



Postdoctoral position to work on host-microbe interactions and stem cell biology in the mosquito (*Aedes aegypti*) midgut

Position description: A postdoctoral position is available in the laboratory of Nicolas Buchon at Cornell University (Ithaca, NY, USA), for a highly motivated candidate to study host-microbe interactions, epithelial dynamics and stem cell biology in *Aedes aegypti*.

The research project, funded by NIH (R01-AI148529), will use a combination of omics (transcriptomics, epigenomics, single cell omics), functional genetics (transgenesis, CRISPR), microbiology and imaging to study how microbes and parasites influence epithelial dynamics in the mosquito midgut. Our project will cover studies involving a broad range of microbes including bacteria (pathogens and microbiota), plasmodium as well as viruses. This project is expected to contribute to the advancement of a molecular and cellular understanding of the mosquito midgut and reveal new aspects of its interaction with microbes. The studies will open new inroads for future research, with relevance to resistance and tolerance of mosquitoes to the disease they transmit.

Skills and application: Candidates must have (or be close to earning) a Ph.D in vector biology, molecular or cellular biology, immunology/microbiology/host-microbe interactions, stem cell biology or a related biological discipline, be self-motivated, and have excellent communication (verbal and written English) and organizational skills. Solid molecular biology skills, and experience with omics are required. Strong interest in functional genetic approaches and the development of tools required to take these approaches is highly desired. Candidates with a strong expertise in vector biology, host-microbe interactions or stem cell biology will be preferred. Applicants should have a strong interest and experience in mentoring of undergraduate and graduate students.

Applications from candidates should be sent by email to Professor Nicolas Buchon at nicolas.buchon@cornell.edu. Please include a CV, statement of research experiences and interests, and contact information for three or four referees. The cover letter should include an explanation of how your qualifications and experiences make you a good candidate for this position. Informal inquiries are welcome. Consideration of applications will begin immediately. The successful candidates will join a team of researchers with diverse backgrounds (immunity, stem cell biology, physiology, microbiology, developmental biology) committed to understanding the cellular and molecular mechanisms that govern the gut response to microbes (<http://www.buchonlab.com/index.html>). They will integrate in a community of labs focusing on host-microbe interactions (<https://cihmid.cornell.edu/>) and vector biology (<https://blogs.cornell.edu/harrington/httpneregionalvectorcenter-com/>).

Location: Cornell University is a dynamic and vibrant scientific environment. Its campus is one of the most beautiful in the country and overlooks scenic Cayuga Lake. The area has outstanding summer and winter recreational opportunities for individuals and families. As a major university town, the Ithaca community is culturally diverse with excellent theater, music, sports, and other activities, combined with the warmth and friendliness of a small city. Ithaca has been ranked as #1 college town in the USA for three years in a row (2017-2019) (<https://livability.com/top-10/college/10-best-college-towns/2019/ny/ithaca>). For further information, visit these links: <http://www.visitithaca.com>, <http://www.cornell.edu/>

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