

Hands-on course on in situ / operando X-ray Absorption Spectroscopy and 1st PhD/PostDoc Workshop SPP2080 (16-19th and 19-20th September 2019, DESY, Hamburg)

Dynamics in catalysis play an important role for the energy transition in the future due to fluctuating nature of renewable energy sources such as wind or solar power. The DFG SPP2080 aims to fundamentally understand those dynamic processes for storing electric energy from renewable sources in chemicals. Within the SPP2080 12 research consortia are working on different reactions, e.g. electrolysis of water or production of methane from carbon dioxide via hydrogenation. The first workshop for PhDs and PostDocs was held at DESY campus in Hamburg from 19th to 20th September 2019 as a satellite event to a synchrotron radiation course. In total 28 PhDs or PostDocs from the 12 consortia within the SPP2080 were present during the workshop. The main scope of the event was a progress update of each consortium by their members and a direct networking between the PhD and postdoctoral students. The consortia presented the current state of their research in 20 min talks with 10 min discussion time with the audience afterwards. Discussion time was always completely used by the participants leading to many fruitful discussions about ideas, comments or suggestions also in the breaks. During the talks initial promising results were reported by the consortia while already first publications are arising and in preparation from studies within the SPP2080. The sessions of each three talks were chaired by volunteering PhDs/PostDocs allowing them to gain experience in moderation of scientific talks. Besides progress updates a lecture about presentation skills was given by Dr. Juliane Titus (Leipzig University and YounGeCats) together with Young German Catalysis Society (YounGeCats). In an inspirational talk do's and don'ts of scientific presentations were illustrated by many creative examples to give all participants a guideline to follow in preparation of their next presentation or reflection of those of the workshop. All presenters were directly able to reflect their presentations regarding those hints. Dr. Tanja Franken (ZHAW Zürich, YEuCat, YounGeCats) complementarily talked about how to create an own scientific network and its benefits based on her own experiences in leading activities in the Young European Catalysis Network (YEuCat) and YounGeCats. The program was rounded up by a discussion round about plans or interests for future workshops. All participants agreed on having further scientific as well as soft-skill workshops to be organized by the PhDs/PostDocs on a biannual basis. The next workshop is planned to be held subsequent to the general status meeting of the SPP2080 in Leipzig in February 2020. The organizers thank DESY, KIT and DFG for the organizational and financial support of the event.

Sebastian Weber
(PhD Speaker SPP2080 and organizer)



Participants of the 1st PhD/PostDoc Workshop of the DFG SPP2080 from 19th to 20th September 2019 at DESY campus Hamburg. Photo by Erisa Saraci

Prior to the SPP2080 workshop a block course on in situ / operando X-ray absorption spectroscopy co-organized by KIT (Prof. Dr. Jan-Dierk Grunwaldt and Dr. Dmitry Doronkin) and DESY (Dr. Edmund Welter and Dr. Wolfgang Caliebe) was held from the 16-19th of September at the DESY campus in Hamburg. Experts in X-ray absorption spectroscopy, X-ray photoelectron spectroscopy, X-ray scattering and imaging techniques shared their knowledge and experience, presented state-of-the-art instruments and their application in the field of energy storage and transition as well as catalysis. The highlight of the course was the possibility for the students to visit XAS beamlines at the PETRA III synchrotron radiation source, attend set up of an in situ catalysis experiment and measure XAS spectra on their own. The course was complemented by several hands-on sessions demonstrating XAS, XPS, and QEXAFS data reduction and analysis. We thank all speakers for great lectures, students for the active involvement and the DFG SPP2080 program for the financial support.

Dmitry Doronkin
(Organizer XAS Workshop)



Participants of the course on in situ / operando X-ray Absorption Spectroscopy from 16th to 19th September 2019 at DESY (PETRA III experimental hall „Paul P. Ewald“). Photo by Vadim Murzin