



UNIVERSITY
OF COLOGNE

Faculty of Mathematics and Natural Sciences

PhD student in biological physics & systems biology (f/m/x)

Institute for Biological Physics



We are one of the largest and oldest universities in Europe and one of the most important employers in our region. Our broad range of subjects, the dynamic development of our main research areas and our central location in Cologne make us attractive for students and researchers from around the world. We offer a wide range of career opportunities in science, technology, and administration.

The Bollenbach group at the Institute of Biological Physics investigates evolution and interactions in microbial systems, especially in the context of antibiotic resistance and polymicrobial consortia. The group combines methods from molecular and microbiology with concepts and techniques from physics.

YOUR TASKS

- » Perform high-throughput co-culture assays and evolution experiments with bacteria isolated from polymicrobial infections using laboratory automation
- » Establish techniques for measuring microbial community composition using chromogenic agar and next-generation sequencing
- » Test predictions of mathematical models on polymicrobial infection datasets
- » Computational analysis of experimental data and refinement of theoretical models

YOUR PROFILE

- » Very good reputable MSc degree in biological physics, quantitative biology, or a related field.
- » Strong interest in interdisciplinary research between physics and biology.
- » Previous knowledge of programming, statistics or microbiology is an advantage but not essential.
- » Strong communication skills are required.
- » Applicants should be highly motivated and independent.

WE OFFER

- » An interactive and supportive research environment
- » A diverse working environment with equal opportunities
- » Support in balancing work and family life
- » Flexible working time models
- » Extensive advanced training opportunities
- » Occupational health management offers
- » Opportunity to work remotely

The University of Cologne promotes equal opportunities and diversity. Women will be considered preferentially in accordance with the Equal Opportunities Act of North Rhine-Westphalia (Landesgleichstellungsgesetz – LGG NRW). We also expressly welcome applications from all suitable candidates regardless of their gender, nationality, ethnic and social origin, religion, disability, age, sexual orientation and identity.

The position is available immediately on a part-time basis (25,89 hours per week). The position is to be filled for a fixed term until 31 December 2027. If the applicant meets the relevant wage requirements and personal qualifications, the salary will be based on remuneration group 13 TV-L of the pay scale for the German public sector.

Please apply online with proof of the required qualifications without a photo under: <https://jobportal.uni-koeln.de>.

The reference number is Wiss2508-16. The application deadline is 30 September 2025.

For further inquiries, please contact Professor Dr Tobias Bollenbach (t.bollenbach@uni-koeln.de) and take a look at our [FAQs](#).