

The Hapfelmeier Laboratory for Gut Microbiology of IFIK, University of Bern is offering a

Postdoc or PhD student position in intestinal immunology & microbiome research (100%)

The Institute for Infectious Diseases ([IFIK](#)) offers research, teaching, and diagnostic services in all specialties of medical microbiology. The IFIK is the only Swiss university institute that integrates comprehensive expertise in bacteriology, virology, mycology, parasitology, and infection serology under one roof.

About the position:

A postdoc or PhD research position is available immediately for investigating anti-bacterial intestinal B cell responses. We functionally study invasive *Salmonella* pathogen induced intestinal IgA responses and their bacterial cell biological impact at the single-specificity level. We employ single-cell B cell immunoglobulin gene sequencing, sequence-guided monoclonal antibody production, and carry out functional IgA analyses *in vitro* and *in vivo* using germ-free, gnotobiotic, and innovative reversible gnotobiotic mouse models. We plan further to use bacterial transcriptomics and bacterial genome editing to elucidate molecular mechanisms both *in vitro* and *in vivo*. Our goal is to move from the descriptive characterization of mucosal antibody repertoires to a detailed mechanistic understanding of the effects of protective IgA responses on the cognate bacterial cell.

This is a close collaboration with the team of Prof. [Tim Rollenske](#) (IMMEI, University of Bonn, Germany) with frequent shared lab meetings and a joint annual research retreat.

The project is aligned with other projects within the framework of the NCCR Microbiomes ([nccr-microbiomes.ch](#)) where we collaborate with top experts in the fields of microbiology, functional genomics and mathematical modelling to elucidate the fundamental microbial ecological and immunological processes that govern the integration or elimination of individual microbial species into/from complex microbial communities. The NCCR Microbiomes offers all lab members unique training and collaboration opportunities with international leaders in their fields.

To learn more about our project-relevant previous work visit the following links:

<https://doi.org/10.1038/s41467-020-15891-9> , <https://doi.org/10.1038/s41586-020-2564-6> ,
<https://doi.org/10.1038/s41586-021-03973-7> , <https://doi.org/10.1126/science.1188454>

Candidate profile:

Successful candidates can document excellent study and PhD research performance. They can demonstrate a strong scientific knowledge base, scientific integrity, creativity, and a profound understanding of experimental design and data interpretation.

The project requires animal experimentation (mice), and previous exposure to *in-vivo* work would be advantageous, but not a requirement. Fully appropriate practical and theoretical skills in basic molecular biology, mammalian and bacterial cell biology, and wet-lab techniques in general are expected. Depending on your career stage, additional relevant experience in immunology (B cell immunology in particular), computational biology / data analysis using R, microbiology and bacterial genetics, microbiome research, or genomics/transcriptomics would be an asset.

Successful candidates can think independently, are willing to acquire necessary new skills, and are good collaborators and communicators, as this is a team effort.

We offer:

Excellent working conditions and competitive remuneration.

We are strongly committed to promote equal opportunities independent of gender, ethnicity, age, et cetera. Although the position is fully funded, we fully support your applications for career advancement grants or postdoc/PhD research fellowships.

The Hapfelmeier lab is home to a dynamic, globally diverse team of emerging scientists. Our mission is to cultivate robust mechanistic insights that harness the health-enhancing potential of both natural and engineered microbes. This endeavor is aimed at pioneering innovative therapies and advancing the well-being of both humans and animals.

The Institute of Infectious Diseases ([IFIK](#)) covers the entire spectrum of microbiology combining research and diagnostic expertise in Bacteriology, Virology, Mycology, Parasitology, and Microbiomics. Its wealth of expertise promotes multi-disciplinary science with national and international collaboration partners. As one of the major Swiss microbial diagnostics service providers the IFIK provides access to a wide network of clinical research partners and to cutting-edge culture-, nucleic acid-, proteomics- and microscopy-based bacterial detection, isolation and characterization methodology.

As a leading Swiss provider of microbial diagnostic services, our institute offers access to an extensive network of clinical research collaborators. Additionally, it offers state-of-the-art methods for bacterial detection, isolation, and characterization, including culture-, nucleic acid-, proteomics-, and AI-assisted microscopy-based techniques.

Term of employment:

This position offers a fixed-term arrangement, initially set as a one-year postdoctoral contract, with the possibility of annual renewals contingent upon performance assessment.

While the position is fully funded at 100% capacity, we recognize the diverse needs of our candidates. Therefore, we also offer the option of a reduced workload, (e.g. 80%), to accommodate individuals with childcare and family responsibilities.

Start date

The position is available immediately, and applicants are encouraged to apply at their earliest convenience and before 15th October 2023.

Application and selection process:

Application documents include a (i) specific motivation letter, (ii) detailed CV (including the names of former mentors / supervisors), (iii) publication list (if applicable), (iv) relevant diplomas/certificates/University transcripts, and (v) recommendation letters (preferred) and/or contact information of at least two references.

To apply, please send all the required documents compiled in a **single .pdf document** by e-mail to siegfried.hapfelmeier@ifik.unibe.ch.