

2015 VISITING FELLOWSHIPS

School/Department/Research Group Expression of Interest

CONTACT INFORMATION

Title: Prof

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PROPOSED RESEARCH AREA

School/Department/Research Group: School of Veterinary Medicine and Science

Project Title (please limit this to one sentence. This will be published on the web site)

Development of panel of lytic bacteriophages for cholera treatment

Research Area for which you would welcome applications (please keep this as broad as possible at this stage. A few paragraphs will suffice):

Vibrio cholerae remains a major cause of epidemic diarrhoea and death in many countries. Treatment is made more difficult by increasing antibiotic resistance. Fluid replacement therapy is often used to treat cases of cholera, but a major disadvantage of this approach is that large numbers of virulent bacteria are shed in the liquid faeces during therapy. Lytic bacteriophages have been shown to be highly effective against neonatal *E. coli* enteritis where the pathogenesis is identical to cholera. We have a PhD project and international UKIERI collaboration with the National Institute for Cholera and Enteric Diseases to explore the use of lytic bacteriophages for treating epidemic cholera.

We have a number of phages which can kill epidemic and pandemic strains of *Vibrio cholerae*, some of which were isolated from China by our student who has subsequently characterised them and obtained their genome sequence. These phage are currently being tested for their therapeutic potential in a rabbit model of cholera with colleagues at Surrey University. We have contact with Dr. Julius Oyugi at the University of Nairobi who is also interested in this new approach to treating cholera. He is able to access and isolate more phages from the environment. We wish to bring his student to Nottingham so that we can characterise his phages in more detail and add them to our panel.

In the medium term we wish to establish a collaboration with the WHO which will lead to field trials. In order to achieve this objective we need a larger panel of phages for testing, from a range of countries where cholera is endemic. This is the aim of the proposed fellowship.

Maximum number of applications that the School/Department/Research Group is willing to accept: This is one application of probably 4 from SVMS which could sustain 3 visiting fellows.