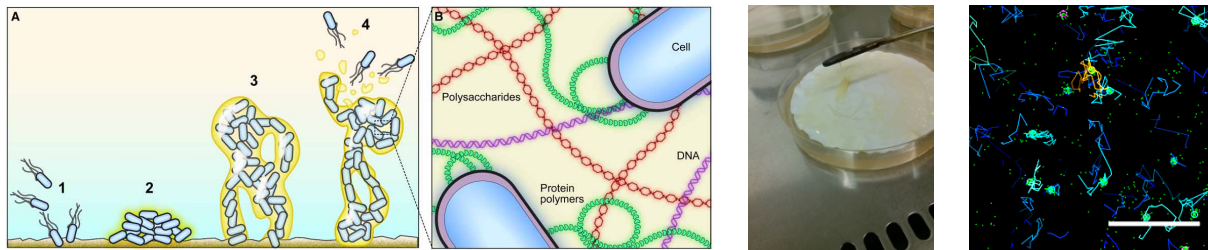


Master thesis opportunity

The labs of Cell Membrane Biophysics (Prof. Salvatore Chiantia) and Physical Biochemistry (Dr. Stefanie Barbirz) at the University of Potsdam in Potsdam-Golm are seeking a highly motivated master student to complete his/her thesis on a challenging, interdisciplinary project at the interface of biophysics, biochemistry and microbiology.

Project title:

Advanced fluorescence techniques for biofilm structural analyses

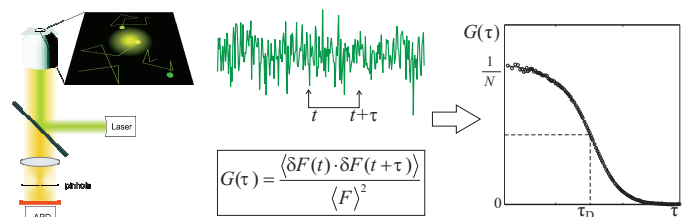


from Nguyen, Biochemical Society Transactions 2017

Project description: The project goal is to investigate glycan-based biofilms with state-of-the-art fluorescence microscopy and biochemical techniques. In healthcare settings, bacterial biofilms represent a severe threat causing chronic infections and contamination of medical devices. In this context, it is of high interest to provide novel tools to clear or control biofilms with high specificity. To reach their target bacteria inside biofilms, antimicrobial substances have to overcome complex 3D polymeric matrices, that will be characterized in this project.

Skills and techniques you will learn:

- Confocal fluorescence microscopy and quantitative single molecule fluorescence techniques, e.g. fluorescence correlation spectroscopy (FCS), single particle tracking
- Programming in MATLAB or Python
- Purification and labeling of biofilm components, like polysaccharides, proteins and bacteriophages
- International research experience (English as working language)



from Ries&Schwille, PCCP 2008

Required background:

- Study program in biophysics, biochemistry, physics, biology, chemistry or related subject
- Strong interest in quantitative methods
- Willingness to think across subject borders

Contact for interested candidates: Valentin Dusing (dusing@uni-potsdam.de)