PhD Position in Electrical Addressing of Molecular Quantum Bits.

A PhD position is available in the Van Slageren group at the Institute of Physical Chemistry of the University of Stuttgart. The aim of the project is to address molecular quantum bits through electrical transport, allowing more sensitive and local addressing, as well as furthering integration with peripheral electronics. The project involves sample preparation by solution or vacuum deposition of organic semiconductors and molecular quantum bits, electrical characterization by variable-temperature transport measurements, and investigation of the quantum dynamics by pulsed electron paramagnetic resonance spectroscopy. This project is funded by the Center for Integrated Quantum Science and Technology (Stuttgart/Ulm) and is a collaboration with Dr Hagen Klauk of the MPI for Solid State Science in Stuttgart and Dr Benedetta Casu of the University of Tübingen.

What we offer:

- An exciting multidisciplinary project exploring untrodden paths.
- Vibrant, interdisciplinary and collaborative surroundings with ample funding, personal development and networking opportunities.
- Close collaboration with experts in Organic Electronics and Surface Science, allowing for multidisciplinary training.
- Access to State-of-the-Art equipment.
- Salary according to the German TV-L E13 salary scale.

What we ask:

- Candidates must have a degree in physics, chemistry or similar.
- Experience with (pulsed) electron paramagnetic resonance and/or low-temperature transport measurements is highly desirable.

Further information:

- M. Kern, L. Tesi, D. Neusser, N. Rußegger, M. Winkler, A. Allgaier, Y.M. Gross, S. Bechler, H.S. Funk, L.-T. Chang, J. Schulze, S. Ludwigs, J. van Slageren, *Hybrid spintronic materials from conducting polymers with molecular quantum bits*, *Adv. Funct. Mater.*, **31**, 2006882 (**2021**).
- S. Lenz, B. Kern, M. Schneider, J. van Slageren, *Measurement of quantum coherence in thin films of molecular quantum bits without post-processing*, *Chem. Commun.*, **55**, 7163 – 7166 (**2019**).
- F. Ciccullo, A. Calzolari, K. Bader, P. Neugebauer, N.M. Gallagher, A. Rajca, J. van Slageren, M.B. Casu, *Interfacing a Potential Purely Organic Molecular Quantum Bit with a Real-Life Surface*, *ACS Appl. Mater. Interfaces*, **11**, 1571–1578 (**2019**).
- https://www.ipc.uni-stuttgart.de/slageren/
- slageren@ipc.uni-stuttgart.de

Applications by email (slageren@ipc.uni-stuttgart.de), including motivation for application, CV and list of grades. The position is open until filled.