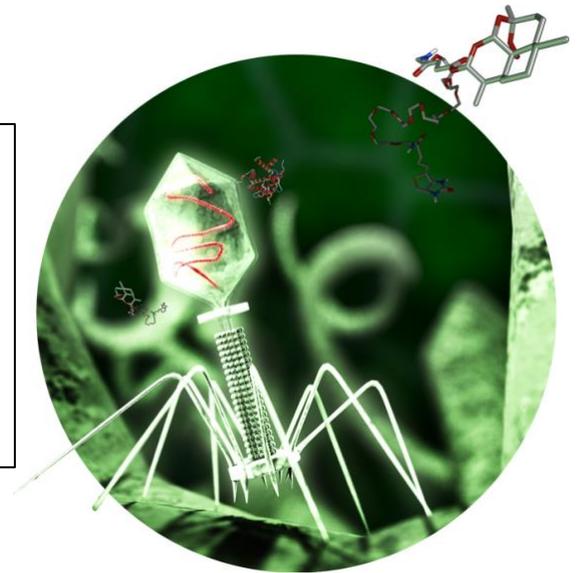


PhD Project in Bacteriophage Synthetic Biology

The Jaschke Lab is seeking an innovative and highly motivated PhD student candidate to work within a multidisciplinary team on a cutting-edge NHMRC-funded project at the intersection of synthetic biology and phage therapy: engineering new phage to address antibiotic resistant uropathogenic *E. coli* infections.



Background

Antimicrobial resistance is increasing at an alarming rate globally and there is an urgent need to develop alternative, and potentially complementary, therapeutics to combat pathogenic microbes. Recently, uropathogenic *E. coli* (UPEC) in urinary tract infections has emerged as a difficult to treat and increasingly antibiotic-resistant pathogen. Bacteriophage, or phage for short, are viruses which infect bacteria and are increasingly being seen as a viable complementary therapy to antibiotics. Unfortunately, before bacteriophage can be used widely several key roadblocks must be addressed, including host-range that is too narrow, and rapid bacterial resistance. In this project we aim to create new synthetic phage to address uropathogenic *E. coli* while addressing the shortcomings of standard phage therapy. Successful outcomes of this project will be peer-reviewed publications in high-impact journals, intellectual property generation, and the chance to make a positive difference in the lives of people chronically infected by UPEC pathogens.

Candidate

• To be eligible to apply the candidate must:

1. Be considered a Domestic student (Australian citizen or permanent resident)
2. Completed either a:
 - (a). Master of Research (MRes) with a grade of at least a Distinction level (75% or greater in second year; or
 - (b). Master of Philosophy; or
 - (c) Two-year Masters degree with a major research component at Distinction level (75% or greater).

We encourage candidates of all backgrounds to apply.

Project Information

• The project will be hosted at Macquarie University in a brand new synthetic biology lab with Dr. Paul Jaschke as primary supervisor. Dr. Karen Weynberg at the University of Queensland will serve as a secondary supervisor.

To discuss an application to this project, please send a CV, copies of publications (if applicable) and information on your current situation and desired timeline of application to: paul.jaschke@mq.edu.au