

## SwissFEL Photonics: "Pump Laser Workshop"



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### ESA - Talk 1: Structural Dynamics in Hydrogen-Bonded and Transition-Metal Systems

*Friday 16 November 2012 09:45 (30 minutes)*

Investigating solution-phase chemistry with X-ray spectroscopy holds great promise to unravel new structural and electronic details of chemical reactions pathways. The elemental specificity and sensitivity to oxidation state, spin, and structural arrangement in combination with ultrafast measurement schemes render X-ray-excited core-hole transitions a very effective tool to follow and characterize excited states of matter. We have investigated several solvated transition-metal complexes, relating to catalysis and photovoltaic applications, to gather detailed insight into transient valence charge densities. On the basis of past experience user needs for a suite of chemical reaction triggers and the respective requirements for a laser system at the upcoming SwissFEL will be discussed.

**Presenter:** HUSE, Nils