Dr. Aparajita Singha (MPI-FKF)

Max-Planck-Institut für Festkörperforschung, Heisenbergstraße 1, 70569 Stuttgart

www.quantumspins-singhalab.com

https://www.fkf.mpg.de/7721404/NV-Magnetometry

MAX-PLANCK-INSTITUT FÜR FESTKÖRPERFORSCHUNG

Postdoctoral researcher position on the topic: "*Non-invasive imaging and coherent control of surface-supported spins*"

The research group of Dr. Aparajita Singha at the Max Planck Institute for Solid State Research (MPI-FKF) announces this new Postdoctoral position. This research focusses on controlling quantum magnetism down to scale of single spins on surfaces. Besides being model quantum systems, atomic or molecular spins also represent highly controllable, identical, and scalable quantum units (qubits), thus offering a unique platform to emulate complex many-body spin-physics. However, harnessing these unique capabilities altogether demands an extremely sensitive and yet non-invasive approach. Dr. Singha's research group is focusing on tackling this challenge using highly sensitive quantum probes, such as nitrogen vacancy centers in diamond. Their unparalleled magnetic sensing capability, highly reliable optical access, and applicability across a wide temperature range, make them particularly suitable for this purpose. The research will be conducted by using a variety of state-of-the-art experimental techniques at the intersection of physics, engineering, and surface chemistry.

What do we expect from you?

A strong background in experimental condensed matter physics along with an excellent working experience with any optics-based scanning probe setups (STM or AFM) is expected. The candidate should have a PhD in Physics/Chemistry. Candidates with working experience in python programming will be preferred. It is advantageous to have working experience with handling cryogenic and/or UHV setups.

MPI-FKF endeavors to achieve gender equality and diversity. Furthermore, we seek to increase the number of women in areas where they are underrepresented and therefore explicitly encourage women to apply.

Why join us?

The position will be financially supported through the Emmy Noether programme of the DFG. You will be working in a dynamic and young team of physicists. Besides, you will experience a highly conductive work culture that encourages the development of your scientific mind and allows you to explore excellent networking opportunities.

How to apply?

Earliest possible starting date is 1st July, 2022. Interested candidates should contact Dr. Aparajita Singha via email by submitting a short motivation letter, CV (including publication list) and the contact details of two referees.