

Graduate Schools
Infection & Immunity and Biology & Medicine

Seminars in Microbiology

Monday, 1st June, 2015

Salle de séminaire 7172, CMU

11:30 – 12:30



Dr. Agathe Subtil

Institut Pasteur, Group Biology of Cell Interactions, Paris, FR

Exploitation of host resources by the intracellular pathogen *Chlamydia trachomatis*

Chlamydia trachomatis, the most successful sexually transmitted pathogen that infects 1 Million people annually in the US alone, has major implications on global human health. Agathe Subtil and her team found that invasion of host cells by *C. trachomatis* triggers a transient ubiquitination at the entry sites, followed by the rapid de-ubiquitination by chlamydial proteins that are likely T3SS substrates. Using mass spectrometry-based lipidomics her lab is exploring how *C. trachomatis* exploits host metabolites including phospholipids for growth, since enzymes for several biosynthetic pathways are not encoded in the *C. trachomatis* genome. Moreover, using three-dimensional fluorescence microscopy, they observed that small organelles of the host, peroxisomes, are translocated into the Chlamydia-containing vacuole and they are now testing the role of peroxisomes in *C. trachomatis* growth.

Selected references:

Domman et al Mol Biol Evol. 2014. 31(11):2890-904.
Vromman et al PLoS One. 2014. 9(6):e99197..
Vromman F, Subtil A. Curr Opin Microbiol. 2014. 17:38-45.
Steele-Mortimer O, Subtil A. Curr Opin Microbiol. 2014;17:v-vii.
Boncompain et al. PLoS One. 2014. 9(1):e86196.
Subtil et al. Trends Plant Sci. 2014. 19(1):36-43

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Sandwiches will be offered after the seminar