



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.

<u>Department/Institute:</u>	Virology
<u>Subject area:</u>	Herpesvirus Evolution
<u>Name of Supervisor:</u>	Prof. Dr. Klaus OSTERRIEDER (Mr.)
<u>Number of open PhD positions:</u>	2
<u>Type of the PhD Study:</u>	Full time or Sandwich-Model
<u>Project title:</u>	Polymerase fidelity in the evolution of virulent herpesviruses

PhD Project description:

The quasispecies concept predicts that genomes in the viral sequence cloud influence each other and are present in frequencies that reflect their relative fitness. While the concept is widely accepted for RNA viruses with their error-prone polymerases, it is controversial for DNA viruses. Some recent data indicate that imperfect vaccination may also shape DNA virus variability and drive evolution towards increased virulence. A unique and natural herpesvirus-host system, Marek's disease virus (MDV) in the chicken, will allow us to address these important and possibly interdependent questions in vivo. To narrow the knowledge gap, a combination of molecular virology, high-throughput sequencing, bioinformatics and molecular evolution analysis will be employed. We aim at understanding genomic variability of a DNA virus and how it arises as a consequence of vaccination. Specifically, we will test:

- 1) Virus genome variability as a function of viral DNA polymerase fidelity using cultured cells and lymphocytes directly ex vivo.
- 2) Virus genome variability in vivo in different compartments, particularly those that are critical for virus spread in a population.
- 3) Virus genome variability in the presence or absence of vaccination and the effect on virulence as a function of animal passage.

Language requirements:

English is required

Academic requirements:

M. Sc. in biology, biochemistry, veterinary medicine

Information of the professor or research group leader:

http://www.vetmed.fu-berlin.de/einrichtungen/institute/we05/mitarbeiter/osterrieder_klaus/index.html

Please note:

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