

**Type of Position:** PhD (TV-L13, 67%, 1 + 2 Years), University of Ulm, Germany

**Research Area:** Inorganic Chemistry

**Principle Investigator (PI):** Jun.-Prof. Dr. Andrea Pannwitz

**Name of Institute:** Institute of Inorganic Chemistry I, University of Ulm, Germany

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**SPP2102: Long-lived MLCT excited states of manganese (I) complexes in supercritical CO<sub>2</sub> and other matrices (Pannwitz/Rau)**

The project will develop long-lived excited states of earth abundant Mn(I) complexes for luminescence applications and future engagement in light-driven photochemical redox reactions such as H<sub>2</sub> evolution and CO<sub>2</sub> reduction. A stable coordination of the complexes will be developed through design of the ligands and the solvent/matrix environment.

**Short description of the Job:** In close collaboration with the synthetic inorganic chemistry group, light-induced excited-state processes in molecular coordination compounds are studied by optical spectroscopy, e.g. steady-state and time-resolved transient absorption and luminescence spectroscopy in the UV-visible and NIR range. In addition to classical measurement conditions in organic solvents, the spectroscopy setups are adjusted for measurements in supercritical CO<sub>2</sub>.

The successful applicant will have strong interest in inorganic chemistry and spectroscopy, and will have some previous knowledge in optical spectroscopy, chemical synthesis of coordination compounds and light and air-sensitive sample handling. He/she should be highly motivated to work and learn in an interdisciplinary, international team and should have excellent written and oral communications skills in English. Good command of German is desirable.