The 917th IMS colloquium
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Detailed insight in the interfaces of organic-inorganic hetero-junctions

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The optical and electronic properties of organic thin films on inorganic substrates may strongly depend on the morphology and structure of the substrate surface, the chemical interaction at the organic-inorganic hetero-interface, and on the growth conditions of the organic film. By employing a variety of surface-sensitive techniques including spectro-microscopy and by studying the electronic, structural, dynamic, and morphological properties of different examples in very much detail considerable insight in organic interfaces can be gained. The presentation will concentrate on highly symmetric, strongly interacting molecules like PTCDA and NTCDA on relatively inert metal substrates like Ag and Au, but some of the findings are of general nature and should always be taken into consideration. Some special effects like strange phase transitions, large scale reconstruction of Ag surfaces induced by the chemical interaction between molecules and metal surface, and unexpected high-resolution spectroscopic features are shown as examples for the richness of organic interfaces.

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