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## **Stochastic growth laws for bacterial cell populations**

The rates at which bacterial populations grow have been studied for many decades, and have led to the formulation of deterministic growth laws that describe “macroscopic” properties of populations. However, this ignores heterogeneities within populations of cells. Current methods allow us to look at individual cells, and they reveal interesting distributions and lineage correlations of growth variables that present new explanatory challenges. Further, when populations of growing bacteria are exposed to antibiotics, cells may die and divide at comparable rates, and it becomes important to understand how cells in an identical environment suffer different fates. We present empirical observations both at the population and single-cell level, and propose stochastic models of intracellular processes to explain the observations.

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University of Cologne

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Seminar Room 0.02, Ground Floor

Hosted by Joachim Krug