

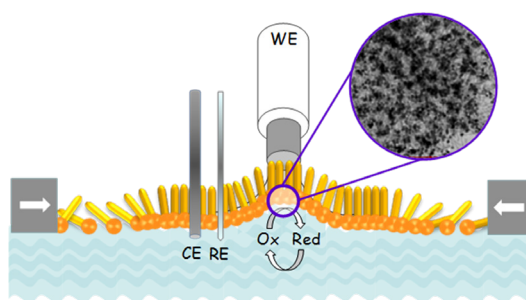
Seminar Lecture Materials Chemistry & Electrochemistry

Title: Chemistry and Electrochemistry in Two Dimensions

Speaker: Prof. Daniel Mandler,
The Hebrew University of Jerusalem, Israel

When and Where: 9:30 am, 27th March; R021/B206, DTU

Abstract: Electrochemistry deals with charge transfer across interfaces. As is well known, the structure of the interface affects very much charge transfer and therefore controlling and characterization the interface on a molecular level is of utmost importance. The lecture will focus on different approaches for controlling the interface and its implications and applications in sensing, nanotechnology and other fields. These will include structuring the interface using Langmuir and Langmuir-Blodgett films, applying self-assembled monolayers and manipulating thin polymeric films. Different systems and applications will be presented; films at the water-air interface based on individual molecules, polymers and nano-objects. Applications of functionalized self-assembled monolayers as a means of selectively interacting with metal ions and organization of asymmetric nano-objects for future photocatalysis, will be described. Various characterization methods will also be discussed such as horizontal touching voltammetry and scanning electrochemical microscopy.



Daniel Mandler is a Professor of Chemistry in the Institute of Chemistry at the Hebrew University and the incumbent of Archie and Marjorie Sherman Chair in Chemistry. Until recently, he served also as the Vice Dean for Research of the Faculty of Science at the Hebrew University of Jerusalem. He was also the head of the chemistry school at the Hebrew University. He also holds an adjunct Professorship at the Nanyang Technical University in Singapore, and was a visiting Professor at the University of Buenos Aires, Argentina, Warwick University in the UK and Ulm University in Germany.

His research interests span from analytical to physical electrochemistry sol-gel technology, thin films and polymers, forensic science and nanotechnology. Among his achievements are the application of self-assembled monolayers in analytical chemistry, the development of a new electrochemical methods for the deposition of sol-gel and nanomaterials and the application of nanotechnology for visualization of fingerprints. More recently he has developed a new approach for the electrochemical deposition of nanomaterials from their dispersions. He has numerous patents and is active in commercialization of various applications in numerous fields such as solar thermal coatings.

He is the head of the Analytical Chemistry program at the Hebrew University, has supervised more than 50 MSc and PhD students, and has published over 220 papers in internationally reputed journals with an h-index of 44. In 2013 he became an International Society of Electrochemistry Fellow.

Daniel Mandler



Host: Associate professor Qijin Chi, DTU Chemistry