

Group behaviour of juvenile and adult mosquitoes

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Mosquitoes are vectors of devastating diseases that claim over a million human lives every year. However, the satisfactory understanding of mosquito behaviour is currently lacking. Mosquitoes are not social insects, but their larvae often occur in close proximity to other larvae of the same or different species, and the adults swarm/ may occur in groups or in close proximity to each other. Being in a group can maximise reproductive, feeding or predatory protection opportunities and therefore greatly affects individual survival and fitness.

The aim of this project is to investigate group behaviours of African and UK mosquitoes, both larvae and adults, and to establish whether and how these behaviours aid their survival.

You will join a highly multidisciplinary collaboration between Durham (Biosciences, Computer Science), Northumbria and Liverpool Universities, and the Champalimaud Foundation, Portugal.

WHAT WILL YOU DO AND LEARN?

You will learn to maintain a mosquito colony, and will develop, set up and run behavioural assays on mosquito larvae and adults. You will collect data in the form of digital images, and will use computer vision techniques to analyse this data. In addition, you will learn “soft skills”, such as presentation and scientific writing to deliver conference presentations and journal publications, research supervision of undergraduate students and teaching demonstrating, and impact and public outreach.

You will also benefit from:

- 1) funded industrial PIPS placement in the UK or abroad
- 2) attendance of funded summer courses, conferences and NEEDL-specific events
- 3) experience of working across 4 collaborating labs

WHAT DISCIPLINES ARE INVOLVED?

This project is highly multidisciplinary and spans insect neuroscience, neuroethology and ecology, insect behaviour, image processing and analysis, behavioural assay development.

REQUIREMENTS

We are looking for an independent and enthusiastic student able to develop the project and drive it forward. Interest and experience in the development of behavioural assays, working with insects, computer vision, image processing and data analysis and previous research experience are a plus. Full training in the techniques required for this project will be provided. We specifically encourage applications from people of backgrounds, underrepresented in the UK academia.

To apply, you must first contact Dr Olena Riabinina (olena.riabinina@durham.ac.uk) with your CV and a brief statement explaining your interest in the project.