

## **Predictive models of bacterial response and the evolution of resistance to antibiotics**

The emergence of antibiotic-resistant microorganisms is a global problem. Despite significant advances in our understanding of molecular mechanisms of resistance, quantitative models that could predict the response of bacterial populations to antibiotic treatment are rare.

I will present our attempts at constructing such predictive models. I will first discuss experimental approaches that we use to understand short- and long-time bacterial response to antibiotics. I will then show how the experiments can be understood using physics-inspired models. Finally, I will discuss how these models can be used to test different biological hypotheses about the emergence of antibiotic

Wednesday, November 20, 2019, 17:00

Institute for Biological Physics, Zülpicher Str. 77a

Seminar Room 0.02, Ground Floor

Hosted by Tobias Bollenbach