

### JOB DESCRIPTION

<b>POST</b>	Post-Doctoral Research Assistant
<b>CONTRACT</b>	Fixed term
<b>REFERENCE NO</b>	405-19
<b>REPORTS TO</b>	Grant Hughes
<b>ROLE PURPOSE/SUMMARY</b>	Develop novel approaches for manipulation of mosquito genetics and transcription
<b>SCOPE/BACKGROUND</b>	The Hughes lab in the Departments of Vector Biology and Tropical Disease Biology at the Liverpool School of Tropical Medicine seeks to appoint a post-doctoral research assistant to work on a BBSRC funded project to develop novel methods to genetically manipulate insects. The project will expand on the approach termed "ReMOT Control". The work will involve developing cutting-edge methods in genetic manipulation to allow the efficient manipulation of Aedes mosquitoes genomes without the need to microinject embryos.

### ROLE SPECIFIC RESPONSIBILITIES

	<b>KEY RESPONSIBILITIES</b>	<b>KEY ACTIONS</b> <b>These set out how the Key Responsibilities will be achieved</b>
1	<b>Develop novel genome editing approach in mosquitoes.</b>	Use CRISPR technologies to edit mosquito genomes and other non-model insects
		Use RNAi based approaches for gene silencing
		Use other genetic approaches for gene editing in mosquitoes
		Undertake protein library screens.
		Express and validate proteins in E. coli or other systems
		Analyse data generated from the lab
2	<b>Develop novel projects</b>	Generate ideas and data to support new project applications
		Apply for research grants/ fellowships in collaboration with PIs
		Disseminate findings at events and conferences as relevant to research
3	<b>Provide support and supervision to PhD students and technical staff within the group</b>	Create training material for, and provide training in molecular and analytical techniques to others in the lab
		Assist in the design and supervision of student projects
		Support PhD students working on similar topics in the analysis of their data
		Supervise others in the lab

## FURTHER RESPONSIBILITIES

	<b>KEY RESPONSIBILITIES</b>	<b>KEY ACTIONS</b> <b>These set out how the Key Responsibilities will be achieved</b>
<b>1</b>	<b>General</b>	Promote equality of opportunity and inclusive practice in all aspects of work undertaken Act in a manner that safeguards children and/or vulnerable adults as applicable to the role Any other duties commensurate with the grade and nature of the role

## PERSON SPECIFICATION

<b>POST</b>	Post-Doctoral Research Assistant	
<b>COMPETENCY CRITERIA</b>	<b>ESSENTIAL/ DESIRABLE</b>	<b>WHERE MEASURED</b>
<b>Qualifications &amp; Training</b>		
PhD in Molecular Biology, Genetics, Biochemistry or mosquito biology/entomolog	Essential	Application/Interview
<b>Skills &amp; Experience</b>		
Experience in molecular biology	Essential	Application/Interview/ Assessment
Experience in gene editing approaches	Essential	Application/Interview/ Assessment
Strong record of preparing publications for specialist/ general science journals	Essential	Application/Interview
Plan to develop own research ideas for grant applications	Essential	Application/Interview
Experience of training staff in lab practices	Essential	Application/Interview
Familiarisation with CRISPR-Cas9 gene knock out and knock in	Desirable	Application/Interview
Strong bioinformatic skills	Desirable	Application/Interview
Experience with protein expression and purification	Desirable	Application/Interview
Experience working with mosquitoes or non-model insect	Desirable	Application/Interview
Understanding of reproduction in mosquitoes or non-model insect	Desirable	Application/Interview/ Assessment
Evidence of acquiring funding	Desirable	Application/Interview
<b>Knowledge &amp; Behaviours</b>		
Knowledge and behaviours that support equality, diversity and inclusive practice	Essential	Interview
Excellent verbal and written communication skills, with the ability to communicate at all levels.	Essential	Interview/ Assessment
Excellent organisational skills	Essential	Interview
Excellent mentoring skills	Essential	Application/Interview
Ability to use initiative and work independently	Essential	Interview
Understanding of RNAi based gene silencing	Desirable	Application/Interview