

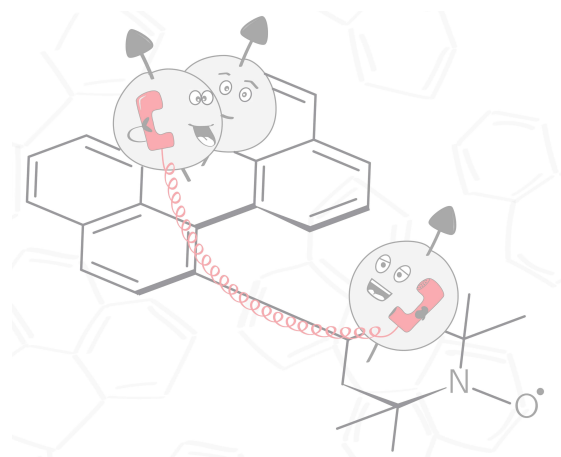
PhD or postdoctoral position in physical chemistry / spectroscopy

Applications are invited for a doctoral or postdoctoral position to work in the group of Dr. S. Richert within the Institute of Physical Chemistry at the University of Freiburg. The position is initially limited to three years (PhD) or 1.5 years (postdoc) and funded by the German Research Foundation (DFG).

The project

We aim at investigating the factors influencing **spin-information transfer** in organic multi-spin systems by combining modern **optical spectroscopy** and transient **pulse electron paramagnetic resonance** (EPR). The long-term goal is to provide design principles for materials to be used for molecular spintronics applications, such as quantum sensors or optoelectronic devices. An overview of some of our recent work is provided here: <https://www.nature.com/articles/s41570-022-00453-y>.

The experimentally-oriented project can focus on any of the following topics: (i) exploration of the mechanistic details of light-induced spin hyperpolarisation, (ii) influence of chirality on directional spin communication, (iii) application of photogenerated high-spin systems in molecular spintronic devices, (iv) investigation of quantum spin coherence in photogenerated high-spin systems at room temperature.



What we offer

The successful candidate will work at the University of Freiburg, one of the leading research and teaching institutions in Germany. S/he will work as part of a small team, in direct contact with the members of other research groups at the Institute of Physical Chemistry. Through the work on the project, the candidate will be made familiar with (i) state-of-the-art pulse EPR methods and (ii) modern optical spectroscopic techniques from the femtosecond to the microsecond time scale and learn about their applicability to current research challenges in the fields of molecular spintronics and spin hyperpolarisation.

The candidate

Highly motivated PhD candidates with a master's degree in either chemistry or physics are strongly encouraged to apply. Successful applicants should have a solid background in physical chemistry (spectroscopy), good presentation and writing skills in English and/or German and must be able to work independently as part of a team in an interdisciplinary environment. Previous experience with programming (MATLAB, Python), advanced optical spectroscopy, or magnetic resonance spectroscopy, is advantageous, but not required.

To be considered for the postdoctoral position, expertise in pulse EPR spectroscopy is mandatory.

The application

Applications (in English or German) including a letter of motivation, curriculum vitae, degree certificates, and contact details of at least two referees, should be sent in a single PDF document (no more than 10 MB) via email to sabine.richert@physchem.uni-freiburg.de. Applications will be considered as they are received until the position is filled. The starting date is flexible. For further information please also see: <https://www.richert.uni-freiburg.de>.