Tailor-Made Fuels
From Production to Propulsion

6th International Conference Program
June 19th – 21st, 2018 / Eurogress, Aachen

www.fuelcenter.rwth-aachen.de

with support of
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
<th>Institution</th>
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<tbody>
<tr>
<td>08:00</td>
<td>Registration</td>
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<tr>
<td>08:30</td>
<td>Brüsselsaal: <strong>Keynote Session</strong></td>
<td>Welcome and Introduction</td>
<td>Prof. S. Pischinger / RWTH Aachen University</td>
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<td>08:45</td>
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<td>Paraffinic Fuels to Enhance Low Temperature Combustion Processes</td>
<td>Prof. A. L. Boehman / University of Michigan</td>
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<td>09:30</td>
<td>Coffee Break</td>
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<td>10:00</td>
<td>Brüsselsaal: <strong>Fuel Design</strong></td>
<td>Co-optimization of Fuel Production and Combustion: Model-based Fuel Design, Engine Optimization and Early-stage Process Screening</td>
<td>M. Dahmen / Forschungszentrum Jülich T. Ottenwälder / RWTH Aachen University</td>
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<td>10:30</td>
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<td>Towards Drop-in Diesel Biofuels from Lignin Monomers: From Production to Combustion</td>
<td>B. D. Kouris / Eindhoven University of Technology</td>
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<td>11:00</td>
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<td>Integrating Social Acceptance as Assessment Parameter in the Development of Alternative Fuels</td>
<td>K. Arning / RWTH Aachen University</td>
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<td>11:30</td>
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<td>New Concept of Biofuels: Formulation and Engine Tests of Vegetable Oil/Biodiesel/Glycerol Derivative Mixtures</td>
<td>D. Brock / University of Regensburg</td>
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<td>12:00</td>
<td>Lunch Break</td>
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<td>13:00</td>
<td>Brüsselsaal: <strong>Selective Carbon Conversion</strong></td>
<td>A Kinetic Model for the Scale-up of Biphasic 5-Hydroxymethylfurfural Production</td>
<td>M. Aigner / RWTH Aachen University</td>
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<td>13:30</td>
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<td>Development of Online Monitoring Tools for High Throughput Screening of Anaerobic Fermentation Processes to Produce Butanol from Glycerol</td>
<td>G. Munch / University of Western Ontario</td>
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<td>14:00</td>
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<td>Copper-Catalyzed Hydrogenolysis of Sorbitol to Glycols – On the Influence of Particle Size and Base</td>
<td>X. Wang / RWTH Aachen University</td>
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<td>14:30</td>
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<td>Beyond the Catalyst: How the Electrode and Reactor Design Determine the Product Spectrum During Electrochemical CO₂ Reduction</td>
<td>J.-B. Vennekötter / RWTH Aachen University</td>
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<td>15:00</td>
<td>Coffee Break</td>
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<td>15:30</td>
<td>Brüsselsaal: <strong>From Renewable Carbon to Fuels</strong></td>
<td>Sustainable Solvents from Computer-Aided Molecular and Process Design with Predictive Life Cycle Assessment</td>
<td>L. Fleitmann / RWTH Aachen University</td>
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<td>16:00</td>
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<td>Lipid Production from Bagasse Hydrolysate by Oleaginous Yeast, Rhodotula Glutinis, and its Biodiesel Properties</td>
<td>N. Nasirian / Islamic Azad University</td>
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<td>16:30</td>
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<td>Enhanced Microbial Production of Platform Molecules for Octanol Synthesis by Integrated Process and Strain Development</td>
<td>B. Leuchtle / RWTH Aachen University</td>
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<td>17:00</td>
<td>K2: <strong>Fuel Application 1</strong></td>
<td>Investigation of the In-Cylinder Flow Field of Two Miller Cycles</td>
<td>M. Braun / RWTH Aachen University</td>
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<td>Simulation of Spray Combustion Processes of Waste Cooking Oil Biodiesel and Diesel under Direct Injection (DI) Diesel Engine Conditions</td>
<td>O. Kuti / Manchester Metropolitan University</td>
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<td>Suitability of Long Chain-alcohol Blends as Drop-in Fuel in Diesel Engines</td>
<td>J. Preuß / Chalmers University of Technology</td>
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<td>Development of an Exhaust Gas Treatment for Diesel Engines in NRMM P&lt;19 kW with Use of Carbon Reduced Fuels</td>
<td>G. Linz / Deutsches Biomasseforschungszentrum</td>
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<td>18:00</td>
<td>K2: <strong>Fuel Combustion</strong></td>
<td>Investigation on the Knocking Propensity of LNG</td>
<td>R. Eilts / Technical University Braunschweig</td>
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<td>Measurements and Numerical Analysis on the Ignition Delay Time of C9H20 Isomers</td>
<td>S. Yamada / Hiroshima University</td>
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<td>Combustion Chemistry of Diethoxymethane (DEM): Experiments, Theory and Modeling</td>
<td>W. A. Kopp / RWTH Aachen University</td>
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**Brüsselsaal: Keynote Session**

**Including Real Fuel Chemistry in LES of Turbulent Combustion**

Dr. B. Cuenot / Centre Européen de Recherche et de Formation Avancée en Calcul Scientifique

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**Poster Party – Snacks and Drinks at the Eurogress**

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**Wednesday, 20.06.2018**

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**Brüsselsaal: Keynote Session**

**The China Perspective on Green Energy**

Prof. T. Zhang / Chinese Academy of Sciences

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**Coffee Break**

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**Brüsselsaal: Fuels from Renewable Electricity 1**

**The Audi E-fuels Demonstrator**

H. Peng / Audi e-Gas

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**Performance Comparison of Production Pathways for Renewable Fuels from Biomass, Electricity and Combinations Thereof**

A. König / RWTH Aachen University

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**Processes for the Production of (Poly-)Oxymethylene Dimethyl Ether from Renewable Hydrogen and Green CO2**

J. Burre / RWTH Aachen University

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**Lunch Break**

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**Brüsselsaal: Fuels from Renewable Electricity 2**

**xFME-Diesel - (Bio-)Methyl Ether as an Alternative Fuel for Bivalent Diesel Combustion**

H. Maas / Ford Research and Innovation Center

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**What Electricity Price Would Make Electrofuels Cost-competitive?**

M. Grahn / Chalmers University of Technology

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**Coffee Break**

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**Brüsselsaal: From Renewable Carbon to Fuels**

**Electrocatalytic Cross-coupling of Biogenic Di-acids for the Sustainable Production of Fuels**

E. J. Holzhäuser / RWTH Aachen University

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**2,3-Butanediol Production with Bacillus Licheniformis at Varied Oxygen Transfer Capacities**

B. Heymann / RWTH Aachen University

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**Recent Advances in Bioproduction of 2,5-Furandicarboxylic Acid (FDCA)**

H. Ruijssenaars / Corbion

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**Influence of E-fuels on Mixture Formation and Combustion Investigated in a High-pressure Combustion Vessel**

A. Peter / PAU Erlangen-Nürnberg

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**Fuel Design Based on the Combustion Characteristics in IC Engines**

A. Miyoshi / Hiroshima University

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**Biodiesel: Past and Future - Element load of Exhaust Gas Aftertreatment Systems and new Parameters**

M. Dietrich / The Association Quality Management Biodiesel e.V.

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**A New Technique for Engine Cycle Modeling**

Ch. K. Westbrook / Laurence Livermore National Laboratory

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Wednesday, 20.06.2018

Brüsselsaal: Keynote Session
Engineering Microbes for Industrial Applications  
Prof. G. Stephanopoulos / Massachusetts Institute of Technology

Power Based Fuels – Global Concept and Local Implementation  
Dr. J. Karnacher / innogy SE

forumM, Buchkremerstraße 1-7: Conference Dinner

Thursday, 21.06.2018

Brüsselsaal: Keynote Speech
Power-to-X Technologies and Sector Coupling  
Prof. K. Wagemann / DECHEMA Gesellschaft für Chemische Technik und Biotechnologie e.V.

Brüsselsaal: TMFB Report 1
TMFB Status Update Integrated Research Field A “From Biomass to Biofuels”  
Prof. W. Leitner / RWTH Aachen University

Coffee Break

Brüsselsaal: TMFB Report 2
TMFB Status Update Integrated Research Field B “From Biofuels to Propulsion”  
Prof. H. Pitsch / RWTH Aachen University

TMFB Status Update Core Interaction Field “Fuel Design”  
Prof. S. Pischinger / RWTH Aachen University

Closing Remarks / Poster Prize  
Prof. S. Pischinger / RWTH Aachen University

Lunch Break

End of the Public Part of the Conference

K2: IAB – Meeting of the TMFB International Advisory Board