University of Basel

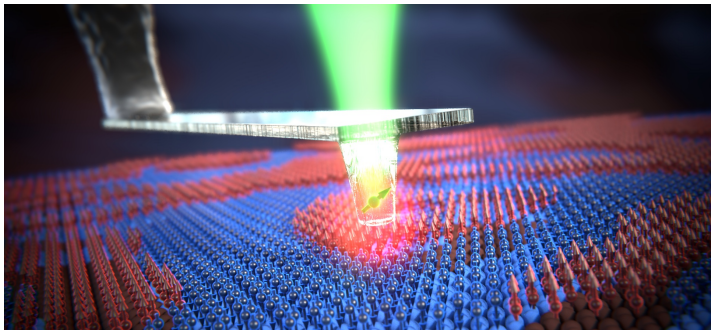
Department
of Physics

University of Basel, Department of Physics, Klingelbergstrasse 82, 4056 Basel

The quantum-sensing group at the University of Basel is looking for outstanding candidates for a **postdoctoral researcher position** to join our ongoing experiments on

Quantum sensing and magnetometry of strongly correlated electron systems.

The project is based on our recent achievements in nanoscale magnetometry with individual Nitrogen-Vacancy (NV) spins in diamond. We will here employ this novel quantum sensing tool to explore magnetic phenomena in materials exhibiting strong electronic correlations. Our experiments will be based on a unique apparatus - a scanning NV magnetometer operating at millikelvin temperatures (http://goo.gl/gOjKsr) – which has recently been installed in our lab. This project will at the same time push the frontiers of nanoscale quantum sensing and expand our knowledge of fascinating electronic phenomena occurring in two-dimensional electron systems and unconventional superconductors. The project thereby lies at the forefront of worldwide activities in quantum technologies and experimental research in condensed matter physics.



The Basel Physics Department enjoys a high reputation on an international level and is excellently equipped for performing world-class research. We are closely connected to the international research community and have a strong focus in the quantum- and nano-sciences. We offer a highly attractive research environment and interesting salaries according to Swiss standards.

The successful candidate has a completed PhD in physics or related disciplines, is highly motivated and enjoys working in an international team. She/he has a systematic, well-structured and independent approach to work and is able to communicate and present scientific results. Prior knowledge in cryogenic quantum transport, scanning probe microscopy, coherent spin manipulation and nanophotonics/optics advantageous.

Interested candidates send their application including a CV, transcripts of all diploma and contact details of three references directly to patrick.maletinsky@unibas.ch. Applications received by Jan. 31 2017 will receive full consideration. Further information about the group can be found under http://www.quantum-sensing.ch and http://www.qnami.ch.

Further reading:
1. "Quantitative nanoscale vortex imaging using a cryogenic quantum magnetometer", Nature Nano. 11, 677
2. "Purely antiferromagnetic magnetoelectric random access memory", Nature Comm. 8, 13985
3. "Fabrication of all diamond scanning probes for nanoscale magnetometry" Rev. Sci. Instrum. 87, 063703

University of Basel
Department of Physics
Klingelbergstrasse 82
4056 Basel, Switzerland
www.physik.unibas.ch

Patrick Maletinsky
Assistant Professor
T +41 61 207 3763
F +41 61 207 3795
patrick.maletinsky@unibas.ch