

PhD position (m/f/d) in molecular microbial interaction

The Institute for Infectious Diseases at University of Bern invites applications for a PhD position funded by the European Research Council in the predatory bacteria research group of Dr. Simona Huwiler. This full-time PhD position is planned to start on 1st April 2026 or later upon mutual agreement. The research group on predatory bacteria by Dr. Simona Huwiler will relocate from University of Zurich (currently) to University of Bern.

Description

Increasing numbers of antibiotic-resistant bacterial infections call for new treatment strategies, like the use of natural predators of bacteria. Predatory bacteria kill other bacteria as prey, while some predatory bacteria invade the prey. It is known that bacteria have many different immune systems to fight bacteriophages. This project aims to clarify whether bacteria also have immune systems against these predatory bacteria as a last line of defence. Bacterial immunity will be investigated genetically, microscopically and mechanistically. Unravelling these new systems will provide useful insights into the predator-prey arms race and contribute to the further development of unconventional treatments against antimicrobial resistance.

We are looking for a highly motivated early career researcher who will be using a diverse set of methods throughout the project, including advanced bacterial cultivation methods, genetic engineering, protein purification and interaction, proteomics, as well as various microscopy techniques (time-lapse widefield, super-resolution).

Your profile:

- high motivation to succeed with strong interest in microbiology and molecular biology
- Master's degree in molecular biology, microbiology or similar field (or prospective Master's certificate by February 2026)
- previous experience in bacterial cell culture, molecular cloning, microscopy, data analysis and representation
- ideally familiar with some of the following techniques (you will be supported to grow your skills during the PhD): protein expression and purification, time-lapse widefield, epifluorescence microscopy, super resolution microscopy or flow cytometry
- great team player, the research group values an inclusive and open team spirit
- strong communication skills enable you to work effectively in a collaborative project
- you are a fast learner and do not shy away from challenging projects
- able to work independently and collaboratively, get help when required, and work in an organized way
- solid English language skills are required (working language in the laboratory)

What we offer:

- exciting and stimulating work environment
- execution and development of an exciting microbial interaction project with promising preliminary data work in a newly emerging research field
- supportive colleagues, guided transition into the research topic and direct support by experienced group leader
- access to a cutting-edge, high-end microscope (widefield and confocal with super resolution) within the research lab of the group and further super resolution microscopy nearby
- highly competitive salary in accordance with the salary guidelines of the canton of Bern
- collaborative and enthusiastic research team, valuing diversity and equality

Interested ?

We look forward to receiving your application consisting of two parts until **8th December 2025 (23:59h CET)**. Please fill in the form available under <https://forms.office.com/e/wJWk6DiajC> and additionally send your PDF application file to simona.huwiler@alumni.ethz.ch with email subject "PhD microbial interaction".

This one application file (all in one PDF file, max. 5 MB) should including the following (in this order):

- 1) CV (including list of publications, attended conferences)
- 2) University degree(s) and available transcript(s) of record,
- 3) Names and contact details of two reference persons (position, address, relation to applicant, and email)

Applications will be reviewed beginning of December and only the top six candidates will be contacted for online interviews in December 2025. We are looking forward to your application!