

## Europacat 12: XII European Congress on Catalysis

### ”Catalysis: Balancing the use of fossil and renewable resources”

31.08. – 05.09.2015, Kazan, Russia

The German Catalysis Society (GeCatS) gave two junior researchers the opportunity to participate at this year’s European Congress on Catalysis (Europacat 12) and to show their results in presentations and posters. Kazan, a city in the Russian Republic of Tartastan was a suitable background for such an important congress for chemists. Especially the research of Alexander Butlerow in organic chemistry and the development of EPR are closely connected with Kazan.

The conference gave us junior researchers the possibility to get insights learn about several recent research topics like “Novel Catalytic Materials”, “Catalyst Preparation and Characterization”, ”Energy-related Catalysis”, ”Catalysis and Chemicals” and “Environmental Protection”, which were spearheaded by 8 plenary lectures and 21 keynote lectures from researchers all over the world. Overall, there were more than 200 presentations, 120 short oral presentations and 800 poster presentations from over 1000 participants. Since the congress had a wide variety of topics, general trends in the field of heterogeneous catalysis became evident. Energy related topics like electrolysis, CO<sub>2</sub> reduction or biomass conversion were preferably discussed. Furthermore, the development of new *in-situ* or *in-operando* techniques seems to give a new insight into old apparently understood reactions.

Besides the scientific program, Kazan and the organizing committee gave us the opportunity for a wonderful time there, having a welcome party, city excursions and lots of discussions regarding science and culture. But each of us has made his/her own experience:

*Karl Striegler – Institute of Chemical Technology at the University of Leipzig*

A conference on catalysis, even when focusing on heterogeneous catalysis, will intentionally remain vastly divers in presented topics. That actually demands personally for a broader scientific approach. Therefore, I liked the talks and discussions about *in-operando* studies. Techniques (e.g. EXAFS or high pressure XPS) providing profound information of catalysts during the reaction, revealing the actual catalytic center of catalytic cycles.



Since the topic of my Ph.D. is photocatalytic water splitting, especially the energy-related topics were interesting to me. It remains a chance and a challenge to discuss with scientists

working on different, but closely connected fields with different approaches. Results from electrocatalysis are always refreshing for me, because the chemistry behind that is closely related to photocatalytic chemistry.

One highlight for me was the talk of Professor Robert Schlögl, challenging the scientific community with the idea of dynamic catalysts; an idea which is actually considered since the development of the Haber-Bosch process. The second highlight was the amazingly open and friendly Russian Ph.D. students I met and had a stupendous time with.

*Thanh Huyen Vuong - Leibniz Institute for Catalysis at the University of Rostock*

Since the topic of my Ph.D. is selective catalytic reduction of NO<sub>x</sub> and *in situ* spectroscopy studies, I loved to participate at research topics like “Catalyst Preparation and Characterization”, “Catalysis and Chemicals” and “Environmental Protection”. I had an excellent opportunity to discuss scientists working in the environmental protection issues, offering me different points of view about application *in situ* spectroscopies for researching, and also the idea of new catalysts for deNO<sub>x</sub>.



I had an oral presentation in the session ‘Catalysts preparation and characterization’. As I am at the beginning of my PhD work, I had some hesitation about presenting my research due to small problem with a presenter. However, the atmosphere was encouraging and supportive. The feedback and questions from participants helped me to work through some of my difficulties and to find new direction in my research. I had nice talks with friendly Italian and Russian Ph.D. students. We had useful exchanges of ideas in the poster sessions or at any given moment at coffee breaks or at lunch enjoying a friendly atmosphere.



We would like to thank the German Catalysis Society (GeCatS) for the travel grant and the opportunity to participate at the EuropaCat 12 as well as Dr. Dana Demtröder for the organization. It was an amazing experience.

Thanh Huyen Vuong, Karl Striegler