

FORCE GENERATION DURING COLLECTIVE MIGRATION OF BACTERIA

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Fundamental microbial processes, such as surface adhesion, biofilm formation, or nutrient search depend for migratory bacteria on the spatiotemporal coordination of mechanical forces. How bacteria control their migration and adhesion is not well understood. Here, I will discuss the use of Traction Force Microscopy to measure mechanical forces that bacteria exert on surfaces during their migration. After familiarizing the audience with Traction Force Microscopy, selected applications will be demonstrated. A particular focus will be laid on a recent study employing the model organism *Myxococcus xanthus*. Our measurements reveal, inter alia, a wealth of complementary patterns of force generation employed by *M. xanthus* for colony formation.

Biography

Benedikt Sabass obtained his PhD in Theoretical Physics from Stuttgart University in Germany. After Postdoctoral research stays at Heidelberg University and Princeton University, he is now leading a Helmholtz Young Investigators Group at Forschungszentrum Jülich, Germany. He works at the interface between biology and theoretical physics where biological processes provide inspiration and mathematics provides tools for quantitative understanding.

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