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

Open PhD Position at Freie Universität Berlin, offered only to Chinese CSC scholarship candidates 2027

Department/Institute: **Institute of Food Safety and Food Hygiene, Center for Veterinary Public Health, School of Veterinary Medicine**

Subject area: **Food Microbiology**

Name of Supervisor: **Prof. Dr. Thomas Alter**

Number of open PhD positions: **1**

Type of the PhD Study: Full time

Project title: **Investigating the Role of Multispecies Biofilms in the Persistence of *Vibrio parahaemolyticus* in Mussels**

PhD Project description:

Seafood is widely consumed worldwide and represents a potential vehicle for foodborne pathogens. Among them, *Vibrio* (*V.*) *parahaemolyticus* is a major seafood-associated pathogen frequently detected in mussels and a major cause of gastroenteritis. Mussels accumulate *V. parahaemolyticus* from their environment, and the pathogen is able to form biofilm on the shell surface, contributing to pathogen persistence and posing a challenge for seafood safety.

Natural biofilms commonly comprise multiple microbial species whose interactions shape the biofilm formation and stability. However, research on *V. parahaemolyticus* has largely focused on single-species biofilms, leaving a central question open: does co-colonization promote or restrict the persistence of *V. parahaemolyticus* in mussels?

This project addresses this question using an established in vivo mussel model. It investigates how defined multispecies communities affect the accumulation, clearance and biofilm formation of *V. parahaemolyticus*. Additionally, biofilm-associated gene expression will be analyzed to identify molecular mechanisms underlying these interactions. The findings will advance our understanding of pathogen persistence in complex microbial communities and provide new insights into seafood and aquaculture safety.

Language requirements:

- PhD study in English: IELTS: 6,5 oder TOEFL: 95 ibt

Academic requirements:

Master in biological sciences, food sciences, molecular biotechnology or veterinary medicine

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

http://www.vetmed.fu-berlin.de/en/einrichtungen/institute/we08/index.html

Please note:
In a first step, the complete application should be uploaded to the online portal (https://fuberlin.moveon4.de/form/60acfece5d328710e40bdbd5/eng) for evaluation by January 15th, 2027.