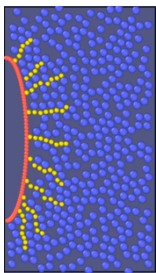


3 PhD positions in the group of Prof. Dr. Vasily Zaburdaev

Our Chair of **Mathematics in Life Sciences** (<https://www.mathlife.nat.fau.de/>) at the Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) develops and applies methods of statistical physics to understand complex biological phenomena. As a part of the recently founded interdisciplinary Max-Planck-Zentrum für Physik und Medizin (<https://www.mpzpm.de/>) we are contributing to the exciting research at the interphase of physics, biology and medicine.

We are currently looking for excellent candidates with interest in the areas of **theoretical, statistical, mathematical and bio-physics, or applied mathematics and computer science** with strong interest in biology and who enjoy interdisciplinary work, to join the following projects:



Cell-matrix interactions in neuronal development

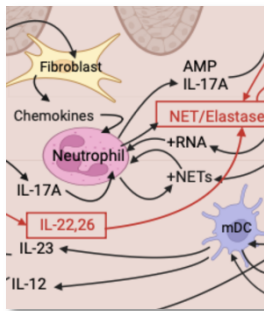
As a part of the truly interdisciplinary Collaborative Research Center “*Exploring brain mechanics*” (EBM: <https://www.crc1540-ebm.research.fau.eu/>) we investigate how the biophysical interactions of neurons and the surrounding extracellular matrix affect brain development and function. We focus on the theoretical models addressing this phenomenon during neuronal network formation and neuronal organoid growth.

Biophysics of helminth-host interactions

A project within the Research Training Group “*Immunomicrotope*” (<https://www.immunomicrotope.de/>) explores how helminth parasites use mechanical forces to make their way through the host tissues. Our aim to build models that can take into account the fitness of the parasite and the effects of the immune response of the infected host.



Novel mechanisms of autoinflammation and autoimmunity



Systemic diseases such as psoriasis often link innate and adaptive immune systems as well as the processes of inflammation and autoimmunity. In this project, we aim to investigate how the immune response can be fairly confused when naturally present immunomodulating molecules get repurposed by the process of proteolytic cleavage. This project is a part of the IMPRS-PM program (<https://mpzpm.mpg.de/study-work-or-visit/graduate-programs/physics-and-medicine/>)

To apply: Send a cover letter, curriculum vitae, list of publications via e-mail as a single PDF file. Please also arrange for at least two reference letters. Application documents, recommendation letters should be sent to Prof. Vasily Zaburdaev (vasily.zaburdaev@fau.de). Applications will be accepted until the positions are filled.

FAU is a member of “The Family in Higher Education Institutions” best practice club and also aims to increase the number of women in scientific positions. Female candidates are therefore particularly encouraged to apply. In case of equal qualifications, candidates with disabilities will take precedence.