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German Catalysis on an International Scale in Weimar

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To Weimar and Beyond

Over the years, the Annual Meeting of the German Catalysis Society (GeCatS), which traditionally takes place in Weimar, has become a constant in the conference calendar of every German catalysis researcher. This year's meeting (March 12th–14th) covered a huge range of catalysis, including recent research topics such as thermal, bio-, and photocatalysis. The latter was even put into practice, with the sunshine catalyzing scientific discussion and collaborative initiatives in the adjacent Weimarhalle park!

This year's conference was not only record-breaking with respect to the high temperatures but the scientific program itself. 582 participants joined this year's conference (in comparison to 519 the year before), in which 38 oral presentations, including five plenary lectures with topics from academia and industry, and 288 posters were presented. For the first time, all oral presentations were given in English, reflecting the conference's ever-increasing international character and significance. Furthermore, two poster workshops for emission reduction and selective hydrogenation were organized by YounGeCatS,



in which selected poster contributors highlighted their research in short oral presentations. A high number of contributions focused on renewable resources and sustainability, for example, biomass conversion, carbon dioxide utilization, and photocatalysis, confirming the topical character of the meeting and reflecting the important role of catalysis in current and future strategies. In addition to the scientific program, 22 companies presented their latest developments and equipment related to catalysis research and catalyst characterization throughout the conference.

In Remembrance of Helmut Knözinger

This year's conference started with a minute's silence to honor Prof. Helmut Knözinger, who died on January 12th, 2014 at the age of 78. He was a leading scientist in the in situ characterization of heterogeneous catalysts. Amongst other roles, he served as chairman of the DECHEMA catalysis section and participated in the DECHEMA catalysis working committee. In 1998, he was awarded the Alwin Mittasch Medal for his outstanding scientific work. His memory and the resonance of his scientific contributions will remain with us.

Highlights in Catalysis

The scientific program began with a plenary lecture by Prof. Hajo Freund (Fritz Haber Institute of the Max Planck Society, Berlin). In his presentation "Model catalyst design: A materials science perspective at the atomic level", he discussed the importance of model catalysts for catalysis research and gave insights into modern analytical tools and theoretical approaches to investigate model catalysts. The following two sessions of oral contributions focused on zeolite-based catalysis, biomass reforming, quantum chemical studies, and the latest insights into reaction mechanisms of oxidation catalysis over gold–titanium catalysts. Later on, the aforementioned topical poster workshops drew a broad audience and the best presentations from each workshop were awarded a book prize, courtesy of Wiley-VCH (Figure 1). Discussions ignited during the workshops could then be intensified during the first poster party. Poster prizes were awarded to Julia Gmeiner (Heidelberg University; Figure 2), Marc Schröder (Technical University of Berlin), and Nadine Kruse (Clausthal University of Technology).

Traditionally, international guests from around the world contribute significantly to the success of the annual GeCatS meeting by presenting their research highlights and expanding the diversity of the conference. In this spirit, the second day of this year's conference started with a plenary lecture given by Prof. Karl Anker Jørgensen (Aarhus University, Denmark) on "Organocatalysis in asymmetric synthesis". He presented the possibilities that aminocatalysis offers to build up optically active materials. Furthermore, he provided insights into introducing asymmetric information into molecules, which may then be used for coupling reactions with high enantiomeric excesses.

The following morning was split into two parallel sessions of oral presentations, with a large variety of recent catalytic highlights, covering in situ techniques, steam reforming, and organocatalysis. The afternoon program began with another high-

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Figure 1. Poster workshop prize winners Mariam Salazar Rodriguez (Ruhr University Bochum; center right) and Yeusy Tilie Hartadi (University of Ulm; center left), for presentation of their work in the emission reduction and selective hydrogenation workshops, respectively, with Dr. Christoph Sprung representing YounGeCatS and Dr. Elke Maase, Wiley-VCH.



Figure 2. Poster prize winner Julia Gmeiner with Prof. Martin Muhler (Ruhr University Bochum; left) and Prof. Reinhard Schomäcker (Technical University of Berlin; right).

light of this year's meeting, a plenary lecture by Prof. Krijn Pieter de Jong (Utrecht University, The Netherlands) on "Nanostructured heterogeneous catalysts". He introduced basic principles and advantages to use nanostructured materials in catalytic reactions, such as metallic nanoparticles, nanoparticles in mesoporous host materials, and the effects of metal-support interactions. His presentation was followed by two parallel sessions of oral presentations covering kinetic and mechanistic studies of important catalytic reactions and catalytic conversion of biomass-derived compounds.

Following last year's success,^[1] YounGeCatS organized again a career forum for young catalysis researchers (Ph.D. students and postdoctoral researchers) to explore career opportunities. This provided a platform for young scientists from industry and academia to network and exchange experiences on starting a career after a Ph.D. In his talk on a career in academia, invited speaker Prof. Raimund Horn (Hamburg University of Technology) explained how he became a professor through the Emmy Noether program of the DFG. A highlight was undoubtedly his presentation of a mathematic approach that could realistically elucidate a scientific career. After further presenta-

tions by Dr. Christoph Gürtler (Bayer MaterialsScience) and Dr. Emanuel Kockrick (Bayer Technology Services) on entry-level career opportunities at the Bayer group, there was forum for discussion with the presenters and representatives from BASF, Clariant, Evonik, hte, and ThyssenKrupp.

The sold-out GeCatS party on Thursday evening featured a delicious live cooking buffet, fantastic live music and plenty of room to socialize. The Otto Roelen Medal was awarded to Prof. Harald Gröger (Bielefeld University) for his research success in combining bio- with chemo-catalysis (Figure 3). Dr. Jennifer Strunk (Ruhr University Bochum) was honored with the Jochen Block Award for her work on photocatalytic carbon dioxide reduction (Figure 4).

In his plenary lecture on Friday morning, Prof. Gröger gave insights into the control of catalytic reactions by using enzymes for many different applications and emphasized the success and advantages of his interdisciplinary approach. In the Jochen Block Award lecture, Dr. Strunk presented her research on molecular titanium oxide species on ordered mesoporous silica for the photocatalytic synthesis of methane and methanol from carbon dioxide and water.

The final oral contributions covered topics of electro- and photocatalysis before the scientific program was rounded off by a plenary lecture from Dr. Martin Dieterle (BASF SE) on "Shale gas opportunities: Alkane activation". He provided in-



Figure 3. Otto Roelen Medal awardee Prof. Harald Gröger (center left) with Prof. Andreas Liese (Hamburg University of Technology), Prof. Kurt Wagemann (DECHEMA), and Dr. Heinz Strutz (OXEA), from left to right.



Figure 4. Jochen Block Prize winner Dr. Jennifer Strunk with Dr. Thomas Tacke (Evonik).

sights into the BASF SE strategy of using gas instead of oil as a resource for their processes.

We'll Be Back

This year's meeting provided an interdisciplinary program across all disciplines in catalysis, with excellent plenary lectures and numerous possibilities for networking, generating an envi-

ronment of information and intellectual exchange that was beneficial to all participants. In 2015, the meeting will take place from March 11th to 13th, again in Weimar.

[1] M. Armbrüster, M. Behrens, B. Engendahl, M. Oezaslan, M. Rose, C. Sprung, *ChemCatChem* **2013**, *5*, 1297–1298.

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CONFERENCE REPORT

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These cats know where it's at: The 47th annual meeting of the German Catalysis Society (GeCatS), hosted by DECHEMA, provided a forum for a superb span of catalysis research, covering renewable resources and sustainability, breakthroughs in heterogeneous and homogeneous catalysis as well as state-of-the-art in biocatalysis, photocatalysis, and much more. Members of YounGeCatS recount the happenings of this year's meeting in Weimar.
