

ARC Centres of Excellence Program

ARC Centre for Structural and Functional Microbial Genomics

Interim Director: Prof B Adler

Collaborating Institutions: Monash University

This Centre was relinquished with effect 1 July 2005 pursuant to the commencement of the new Centre of Excellence for Structural and Functional Microbial Genomics. (See outcomes of 2005 Centre of Excellence selection round.)

The revolution in biological research brought about by genome sequencing, bioinformatics and proteomics is often discussed in the context of humans and other vertebrates. However, there is enormous potential to apply the methods to make major advances in the study of microbes. Improved understanding of the genetic basis for pathogenic virulence in microbes will offer new opportunities for the control of microbial disease and the development of antimicrobial agents of value to Australian primary industry.

Using a carefully designed 'pipeline' to integrate its research technologies, the Centre aims to determine the molecular basis for cellular processes that play an essential role in microbial growth and survival, and in key pathogenic host-microbe interactions. It aims also to determine the genetic regulatory mechanisms involved in the expression of host and microbial genes that are important in microbial diseases. The research program is directed at fundamental problems, but offers very significant benefits through contributions to innovative vaccines to control and treat microbial infections in the poultry, pigs, sheep and cattle industries.