

Cutting-edge Research for a Changing World



Operator and Research Scientist for Focused Ion Beam & Scanning Electron Microscopy (FIB/SEM)

Reference code: 50073121_2 – 2021/WP 10
Commencement date: March 2022
Work location: Hamburg
Application deadline: January 4th, 2022

Helmholtz-Zentrum Hereon maintains a permanent outstation at DESY in Hamburg in order to provide synchrotron radiation to our users from academia and industry for the purpose of materials science. At the world's largest synchrotron radiation source PETRA III we jointly operate the High Energy Materials Science Beamline (HEMS, P07), the Imaging Beamline (IBL, P05) and the Nanofocus Endstation of Micro- and Nanofocus X-ray Scattering Beamline (MINAXS, P03) along with supporting laboratory instrumentation.

One part of this supporting instrumentation is our combined crossed-beam focused ion beam milling / scanning electron microscope systems (TESCAN Amber X Xe+ Plasma and ZEISS Auriga Ga+). They are used for the preparation of microscopic samples for synchrotron experiments, for high-resolution FIB tomography and for elemental and structural analysis.

The contract is initially limited to 3 years and may be extended. The position can be filled part-time in principle.

Equality of opportunity is an important part of our personnel policy. We would therefore strongly encourage qualified women to apply for the position.

Your tasks

- operation and operator-specific maintenance of our FIB / SEM systems
- develop and improve methods and workflows of FIB-based sample preparation for synchrotron experiments (nanotomography and nanodiffraction)
- on-demand microfabrication of samples for synchrotron experiments
- systematic studies of ion-beam induced damage in sample matter and development of suitable counter-strategies
- acquiring 3D FIB nanotomography (SE/BSE imaging, EDS, EBSD) datasets and their visualization
- pursuit of own research projects within the scope of Hereon in-house research

Your profile

These qualifications are essential to fulfill the above-mentioned duties:

- Master or PhD in physics or in a related discipline
- expert level (3+ years) experience with operation of a FIB/SEM machine including advanced SEM imaging, EDS, EBSD and 3D FIB nanotomography
- hands-on experience in advanced FIB-based sample preparation methods (i.e. specimens for X-ray nanotomography, atom-probe tomography, etc.) from a broad array of material types
- very good English and German language skills

These qualifications are considered assets:

- knowledge of the physics involved in electron diffraction or X-ray diffraction
- experience with X-ray tomography or X-ray diffraction experiments
- hands-on experience with instrumentation development

For further questions, contact Dr. Christina Krywka (christina.krywka@hereon.de)

We offer you

- multinational work environment with ca. 1,100 colleagues from more than 50 nations
- extensive options of vocational training (i. a. expert seminars, language courses or leadership seminars)
- flexible working hours and various models to ensure the compatibility of family and career
- excellent infrastructure, including a scientific in-house library as well as modern work spaces
- remuneration according to the standards of the collective wage agreement TV-AVH including further social benefits
- free employee advice - Employee Assistance Program (EAP)
- childcare offers
- Welcome Office, guest accommodation

Severely disabled persons and those equating severely disabled persons who are equally suitable for the position will be considered preferentially within the framework of legal requirements.

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The Helmholtz-Zentrum Hereon conducts cutting-edge international research for a changing world: Around 1,100 employees contribute to the tackling of climate change, the sustainable use of the world's coastal systems and the resource-compatible enhancement of the quality of life. From fundamental research to practical applications, the interdisciplinary research spectrum covers a unique range.

Institute of Materials Physics

The Institute of Materials Physics operates instruments on large-scale equipment for structural investigations of materials and works on the development and characterization of novel lightweight materials for high-temperature applications, for example in aircraft turbines and automotive engines. Hereon has a unique infrastructure for complementary materials research with photons and neutrons.

Interested?

Then we are looking forward to receiving your comprehensive application documents (cover letter, CV, list of publications, letter of recommendation, certificates) indicating the reference number 2021/WP 10. The application documents must not exceed 10 MB.

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