

Position Profile for Chinese Applicants running for 2019 Helmholtz – OCPC – Program

PART A (Info about the Position)

Helmholtz Centre and institute:

Deutsches Elektronen-Synchrotron
FS-PETRA-D
Beamline P23: In-situ and nano X-ray diffraction

Title of the project:

Liquids in constrained geometry for nano-tribology

Project leader: Milena Lippmann, Dmitri Novikov and Oliver H. Seeck

Web-address:

http://photon-science.desy.de/facilities/petra_iii/beamlines/

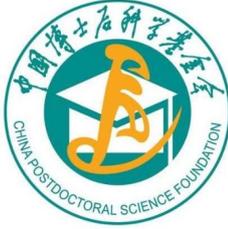
Description of the project (max. half page):

In the frame of this project the successful candidate will investigate structural properties of liquid films confined between two flat and parallel solid surfaces with nanometer distances (confinement in slit geometry) under the influence of elevated temperature, pressure and shear. The results will have direct impact on fundamental aspects of nano-tribology such as lubrication and adhesion. The samples will be studied in-situ by micro- and nano-focused X-ray scattering and X-ray reflectivity methods, as they are available at the most brilliant synchrotron radiation source PETRA III at DESY in Hamburg, prestudies will be done with microscopy and atomic force microscopy. The project is a part of the in-house research program of beamline P23 and is embedded into the Condensed Matter Physics and Chemistry scientific team at DESY. The post-doc position is allocated at the beamline P23 but will have access to other X-ray beamlines, e.g. P08. Tasks will be further development of the existing confined liquid set-up, conducting, data collection and processing and presentation/publication of the results.

M. Lippmann, A. Ehnes, O. H. Seeck, Rev. Sci. Instrum. 85, 015106 (2014)

Required qualification of the post-doc:

- PhD in Physics or Chemistry
- Experience at synchrotron facility or alternatively experience with development, commissioning and usage of own experimental set-up
- Additional skills in programming, experience with software development for data analysis is very appreciated

**PART B (Materials and Procedures)**

The applicants shall submit the following documents to a Chinese postdoc station affiliated to a research institution or a university, after passing through the internal selection, the qualified application shall be forwarded to OCPC, and then to Helmholtz for evaluation:

- Detailed description of the interest in joining the project (motivation letter)
- Curriculum vitae, copies of degrees
- List of publications
- 2 letters of recommendation
- Proof of command of English language

PART C (General Conditions)

Additional requirements on the postdoctoral fellows:

- Chinese citizenship from Mainland China (allows application while staying abroad)
- Max. age of 35 years, PhD degree not more than 5 years by submission of application
- Very good command of English language
- Strong ability to work independently and in a team