



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

### Open PhD position at FUB for CSC scholarship candidates 2016

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

<b><u>Department/Institute:</u></b>	Institute of Chemistry and Biochemistry
<b><u>Subject area:</u></b>	Regenerative Medicine
<b><u>Name of Supervisor:</u></b>	Prof. Dr. Nan MA (Ms.)
<b><u>Number of open PhD positions:</u></b>	3
<b><u>Type of the PhD Study:</u></b>	Full-time or Sandwich-Model
<b><u>Project title:</u></b>	Stem Cell and Biomaterial Interaction

#### **PhD Project description:**

Stem cells could sense the physical signals of extracellular matrix and respond to those signals with alternated cell function. Various physical properties of materials were shown to dictate stem cell function. The mechanism how physical cues are translated into biochemical signals still unclear. In the proposed project, we will examine various physical signals from materials and their influence on (stem) cell behavior. Here we asked whether particular signaling pathways play a mechano-regulatory role by translating micro environmental inputs into biochemical signals that might regulate stem cell self-renewal and differentiation. We would like to address whether the biophysical factors could help reprogram somatic cells into specific cell types (neuron or cardiomyocyte). Learning how stem cells exploit the physical signal to self-regulate their differentiation path is crucial to stimulate new ideas how to exploit stem cells for therapeutic purposes, or for the design of advanced biomimetic scaffolds for tissue engineering applications.

#### **Language requirements:**

English (IELTS 6,5 or TOEFL 95 ibt)

#### **Academic requirements:**

Major in biology, biochemistry, bioengineering, or cell biology, or biomaterial science

#### **Information of the professor or research group leader:**

More information on the website:

[http://www.hzg.de/institutes\\_platforms/biomaterial\\_science/biocompatibility/contact/index.php.en](http://www.hzg.de/institutes_platforms/biomaterial_science/biocompatibility/contact/index.php.en)

**Please note:**

In a first step the complete application should submit to the Beijing Office for evaluation by January 4<sup>th</sup>, 2016. Please don't contact the professor before. He/She will get in contact with you after having received the complete application in January.