

DGMK

International Conference

**The Future Role of Hydrogen
in Petrochemistry and
Energy Supply**

October 4 – 6, 2010
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, the chemical industry and related fields as well as from academia to discuss the future role of hydrogen in petrochemistry and energy supply.

Eight Invited Lectures, 14 Lectures and 12 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 die Austrian *ÖGEW Österreichische Gesellschaft für Erdölwissenschaften*.

Scientific Chairmen:

Prof. Dr. Stefan Ernst, Technische Universität
Kaiserslautern

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

Dr. Josef Lichtscheidl, OMV Refining & Marketing GmbH,
Schwechat

Dr. Mario Marchionna, Eni SpA, San Donato Milanese

Dr. Friedbert Nees, BASF SE, Ludwigshafen

Prof. Elio Santacesaria, Università “Federico II”, Napoli

Programme

Monday, October 4, 2010

Lecture Hall: Leibniz-Saal

Entrance: Markgrafenstraße 38 (from Gendarmenmarkt)

13.30 **Registration at the Conference Desk**

14.00 **Opening and Welcome Address**

Stefan Ernst

Session Chairman: Johannes Lercher

14.15 *Invited Lecture:* H. Gehrke, K. Ruthardt, J. Mathiak,
C. Roosen

Uhde GmbH, Dortmund, Germany

Hydrogen: A Small Molecule with Large Impact

15.15 *Invited Lecture:* B. Kandziora

Linde Engineering AG, Pullach, Germany

Linde Technology for Hydrogen Production

16.15 **Coffee Break**

16.45 A. Geisbauer

Süd-Chemie AG, Catalyst Technologies, München,
Germany

**Hydrogen from Alternative Resources – Where do
we stand?**

17.15 R. Rauch*, G. Weber**, H. Hofbauer*

*Vienna University of Technology, Institute of Chemical
Engineering, Austria, **Bioenergy 2020+, Güssing, Austria

**Hydrogen Production from Biomass over Steam
Gasification**

17.45 G. Kreysa*, D. W. Agar**

*Eppstein, Germany

**Technische Universität Dortmund, Germany

**Decarbonisation of Fossil Energy via Methane
Splitting**

Tuesday, October 5, 2010

Lecture Hall: Leibniz-Saal

Entrance: Markgrafenstraße 38 (from Gendarmenmarkt)

Session Chairman: Mario Marchionna

- 8.30 *Invited Lecture:* A. Düker
Süd-Chemie AG, Catalyst Technologies, München,
Germany
Hydrogen: Production and Application in Industry
- 9.30 W. Korn, F. Wiessner
The Linde Group, Pullach, Germany
**Production of Green Hydrogen by The Renewable
Feedstock Glycerin**
- 10.00 Boaxiang Peng, Chen Zhao, Xuebing Li, J. A. Lercher
Technische Universität München, Technische Chemie II,
Garching, Germany
**Utilizing the Hydrogen in Aqueous Phase
Conversion of Biomass**
- 10.30 **Coffee Break**
- 11.00 *Invited Lecture:* U. Eberle
Adam Opel AG, Rüsselsheim, Germany
**Hydrogen for Automotive Applications and
Beyond**
- 12.00 S. Bräuninger, G. Schindler, E. Schwab, A. Weck
BASF SE, Ludwigshafen, Germany
**What is Required to Make Hydrogen a Real
Energy Carrier Option?**
- 12.30 **Lunch Break**

Session Chairman: Josef Lichtscheidl

- 13.30 *Invited Lecture:* M. Knoche
CRI KataLeuna GmbH, Leuna, Germany
**Optimisation of Hydrogenation Reactors with
Heterogeneous Catalysts Operated in Trickle
Phase**
- 14.30 *Invited Lecture:* M. Bender, M.-K. Schroeter,
M. Hinrichs, P. Makarczyk
BASF SE, Ludwigshafen, Germany
**Selective Hydrogenation Processes in Steam
Cracking**

Tuesday, October 5, 2010

15.30 Poster Session and Coffee

R. Knapp, T. Müller, A. Jentys, J. A. Lercher
Technische Universität München, Technische Chemie II, Garching,
Germany

**Low Temperature Water Gas Shift Catalysis –
New Routes via Supported Liquid Phase Catalysts**

M. Al Daroukh, G. Georgi, M. Hoffmann
Leibniz Institute for Catalysis, Rostock, Germany

**Galates with Perovskite-related Structure as Membrane
Reactors for Hydrogen Production from Water Splitting**

C. Pendem, P. Gupta, P. Borah, R. Bal, A. Datta
Indian Institute of Petroleum, Dehra Dun, India

**Production of 1, 2-Propanediol and Hydrogen by
Aqueous Phase Reforming of Glycerol**

A. L. Lapidus*, F. Zhagfarov*, Yu. Strizhakova**, A. Kozlov*,
T. Avakyan*

*Gubkin Russian State University of Oil and Gas, Moscow, Russia,

**Samara State Technical University, Samara, Russia

**Gasification of Oil-Shales for Hydrogen Containing Gas
Production**

A. L. Lapidus, Yu. A. Agafonov, N. Yu. Shaporeva,
D. V. Trushin, N. A. Gaidai, N. V. Nekrasov
N. D. Zelinsky Institute of Organic Chemistry,
Russian Academy of Sciences, Moscow, Russia

**Influence of Oxidants and Promoters on Propane
Dehydrogenation over Chromium-oxide Catalysts**

O. L. Eliseev, M. V. Tsapkina, P. E. Davydov, A. L. Lapidus
N. D. Zelinsky Institute of Organic Chemistry,
Russian Academy of Sciences, Moscow, Russia

**Role of Cobalt Catalyst Porosity in the Reaction of
Hydrocarbon Synthesis from CO and H₂**

D. Himsl, M. Hartmann
Universität Erlangen-Nürnberg, ECRC Erlangen Catalysis,
Germany

Hydrogen Storage in Li-doped Metal Organic Frameworks

A. Cesana, R. Buzzoni
Eni S.p.A., Research Centre for Non-Conventional Energies,
Istituto Eni Donegani, Novara, Italy

**Hydrocracking of Heavy Ends to Light Hydrocarbons for
Steam-crackers Feed**

Tuesday, October 5, 2010

G. Dörr, S. Tontisirin, S. Ernst
Technische Universität Kaiserslautern, Kaiserslautern, Germany
Hydroconversion of n-Alkanes on Bifunctional Zeolites with Unusual Pore Architecture

A. T. Massenova, A.Z. Abilmagzhanov, G.N. Sharifkanova, G.S. Alkeeva, A.S. Zhumakanova
D.V. Sokolovski Institute of Organic Catalysis & Electrochemistry, Almaty, Kazakhstan
Hydrogenation of Polyaromatic Hydrocarbons in Diesel Fractions on Pt-Pd Supported Catalysts

K. Muller, K. Roth, W. R. Thiel
Technische Universität Kaiserslautern, Anorganische Chemie, Germany
2-(3-Pyrazolyl)pyridines as Ligands in the Ruthenium Catalysed Hydrogenation of Carbon Dioxide

C. Wilhelm, S. Ernst
Technische Universität Kaiserslautern, Kaiserslautern, Germany
Hydrogenation of Carbon Dioxide on Noble Metal-Containing Catalysts

Session Chairman: Josef Lichtscheidl

16.30 G. Neumann
Mineralölr Raffinerie Oberrhein GmbH & Co. KG, Karlsruhe, Germany

Hydrogen Management in the MiRO Refinery

17.00 J. Weitkamp*, S. Rabi*, A. Haas*, D. Santi*, M. Ferrari**, V. Calemma**
*Institute of Chemical Technology, University of Stuttgart, Germany

** Eni R&M Division, San Donato Milanese, Italy

Catalytic Ring Opening of Decalin – Bifunctional versus Hydrogenolytic Pathways

17.30 H.-J. Blankertz, M. Gall
BASF SE, Ludwigshafen, Germany
Use of Hydrogen within a Chemical Verbund

20.00 **Conference Dinner:**
Restaurant „Die 12 Apostel“

Wednesday, October 6, 2010

Lecture Hall: Einstein-Saal, 5th floor, Jägerstraße 22/23

Session Chairman: Andreas Jess

- 8.30 *Invited Lecture:* U. Stimming
Department Physik, TU München, München, Germany
Possible Role of Hydrogen in Electrochemical Energy Technology
- 9.30 R. Farrauto*, A. Schäfer**, E. Schwab**, H. Urtel**
*BASF Catalysts LLC, Iselin, USA,
**BASF SE, Ludwigshafen, Germany
Hydrocarbon Reforming Catalysts and New Reactor Designs for Compact Hydrogen Generators
- 10.00 F. Cavani, S Cocchi, M. Comito. M. Mari, S. Passeri
Dipartimento di Chimica Industriale e dei Materiali, ALMA MATER STUDIORUM Università di Bologna, Italy
A Redox Cycle Approach for the Production of H₂ by Two-Step Methanol Reforming
- 10.30 S. A. Schunk*, G. Bollmann*, I. Domke**, A. Fröscher*, H. Kaiser*, A. Lange de Oliveira*, T. Roussiere*, G. Wasserschaff*
*hte Aktiengesellschaft, Heidelberg, Germany,
**BASF SE, Ludwigshafen, Germany
Accelerating Process and Catalyst Development in Reforming Reactions with High Throughput Technologies under Industrially relevant Conditions
- 11.00 **Coffee Break**

Session Chairman: Stefan Ernst

- 11.30 *Invited Lecture:* E. Schmidt
Air Liquide Large Industries, Champaign-sur-Marne, France
Hydrogen Application Dynamics and Networks
- 12.30 E. Santacesaria, G. Carotenuto, R. Tesser, M. Di Serio
University of Naples "Federico II", Department of Chemistry, Naples, Italy
Production of Pure Hydrogen by Ethanol Dehydrogenation
- 13.00 A. Guarinoni, R. Ponzio, L. Basini
ENI Refining & Marketing Division, San Donato Milanese, Italy
Short Contact Time – Catalytic Partial Oxidation of Hydrocarbons and Oxygenated Compounds: Recent Advance in Pilot- and Bench-Scale Testing
- 13.30 **Concluding Remarks and Conference Summary**
Stefan Ernst
- Business Lunch**

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

Email: veranstaltungszentrum@bbaw.de

Monday and Tuesday: Leibniz-Saal

Wednesday: Einstein-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 4, 2010 12.00 – 18.00

Tuesday, October 5, 2010 8.00 – 18.00

Wednesday, October 6, 2010 8.00 – 15.30

Phone: 0176 51211298

Conference Language:

English

Associated Societies:

SCI – Società Chimica Italiana,

Divisione di Chimica Industriale

ÖGEW – Österreichische Gesellschaft für

Erdölwissenschaften

Technische Universität Kaiserslautern

Announcement:

Next International Conference of DGMK, SCI, ÖGEW

Catalysis - Innovative Applications in Petrochemistry

**October 4 -6, 2011
in Dresden, Germany**

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, 2010

Registration Fee:	<i>registration</i>	
	by	after
	01.09.10	01.09.10
Individual Members of DGMK SCI or ÖGEW (Industry)	€ 390,00	€ 430,00
Individual Members of DGMK, SCI or ÖGEW(University)	€ 220,00	€ 250,00
Students - Individual Members of DGMK, SCI or ÖGEW (copy of student card requested)	free	€ 50,00
Non-Members (Industry)	€ 490,00	€ 530,00
Non-Members (University)	€ 330,00	€ 360,00
Students - Non-Members (copy of student card requested)	€ 150,00	€ 170,00

The registration fee includes:

- participation in the conference
- conference preprints (DGMK-Tagungsbericht)
- coffee/tea/cold drinks during the coffee breaks
- Business lunches on Tuesday, October 5 and Wednesday, October 6, 2010
- Conference Dinner on Tuesday, October 5, 2010

Payment:

Payment is requested after receipt of the invoice.

Refunds:

Refunds will be made for cancellation received in writing until September 1, 2010. 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.

Hotel Reservation:

Participants are requested to make their own hotel reservation.

There will be no hotel reservation by DGMK.

However, DGMK has made room allocations for the time of conference in three hotels close to the venue as follows:

Hotel Albrechtshof

Albrechtstr. 8, D-10117 Berlin

Phone: +49 30 30886 520

Telefax: +49 30 30886 579

Email: albrechtshof@albrechtshof-hotels.de

Rate: Single room € 104,00/night incl. breakfast

Please make your hotel reservation not later than

September 1, 2010.

Hotel Allegra

Albrechtstr. 17, D-10117 Berlin

Phone: +49 30 30886 520

Telefax: +49 30 30886 579

Email: allegra@albrechtshof-hotels.de

Rate: Single room € 99,00/night incl. breakfast

Please make your hotel reservation not later than

September 1, 2010

Hotel Angleterre

Friedrichstr. 31, D-10969 Berlin

Phone: +49 30 20 213 300

Telefax: +49 30 20 213 333

Email: info.berang@gold-inn.de

Rate: Single room € 103,00/night incl. breakfast

Please make your hotel reservation not later than

September 1, 2010.

Please use the name of "**DGMK**" for getting the special DGMK-rate.

Further hotels of all categories can be booked online at

www.hrs.de

Registration

Fax: +49 40 639004 50

for the
DGMK / SCI / ÖGEW- Conference
**“The Future Role of Hydrogen in Petrochemistry
and Energy Supply”**
Berlin, October 4-6, 2010

Title, First Name, Name

Company/Institution

Address

Telefon

email

I register for the conference

as a member of DGMK
or SCI or ÖGEW

as a non-member

I am employed in the
Industry

Academia

I am a Student

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

Date / Signature