

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

Friday 25 September 2020 14:00 (40 minutes)

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 discuss how experimental results can be understood using physics-inspired models. Finally, I will show how these models can be used to predict some aspects of the emergence of antibiotic resistance.

Author: WACLAW, Bartlomiej

Presenter: WACLAW, Bartlomiej

Session Classification: Afternoon Session