Two postdoctoral positions available in the Lazzaro Lab at Cornell University

Our lab studies the evolutionary and functional genetics of bacterial infection in *Drosophila melanogaster*. Current host-oriented projects are focused on understanding the kinetics of systemic bacterial infection and testing how small differences in host physiology and immune performance become magnified into large effects on the probability of surviving infection. Current pathogen-oriented projects include elucidation of bacterial infection strategies and bacterial determinants of infection severity. Collectively, our lab strives to study host and pathogen as interacting components of a biological system that is shaped by the abiotic environment, where host physiology, bacterial physiology, virulence and immunity combine to determine the outcome of infection.

**Postdoc Opening: Reproduction-Immunity Tradeoffs in Drosophila melanogaster**

Reproduction and immunity are energetically demanding and both are of major importance for evolutionary fitness. We are recruiting a postdoctoral scholar to join our team of researchers studying the mechanistic basis of the tradeoff between them, and the evolutionary consequences of that tradeoff. In previous work, we have shown that mating and the synthesis of Juvenile Hormone result in immunodepression of *D. melanogaster* females. The recruited scholar will extend those studies. Potential projects may focus on topics such as physiological conflict between reproductive and immunological processes, consequences of post-mating alteration in metabolism or nutritional assimilation, or endocrinological effects of mating on defense. The precise line of research can vary depending on the skills and interests of the person who fills the position. The strongest applicants will have experience with *Drosophila* genetics/genomics and a demonstrated record of success in research.

**Postdoc Opening: Bacterial Genetic Determinants of Persistent Infection**

We have identified multiple bacterial taxa that stochastically establish either acutely lethal or lifelong persistent infection in *D. melanogaster*, with both infection outcomes observed among populations of genetically and experimentally identical flies. The probability of either outcome is variable depending on host genotype and physiological status. We are recruiting a postdoctoral scholar to study the bacterial genes that mediate the switch between lethal versus persistent infection. Specific systems to be interrogated may include bacterial responses to immunological stresses such as antimicrobial peptides and reactive oxygen, quorum sensing and cooperative mechanisms such as biofilm formation, or entry into and exist from persister status. The specific experiments to be pursued will vary depending on the skills and interests of the person who fills the position. The strongest applicants will have experience in Gram-negative or Gram-positive bacterial genetics with a demonstrated record of success in microbiological research.

These postdoctoral positions will be paid on the NIH scale with full health and retirement benefits. The Lazzaro Lab is diverse and inclusive. Cornell is an Affirmative Action / Equal Opportunity Employer.

Contact Brian Lazzaro (bplazzaro@cornell.edu) for details. Visit our lab website at [http://www.lazzaro.entomology.cornell.edu](http://www.lazzaro.entomology.cornell.edu).