

Type of Position: PostDoc (TV-L13, 100%), Ulm University, Germany

Research Area: Inorganic Chemistry

Principle Investigator (PI): Prof. Dr. Sven Rau

Name of Institute: Institute of Inorganic Chemistry 1
Ulm University, Germany

TRR234-A1: Strategies for molecular repair and self-regulation in light-driven catalysis (Rau/Dietzek-Ivanšić/Glusac)

The project focuses on the design, synthesis, catalytic characterization and photochemical characterization of intramolecular photocatalysts for the light-driven hydrogen evolution reaction (HER), NAD⁺ reduction reaction or alcohol oxidation catalysis (AOC). A large focus will be placed on identifying molecular repair strategies, molecular regulation concepts and characterization of intermediates as well as deactivation products with different technologies including X-ray absorption at the Argonne National Lab at Chicago with the PI Prof. Dr. Ksenija Glusac.

Short description of the Job: Synthesis and structural characterization of heterooligonuclear metal complexes incorporating photoactive ruthenium centers and catalytically active metals. Characterization of light-driven catalysis activity, identification of intermediates and deactivation products. Establishing repair strategies.

The successful applicant will have strong interest in synthesis and light-driven catalysis. He/she will engage in an interdisciplinary and international team, should have excellent written and oral communications skills in English and be willing to travel to our partners in Jena and Chicago, USA, for running joint experimental sessions including at the Argonne National Lab.