

Cologne Evolution Colloquium

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Adaptive evolution of virulence and persistence in multidrug-resistant *Klebsiella pneumoniae* infections

Within-patient selected adaptive mutations have the potential to reveal important insights into bacterial pathogenesis and antibiotic treatment failure. I will talk about the discovery of virulence and uropersistence conferring adaptive mutations in multidrug-resistant *Klebsiella pneumoniae* infections, including within-patient diversification of subpopulations. I will present evidence for dissemination of a virulent subpopulation in a patient and show how the discovery of uropersistence enhancing mutations led to the development of a new strategy to treat persistent infections. Based on insights from these studies, I will discuss strategies for detecting adaptive mutations in urinary tract infections. A better understanding of selective pressures in host pathogen systems may not only lead to a better understanding of bacterial pathogenicity and treatment failure but may also provide an opportunity to infer evolution and gain a better understanding of epidemic success.

Wednesday, June 14, 2023, 17:00

Institute for Biological Physics, Zùlpicher Str. 77a

Seminar Room 0.02, Ground Floor

Hosted by Michael Lässig