

Project E: *Microbiological tests of materials platform*

Participating researchers (PRs): M. Pletz (UKJ), C. Eggeling (FSU)

Project description:

Project E aims to establish sensitive observation and quantification approaches to evaluate microbial adhesion properties in a standardized way, and to explore the underlying molecular mechanisms of adaptation to novel antimicrobial materials. The project combines biomedical studies with optical microscopy technology development, and two doctoral researchers (DRs) from these disciplines will work closely together. The life science DR will investigate the antimicrobial properties of the materials using in vitro models and will assess the dynamics of proteins involved in microbial adhesion on a molecular level applying transcriptomics and bioinformatics. This project will provide a testing platform for the materials developed in the other projects and gain knowledge needed to improve their anti-adhesive and antimicrobial properties. The microscopy DR will focus on the optimization of advanced optical microscopy techniques and microfluidics to develop standard protocols for quantifying and exploring microbial adhesion.

A life scientist (microbiology) and a physicist (microscopy) will work as a tandem team with the PRs on this project.

Doctoral researcher candidates apply for: “E: Microbiological tests of materials platform (Pletz), Microbiology” or “E: Microbiological tests of materials platform (Eggeling), Microscopy”, respectively.