

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

Seminar in Microbiology

Monday, 17th November, 2014

Salle de séminaire 7172, CMU

11:30 – 12:30



Prof. Jan-Willem Veening

Molecular Genetics Department, University of Groningen, NE

“Origins of Antibiotic Resistance”

The rapid spread of antibiotic resistance, combined with a near absence of new antibiotics, are leading to a public health threat. One of the leading bacterial causes of morbidity and mortality worldwide is *Streptococcus pneumoniae* (the pneumococcus). Frighteningly, inappropriate antibiotic treatments can accelerate the occurrence of multidrug resistance by activation of a developmental process called bacterial competence. In this seminar, Veening will discuss how antibiotics affect pneumococcal physiology and how antibiotics promote competence development. Molecular insights into the mechanisms driving bacterial evolution and resistance will advance the quest for novel treatment strategies.

References:

Antibiotic-induced replication stress triggers bacterial competence by increasing gene dosage near the origin.
Slager J, Kjos M, Attaiech L, Veening JW. *Cell*. 2014 157:395-406.

Tracking of chromosome dynamics in live *Streptococcus pneumoniae* reveals that transcription promotes chromosome segregation.
Kjos M, Veening JW. *Mol Microbiol*. 2014. 91:1088-105

How to get (a)round: mechanisms controlling growth and division of coccoid bacteria.
Pinho MG, Kjos M, Veening JW. *Nat Rev Microbiol*. 2013. 11:601-14.

Control of cell division in *Streptococcus pneumoniae* by the conserved Ser/Thr protein kinase StkP.
Beilharz K, Nováková L, Fadda D, Branny P, Massidda O, Veening JW. *PNAS*. 2012. 109:E905-13.

Contact: P. Viollier

Sandwiches will be offered after the seminar