

## Post-doctoral position in micromechanics and adhesion of protozoan oocysts

UMR IRD 257 Vitrome - IHU Méditerranée Infection - Marseille - France

A 12-month ANR funded post-doctoral position is available in [our group](#) for a highly motivated candidate with a strong interest in parasite biology and biophysics. The successful candidate will study the mechanics and adhesion properties of the *Cryptosporidium parvum* and *Toxoplasma gondii* oocysts by using imaging and biophysical tools especially the micropipette techniques. This work is a part of the [ANR Strip project](#) (2018-2021).

### Project summary

*Cryptosporidium parvum* and *Toxoplasma gondii* are major parasitic pathogens that can be transmitted to humans by food and water contaminated by wall-protected oocysts. To better understand how oocysts resist various environmental conditions and disinfectants, the candidate will characterize the mechanical and adhesion properties of the wall of oocysts exposed to physical and chemical stresses by using imaging and biophysical techniques (AFM, micropipette techniques) in the line of our previous works (Dumètre et al., Appl. Environm. Microbiol 2012 ; Dumètre et al., PNAS 2013; Freppel et al., Sci. Rep 2016). In particular, the candidate will lead the development of the micropipette techniques in our new level2/level3 biosafety lab to investigate, at the single-cell level, adhesion properties of the oocyst wall and explore possible oocyst-host cell interactions.

### Requirements

PhD with a solid background in biophysics of cells. Individuals with additional working knowledge or strong interest in parasitology/microbiology are encouraged to apply. Excellent knowledge of English, good interpersonal and communication skills are also required.

### Location

The candidate will be hosted at [IHU Méditerranée Infection](#), providing dynamic and collaborative environment and state-of-the-art equipment and technical platforms. The candidate will work in close interaction with a biophysicist, Pierre-Henri Puech, at the [Adhesion Inflammation Laboratory](#) (Marseille). This project will benefit from external collaborations of other partners of the STRIP project for disinfection experiments, and of Julien Husson (LadHyx, Paris) for micropipette experiments.

### Salary

~2000 € / month

### How to apply?

The post-doc is expected to start between September 2018 and January 2019. Please send a CV, names and contact information of three references and a short description of your scientific interests by email to Aurélien Dumètre ([aurelien.dumetre@univ-amu.fr](mailto:aurelien.dumetre@univ-amu.fr)) and Pierre-Henri Puech ([pierre-henri.puech@inserm.fr](mailto:pierre-henri.puech@inserm.fr)).