

Graduate Schools
Infection Immunity and Cancer, UniGe & UniL: CUS
Biology & Medicine, CMU

Seminar in Microbiology

Monday, January 26, 2015

Salle de séminaire 7172, CMU

11:30 – 12:30

Marek Basler

Infection Biology
Biozentrum, Basel



Type VI Secretion System: structure, function and dynamics of a multicomponent nanomachine

Bacteria can secrete proteins and effectors through different systems to synthesize the cell wall, acquire nutrients, influence the behavior of a host cell, or defend themselves against aggressive individuals. The type VI secretion system, T6SS system resembles a phage tail that is used to inject effector proteins into another cell. In *Pseudomonas aeruginosa* can be used to counterattack aggressing bacteria. Most amazingly the *Pseudomonas* system is only used if another bacterium uses his T6SS to attack. The counterattack also works if another bacterium attempts to conjugate with *Pseudomonas*, which essentially induces a membrane disturbance by the type 4 secretion system used for conjugation. Marek Basler made excellent contributions to the field as a postdoc in John Mekalanos's lab and is now group leader at the Biozentrum in Basel.

References:

Ho BT, **Basler M**, Mekalanos JJ. Type 6 secretion system-mediated immunity to type 4 secretion system-mediated gene transfer. *Science* 2013 ; 342:250-3.

Basler M, Ho BT, Mekalanos JJ. Tit-for-tat: type VI secretion system counterattack during bacterial cell-cell interactions. *Cell* 2013;152:884-94.

Basler M, Mekalanos JJ. Type 6 secretion dynamics within and between bacterial cells. *Science* 2012; 337:815

Contact: P. Linder & P. Viollier
Sandwiches will be offered after the seminar