



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

Open PhD position at FUB for CSC scholarship candidates 2018

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

<u>Department/Institute:</u>	Department of Mathematics and Computer Science / Institute of Bioinformatics
<u>Subject area:</u>	Medical Bioinformatics
<u>Name of Supervisor:</u>	Prof. Dr. Rosario M. Piro
<u>Number of open PhD positions:</u>	1
<u>Type of the PhD Study:</u>	Full-time
<u>Project title:</u>	Study of mutational signatures of somatic mutations in cancer

PhD Project description:

(This project is largely concerned with the patterns of somatic mutations caused by different mutational processes in cancer, e.g., UV light in skin cancer, smoking in lung cancer, etc. – A previous familiarity with the concept of mutational signatures is not required.)

Very recently, the specific patterns of somatic mutations caused by different mutational processes in cancer have been represented by so called “mutational signatures“. With a large set of tumors, these mutational signatures can be defined. Once they are available, they can be used also to identify active mutational processes in individual tumors. The study of mutational signatures in tumor samples, however, is still rather preliminary. Many interesting questions remain, for example:

Which mutational processes occur early in tumor development (e.g., age-related processes) and which are active at later stages (e.g., DNA repair deficiencies)?

Are some mutational processes associated with recurrent mutations in specific genes or pathways?

Which mutational processes are associated with survival and/or therapy outcome?

In this project, we want to address some of these questions to increase our understanding of mutational processes in tumors and their importance for cancer biology.

Language requirements:

IELTS 6.5 or TOEFL 95 ibt.

Academic requirements:

Applicants should have a M.Sc. degree in bioinformatics/computational biology or a highly related field. Alternatively, exceptional candidates from mathematics, computer science or physics might be considered, if they have sufficient knowledge in programming languages and a previous familiarity with applications to biological research topics. Basic knowledge about molecular biology, genetics and other relevant fields is important.

Information of the professor or research group leader:

Rosario M. Piro is an assistant professor (Junior professor) in bioinformatics and principal investigator at the Institute of Bioinformatics and the Institute of Computer Science at FU Berlin. At the same time, he is a member of the Institute of Human Genetics and Medical Genetics at the Charité University Hospital. His research concentrates on computational neuropathology (i.e. computational approaches to study neurological disorders and neuropathologies, including brain tumors) and computational oncology in general (including the development and evolution of cancers in other organs or tissues). Website: <http://rmpiro.net>

Please note: In a first step, the complete application must be submitted to the Beijing Office for evaluation by January 4th, 2018. 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.