DGMK

International Conference

Selective Oxidation and Functionalization: Classical and Alternative Routes and Sources

October 13 – 15, 2014
Berlin, Germany

Società Chimica Italiana

Österreichische Gesellschaft für Erdölwissenschaften

German Society for Petroleum and Coal Science and Technology
Petrochemistry Division
This international conference provides a forum for chemists and engineers from refinery, petrochemistry and the chemical industry as well as from academia to discuss Selective Oxidation and Functionalization.

Nine Keynote Lectures, 16 Lectures and 19 Posters will be presented at the conference. Additional "last minute posters" are welcome. Authors who intend to present a "last minute poster" are kindly requested to contact the Scientific Chairmen at or before the conference.

The best poster of the conference will be selected by the attendees for the “Best Poster Award”.

This international conference is organised by the DGMK German Society for Petroleum and Coal Science and Technology in association with the Società Chimica Italiana (SCI) and the Austrian ÖGEW Österreichische Gesellschaft für Erdölwissenschaften.

Please note, that the participants of the conference will have the opportunity to visit the UniCat / BasCat Laboratory at the Technical University Berlin after the conference on Wednesday afternoon.

Scientific Chairmen:

Prof. Dr. Stefan Ernst, Technische Universität Kaiserslautern
Prof. Dr. Arno Behr, Technische Universität Dortmund
Dr. Michael Bender, BASF SE, Ludwigshafen
Prof. Dr. Andreas Jess, Universität Bayreuth
Dr. Mario Marchionna, Saipem S.p.A.,
San Donato Milanese
Programme

Monday, October 13, 2014

13.30 Registration at the Conference Desk

14.00 Opening and Welcome Address
Stefan Ernst

Session Chairman: Mario Marchionna

14.15 Keynote Lecture: H. Wiederhold*, D. Wolf*,
H. Zanthoff**
*Evonik Industries, Hanau, Germany,
**Evonik Industries, Marl, Germany
Development of Oxidation Processes in Industrial
Environment – Challenges, Proceedings and
Advancements

15.00 Keynote Lecture: A. Schmid, M. Schrewe, N. Ladkau,
M. K. Julsing, B. Bühler
Laboratory of Chemical Biotechnology,
TU Dortmund University, Germany
Biocatalytic C-H Functionalization

15.45 Coffee Break

16.15 A. Behr, N. Tenhumberg, A. Wintzer
Technical Chemistry, Technische Universität Dortmund,
Germany
Selective Oxidation and Functionalisation of
Renewables

16.45 M. Bäumer
Institute of Applied and Physical Chemistry and Center for
Environmental Research and Sustainable Technology,
University Bremen, Germany
Porous Metals and Porous Oxides: New
Perspectives for Selective Oxidation Reactions

17.15 M. Sanchez-Sanchez*, P. Xu*, D. Hartmann**,
N. D. Browning***, J. A. Lercher****
*Technische Universität München, Germany,
**University of California, Davis, USA,
***Pacific Northwest National Laboratory, Richland, USA
Ethane Oxidative Dehydrogenation on
MoVTeNbOx catalysts: Atomic Resolution STEM
shows the Impact of Morphology on Activity

17.45 R. Turco, R. Tesser, M. Di Serio
Dipartimento di Scienze Chimiche, Università di Napoli
Federico II, Napoli, Italy
Optimization of Selective Oxidation of Renewable
Raw Materials in Presence of Alumina as
Heterogeneous Catalyst
Tuesday, October 14, 2014

Session Chairman: Arno Behr

8.30 Keynote Lecture: M. Beller
Leibniz-Institut für Katalyse an der Universität Rostock e.V. (LIKAT), Germany
Redox-Catalysis with Biorelevant Metal Catalysts: Replacing Noble Metals with Nano-Rust

*Leibniz-Institut für Katalyse (LIKAT), Rostock, Germany
**Evonik Industries AG, Hanau, Germany
Operando Raman Spectroscopic Study of Model Molybdate Catalysts under Mild Propene Oxidation Conditions

9.45 M. Heenemann*, F. Rosowski**, R. Schlögl*, M. Eichelbaum**/
*Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin, Germany,
**BasCat, UniCat-BASF JointLab, Berlin, Germany
Contact-free and in-situ: Electrical Conductivity of Oxidation Catalysts studied by Microwave Cavity Perturbation

10.15 Coffee Break

10.45 Keynote Lecture: R. Paciello
BASF SE, Ludwigshafen, Germany
High Presssure Hydroformylation

11.30 A. J. Vorholt, T. Seidensticker, K. A. Ostrowski, A. Behr
Lehrstuhl für Technische Chemie, Technische Universität Dortmund, Germany
Hydroformylation - Door Opener to Highly Efficient Tandem Reactions to Bifunctional Molecules

12.00 S. Reining, E.V. Kondratenko, V.N. Kalevaru, A. Martin
Leibniz Institute for Catalysis (LIKAT), Rostock, Germany
Reaction Pathways in the Palladium-Catalyzed Acetoxylation of Toluene

12.30 Lunch Break
Tuesday, October 14, 2014

Session Chairman: Michael Bender

13.30 Keynote Lecture: A. Scarso, F. Menegazzo, G. Strukul
Dipartimento di Scienze Molecolari e Nanosistemi, Università Ca’ Foscari, Venezia, Italy
Hydrogen Peroxide: Its Use in Selective Homogeneous Oxidations in Water and some Recent Advances for its Direct Synthesis from H₂ and O₂

14.15 Keynote Lecture: A.-N. Parvulescu
BASF SE, Ludwigshafen, Germany
High Selective Oxo-functionalization of Important Basic Chemicals with Zeolyte Catalysts

D. R. Burri*
*Indian Inst. of Chemical Technology, Hyderabad, India,
**Leibniz-Institut für Katalyse (LIKAT) Rostock, Germany
Au Nanoparticles anchored SBA-15 as a Promising Catalyst for the Selective Oxidation of Cinnamyl Alcohol to Cinnamaldehyde with O₂ without Radical Initiator and Base

15.30 Poster Session

Survey of Posters on Display: Andreas Jess

The Posters are on display during the whole conference.

O.L. Eliseev, T.N. Bondarenko, A.L. Lapidus
N.D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Moscow, Russia
Styrene Hydrocarboxylation: Towards High Regioselectivity

A.L. Lapidus, F.G. Zhagfarov, A.B. Elkin
Gubkin Russian State University of Oil and Gas, Moscow, Russia
Carbon Dioxide Catalytic Reforming of Methane

B. Kneißel
Stratley AG, Köln, Germany
Commercial Strategies for the Chemical Utilization of Methane

Ho Si Thoang*, A.L. Lapidus**
*Institute of Chemical Technology, Vietnam Acad. Sci. Techn., Ho Chi Minh City, Vietnam,
**N.D. Zelinsky Institute of Organic Chemistry, Russian Acad. Sci., Moscow, Russia
Mechanism of Carbon Monoxide Oxidation over Supported CuO Catalysts Modified by Ce and Pt
K. A. Ostrowski, T. A. Faßbach, A. Behr, A. J. Vorholt
Lehrstuhl für Technische Chemie, TU Dortmund, Germany

Direct synthesis of Acyloins from Olefins - A Selective and Atom Efficient Tandem Catalysis under Hydroformylation Conditions

T. Seidensticker, J. J. von Dincklage, A. Behr, A. J. Vorholt
Lehrstuhl für Technische Chemie, TU Dortmund, Germany

Diester Synthesis via Selective, Rhodium Catalyzed bis-hydroaminomethylation of Unsaturated Fatty Compounds with Diamines

Ji Ni, Su Liu, Jia-wei Teng, Wei-ming Yang
Sinopec Shanghai Res. Inst. of Petrochem. Technology, China

Nano-engineered Gold Catalysts for Direct Hydroxylation of Benzene with CO, O₂ and H₂O Under Mild Condition

D.V. Sokolski Inst. of Organic Catalysis, Almaty, Kazakhstan

The Effective Catalytic Systems on the Base of Colloid Platinum Metals for Oxidation of CO, Methane and Decomposition of Nitrogen Oxides

*Ufa State Petroleum Technological University, Ufa, Russia, **Bashkir State University, Sterlitamak, Russia

Mechanism of Action of Antioxidant Additives for Hydrocarbons

P. Wallis, N. Kalevaru, A. Martin
Leibniz-Institute for Catalysis (LIKAT), Rostock, Germany

Impact of Biogas Components on Selective Oxidation of Methane to Formaldehyde

S. Solmi, E. Rozhko, A. Malmusi, F. Cavani
Dip. di Chimica, "Toso Montanari", Università di Bologna, Italy

A New Process for Adipic Acid Synthesis by Means of the two-step Oxidation of Cyclohexene

I. Prymak, V.N. Kalevaru, S. Wohlrab, A. Martin
Leibniz-Institut für Katalyse (LIKAT) Rostock, Germany

Impact of Calcination Temperature on the Catalytic Properties of Ce-Zr-O Solids in the Direct Synthesis of Diethyl Carbonate from Ethanol and CO₂

*Univ. Piemonte Orientale, Alessandria, Italy, **CNR-Istituto di Scienze e Tecnologie Molecolari, Milano, Italy, ***Crimean State Medical University, Simferopol, Crimea, ****Nat. Univ. Life and Environmental Sciences of Ukraine, Kyiv, Ukraine

Nb(V)-Containing Saponite Clay: a Catalyst for the Oxidative Abatement of Blistering Chemical Warfare Agents

M. Albrecht, U. Rodemerck, E.V. Kondratenko
Leibniz-Institut für Katalyse (LIKAT), Rostock, Germany

Improving Production of Higher Hydrocarbons from Methane through its Oxidative Coupling Combined with Hydrogenation of Carbon Oxides
Tuesday, October 14, 2014

*Azerbaijan National Academy of Sciences, Baku, Azerbaijan
Republic, **Leibniz-Institut für Katalyse (LIKAT), Rostock, Germany
Effect of Size and Support on Activity, Selectivity and on-Stream Stability of Pt, Rh, and Ru Nanoparticles in Partial Oxidation of Methane to Synthesis Gas

F. Schmidt, M. Bernhard, H. Morell, M. Pascaly
Evonik Industries AG, Hanau-Wolfgang, Germany
The HPPO Process - A novel Route to Propylene Oxide

V.N. Kalevaru, N. Dhachapally, A. Martin
Leibniz-Institut für Katalyse (LIKAT), Rostock, Germany
Ammoxidation of 2-Methylpyrazine using Metal Vanadate Catalysts: Effect of Reaction Variables on the Catalytic Performance

X. Kostrov, D. Jung, Z. Zhou, M. Hartmann
Universität Erlangen-Nürnberg, Germany
Selective Oxidations with Immobilized Enzymes

C. Wilhelm, E. Kaigarula, S. Ernst
University of Kaiserslautern, Germany
Hydrogenation of Carbon Dioxide over Supported Rh, Ni on Mesoporous Alumina-Titania

Session Chairman: Michael Bender

16.30 Keynote Lecture: F. Cavani
Dipartimento di Chimica Industriale “Toso Montanari”, Università di Bologna, Italy
The Selectivity and the Sustainability Issues Meet in Modern Oxidation Catalysis: The Synthesis of Carboxylic Acids

17.15 R. Bobka, P. Scheck, G. Mestl
Clariant Produkte GmbH, Bruckmühl, Germany
Improved VAM Catalysts by high-End Coating Technology

*Università di Bologna, Bologna, Italy.
**Universidad Politécnica de Valencia, Spain.
One-pot Glycerol Oxidehydration to Acrylic Acid on Tungsten-Vanadium Mixed Oxides as Multifunctional Catalysts

20.00 Conference Dinner
Wednesday, October 15, 2014

Session Chairman: Andreas Jess

8.30 Keynote Lecture: E. Klemm
Institut für Technische Chemie, Universität Stuttgart, Germany
Heterogeneous Catalysis Meets Micro Reactors: Partial Oxidations in the Explosion Regime

9.15 C. Galeano, C. Walsdorff, M. Krämer, S. Altwasser, H.-M. Allmann, G. Cox, B. Hinrichsen, J. Zühlke
BASF SE, Ludwigshafen, Germany
Development of Industrial Phthalic Anhydride Catalysts – Concepts, Challenges and Current Approaches

9.45 Zeng Wei, Gu Longqin, Yang Weimin
SINOPEC Shanghai Research Institute of Petrochemical Technology, Shanghai, China
Ammoxidation of Methyl Aromatic Hydrocarbons in Turbulent Fluidized Bed Reactor: Technology and Application

10.15 A. Datta
Central University of Jharkhand, Brambe, Jharkhand, India
Exfoliated Vanadium Phosphates as Novel Liquid Phase Selective Oxidation Catalysts

10.45 Coffee Break

Session Chairman: Andreas Jess

11.15 Keynote Lecture: R. Schomäcker, V. Fleischer, B. Beck, H. Godini, R. Horn, G. Wozny
Institut für Chemie, Technische Universität Berlin, Germany
How to Increase the Yield of the Oxidative Coupling of Methane by Reaction Engineering?

12.00 A. Dittmer, F. Yang, M. Muhler
Laboratory of Industrial Chemistry, Ruhr-University Bochum, Germany
Synthesis and Characterization of Bismuth Tungstate-supported Molybdena Catalysts for the Selective Oxidation of Propene and 1-Butene

12.30 N. Wilde, M. Pelz, R. Gläser
Institute of Chemical Technology, Universität Leipzig, Germany
Biobased Epoxides by Conversion of Biodiesel with H₂O₂ over Micro-/Mesoporous TS-1

13.00 Concluding Remarks and Conference Summary
Stefan Ernst
Lunch

Optional visit of the UniCat / BasCat Lab
General Information

Venue:
Berlin-Brandenburgische Akademie der Wissenschaften
Markgrafenstraße 38 / Gendarmenmarkt
D-10117 Berlin
Phone: +49 30 203 70 200,  Fax: +49 30 203 70 666

Venue: Leibniz-Saal

Conference Secretary: Christa Jenke
DGMK  Phone:  +49 40 639004 12
Überseering 40  Telefax:  +49 40 639004 50
D-22297 Hamburg  email:  jenke@dgmk.de

On-site Conference Secretariat at the Berlin-Brandenburgische Akademie der Wissenschaften

Monday, October 13, 2014  12.00 – 18.00
Tuesday, October 14, 2014    8.00 – 18.00
Wednesday, October 15, 2014    8.00 – 15.30

Phone: 0176 51211298

Conference Language: English

Hotel Reservation:

Participants are requested to make their own hotel reservation. There will be no hotel reservation by DGMK.

Winters Hotel Berlin Mitte am Gendarmenmarkt
Charlottenstr. 66, D-10117 Berlin
Phone:  +49 30 20 60 50 0
Email:  gendarmenmarkt@winters.de
Rate: Single room € 97,00/night incl. breakfast. Credit card is required.

Hotel Albrechtshof
Albrechtstr. 8, D-10117 Berlin
Phone:  +49 30 30886 512
Email:  albrechtshof@albrechtshof-hotels.de
Rate: Single room € 99,00/night incl. breakfast

Hotel Allegra
Albrechtstr. 17, D-10117 Berlin
Phone:  +49 30 30886 512
Email:  allegra@albrechtshof-hotels.de
Rate: Single room € 79,00/night incl. breakfast

In every case please make your hotel reservation not later than September 1, 2014 and use keyword “DGMK” for getting the special rate.
Registration:

Please fill in the enclosed registration form and return it to the Conference Secretary. One registration form is requested for each participant. Registration should be done by

September 1, 2014

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<th>registration by 01.09.14</th>
<th>after 01.09.14</th>
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<tr>
<td>Individual Members of DGMK SCI or ÖGEW (Industry)</td>
<td>€ 450,00</td>
<td>€ 490,00</td>
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<td>Individual Members of DGMK, SCI or ÖGEW(University)</td>
<td>€ 260,00</td>
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<td>Students - Individual Members of DGMK, SCI or ÖGEW (copy of student card requested)</td>
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<td>Non-Members (Industry)</td>
<td>€ 580,00</td>
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<td>Non-Members (University)</td>
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<td>Students - Non-Members (copy of student card requested)</td>
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The registration fee includes:
- participation in the conference
- conference preprints (DGMK-Tagungsbericht)
- coffee/tea/cold drinks during the coffee breaks
- Lunch on Tuesday, October 14
- Conference dinner on Tuesday, October 14, 2014
- Lunch on Wednesday, October 15, 2014

Payment:
Payment is requested after receipt of the invoice.

Refunds:
Refunds will be made for cancellation received in writing until September 1, 2014. Substitutions may be made at any time for registered participants unable to attend.

Conference Preprints:
Lectures and posters presented at the DGMK-Conference are published in full length in the DGMK-Tagungsbericht. These publications are registered under ISBN-Numbers and ISSN-Number and are sold on the book market after the conference. The book will be given to each conference participant upon registration at the conference desk to be the basis for efficient discussions.
Registration

Fax: +49 40 639004 50

for the DGMK / SCI / ÖGEW- Conference
“Selective Oxidation and Functionalization: Classical and Alternative Routes and Sources”
Berlin, October 13 - 15, 2014

Title, First Name, Name

Company/Institution

Address

Telefon

email

I register for the conference

as a member of DGMK

SCI

ÖGEW

as a non-member

I am employed in the

Industry

Academia

I am a Student

Visit of UniCat / BasCat Lab

I shall pay after confirmation of the registration form and receipt of an invoice

Date / Signature