



Faculty/Department: Mathematics, Informatics, Natural Sciences/Physics
Seminar/Institute: Institute of Nanostructure and Solid-State Physics (INF) and the Center for Hybrid Nanostructures (CHyN)

Universität Hamburg invites applications for a Research Associate in accordance with Section 28 subsection 1 of the Hamburg higher education act (Hamburgisches Hochschulgesetz, HmbHG). The position commences on October 1st, 2018.

It is remunerated at the salary level TV-L 13 and calls for 50% of standard work hours per week.*

The fixed-term nature of this contract is based upon Section 2 of the academic fixed-term labor contract act (Gesetz über befristete Arbeitsverträge in der Wissenschaft, WissZeitVG). The initial fixed term is three years.

The University aims to increase the number of women in research and teaching and explicitly encourages women to apply. Equally qualified female applicants will receive preference in accordance with the Hamburg act on gender equality (Hamburgisches Gleichstellungsgesetz, HmbGleiG).

Responsibilities:

Associates will be expected primarily to teach and conduct research. The associate will also have the opportunity to pursue further academic qualifications, in particular a doctoral dissertation. At least one-third of set working hours will be made available for the associate's own academic work.

Specific Duties:

The newly established Hybrid Nanostructure Group in the Center for Hybrid Nanostructures (CHyN), at Campus Bahrenfeld, is currently searching for potential candidates for a doctoral position on synthesis of two dimensional colloidal nanostructures.

The PhD candidate will help developing a technology for fabrication of flexible electronic devices. This will involve synthesis and assembly of colloidal 2D structures, their incorporation within polymer matrices and 2D/3D direct-ink-writing methodology to enable fabrication of multifunctional materials.

The candidate will particularly develop new synthetic protocols for the wet-exfoliation of transition metal chalcogenides and focus on characterisation of their chemical and physical properties. Additionally, the candidate will test - either independently or in the collaboration with the group members - functionality of devices.

The candidates will be also involved in synchrotron-based structure-function measurements in collaboration within the Hybrid Nanostructure Group and international collaborators.

In accordance with the mandatory teaching assignment the teaching load will be 2 hours per week..

* Full-time positions currently comprise 39 hours per week.



Requirements:

A university degree in a relevant field. Master's degree in Nanoscience, Materials Science, Chemistry, Physics or other closely related areas. This is a highly interdisciplinary project and students with an interdisciplinary, international background are highly encouraged.

Proofed experience with at least two of the following fields is required, three or more are a clear asset:

- (a) colloidal synthesis of 2D nanomaterials
- (b) nanoparticles assembly into 1-, 2- or 3-D structure
- (c) ink formulation for 3D direct ink writing
- (d) polymer synthesis
- (e) nanoparticle structure and properties characterisation methods (like SEM, TEM, PXRD).
- (f) characterisation of properties of thin films (impedance spectroscopy or AFM /KPFM)

Excellent communication skills in English (spoken and written), knowledge of Matlab, AutoCAD (or similar software) and solid foundation of solid-state physics are further assets for this position.

Severely disabled applicants will receive preference over equally qualified non-disabled applicants.

For further information, please contact Prof. Dr. Dorota Koziej, or consult our website at www.theKoziejLab.com.

Applications should include a cover letter, curriculum vitae, and copies of degree certificate(s). The application deadline is September 3rd, 2018. Please send applications to: Prof. Dr. Dorota Koziej, (dorota.koziej@uni-hamburg.de). Application should be accompanied by two letters of references send directly from the reference persons to dorota.koziej@uni-hamburg.de .