Name: Georgina Crayford

Project title: The infection biology of pig-associated _Salmonella_

Institute: Liverpool University

Start date: October 2010    Finish date: March 2014

Lay summary of project (in your own words)
Pigs and pork are sources from which humans can catch the food-poisoning bacteria _Salmonella_. The aim of my project is to understand how certain strains of _Salmonella_ are successful in infecting pigs. With an improved understanding of what makes these strains infective, further work can focus on how to prevent or limit them.

In the laboratory I work with cells taken from the intestine of the pig, the primary cells that come into contact with _Salmonella_ during infection. I infect these cells with different strains of _Salmonella_ and analyse how the bacteria behave when they come into contact with the cells and how the cells respond to the _Salmonella_. For example, I can determine which genes and proteins are important to the bacteria and intestinal cells during interaction between the two. This experimental work is designed to give us a better idea of what happens in real life when pigs become infected with _Salmonella_.

The results that I get from this project will hopefully inform future projects looking at control measures for _Salmonella_ in pigs. If we can prevent pigs from being infected by _Salmonella_ it will help to make pork safer to eat and improve public health.

A bit about yourself (one paragraph)
I am an enthusiastic young scientist interested in zoonotic diseases that can be transmitted between humans and animals. I am particularly interested in pig diseases and would like to continue working in the pig industry to improve pig health once I have completed my PhD. In my spare time I enjoy playing lacrosse, cooking for my family and friends and going to music festivals and gigs.

What you hope to get out of your PhD
Through doing my PhD I hope to contribute valuable information to the scientific and agricultural communities, which will give me an enormous sense of achievement. I also hope that by the end I will have become a better researcher, more able to work through difficult problems effectively.
Salmonella attaching to and invading porcine intestinal epithelial cells. DAPI blue fluorescent staining of DNA: large round structures are cell nuclei, small structures are bacterial cells.

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Signature: …Georgina Crayford    Date: …21/08/2013