Contribution ID: **7** Type: **not specified**

Nanomaterials under Operando Conditions

Thursday, 9 September 2021 15:00 (30 minutes)

Our group focuses on the development and application of state-of-the-art capabilities to synthesize and study functional surfaces and interfaces. In our research program, we emphasize the use of oxide and nanoporous ultrathin films such as 2D zeolites and metal organic frameworks (MOFs) to stabilize well-defined catalytic structures targeting the capture and conversion of small chemicals. I will present case studies showing how complementary in situ techniques including ambient pressure (AP) X-ray photoelectron spectroscopy (AP-XPS), infrared reflection absorption spectroscopy (AP-IRRAS) and AP-STM can be applied to study heterogeneous interfaces in model catalysts.

-"Enhanced Catalysis under 2D Silica: A CO Oxidation Study" Angew. Chem. Int. Ed., 60, 10888-10894 (2021)
-"Multi-modal surface analysis of porous films under operando conditions" AIP Adv. 10, 085109 (2020)
-"Tuning the Properties of Copper-Based Catalysts Based on Molecular in Situ Studies of Model Systems" Acc. Chem. Res. 48, 2151–2158 (2015)

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