

PhD position at the Physics Department of the Freie Universität Berlin

Position as a scientific employee, 2/3 (67%) of a E13 TV-L FU salary for up to 4 years

Context: In plants, algae, and cyanobacteria, solar energy drives the splitting of water into energized electrons and protons; the atmospheric dioxygen is formed as a byproduct. This process not only has shaped the biosphere and atmosphere on earth. It also serves as a model for artificial systems for production of non-fossil fuels. Water oxidation in biology (photosynthesis) as well as in artificial systems is jointly investigated in the work group of Prof. Holger Dau. The research group works as an international team, with scientific communication in English.

Tasks area: To understand the process at a fundamental level, the biological process of photosynthetic water splitting is investigated by time-resolved infrared spectroscopy (100 ns to 100 ms) after excitation with nanosecond laser flashes. The biophysical research involves a variety of diverse work directions: optical and electronic measuring techniques incl. digital data acquisition and experiment control, preparation of biological samples and conducting state-of-the-art investigations, numerical data analysis and interpretation in the framework of mechanistic models on photosynthetic water splitting. The opportunity to couple this work to acquiring a doctoral degree will be provided.

Essential requirements: Master degree in physics or comparable degree, e.g., a chemistry Master degree with a thesis in biophysical chemistry.

Appreciated:

- Interest and commitment to basic research on water oxidation in the framework of an international team at the Free University Berlin
- Willingness to acquire expertise in a variety of challenging scientific-technical areas, specifically measuring technique, computer-based data acquisition and analysis, research on biophysical and chemical processes at a molecular level
- Excellent Master degree gained within the past 12 months with expertise in one or more of the areas listed above
- Solid experience in working with computer systems as well a very good English (speaking and writing), inter alia for writing scientific research articles.

Please send applications with meaningful additional documents until January 16, 2017 to:

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