielleschi³,
B. Williams³, E. Tronconi¹

¹Politecnico di Milano, Dip. di Energia, Laboratory of Catalysis and Catalytic Processes, Milan, Italy; ²Air Liquide Global E&C Solutions Poland S.A., Kraków, Poland; ³Air Liquide Forschung u. Entwicklung GmbH, Frankfurt am M., Germany

14.40 h **Decentralized Ammonia Cracking in a Resistively Heated Reactor**

C. M. Watermann, F. L. Winter, M. Peters, A. Menne,
B. Zeidler-Fandrich

Fraunhofer Institute for Environmental, Safety and Energy Technology
UMSICHT, Oberhausen, Germany



She Drives Energy – Network of Women in Energy Technology

SHE DRIVES ENERGY – Anniversary

Our network is celebrating its 5th anniversary.

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.

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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.



THURSDAY, OCTOBER 8, 2026

POSTERSESSION & COFFEE

Chairperson: Andreas Jess

15.05 h **Postersession Intro** in Conference hall

15.15 h **Postersession - Further information on page 15**

AWARD OF THE „CARL-ZERBE-PREIS“

Winner 2026: Patrick Schühle

16.50 h **Laudatory speech**

T. Bechthold

Chairman DGMK-Division "Conversion of Carbon Carriers"

17.05 h **Carl-Zerbe-Lecture: Toward a Circular Carbon and Hydrogen Economy: Catalytic Innovations in C1 Building Blocks**

P. Schühle

Lehrstuhl für chemische Reaktionstechnik, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen-Nürnberg and Institute for a Sustainable Hydrogen Economy, IHE, Forschungszentrum Jülich, Jülich, Germany

CONFERENCE DINNER

19.00 h RoseMarie Essen
Kettwigerstr.36
45127 Essen
Phone: +49 201- 81411929

FRIDAY, OCTOBER 9, 2026

SESSION: BIG DATA & RESILIENCE

Chairperson: Stefan Hölbfer

08.30 h **Keynote Lecture:** Do AI-based Surrogate Models offer added Value for Process Optimization?

R. Franke

Evonik, Marl, Germany

09.10 h **Keynote Lecture:** How can big data ensure that chemical brownfield plants are future-proof and stay competitive?

C. Gückel

Siemens AG, Munic, Germany

09.50 h Coffee Break

SESSION: METHANOL-TO-X, FISCHER-TROPSCH, E-FUELS, SAF

Chairperson: Jennifer Strunk

10.10 h **Keynote Lecture:** Intensified Thermocatalytic CO₂ Conversion to Chemicals and Fuels

J. Xie

Green Chemical Reaction Engineering research unit Engineering and Technology Institute Groningen, University of Groningen, Groningen, Netherlands

10.50 h **Keynote Lecture:** Fuelling the Fleet: Utilizing Air Liquide's Advanced Methanol Technology to Deliver a CO₂-Based Next-Generation Marine Fuel

A. Rösch

Air Liquide Global E&C Solutions Germany GmbH, Frankfurt, Germany

FRIDAY, OCTOBER 9, 2026

CONTINUED: SESSION: METHANOL-TO-X, FISCHER-TROPSCH, E-FUELS, SAF

Chairperson: Jennifer Strunk

11.30 h From Oil to Low Carbon Alcohols as Energy Carriers for Transportation and Intermediates for Chemical Production

M. Marchionna

Società Chimica Italiana, Division Industrial Chemistry, Milano, Italy

11.55 From Methanol to Alcohols: Mechanistic Understanding of a Tandem Catalytic System for Resilient C1-Based Chemical Supply

J. T. Groteguth¹, S. Stahl¹, J. T. Vossen¹, J. Exo¹,
T. Weyhermüller¹, C. Lyall², J. Lowe², U. Hintermair²,
W. Leitner^{1,3}, A. J. Vorholt¹

¹Max Planck Institute for Chemical Energyconversion, Mülheim an der Ruhr, Germany; ²University of Bath, Bath, United Kingdom; ³RWTH Aachen University, Institute of Technical and Macromolecular Chemistry, Aachen, Germany

12.20 h Demonstration of an integrated power-to-liquid plant for SAF production using a220 kW Co-SOEC module

G. Corre¹, A. Happ², H. Bürgmayr², M. Rubin², R. Dittmeyer²

¹Karlsruher Institut für Technologie, Institut für Mikroverfahrenstechnik (IMVT), Eggenstein, Germany; ²Karlsruher Institut für Technologie, Eggenstein, Germany

12.45 Lunch Break

FRIDAY, OCTOBER 9, 2026

SESSION: CHEMICAL RECYCLING

Chairperson: Alba Dieguez-Alonso

13.30 h Keynote Lecture: Industrialization of Chemical Recycling – Technical, Regulatory and Market Perspectives from OMV’s ReOil® Scale-Up Journey

A. Leitner

Innovation & Technology, OMV AG, Vienna, Austria

14.10 h Pyrolysis of PC/ABS-Blends in a gaseous ammonia atmosphere

P. Rathsack¹, M. D. Hannak¹, D. Scheithauer¹, M. Peuker²,
J. Kleeberg^{1,2}, M. Gräbner^{1,2,3}

¹Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Circular Carbon Technologies, Freiberg, Germany; ²TU Bergakademie Freiberg (TUBAF), Institute of Energy Process Engineering and Chemical Engineering (IEC), Freiberg, Germany; ³TU Bergakademie Freiberg (TUBAF), Center for Efficient High Temperature Processes and Materials Conversion (ZeHS), Freiberg, Germany

14.35 h Intensification of the modified OxFA process by evaluation of different reactor concepts

I. C. Wirth¹, H. Kleemiß², D. Voß¹, M. Poller¹, M. Schlüter²,
J. Albert¹

¹University of Hamburg, Hamburg, Germany, ²Technische Universität Hamburg, Hamburg, Germany

15.00 h Integration of plastic waste pyrolysis oils into FCC processes

T. Dreising, S. Tavakkol, D. Stapf

Karlsruher Institut für Technologie (KIT), Institut für Technische Chemie (ITC), Eggenstein-Leopoldshafen, Germany

FRIDAY, OCTOBER 9, 2026

CONTINUED: CHEMICAL RECYCLING

Chairperson: Alba Dieguez-Alonso

15.25 h Circular Carbon via Gasification of Complex Waste Streams

A. Bader¹, L. Seidl², T. Horst³

¹BASF SE, Global Technology Basic Petrochemicals, Ludwigshafen am Rhein, Germany; ²BASF SE, Process Development Petrochemicals, Ludwigshafen am Rhein, Germany; ³BASF SE, BASF Renewable Carbon, Ludwigshafen am Rhein, Germany

15.50 Coffee Break

SESSION: PLASMA PYROLYSIS

Chairperson: Matthias Müller-Hagedorn

16.05 h Keynote Lecture: Electrification of Gasification Processes by Plasma Integration

M. Gräbner

TU Bergakademie Freiberg, Freiberg, Germany

16.45 h Integration of a free-burning plasma arc into a fluidized bed gasification system

R. Schimpke^{1,2}, V. Kuznetsov¹, M. Gräbner^{1,2,3},
P. Pieterse⁴, D. Uhrlandt⁴

¹TU Bergakademie Freiberg, Institute of Energy Process Engineering and Chemical Engineering (IEC), Freiberg, Germany; ²TU Bergakademie Freiberg, Center for Efficient High Temperature Processes and Materials Conversion, Freiberg, Germany; ³Fraunhofer Institute for Ceramic Technologies and Systems (IKTS), Division Energy and Process Engineering – Circular Carbon Technologies, Freiberg, Germany; ⁴Leibniz Institute for Plasma Science and Technology Greifswald e.V., Process and Energy Technology, Greifswald, Germany

FRIDAY, OCTOBER 9, 2026

CONTINUED SESSION: PLASMA PYROLYSIS

Chairperson: Matthias Müller-Hagedorn

- 17.10 h Enhancing Waste Gasification-based Methanol Production by Renewable Energy Integration - Hydrogen vs. Plasma**
A. Helf¹, E. Keller¹, M. Gräbner^{1,2,3}
¹TU Bergakademie Freiberg, IEC, Freiberg, Germany; ²Fraunhofer IKTS, Energie- und Verfahrenstechnik - Kohlenstoff-Kreislauf-Technologien, Freiberg, Germany; ³Zentrums für effiziente Hochtemperatur-Stoffwandlung (ZeHS), Freiberg, Germany
- 17.35 h Circular Carbon for resilient Chemical value chains enabled by Plasma Technology**
S. Renninger
Cyclize GmbH, Stuttgart, Germany
- 18.00 h Concluding Remarks and Conference Summary**
T. Bechthold
Chairman DGMK-Division Conversion of Carbon Carriers

THURSDAY, OCTOBER 8, 2026

POSTERSESSION AND COFFEE

Survey of Posters on Display: Andreas Jess

WANDELGANG

15.05 -16.45 h

A-106 **Production of Fischer-Tropsch suitable syngas for green jet-fuel through dry reforming of methane-CO²-mixtures**

M. Bachstädter, A. Jess

Universität Bayreuth, Lehrstuhl für chemische Verfahrenstechnik, Bayreuth, Germany

A-107 **Thermal Behavior and Runaway Analysis of Exothermic Reactions in Fixed-Bed Reactors: CO² Methanation as a Case Study**

C. Bischoff, C. Kern, A. Jess

Universität Bayreuth, Lehrstuhl für Chemische Verfahrenstechnik, Bayreuth, Germany

A-109 **EnerFuel - Production of Fuels and Energy Carriers from Biogenic Residues and Plastic Waste for the Development of Regional Value Chains**

K. Rimagmos, T. Plessing

Hochschule Hof, Institut für Wasserstoff- und Energietechnik, Hof, Germany

A-110 **Investigation of the Electrochemical Ethylene Glycol Oxidation using Ni-based Layered Double Hydroxides**

I. Kohlhaas¹, L. Cino², C. Englezos², G. Mul², G. Katsoukis²,

R. Palkovits³

¹RWTH Aachen University, Institute for Technical and Macromolecular Chemistry, Aachen, Germany; ²University of Twente, Enschede, Netherlands; ³Forschungszentrum Jülich, Jülich, Germany

A-111 **Two-step glycerol valorization to 1,2-propanediol as the basis for the construction of a SMART-reactor**

P. Hassenstein, J.-D. Krueger, J. Albert

Universität Hamburg, Institut für Technische und Makromolekulare Chemie, Hamburg, Germany

A-112 **Process Scale-Up for Tandem Catalytic Alcohol E-Fuel Production in the E-TANDEM project**

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

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

²RWTH Aachen University, Institute of Technical and Macromolecular Chemistry, Aachen, Germany; ³ITQ Instituto de Tecnología Química (CSIC-UPV), Valencia, Spain

A-113 **Bio-based Polyesters from Itaconic Acid and L-Histidine as Sustainable Alternatives to Fossil-based Polymer Carriers**

R. Sebers¹, L. Klug¹, E. Fulajtar², J. L. G. Nava², A. Pich²,
R. Palkovits^{1,3}

¹ITMC, RWTH Aachen, Aachen, Germany; ²DWI – Leibniz Institute for Interactive Materials, Aachen, Germany; ³Institute for a sustainable Hydrogen Economy (IHE-2), Jülich, Germany

A-114 **Simulation-Driven Validation and Enhancement of Reactor Models for a Technical Fixed-bed Fischer-Tropsch Synthesis**

L. Hentschel, C. Kern, A. Jess

University Bayreuth, Chemical Process Engineering, Bayreuth, Germany

A-115 **Ammonia Cracking as a Key Enabler for Resilient and Carbon-Free Energy Supply Chains in Industrial High-Temperature Processes**

T. Schiekel

OWI Science for Fuels gGmbH, Hydrogen Technology, Herzogenrath, Germany

A-117 Promotion of Hydrogen Production via the Thermal Decomposition of Piperylene in the Presence of By-Product Light Hydrocarbons

S. Miyamoto¹, Y. Katsuragawa¹, H. Ueda², M. Asahara²,
T. Watanabe², S. Ohta², T. Miyasaka²

¹Gifu University, Graduate School of Natural Science and Technology, Gifu, Japan; ²Gifu University, Department of Mechanical Engineering, Gifu, Japan

A-119 Higher Oxygenate E-Fuel Synthesis by Tandem Fischer-Tropsch Synthesis and Reductive Hydroformylation

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

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

²Institute of Technical and Macromolecular Chemistry, RWTH Aachen University, Aachen, Germany;

³Institute for Chemical Technology (CSIC-UPV), Valencia, Spain

A-120 Decentralized Methanol Production at Wastewater Treatment Plants: Synergies and Regulatory Challenges in the E-BO₂t Project

B. Bender¹, C. Ait Tarint¹, F. Voit², T. Lind³

¹OWI Science for Fuels gGmbH, Herzogenrath, Germany; ²Research Institute for Water Management and Climate Future at RWTH Aachen University, Aachen, Germany;

³Emschergenossenschaft / Lippeverband, Essen, Germany

A-134 Closing the Carbon Loop: CO₂-to-Fuel via Hybrid Catalysis

S. Feldhoff

OWI Science for Fuels gGmbH, Energy Carriers, Herzogenrath, Germany

A-136 Studying Deactivation phenomena using Pd/1,2-DTBPMB in the Tandem Isomerization-Methoxycarbonylation Reaction

N. Kumari¹, R. Franke^{2,3}, A. J. Vorholt¹

¹Max Planck Institute for chemical and energy conversion, Chemistry, Mülheim an der Ruhr, Germany, ²Evonik Oxeno GmbH, Marl, Germany, ³Ruhr-Universität Bochum, Bochum, Germany

A-138 Plasma-assisted entrained flow gasification as a key technology for Net Zero - a review

L. Kufferath-Sieberin¹, S. Fleck¹, U. Santo¹, D. Becker²,

M. Vogelbacher², J. Matthes², F. Scheiff^{1,3}

¹Karlsruhe Institute of Technology (KIT), Institute for Technical Chemistry, Gasification Technology (ITC vgt), Eggenstein-Leopoldshafen, Germany; ²Karlsruhe Institute of Technology (KIT), Institute for Automation and Applied Informatics (IAI), Eggenstein-Leopoldshafen, Germany; ³Karlsruhe Institute of Technology (KIT), Engler-Bunte-Institute, Fuel Technology (EBI ceb), Karlsruhe, Germany

A-139 Turning Emission to Feedstock: Mapping Europe's CO₂ Market for Fuels and Chemicals

I. Akhmetova, N. Fuchs, C. Gruber, H. Basche, S. Bernhardt,

H. Lehmann

PtX Lab Lausitz | ZUG gGmbH, Cottbus, Germany

A-140 High Temperature Workflows in High Throughput Experimentation: From NH₃ Cracking and CO₂ -to-CO to Methane Pyrolysis

M. Moll, C. Hauber, B. Mutz

hte GmbH, Heidelberg, Germany

A-141 Catalyst-modulated discharge chemistry: Tailoring electron-surface interactions in the total oxidation of n-butane to CO₂ over a MnO₂/CaO-coated surface dielectric barrier discharge

J. Hiepel¹, T. Oppotsch¹, G. Hübner², P. Awakowicz², I. Korolov²,

M. Muhler¹

¹Ruhr University Bochum, Chair of Industrial Chemistry, Bochum, Germany; ²Ruhr University Bochum, Chair of Applied Electrodynamics and Plasma Technology, Bochum, Germany

A-143 Influences on the selective catalytic oxidation of residual ammonia in ammonia cracking gas

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

¹ University of Applied Sciences Hof, Institute for Hydrogen and Energy Technology, Hof, Germany; ² University Bayreuth, Chair of Chemical Engineering, Bayreuth, Germany;

³ University Bayreuth, Center of Energy Technology, Bayreuth, Germany; ⁴ WS GmbH, Renningen, Germany

A-145 Comparative simulation study of fuel production pathways from biomass-derived syngas

M. E-Moghaddam, N. Dahmen

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

A-146 Modeling and Prediction of Phase Equilibria in Systems Containing Bio-Oil Compounds

A. Jalalinejad, A. Funke, N. Dahmen

Karlsruhe Institute of Technology (KIT), Institute of Catalysis Research & Technology (IKFT), Engenstein-Leopoldshafen, Germany

A-148 Minimum Achievable Cost of Methanol-to-Jet Sustainable Aviation Fuel: A Bottom-up Decomposition by Optimization Measures

A. Elwalily, V. Erfurt, M. Wenzel, L. Tafur, S. Günthner, H. Lehmann

Zukunft – Umwelt – Gesellschaft (ZUG) gGmbH, PTX Lab Lausitz, Cottbus, Germany

A-149 Comparative Assessment of Fischer-Tropsch and Methanol Synthesis Pathways for Resilient Fuel Production from Sustainable CO₂ Sources

V. Erfurt, L. Tafur, A. Elwalily, M. Wenzel, S. Günthner, H. Lehmann

Zukunft – Umwelt – Gesellschaft (ZUG) gGmbH, PtX Lab Lausitz, Cottbus, Germany

A-150 Compliance of Synthetic Fuels with European Standards: The German Regulatory Perspective

M. J. Alhnidi, N. Dahmen, M. Glaser

Karlsruher Institut für Technologie, Institut für Katalyseforschung und -technologie,
Eggenstein-Leopoldshafen, Germany

A-152 Revealing resonances in technical dehydration of ethanol

M. Seifert, L. A. Lorenz, L. A. Haufe

TU Dresden, Inorganic Molecular Chemistry, Dresden, Germany

A-153 Kinetic modelling of the Sabatier reaction over Ni/CeO₂-ZrO₂ for synthetic natural gas production

G. Ramis¹, W. Da Silva Cardoso², S. Romegialli², M. Tommasi²,
A. Gramegna², I. Rossetti²

¹Università degli Studi di Genova, DICCA, Genoa, Italy; ²Università degli Studi di Milano, Dip. Chimica, Milan, Italy

A-154 Three-pipeline gas grid for renewable hydrogen storage and distribution: integrated power-to-gas/gas-to-power conversion with closed-loop carbon utilization

I. Rossetti¹, M. Tommasi¹, S. Romegialli¹, W. Da Silva Cardoso¹,
A. Gramegna¹, G. Ramis²

¹Università degli Studi di Milano, Dip. Chimica, Milan, Italy; ²Università degli Studi di Genova, DICCA, Genoa, Italy

A-156 Power2ValueChemicals - Integrated Process Development for Evaluating Electrolytically Produced CO from CO₂ for Industrial Applications

L. Steinwachs¹, A. Vorholt²

¹ MPI for Chemical Energy Conversion, Molecular Catalysis, Mülheim an der Ruhr, Germany;

² MPI für Chemische Energiekonversion, Molekulare Katalyse, Mülheim an der Ruhr, Germany

A-160 **Bridging the Gap in MDI Value Chains: A Dual-Metric Evaluation of Circularity and Carbon Footprint from CO Production to MDI Synthesis**

T. E. Korkut¹, A. Uguina²

¹ Air Liquide Forschung und Entwicklung GmbH, Frankfurt am Main, Germany; ²Air Liquide, Frankfurt, Germany

A-161 **Operando spectroscopy to investigate molecular catalysts in flow**

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

¹MPI Chemical Energy Conversion, Mülheim an der Ruhr, Germany; ²Otto-von-Guericke-Universität Magdeburg, Magdeburg, Germany; ³RWTH Aachen, Aachen, Germany

A-162 **Phosphorus-Modified Catalysts in the Dehydrogenation of n-Heptane as a Model Compound for Pyrolysis Oil Upgrading**

C. Schweiger¹, P. Schühle^{1,2}

¹Forschungszentrum Jülich GmbH, Jülich, Germany; ²Institute of Chemical Reaction Engineering, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Germany

A-164 **Multiscale study of CH₄ pyrolysis: from kinetics to fluidized reactor operation with C-valorization in the steel industry**

M. Orsenigo¹, V. Piazza^{1,2}, G. Dall'Osto³, C. Negri¹, L. Castoldi¹,
G. Groppi¹, M. Maestri¹, C. Mapelli³, A. Beretta¹

¹Politecnico di Milano, Dipartimento di Energia, Milan, Italy; ²Politecnico di Milano, Milan, Italy; ³Politecnico di Milano, Dipartimento di Meccanica, Milan, Italy

A-165 **Reconstructing the kinetics of biomass pyrolysis from bio-components contributions: application to rice husk**

E. Benedetto¹, V. Piazza^{1,2}, A. Guarneri¹, M. Y. Suleiman³,
L. C. Pariani⁴, P. D'Arrigo⁴, T. Faravelli⁴, A. Frassoldati⁴, L. Lietti¹,
A. Beretta¹, P. Debiagi³

¹Politecnico di Milano, Dipartimento di Energia, Milan, Italy; ²Politecnico di Milano, Milan, Italy;
³University of Nottingham Ningbo China, Ningbo, China; ⁴Politecnico di Milano, Dipartimento
di Chimica, Materiali e Ingegneria Chimica, Milan, Italy

A-192 Recrystallisation of Pyrolysis Carbon into Graphitic Materials

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A-193 Environmental Assessment of CO₂-based Pathways to Short-Chain Alkenes

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A-196 From Ammonia Synthesis to CO₂-based Alkenes: Repurposing Industrial Iron Catalysts

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A-197 DME from Crude Methanol

A. Schaadt, S. Feuerbach, F. Nestler, M. Gierse, R. Szolak

Fraunhofer ISE, Freiburg, Germany

subject to change!

GENERAL INFORMATION

Venue

Haus der Technik
Hollestr. 1 | 45127 Essen | Germany

Registration Desk

Opening Hours
Thursday, October 8, 2026 08.30 h -18.00 h
Friday, October 9, 2026 08.00 h -17.00 h
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