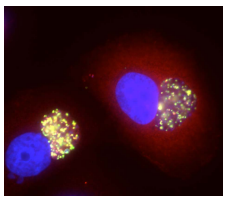

Post-doctoral position

Subtil Lab/ Institut Pasteur_CNRS/ Paris

Cell biology/ Cellular microbiology

Host lab: *Chlamydia trachomatis* is a human-adapted pathogen and develops exclusively inside a vacuolar compartment. It is the leading cause of sexually transmitted infections of bacterial origin. The Subtil lab investigates how the bacteria manipulate the host cell to establish a beneficial replication niche. Our recent studies have characterized some of the consequences of infection on host cell intracellular traffic, host metabolism, chromatin integrity and the innate response to infection.

Project: The bacteria control the behavior of the epithelial cells they infect by secreting dedicated 'effector' proteins in the host cytoplasm. These proteins, which usually target key functional nodes of the host, constitute unique angles to probe the normal behavior of eukaryotic cells. By combining novel tools (e.g. genetically modified *Chlamydia* strains) and techniques (culture of primary epithelial cells in organoids, reconstruction of the Fallopian tube-on-chip), the post-doctoral fellow will investigate the function of several effector proteins during *C. trachomatis* infection. This project has the potential to reveal novel features of the biology of eukaryotic cells. It will deepen our mechanistic understanding of the microbe's ability to escape host defense and establish a novel model for the study of pathologies of the upper genital tract in women.

Environment: The applicant will benefit from a highly collaborative, dynamic and international environment at Institut Pasteur within center Paris. The Subtil lab is affiliated to CNRS and associated with the Cell Biology and Infection department (18 teams). The Institut Pasteur hosts 13 departments (142 teams) and counts 15 technological platforms, including a platform dedicated to microfluidics and biomaterials.

Requirements:
– PhD in cell biology, with experience in microscopy techniques and image analysis.
– Experience in molecular biology (cloning, generation of KO cell lines etc) will be appreciated.
– Experience in microbiology is not required.

Salary: based on experience following Institut Pasteur grids. The project is funded for 24 months, with possible extension.

To apply: submit a cover letter containing a statement of interests and future goals, a CV with a list of publications and names of two references from mentors to asubtil@pasteur.fr

Starting date: Applications are reviewed as they are received: candidates are encouraged to submit their application as soon as possible. The expected start date is May/June 2026.

Publications from the Subtil lab related to this project:

- Charendoff et al Intracellular growth of *Chlamydia trachomatis* leads to global histone hypermethylation by impairing demethylation bioRXiv
- Wu et al *Chlamydia*-driven ISG15 expression dampens the immune response of epithelial cells independently of ISGylation **mBio**, 2024. 15(11): p. e02401-24.
-N'Gadjaga et al *Chlamydia trachomatis* development requires both host glycolysis and oxidative phosphorylation but has only minor effects on these pathways. **J. Biol. Chem.,** 2022. 298(9): p. 102338
- Hamaoui et al, The *Chlamydia* effector CT622/TaiP targets a non-autophagy related function of ATG16L1 **PNAS** (2020). 117(43):26784-26794
- Maffei et al, Infection-driven activation of transglutaminase 2 boosts glucose uptake and hexosamine biosynthesis in epithelial cells**. EMBO J.** (2020) 39, e102166