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

# Seminar in Microbiology

## Monday, January 11, 2016

## Salle E07.3347.a, CMU

## **11:30 – 12:30**

# **Carmen Buchrieser**

Biologie des Bactéries Intracellulaires, Institut Pasteur

# Epigenetics and infection: *Legionella pneumophila* SETs the host chromatin landscape

*Legionella* are environmental bacteria but some species like *Legionella pneumophila* or *L. longbeachae* are also opportunistic pathogens that can cause Legionnaires' disease, a severe pneumonia, in particular in people whose immune defences are weakened. The bacterium's survival and spread depends on the ability to replicate inside eukaryotic phagocytic cells. It is known for its dual host system allowing the intracellular growth in protozoa like *Acanthamoeba castellanii, Hartmanella sp.* or *Naeglaria sp.*, and in human alveolar macrophages. It can be speculated that the interaction of *L. pneumophila* with aquatic protozoa has generated a pool of virulence traits during evolution, which allow it to infect also human cells. Upon internalization into the eukaryotic cell, *Legionella* guarantee their survival by manipulating host cell functions such as disturbing vesicle trafficking, therewith reprogramming the endosomal-lysosomal degradation pathway of the phagocytic cell. From: https://research.pasteur.fr/en/member/carmen-buchrieser/


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Rolando et al., 2015. Bacterial remodelling of the host epigenome: functional role and evolution of effectors methylating host histones. Cell Microbiol. 2015 Aug;17(8):1098-107.

Gomez-Valero et al., 2014. Comparative analyses of Legionella species identifies genetic features of strains causing Legionnaires' disease. Genome Biol. 2014;15(11):505.

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