**Ultrafast dynamics at heterogeneous interfaces: Two-photon photoelectron spectroscopy**

Electron and energy transfer processes across heterogeneous interfaces are of fundamental interest because of their widespread applications in photochemistry, electrochemistry, fuel cells, solar cells and other electronic devices. The photo-induced electron relaxation dynamics across such interfaces occurs at femtosecond time scales. Thus, to develop a detail insight into the interfacial dynamical behaviour, we use time- and angle-resolved two-photon photoelectron (2PPE) spectroscopy, which investigates the interfacial properties at femtosecond time scales. Ion-solvent interaction on single crystal surfaces and transport properties of photo-excited electrons in non-equilibrium states are few of the important phenomena which we investigate using this sophisticated spetroscopy. This module will provide a hands-on experience of the daily activities and basic operation of a 2PPE lab. The participants will have an exposure to a state of the art ultrafast Ti:sapphire LASER system, ultra-high vacuum chamber (UHV) and a short overview of the data collection system including the analysis methods.