

O 29: Key Note III

Time: Tuesday 10:00–10:30

Location: R1

Plenary Talk

O 29.1 Tue 10:00 R1

Electrochemistry of platinum: new views on an old problem

— ●MARC KOPER — Leiden University, Leiden, The Netherlands

Platinum is the most used electrocatalyst in electrochemical energy conversion devices such as fuel cells and electrolyzers. In this talk I will highlight the recent work of my group on understanding the surface

chemistry of platinum in an aqueous electrolyte, by combining single-crystal electrochemistry, density functional theory calculations, ultra-high-vacuum modeling, in situ spectroscopy and in situ electrochemical scanning tunneling microscopy. I will challenge some existing explanations and interpretations of platinum electrochemistry, and show the sometimes surprising surface disordering of platinum that happens at both positive (anodic) and negative (cathodic) potentials.