

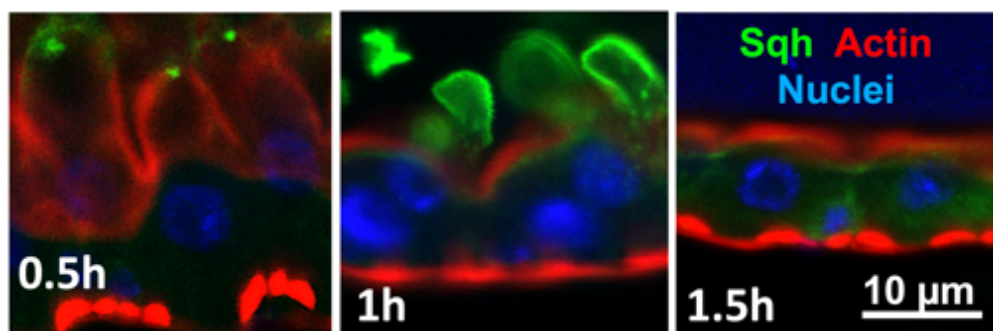
PhD position in the team of Dominique Ferrandon in Strasbourg

We have been pioneering the study of bacterial intestinal infections using the genetic model organism *Drosophila melanogaster* and have been investigating host-pathogen interactions using both *Serratia marcescens* and *Pseudomonas aeruginosa*. We have discovered an evolutionarily-conserved original mechanism whereby in response to a *S. marcescens* toxin host enterocytes expel their apical cytoplasm, which contains damaged organelles and likely as well invading bacteria, resulting in a thin intestinal epithelium within three hours of the ingestion of the pathogen, **the cytoplasmic purge of enterocytes**. The epithelium subsequently recovers its original shape in less than a day. The process entails mechanisms taking place not only at the enterocyte level but also at that of the whole organism. The position is open to study the mechanisms involved in this process, based on extensive preliminary data. This project of cellular biology and physiology entails the use of genetic tools available in this model and of microscopy techniques.

The team is part of the Models of Insect Innate Immunity CNRS Unit that is at the forefront of the study of host defenses against parasitic, bacterial, fungal, and viral infections in flies and mosquitoes. It is located within the Institut de Biologie Moléculaire et Cellulaire (IBMC) on the Strasbourg University main Campus that lies close to the heart of this lively European city.

We are looking for a highly motivated student able to work autonomously, to interpret data rigorously, and to communicate effectively. A basic training in molecular biology or developmental biology or immunology is required and experience with *Drosophila* is definitely an asset. A mastery of the English language is required as English is the working language in the laboratory.

The Ph. D position is for three years and funded by the French granting agency ANR. The project starts this year. Interested candidates should apply to D.Ferrandon@unistra.fr and send a CV, letter of motivation, and the name and contact of two referees.



The enterocyte purge

Challenged enterocytes from the R2 region of the *Drosophila* midgut: thinning from 0,5 to 1.5 h;
sqh: regulatory subunit myosin II light chain