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# Preface

The European Science Foundation COST Action D36 "*Molecular structure–performance relationships at the surface of functional materials*" aims at increasing the fundamental knowledge and understanding of the chemistry occurring at surfaces and interfaces, and of the factors that tune it. An interdisciplinary, combined effort is the approach. As a final objective, COST Action D36 aims at gaining advanced knowledge for modeling/predicting of the structure/composition–reactivity/surface properties relationships of materials, and for preparing materials with properties that can be tuned. Characterization of the bulk and surface properties of materials under real operating conditions is essential for this. The combination of theoretical calculations and state-of-the-art experimental methods is the approach to foster an understanding at a molecular level of the surface structure–performance relationships of functional materials.

COST Action D36 started in 2006, and in September 2007 it celebrated its First Annual Workshop, a forum where Action members and non-members have the chance to exchange results and discuss on further collaborations. The symposium lasted two days, with keynote lectures by Prof. Günther Rupprechter from the Vienna University of Technology in Austria, Prof. Björn Lindman from the Lund University in Sweden, and Prof. Gianfranco Pacchioni from the Università degli Studi Milano-Bicocca in Italy. This special issue of Catalysis Today compiles 13 representative papers presented at the workshop. These works illustrate different activities under this Action. Several papers describe the synthesis, characterization and testing of nanostructured materials; in others theoretical description of the structure and reactivity of catalyst sites under reaction conditions is compared with experimental in situ analyses.

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