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Research keywords: Chemistry and physics of electronically excited states; Energy Conversion/Storage; Photoactive Electrodes for Solar Cells and Photoelectrochemical Cells; Photocatalysis; Polyoxometalate-containing molecular dyads and triads; Photoactive drugs

Our group is interested in studying the chemistry and physics of electronically excited states in molecules and materials. A particular focus is on light-induced electron transfer reactions,^[1,2] which are key to photoredox catalysis, e.g. solar water splitting,^[3,4] or the function of solar cells.^[5] We employ a variety of (time-resolved) optical spectroscopic techniques to derive structure-dynamics-function relationships for photoactive molecules and materials. Currently, we are developing ultrafast time-resolved spectroelectrochemistry^[6,7] and *in-operando* femtosecond time-resolved spectroscopy to target the excited-state processes in molecular intermediates of complex electron transfer chains.

We are interested in collaborations in the fields of photoactive photosensitizer-polyoxometalate hybrids and functional electrodes for energy conversion and storage to exploit the stimulating interactions between materials' and molecular chemistry and advanced spectroscopic characterization.

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