Open Ph.D. Position:
"Structure, Stability and Reactivity of Microhydrated Metal Oxide Clusters"

Applications are invited for an open Ph.D. position in the group of Prof. Knut Asmis (University of Leipzig, Germany). The work will be performed at the Free-Electron-Laser facility FHI-FEL at the Fritz-Haber-Institute in Berlin (Germany). The position is funded by the German Research Foundation as part of the newly-funded Collaborative Research Centre 1109 "Understanding of Metal Oxide/Water Systems at the Molecular Scale: Structural Evolution, Interfaces, and Dissolution".

The goal of the project is to study the structure, stability and reactivity (towards water) of microhydrated metal oxide clusters using state-of-the-art mass spectrometric as well as laser-spectroscopic techniques. The clusters are alternatively produced by laser vaporization, magnetron sputtering or electrospray ionization and characterized using a cryogenically-cooled ion trap / triple mass spectrometer setup with direct access to the widely tunable radiation from the FHI-FEL (250-2500 cm^{-1}), as well as to a table IR-OPO-OPA laser system (600-7000 cm^{-1}). This custom-built setup allows for IR single- and multiple-photon photodissociation experiments, as well as the unique opportunity of performing isomer-specific measurements over nearly the complete IR spectral range using population labeling spectroscopy (IR^2MS^2-technique). Together with quantum chemical calculations from collaborative groups within the CRC this work is aimed at shedding new light on the structure-reactivity relationship of metal oxide aggregates at the molecular level, as well as insights into the first stages of hydration shell formation at metal-oxide-water interfaces.

We are looking for a highly-motivated, independent candidate with a Master or Diploma degree in chemistry, physics or a related field. Prior experience with gas phase clusters, mass spectrometry and laser spectroscopy, as well as programming skills, is beneficial. The successful candidate will be based in Berlin, join our satellite group at the FHI and will be part of the Ph.D. student training programme MIWOS.

Applications must contain: (1) a CV including the relevant academic certificates/transcripts, (2) a letter of motivation describing you interest in this particular project (not more than one page), and (3) contact information for 2 references.

For further information and applications please contact:
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