

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

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## Seminar in Microbiology

Monday, February 17, 2020

Salle de séminaire, E07.3347.a, CMU

**11:30 – 12:30**

# Maximiliano Gutierrez

Crick Institute London



## Intracellular environments and antibiotic efficacy in tuberculosis

<https://www.crick.ac.uk/research/labs/maximiliano-gutierrez/>:

Tuberculosis is an infection caused by *Mycobacterium tuberculosis* (Mtb) bacteria. This devastating disease is a major global health problem and a leading cause of death worldwide.

In 2016, more than 10 million people fell ill with tuberculosis while 1.7 million died from it. The bacteria hide in our body within our immune cells, hijacking our defences and in some cases establishing what's known as a latent infection. More than two billion people around the world are thought to have latent tuberculosis.

We are investigating how the tuberculosis bacteria manage to outsmart our body's defences and survive inside human cells. To do this, we are using powerful microscopes to see what's going on inside cells when they become infected.

We want to find out how Mtb avoids the usual 'garbage disposal' systems that cells use to kill harmful invaders and how the bacteria adapt to long-term life inside their host cells. And we are also trying to understand how our cells can eliminate bacteria living within them. This is important to find possible therapeutic strategies that enhance this natural response.

By understanding how Mtb survives and thrives inside cells, we hope to find new approaches for treatments that help to eradicate tuberculosis.

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