MAX DELBRÜCK LECTURE

Bacterial genomes as playgrounds of mobile genetic elements

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Horizontal gene transfer driven by phages or conjugative elements allows the acquisition of complex adaptive traits and their transmission to subsequent generations. This speeds up evolutionary processes as exemplified by the acquisition of virulence traits in emerging infectious agents and by antibiotic resistance in many human pathogens. I'll describe how differences between mobile genetic elements in terms of their mechanism of transmission between cells and mechanisms of stabilization within cells result in diverse rates and ranges of transmission. I'll finish explaining how classical views of interactions between bacteria and their mobile genetic elements are being radically changed by the discovery of elements that are hyper-parasites of phages or plasmids and encode a lot of the immune repertoire of bacteria.

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Hosted by Yuval Mulla and Michael Lässig

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