

## Seminar in Microbiology

Monday, 3<sup>rd</sup> October, 2016

Salle de séminaire, E07.3347.a, CMU

**11:30 – 12:30**



### **Prof. Târn Mignot**

Laboratoire de Chimie Bactérienne, Institut de Microbiologie de la Méditerranée, CNRS-Aix-Marseille University, FR

## **Spatial regulation of motility in the social bacterium *Myxococcus xanthus*.**

Professor Mignot is studying the directional movement of bacteria on solid surfaces. He has identified a new motility machine that forms dynamic focal adhesion complexes to push cells forward and uncovered that components of the motility machine are also used for spore formation in response to environmental cues. He is using a multidisciplinary approach relying on genetics, biochemistry, cell biology, bioinformatics and physics to dissect the motility mechanisms and their regulation. Prof Mignot is a recipient of the CNRS Bronze Medal.

#### **Selected recent publications:**

- Priming and polymerization of a bacterial contractile tail structure. 2016. **Nature** 531(7592):59-63
- The mysterious nature of bacterial surface (gliding) motility: A focal adhesion-based mechanism in *Myxococcus xanthus*. 2015. **Semin Cell Dev Biol** <http://dx.doi.org/10.1016/j.semcdb.2015.10.033>
- Evolution and Design Governing Signal Precision and Amplification in a Bacterial Chemosensory Pathway. 2015. **PLoS Genet.** Aug 20;11(8):e1005460. doi: 10.1371/journal.pgen.1005460
- The small G-protein MglA connects to the MreB actin cytoskeleton at bacterial focal adhesions. 2015. **J Cell Biol** 210(2):243-56. doi: 10.1083/jcb.201412047.
- An evolutionary link between capsular biogenesis and surface motility in bacteria. 2015. **Nat Rev Microbiol.** 13(5):318-26. doi: 10.1038/nrmicro3431.
- Functional organization of a multimodular bacterial chemosensory apparatus. 2014. **PLoS Genet.** 10(3):e1004164.
- A versatile class of cell surface directional motors gives rise to gliding motility and sporulation in *Myxococcus xanthus*. 2014. **PLoS Biol** 11(12):e1001728.
- Direct Live Imaging of Cell-Cell Protein Transfer by transient Outer Membrane fusion in *Myxococcus xanthus*. 2013y. **eLife.** 2; e00868