



PhD Program between the Freie Universität Berlin (FUB) and the China Scholarship Council (CSC) Open PhD position for CSC scholarship candidates 2015

The PhD position is only offered to Chinese PhD candidates for application in the framework of the FU-CSC Program.

<u>Department/Institute:</u>	Physics
<u>Subject area:</u>	Nanooptical concepts for solar cells
<u>Name of Supervisor:</u>	Martina Schmid
<u>Number of open positions:</u>	1
<u>Project title:</u>	Electrical investigation of ultra-thin Cu (In,Ga)Se ₂ solar cells and light trapping mechanisms

Project description:

Many efforts have been spent on the optical investigation of plasmonic and photonic concepts for light management in solar cells. Our group has also focused on the optical properties of ultra-thin Cu(In,Ga)Se₂ (CIGS) absorbers. The focus of this project will be on the electrical properties: First, the possibilities and limits of ultra-thin CIGS solar cells need to be investigated from an electrical point of view. The investigations shall lead to an increased understanding and will direct towards options for improvement like passivation of back surface recombination. Second, the integration of nanooptical concepts for light management will also be investigated under the aspects of electrical conformity and performance. This will contribute to an enhanced overall performance of ultra-thin CIGS devices including light managing nanostructures.

Language requirements:

English, common language of the group is English as well.
Yet, very good English skills will be required.
(TOEFL 90+ pts or comparable)

Academic requirements:

Master in physics; neighboring fields may be possible
Strong background in photovoltaics / semiconductors required,
Experience in material science and / or nanophotonics desirable.
Excellent experimental abilities combined with theoretical and programming skills
Independent working behaviour as well as good team spirit

Link to professor and further information:

Martina Schmid, FU Berlin, Department of Physics
c/o Helmholtz-Zentrum Berlin, Department of Solar Energy
Young Investigator Group Nanooptical Concepts for PV
http://www.helmholtz-berlin.de/forschung/oe/ee/nanooptix/index_en.html

Please note:

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