



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

### Open PhD position at FUB for CSC scholarship candidates 2017

*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>	Centre for Infection Medicine, Institute of Immunology
<b><u>Subject area:</u></b>	Immunology/Parasitology
<b><u>Name of Supervisor:</u></b>	Prof. Dr. Susanne HARTMANN (Ms.) and Dr. Svenja STEINFELDER (Ms.)
<b><u>Number of open PhD positions:</u></b>	1
<b><u>Type of the PhD Study:</u></b>	Full-time
<b><u>Project title:</u></b>	Tissue resident memory cells in helminth infections

#### PhD Project description:

Helminth infections are common infections affecting almost a quarter of the global population. Even though rarely fatal, they are chronic in nature leading to nutrient malabsorption, intestinal inflammation and impaired development. Effective vaccines are not available and further studies are needed to improve our understanding of protective memory immune responses against these parasites. In the course of evolution, hosts evolved an adaptive type 2 immune response (Th2) to helminth infection, which leads to destruction/expulsion of worms. But in order to evade elimination by the immune system, helminths have evolved many mechanisms to dodge immune attacks by the host's innate and adaptive immune system. This down-modulation suppresses helminth-specific immune responses and alters the outcome of autoimmune diseases, vaccinations and co-infections. Recently it became apparent that tissue resident memory T cells ( $T_{RM}$ ) protect against viral, bacterial, protozoan and helminth infections. However, phenotype and function of  $CD4^+$   $T_{RM}$  cells is understudied and their role in maintaining Th2 memory in helminth infection has not been examined yet. Furthermore, single infections are a rare event in humans, livestock and wild life and the influence of co-infections on the development of memory responses is not known to date.

Aims of the project: (I) Analysis of  $T_{RM}$  in intestinal helminth infections in mice

(II) How are memory responses altered in co-infections in mice and men

Methodology: Fluorescent-activated cell analysis and sorting (FACS), transcriptomics (Fluidigm technique), transgenic reporter mice, in vivo imaging

#### Language requirements:

A PhD study is possible in English (IELTS 6.5 or TOEFL 95). Participants are expected to pass German language courses (B2.1) until the end of the PhD study.

#### Academic requirements:

M.Sc. in Biology, Biochemistry or equivalent degree in Medicine or Veterinary Medicine required.

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

<http://www.vetmed.fu-berlin.de/en/einrichtungen/institute/we06/index.html>

#### Please note:

In a first step the complete application should be submitted to the Beijing Office for evaluation by January 4<sup>th</sup>, 2017. Please don't contact the professor before. He/She will get in contact with you after having received the complete application in January.