

**Technische Universität Kaiserslautern, Kaiserslautern, Germany,**  
Group of Prof. W. Huebner

## **Doctoral student scholarship in Theoretical Physics (Condensed Matter Theory)**

### **Designing ultrafast magnetic-logic elements from molecular substances**

The goal of the project, which lies in the field of ultrafast molecular magnetism, is to design novel classical and/or quantum logic elements with realistic molecular magnets. More specifically, using quantum chemistry methods and optical control theory it will address the functionalization of novel cooperative effects stemming from the synergy of a few magnetic centers in a quest to build logical quantum gates. Given the advent of quantum computers, as advocated by some of the world's top computer companies, the project is expected to be of growing theoretical and technological importance.

The doctoral student will be awarded a scholarship, which roughly amounts to the standard doctoral position, as prescribed by the guidelines of the German Science Foundation.

The successful candidate should hold a Master's degree in Physics or a related field, awarded by an Institution officially recognized by the German State. The successful candidate is also expected to have a strong background in theoretical physics, in particular the physics of strongly correlated electrons and some expertise in computational ab-initio methods (quantum chemistry or density functional theory). This position is open to candidates of all nationalities. Women, disabled persons and applicants with children are encouraged to apply.

Standard application material should be sent (in electronic form) to [huebner@physik.uni-kl.de](mailto:huebner@physik.uni-kl.de) (Prof. W. Huebner) or to [lefkidis@physik.uni-kl.de](mailto:lefkidis@physik.uni-kl.de) (PD Dr. G. Lefkidis). Applications submitted before 28 February 2018 will be given full consideration.