

ARC Centres of Excellence Program

ARC Centre for Genome-Phenome Bioinformatics

Interim Director: Professor M A Ragan

Collaborating Institutions: The University of Queensland
 Queensland University of Technology
 The University of Newcastle
 The Australian National University
 IBM Life Sciences
 IBM Thomas J Watson Research Centre

Understanding how the genome ‘comes to life’ in the differentiation and development of a mammalian cell is a major goal of modern biology. Research on the problem often requires the analysis of vast amounts of experimental data obtained by researchers working in many different laboratories, and the construction of mathematical and statistical models that help to make sense of these data. This analysis and modelling relies on computing, database and visualization technologies that come together in the field of bioinformatics.

The Centre aims to provide an Australian focus for bioinformatics, in particular to provide facilities and training to develop the human capital and knowledge base to allow Australia to be more internationally competitive in advanced bioscience and biotechnology. It will do this through research targeted in three related areas: developing mathematical and statistical techniques to describe the complexity of cellular function, assembling systems to visualize cellular function, and investigating cellular mechanisms using electron microscopy.