



PhD position: eco-evo-immunology of *Drosophila* – bacteria interactions

The Evolution and Ecology of Insect Defences group at the Institute of Biology, Freie Universität (FU) Berlin, Germany, would like to invite applications for a doctoral candidate position (TV-L E13, 50%) for the research project: **Eco-evo-immunity of *Drosophila* – bacteria interactions**. The position is fixed-term and available for 3.5 years and it will start in August 2019, or as soon as possible thereafter.

Project background

Our research lies in the field of eco-evo-immunology, focusing on host resistance and tolerance to infection (<https://armitagelab.com/>). Pathogens can have substantial negative fitness effects on their hosts. This creates a strong selection pressure on a host to have efficient immune defences. A host can counteract an infection by directly reducing its pathogen load, i.e., resistance, or by reducing the harm that the infection does to its fitness, i.e., tolerance. Given that resistance can be costly and involve autoimmune damage, a more resistant host is not always the fittest. Tolerance is therefore an interesting concept because it describes how well hosts are able to ameliorate the fitness costs of a given pathogen load. Resistance and tolerance are predicted to give contrasting perspectives on host-pathogen evolution and infectious diseases, therefore it is important to understand infection in the light of these two concepts. The project will involve studying the interaction between the host (*Drosophila melanogaster*) and bacterial pathogens during the infection process, with the objectives to understand how fitness parameters interrelate with each other and describe host sickness trajectories and the effects that defences have upon the evolution of the pathogen. The project will follow the progression of the infection within the host (resistance), and its longitudinal effect on host fitness parameters such as health-, behaviour- and fecundity-tolerance.

Requirements

Completed University Master's degree in biology.

Desirable

- We would like applications from enthusiastic and highly motivated students with a background / strong interest in evolutionary ecology.
- Ability to work independently.
- Good team-working and communication skills.
- Laboratory experience with either bacteria or insects.
- Good basic knowledge of statistics and experimental design.
- Proficient in spoken and written English.
- Experience: Completed projects / internships on topics relevant to the research area are advantageous.

How to apply

Applications should be written in English and include the following documents:

(1) a cover letter with a short statement of motivation to join the research project (no more than one page), (2) a CV including details of your research experience and any publications, (3) the names of 2-3 potential referees.

Please send the application as one single PDF document, to sophie.armitage@fu-berlin.de, with the following identifier in the subject field: 21245101/22/19.

The deadline for applications is the **10th June 2019**. Interviews will take place as soon as possible after this date. The working language of the group is English. Please note that the position requires participation in teaching (2 hours per week during University semester time).

For further information, please don't hesitate to contact Sophie Armitage.