Available PhD projects

The roles of virulence proteins in infectious diseases due to *Streptococcus pneumoniae*

Application deadline: Applications accepted all year round

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Funding: Self-funding only

Summary

*Streptococcus pneumoniae* one of the most important agents of infectious diseases of humans. It is the main cause of pneumonia, which is associated with millions of deaths each year. If we are to find new ways of combating the pneumococcus then we need to understand how the it causes disease. Several pneumococcal proteins have been described that contribute to its virulence but it is known that pneumococcal isolates vary in the repertoire of genes that they possess and hence the contribution of an individual factor to pathogenesis may vary according to the other pneumococcal factors present. However, study of infection has tended to look at the contribution of individual virulence factors in isolation and often in only one or two strains. Consequently, the contribution of individual factors may be under-estimated or over-estimated, according to the influence of the genotype of the test strain. In this project you will study the contribution of individual across a range of clinical isolates by making mutants and then testing the host’s inflammatory response to each recombinant strain.

PhD opportunities also are available to study the genetic basis of susceptibility to infection or the response of bacterial pathogens to their environments.

References: