MAX PLANCK INSTITUTE
OF MICROSTRUCTURE PHYSICS

NISE
NANO-SYSTEMS FROM IONS, SPINS AND ELECTRONS

Postdoc position for in-situ Transmission Electron Microscopy

– Extension of application deadline –

The **Max Planck Institute of Microstructure Physics**, Halle, Germany is searching for an outstanding postdoctoral scientist to work with the **Transmission Electron Microscopy (TEM) facility** of the NISE department led by **Prof. Stuart S. P. Parkin**. The main focus of the planned research concerns atomically engineered thin film heterostructures and their application for novel cognitive and spintronic devices fabricated in a state-of-the-art cleanroom.

The institute has two cutting-edge Transmission Electron Microscopes from JEOL with advanced analytical capabilities (including 4D STEM, EDX and EELS). The samples are prepared using state of the art low energy ion beam polishing systems (GATAN PIPS II and Fischione PicoMill) and dual beam TESCAN and FEI FIB/SEM systems (Ga and Xe ion beams). The TEMs have several dual-tilt sample holders that allow for the introduction of electrical signals and measurements over a wider range of temperature (in liquid nitrogen and liquid helium based holders).

YOUR TASKS

- Perform in-situ experiments as a function of temperature, magnetic field, voltage/current, with various techniques, flor example, HREM/STEM, nano-beam diffraction, Differential Phase Contrast (DPC), Lorentz-(S)TEM, electron energy-loss spectroscopy (EELS), holography
- Analysis of results from TEM experiments using advanced analytical methods and advanced simulations
- Work collaboratively in support of the various research projects within the NISE department
- Publish scientific findings in high impact journals and strive to become a recognized leader within the international microscopy community

YOUR PROFILE

- PhD in physics or materials science with a specialization in electron microscopy, with a minimum of 3 years TEM/STEM experience required
- Experience in electron holography and Lorentz TEM, and/or expertise in 4D-STEM is highly desired
- Experience in advanced structural and chemical characterization is advantageous
- Excellent interpersonal, oral, and written communication skills
- Ability to function well in a fast-paced research environment, set priorities to accomplishmultiple tasks within deadlines, and adapt to ever changing needs
- Fluency in English
- Programming capabilities for data or image analysis is an asset

WE OFFER

- a world-leading institute with a wide range of state-of-the-art capabilities for exploratory thin film materials and device research,
- an open and engaging working environment addressing some of the most impactful problems in the field with the freedom to contribute your ideas to solve high-impact problems,
- schedule flexibility,
- remuneration and social benefits depending on education and prior experience according TVöD-Bund,
- fixed-term contract, initially for 2 years with the perspective of extension.

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YOUR APPLICATION

- To apply, please email **michael.strauch@mpi-halle.mpg.de** with reference to job code **2022-TEM** including CV, motivation letter, and two reference letters **until December 31, 2022**.
- The Max Planck Institute of Microstructure Physics gives priority to applications from severely disabled candidates with equivalent qualifications. Furthermore, we strive to increase the proportion of female employees and therefore specifically encourage women to apply.
- For more information please visit **www.mpi-halle.mpg.de/nise**