Seminar in Microbiology  
Monday, 21st November, 2016  
Salle de séminaire, E07.3347.a, CMU  

11:30 – 12:30

Prof. Hubert Hilbi
Institute of Medical Microbiology, University of Zürich, CH

Virulence and communication of the amoeba-resistant pathogen Legionella.

The Hilbi lab uses macrophages and environmental protozoa, including the genetically tractable amoeba Dictyostelium discoideum, as well as phagocytes of the fruit fly Drosophila melanogaster, to analyze with biochemical, molecular and cell biological methods the infection mechanisms of Legionella pneumophila, an intracellular gamma-proteobacterium causing pneumonia “Legionnaires’ disease. They explore how bacterial and host factors interact, how and when intracellular vacuoles containing L. pneumophila form and how these bacteria communicate among each other and with different microorganisms via small signaling molecules to regulate virulence, adhesion and growth. The research of the Hilbi group contributes to identifying novel factors against amoebae-resistant bacteria and to controlling the growth of these pathogens in water systems.

Selected recent publications:

- Legionella pneumophila S1P-lyase targets host sphingolipid metabolism and restrains autophagy. Proc Natl Acad Sci U S A. 2016
- Inter-kingdom Signaling by the Legionella Quorum Sensing Molecule LAI-1 Modulates Cell Migration through an IQGAP1-Cdc42-ARHGEF9-Dependent Pathway. PloS Pathog. 2015.

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