

Ville Mustonen
University of Helsinki

Clonal heterogeneity and the evolution of antimicrobial resistance

Clonal heterogeneity in microbial infections and in tumours is one of the major causes of treatment failure with antimicrobial or chemotherapy drugs. Here we study the clonal evolution of genetically heterogeneous and homogeneous populations following antimicrobial exposure, using budding yeast (*Saccharomyces cerevisiae*) as a model system. Using diverged strains, we generated a recombinant cross with unique haplotypes, and isolated single individuals from this cross. We carried out selective inhibition with antimicrobials in 5,760 populations over ~960 generations, under both constant and dynamically increasing dosage. I will discuss the implications of this and two related experiments on the predictability of the evolution of antimicrobial resistance. The work is a collaboration with the groups of Gianni Liti (Nice) and Jonas Warringer (Gothenburg).

Tuesday, March 20, 2018, 17:00

University of Cologne
Institute for Theoretical Physics
Seminar Room 0.03, Ground Floor

Hosted by Michael Lässig