

Cologne Evolution Colloquium

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DNA transport systems in the human pathogen *Neisseria gonorrhoeae*

Neisseria gonorrhoeae, a Gram-negative diplococcus, is an obligate human pathogen that infects the urogenital tract to cause the disease 'gonorrhea'. *N. gonorrhoeae* rapidly exchanges DNA, thus rapidly transferring resistances against antibiotics. DNA is released into the medium by lysis of cells, but also by a Type IV secretion system that is encoded within the Gonococcal Genetic Island. This Type IV secretion system, which consists of at least 20 proteins, is involved in the secretion of ssDNA into the medium. This DNA is then taken up via Type IV pili mediated natural transformation. Type IV pili (T4P) are ubiquitous and versatile bacterial cell surface structures not only involved in DNA uptake but also in adhesion to host cells, biofilm formation and motility. In Gram-negative bacteria, T4P pass the outer membrane (OM) through the large, oligomeric, ring-shaped secretin complex. Recently, we have discovered a new protein, TsaP, associated with the secretins of Type IV pili. Within this lecture, both the analysis and function of the Type IV secretion system encoded within the GGI, and the discovery and characterization of TsaP will be discussed.

Wednesday, May 14, 2014, 17:00

University of Cologne, Institute for Genetics

Seminar Room 0.46

Hosted by Berenike Maier

Molecular Basis of
Evolutionary Innovations

SFB 680