



PhD Program between the Freie Universität Berlin (FUB) and the China Scholarship Council (CSC)

Open PhD Position at Freie Universität Berlin, offered only to Chinese CSC scholarship candidates 2019

Please Note: this PhD position is only offered to Chinese PhD candidates for the application in the framework of the FUB-CSC PhD Program.

<u>Department/Institute:</u>	Institute of Chemistry and Biochemistry
<u>Subject Area:</u>	Theoretical Chemistry
<u>Name of Supervisor:</u>	Prof. Dr. Beate Paulus Prof. Dr. Elena Voloshina
<u>Number of Open PhD Positions:</u>	1
<u>Type of the PhD Study:</u>	Full-time PhD Position But Research Stay Preferred (Sandwich Model, 1-2 Years)
<u>Project Title:</u>	Computational Design of New 2D Materials and Heterostructures for Nanoelectronics and Spintronics

PhD Project Description:

Research on two-dimensional (2D) materials is rising to an unprecedented height and will continue to remain a very important topic in materials science. In parallel with the discovery of new candidate materials and exploration of their unique characteristics, there are intensive interests to rationally control and tune the properties of 2D materials in a predictable manner. Considerable attention is focused on modifying these materials structurally or engineering them into designed architectures to meet requirements for specific applications. In this regard, density-functional theory (DFT) methods can provide the predictive capability to enable the computational discovery, characterization, and design of novel materials and provide valuable guidance for experimental study. This project is devoted to the theoretical study of electronic and magnetic properties of new 2D materials and their heterostructures with the perspectives to use them in the modern micro/nano-electronics and spintronics. Close collaboration with experimental group is planned.

Language Requirements:

IELTS: 6,5 / TOEFL: 95 ibt

Academic Requirements:

Master degree in Chemistry or Physics and a focus on Theoretical/Computational Chemistry or Physics (ab initio modeling experience preferred)

Information of the Professor or Research Group Leader:

Prof. Dr. Beate Paulus, Freie Universität Berlin, Theoretical Chemistry group,
<http://userpage.fu-berlin.de/~agpaulus/>

Prof. Dr. Elena Voloshina, Shanghai 1000 Talent Plan Professor, Shanghai University, 2D
Systems @ SHU, <https://www.shu2d.com>

Please Note: In a first step, the complete application should be submitted to the Beijing Office for evaluation by January 4th, 2019. Please do not contact the professor before. He/she will get in contact with you after having received the complete application via the Beijing Office in January.