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.

<table>
<thead>
<tr>
<th>Department/Institute:</th>
<th>Institute of Chemistry and Biochemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject area:</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td>Name of Supervisor:</td>
<td>Prof. Dr. Mathias Christmann</td>
</tr>
<tr>
<td>Number of open PhD positions:</td>
<td>1</td>
</tr>
<tr>
<td>Type of the PhD Study:</td>
<td>Full Time</td>
</tr>
<tr>
<td>Project title:</td>
<td>Development of Biofilm-Penetrating anti-MRSA Antibiotics</td>
</tr>
</tbody>
</table>

**PhD Project description:**

The vast majority of bacterial infections are considered to involve the formation of biofilms,[1] an assemblage of microbial cells embedded within a self-produced extracellular polymeric matrix irreversibly attached to a surface. Chronic and persistent diseases such as osteomyelitis, rhinosinusitis, endocarditis, otitis media, and especially nosocomial infections are associated with biofilms of Staphylococcus aureus. Biofilm infections are resistant to conventional antimicrobial treatment, and low levels of b-lactam antibiotics may even induce the formation of biofilms in S. aureus. Thus, the development of new antibiofilm agents for the treatment of drug-resistant bacterial infections remains a priority. We have recently development a total synthesis of the promising molecule darwinolide (Angew. Chem. Int. Ed. 2019, 58, 1120).

The aim of the project is to develop an improved, scalable synthesis of darwinolide and study its activity against MRSA biofilms. Collaborations with chemical biologists, medicinal chemists and biologists are part of the project.

**Language requirements:**

IELTS: 6.5 oder TOEFL: 95 ibt

**Academic requirements:**

Documented experience in multistep organic synthesis is absolutely necessary
Information of the professor or research group leader (website, awards etc.):

Website:  

Publications of the group:  

Information on FU Berlin:  

Please Note: In a first step, the complete application should be submitted to 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 Beijing Office in January.