
O 69: Invited Talk (Marc Koper)

Time: Thursday 15:00–15:45

Location: H36

Invited Talk

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Electrocatalysis: from single crystals to single nanoparticles

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The surface science approach to electrocatalysis is very useful in understanding the structure sensitivity effect for a number of well-known electrocatalytic redox reactions. We show here that the important dis-

inction of two types of surface sensitivity: reactions that prefer defects in (111) facets, typically those involving O-H and C-H bond making and breaking, and reactions that prefer (100) terraces, typically those involving C-C, C-O, N-N, and N-O bond making and breaking. This has automatic implications for nanoparticle design. Finally, we will show how the measurement of electrocatalysis at single nanoparticles can be performed, including the associated complications.