

USC Dornsife

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College of Letters, Arts and Sciences
Department of Chemistry

November 8, 2018, 5:00 pm
Seeley G. Mudd 460

Special Seminar

Professor Gunther Andersson

College of Science and Engineering
Flinders University, South Australia

Analyzing the Structure of Soft Matter Interfaces

We experience soft matter interfaces in daily life, but they play also an important role in many industrial processes. In this seminar I want to consider three quite different types of soft matter interfaces and how to investigate them with ion scattering and electron spectroscopy. Ion scattering allows measuring concentration depth profiles with a depth resolution of a few Å close to the surface. Electron spectroscopy allows measuring the chemical composition and electronic structure of the surface near region. Choosing the radiation – X-rays (XPS), UV light (UPS) or metastable He atoms (MIES) – determines which depth is probed. MIES allows investigating exclusively the outermost layer while XPS probes also the deeper layers.

The seminar will cover interface in organic based photovoltaics and liquid interfaces. Each of the three subjects has its own area of interest. Interfaces play an important role for the functioning of organic based photovoltaics. Optimising the charge transport over interfaces in organic based photovoltaic devices requires analysing the valence electron structure of the interfaces. Liquid interfaces play an important role in reactions in the atmosphere which requires analysing of the composition of the interfaces as function of the depth.

Hosted by Professor Alexander Benderskii

The scientific community is invited