

**O 4: Overview Talk: Martin Aeschlimann**

Time: Monday 9:30–10:15

Location: TRE Phy

**Topical Talk**

O 4.1 Mon 9:30 TRE Phy

**Chasing excited electrons in energy, momentum space, and time** — ●MARTIN AESCHLIMANN — Department of Physics and Research Center OPTIMAS, University of Kaiserslautern, Kaiserslautern, Germany

Optically excited (hot) electrons play a crucial role for many fundamental chemical and physical phenomena occurring at surfaces, interfaces, and in bulk materials. For the investigation of such processes, time-resolved photoelectron spectroscopy turned out to be a very powerful

tool through its direct access to single electron as well as transient band-structure dynamics. Recent technological breakthroughs in the development of ultrashort pulsed light sources and electron spectrometers have paved the way for a completely new generation of real-time photoemission experiments. In this presentation, I will demonstrate the potential of time-resolved momentum microscopy to study the electronic fingerprints of the elastic and inelastic scattering processes occurring at surfaces and (metal-organic) hybrid interfaces. The results reveal the unique opportunity of momentum microscopy to directly trace relaxation pathways of excited electrons in momentum space.