



JULIUS-MAXIMILIANS-UNIVERSITÄT WÜRZBURG, GERMANY

Institute of Molecular Infection Biology (IMIB)

PhD STUDENT position

“Exploring small proteins in the food-borne pathogen *Campylobacter jejuni*”

Applications are invited for a PhD student position in the laboratory of the chair of “Molecular Infection Biology II” (Cynthia Sharma) in Würzburg, Germany. Our group studies mechanisms of gene regulation, mainly at the post-transcriptional level, in stress response and virulence control of the human pathogens *Helicobacter pylori* and *Campylobacter jejuni*. We employ deep-sequencing based approaches (RNA-seq, RIP-seq, Ribo-seq, Tn-seq) for transcriptome and translome analyses and to identify novel virulence factors and regulators. We also develop and apply 3D infection models based on tissue engineering to study host-pathogen interactions. (www.imib-wuerzburg.de/research/sharma/group-leader)

This PhD project aims to identify and study small proteins in the food-borne pathogen *C. jejuni*. While genome-wide approaches (transcriptomics, translomics, proteomics) have recently uncovered a wealth of small proteins (encoded by genes with ORFs < 50 codons) in diverse organisms, their functions and mechanisms are still understudied. The handful of characterized small proteins in bacteria is involved in diverse physiological processes, including modulation of virulence and antibiotic resistance, indicating important roles in the cell. This project aims to globally catalogue small proteins in *C. jejuni* by translome analysis using ribosome profiling under both standard laboratory conditions and in the infection context. Selected small proteins will then be functionally characterized using microbiology, genetic, biochemical, and genomics approaches to understand their roles and underlying molecular mechanisms.

Applicants should have a M.Sc. or Diplom degree and a strong background in either microbiology, molecular biology, biochemistry, or infection biology.



For informal inquiries contact **Prof. Dr. Cynthia M. Sharma** (sharma.ngs@uni-wuerzburg.de).

Applications from suitably qualified people from all sections of the community regardless of race, gender or disability are welcome. Preference will be given to severely handicapped persons in case of otherwise equal aptitude. Part time employment is also possible. **Please send applications** including a letter of motivation, CV and publication list, copies of relevant documents, and contact information of 2-3 academic references as a single PDF-file until **August 13th, 2017 via E-mail** to the above-mentioned address.