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 2020

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

Department/Institute: Institute of Chemistry and Biochemistry
Subject area: Theoretical Chemistry
Name of Supervisor: Prof. Dr. Beate Paulus
Number of open PhD positions: 1
Type of the PhD Study: Fulltime or Sandwich
Project title: 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. A sandwich PhD with the Shanghai University (Prof. Elena Voloshina) is preferred.

Language requirements:
IELTS: 6.5 or TOEFL: 95 ibt

Academic requirements:
Master degree in Chemistry or Physics and a focus on Theoretical/Computational Chemistry or Physics
### Information of the professor or research group leader (website, awards etc.):

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Website/Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Dr. Elena Voloshina</td>
<td>Shanghai 1000 Talent Plan Professor, Shanghai University</td>
<td><a href="https://www.shu2d.com">https://www.shu2d.com</a></td>
</tr>
</tbody>
</table>

### Please Note:
In a first step, the complete application should be submitted to [csc@international.fu-berlin.de](mailto:csc@international.fu-berlin.de) for evaluation by January 4th, 2020. Please do not contact the professor before. He/she will get in contact with you after having received the complete application via the International Office of Freie Universität Berlin in January.