3 Year PhD Studentship available for September 2018

**Department:**  Infection, Immunity and Inflammation

**Supervisors:**  Dr Andrew Millard (adm39@le.ac.uk) and Prof Martha Clokie (mrjc1@le.ac.uk)

**Eligibility:**  UK/EU applicants only

**Project Title:**  Engineering bacteriophages to combat antimicrobial resistance

**Project Description:**

The rise in antimicrobial resistance is predicted to result in up to 10 million deaths per year by 2050. Therefore, alternative antibiotics are needed to combat the rise in antimicrobial resistance. Bacteriophages (phages) are viruses that specifically infect bacteria and can be used as alternatives to traditional antibiotics.

This project will build on existing expertise in the engineering of bacteriophages. Bringing the experience from three supervisors Dr Andrew Millard (www.millardlab.org) and Prof Martha Clokie (https://www2.le.ac.uk/departments/iii/people/dr-martha-clokie) at the University of Leicester and Dr Nick Waterfield (https://warwick.ac.uk/fac/med/staff/nwaterfield/) at the University of Warwick.

The aim of the project will be to further engineer bacteriophages to target multiple species of bacteria within polymicrobial infections. Using synthetic biology approaches and a genetic system we already have established, different payloads will be incorporated into bacteriophage genomes. The efficacy of these payloads at targeting different bacterial species will be tested using both in vitro and in vivo models (Galleria mellonella & Manduca sexta).

The project will involve molecular biology, genome sequencing, microbiology, and bioinformatics analysis. Experience in working with bacteriophages is highly desirable and the willingness to become familiar with linux and bioinformatics analyses is essential.

**Skills training/methods/techniques:**

- Microbiological assays
- Genome sequencing
- Analysis of genome sequencing data
- General molecular techniques
- Protein expression

**Funding details:**

3 Year College of Life Sciences Funded Studentship. Funding provides UK/EU fee waiver and Stipend at UK Research Council rates for 3 years. Available to UK/EU applicants only
Entry requirements:

Applicants are required to hold/or expect to obtain a UK Bachelor Degree 2:1 or better in a relevant subject. The University of Leicester English language requirements apply where applicable.

How to apply:

Please apply using our online application system

In the funding section of the application please state that you are applying for a CLS studentship. In the proposal section include the project title and name of the supervisor.

You should provide a personal statement explaining why you are interested in this project.

Project enquiries: Dr Andrew Millard (adm39@le.ac.uk) +44 (0)116 252 5743

Application enquiries to pgradmissions@le.ac.uk