

## Quantum technology / Molecular spintronics

### Project description:

Our endeavour is driven by one of the most ambitious technological goals of today's scientists: the realization of an operational quantum computer, in particular, the development of devices with functions based on principles of quantum mechanics. Quantum computing might have a disruptive impact on fields that range from quantum simulations in chemistry, condensed matter and high-energy physics, to optimization problems, to machine learning. In this regard, the experimental project is on molecular quantum spintronics, i.e., the fabrication, characterization, and study of molecular spin qubits, in order to test basic quantum algorithms.

### Keywords

Quantum computing, molecular spin qubits, molecular magnets, nanoscience, nanolithography.

### Entry requirements

We are looking for a candidate with a master degree of physics. A background in nanoscience, nanolithography, programming, molecular magnetism, SQUID magnetometry, and material science is welcome.

### Location

Karlsruhe Institute of Technology (KIT), Physikalisches Institut and Institute for Quantum Materials and Technologies, 76131 Karlsruhe, Germany, Research Group of Hector Fellow Prof. Dr. Wolfgang Wernsdorfer

**Starting date:** Any time

**Funding:** limited to 3 years

### How to apply

Please apply via the [HFA application portal](#).

The Hector Fellows will arrange interviews (via skype or if feasible in-person) with the most promising applicants. The final candidates will be invited for a personal presentation on July 9, 2020 in Bremen (Germany). The final decisions will be announced by August 2020.

**Application Deadline:** March 31<sup>st</sup>, 2020

### Enquiries

For further details about the project or for questions related to making your application, please contact Hector Fellow Academy Office: [application@hector-fellow-academy.de](mailto:application@hector-fellow-academy.de) or [www.hector-fellow-academy.de](http://www.hector-fellow-academy.de)