Cologne Evolution Colloquium

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Evolution of antibiotic resistance at very low levels of antibiotic

Antibiotic use results in generation of antibiotic concentration gradients and bacteria are often exposed to non-lethal (sub-MIC) drug concentrations. Recent evidence suggests that sub-MIC antibiotic exposure has an important role in the evolution resistance by (i) directly selecting for resistance and (ii) generating genetic and phenotypic variability that increases rates of resistance evolution. Importantly, resistant mutants that appear in response to weak selection pressures are more problematic than those selected under lethal antibiotic concentrations due to the enrichment of mutators and high fitness mutants. Together these findings suggest that sub-MIC exposure may accelerate the emergence and spread of antibiotic-resistant bacteria among humans and animals.

> Wednesday, April 8, 2015, 17:00 University of Cologne, Institute for Genetics Seminar Room 0.46

> > Hosted by Michael Lässig