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 for Virology
Subject area: Infectious Diseases
Name of Supervisor: Prof. Dr. Benedikt Kaufer
Number of open PhD positions: 1
Type of the PhD Study: Full Time
Project title: Genomics, bioinformatics and evolution of inherited chromosomal integrated human herpesvirus 6

PhD Project description:

This project uses bioinformatics and evolutionary genomics to unravel the biology of integrated Human Herpesvirus 6. In humans, ~1% carry this heritable human herpesvirus 6 genome, which sits in the telomeres of various chromosomes. HHV-6 and the inherited form are involved in various diseases including graft rejection, heart disease and heart disease. We want to understand the basics of how the genome integrates, why is it maintained through generations and what the consequences of its presence are.

The successful candidate will learn and apply bioinformatics techniques to analyse human genome data containing the viral sequence, in order to understand the evolutionary history and ongoing biology of HHV-6 integration. The project will be supervised by Dr. Amr Aswad and Professor Kaufer in the institute of virology at the Freie University of Berlin. The Kaufer lab consists of range of students and postdocs from international backgrounds and a wide range of interests and skills.

The successful candidate should have a keen interest in genomics and evolutionary biology, as well as an enthusiasm for large scale data analysis. As part of a wider team of virologists, the candidate will have the opportunity to collaborate with wet bench colleagues to generate new data and address questions beyond the scope of computational analyses.

Language requirements:
- IELTS: 6,5 or TOEFL: 95 ibt
- TestDAF: 16 or DSH 2
**Academic requirements:**

The successful candidate must:
- hold a degree in biology or similar. Candidates from a computer science or similar background will also be considered
- Have at least a basic understanding of programming (R, Python),
- Must have strong command of written and spoken English
- Demonstrate sincere interest in the project (research the topic before applying!)

The ideal candidate will:
- Have some experience in the area of data science, computational biology
- Have an understanding of evolutionary biology and phylogenetics
- have a proven record of independent research skills
- have an active interest in the area of next generation sequencing, genomics, bioinformatics, virology

**Information of the professor or research group leader (website, awards etc.):**

Over the last year, my laboratory and I have studied the molecular virology of human herpesvirus 6 (HHV-6), Marek’s disease virus (MDV), varicella zoster virus (VZV) and several other herpesviruses. We developed a number of genetic systems for herpesviruses including the bacterial artificial chromosome (BAC)-based genetic system for VZV. These BAC systems allow the stable maintenance and manipulation of the viral genomes in E.coli. Furthermore, we developed a mutagenesis system that facilitates the manipulation of the herpesvirus genomes in any desired way. This system can be used for the deletion and insertion of any desired sequence as well as the incooperation of point mutations into herpesviruses. This technique allowed us to generate a plethora of recombinant herpesviruses, and is commonly used in the research field. In the last few years, we published more than 50 manuscript in high impact journals and obtained a number of awards. We are well funded and acquired funding for example from the German Science Foundation (DFG), the National Institutes of Health in the USA (NIH), the European Network Grant Era-Net und the European Research Council (ERC).


**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 International Office of Freie Universität Berlin in January.