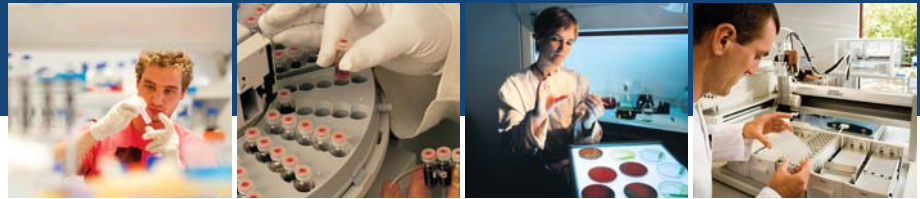


# RESEARCH IN MOLECULAR & BIOMEDICAL SCIENCE

FACULTY OF SCIENCES | THE UNIVERSITY OF ADELAIDE



The School of Molecular & Biomedical Science brings together the fundamental disciplines of Biochemistry, Genetics and Microbiology & Immunology.

The School supports a large number of active researchers in these fields and consists of over 300 research and academic personnel, providing excellent research opportunities for Honours and PhD students. At any time it hosts around 80 postgraduate students and 40 students completing their Honours undergraduate year.

Scholarships are readily available for Australian citizens and permanent residents, and New Zealand citizens to support postgraduate study. The University of Adelaide also allocates a number of scholarships to other international students.

The School offers a dynamic research environment, encompassing the complete spectrum of research activities from the gene through to its phenotypic function in the intact organism. It is home to a number of world-class scientists, working with a wide range of experimental systems, including several of the most important animal, fungal and microbiological model systems used in international science.

The School is equipped with state of the art facilities and the research conducted in the School is well funded from both national and international sources. School researchers attract, on average, around \$10 million in grant funding annually.

The School houses the Research Centre for Infectious Disease and is an integral part of the Australian Centre for Hepatitis and HIV Research.

*For information on research areas within The Faculty of Sciences please visit:*  
[www.sciences.adelaide.edu.au/research](http://www.sciences.adelaide.edu.au/research)

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## BIOCHEMISTRY

[www.adelaide.edu.au/mbs/research/biochem/](http://www.adelaide.edu.au/mbs/research/biochem/)

Structural Biology and Drug Design  
*Dr Grant Booker*

bHLH.PAS Transcription Factors: Structure, Function and Understanding Specificity  
*Dr Anne Chapman-Smith*

Insulin-Like Growth Factor System Structure and Function  
*Dr Briony Forbes*

Protein Structure and Cell Signalling During Mouse Development  
*Dr Bryan Haines*

Protein and Proteome Analyses  
*Dr Peter Hoffmann*

Molecular and Cell Biology of Reproductive Tissue Differentiation  
*Professor Richard Ivell, Dr Ravinder Anand-Ivell*

Post-Transcriptional Gene Regulatory Mechanisms and the Control of Development  
*Dr Kirk Jensen*

Molecular Control of Pluripotent Stem Cells  
*Dr Rebecca Keough*

Cell Signalling: The Regulation of Cell-Cell Adhesion and How It Impacts Upon Developmental Mechanisms, Cancer Progression and Inflammatory Processes  
*Dr Yeessim Khew-Goodall*

Molecular Components of Cellular Oxygen Sensing and the Hypoxic Response  
*Dr Dan Peet*

Sphingolipid-Mediated Signal Transduction Pathways and How They Contribute To Cancer, Inflammatory Diseases, Hypertension and Other Conditions  
*Dr Stuart Pitson*

Biological Switches: Molecular Mechanisms in the Utilisation of Alternative Developmental States  
*Dr Keith Shearwin*

Molecular Genetics of Brain Development in Mice and Man  
*Associate Professor Paul Thomas*

The Structure, Function and Regulation of Biotin Enzymes and Insulin-Like Growth Factors  
*Professor John Wallace*

Signal Regulated Transcription Factors  
*Associate Professor Murray Whitelaw*

## GENETICS

[www.adelaide.edu.au/mbs/research/genetics/](http://www.adelaide.edu.au/mbs/research/genetics/)

Bioinformatics and Computational Genetics  
*Professor David Adelson*

Genetics of Leukemia  
*Dr Anna Brown*

Therapies for Bone and Brain in Lysosomal Storage Disorders  
*Dr Sharon Byers*

Evolution of Australian Fauna –Speciation and Population Structure  
*Dr Steven Cooper*

Science Education Research and Development  
*Dr Michelle Coulson*

Control of Blood Formation and Molecular Mechanisms Underlying Leukaemia  
*Associate Professor Richard D'Andrea*

Computational Evolutionary Genetics  
*Dr Jack da Silva*

Identification of Genes and Understanding of Molecular Mechanisms Leading to Intellectual Disability  
*Associate Professor Jozef Gecz*

Genome Organisation, Chromosome Evolution and Sex Determination in Vertebrates  
*Dr Frank Grutzner*

Genetic Dissection of Gene Regulatory Networks  
*Dr Joan Kelly*

Using Zebrafish Embryos to Investigate the Normal Development of the Nervous System, the Genetics of Dementia, and Transgenic Technology  
*Dr Michael Lardelli*

Use of Animal Model Genetic Systems (Drosophila and Zebrafish) to Dissect the Normal and Pathogenic Molecular Pathways Influenced by Genes Associated with Human Diseases such as Huntington's Disease and Cancer  
*Professor Robert Richards*

Transcriptional Mechanisms and Molecular Pathogenesis in Autoimmunity and Haematological Malignancies  
*Professor Hamish Scott*



Eukaryotic Genome Evolution  
(Genetic Interactions Between Cytoplasmic  
Organelles and the Nucleus)  
*Professor Jeremy Timmis*

## MICROBIOLOGY & IMMUNOLOGY

[www.adelaide.edu.au/mbs/research/micro/](http://www.adelaide.edu.au/mbs/research/micro/)

Influenza Virus Vaccine  
Development and Immunity  
*Dr Mohammed Alsharifi*

Tuberculosis and Other Mycobacterial Infections  
*Dr Ivan Bastian*

Replication and Pathogenesis of  
Hepatitis C Virus  
*Dr Michael Beard*

Pathogenesis of Dengue Haemorrhagic  
Shock Syndrome  
*Dr Jill Carr*

Pathogenesis of HIV/AIDS and Dengue  
Haemorrhagic Shock Syndrome  
*Dr Li Peng, Dr Jill Carr, Professor Chris Burrell*

Immunopathology of Parasitic Infections  
and Asthma  
*Dr Lindsay Dent*

Medical Mycology  
*Associate Professor David Ellis*

Hepatitis C Virus, Replication, Antivirals  
and Vaccine Development  
*Professor Eric Gowans*

Mast Cell Biology  
*Dr Michele Grimaldestone*

Novel Anti-Viral Proteins and Hepatitis C Virus  
Induced Liver Inflammation and Disease  
*Dr Karla Helbig*

Molecular Mechanisms in  
Bacterial Pathogenesis  
*Dr Mike Heuzenroeder*

Gastroenteritis Virus Infections of Humans  
*Dr Geoff Higgins*

Pathogenesis and Prevention of Infection  
with Hepatitis B-Like Viruses  
*Associate Professor Allison Jilbert*

Stress Response in Pathogenic Bacteria  
*Dr Stephen Kidd*

Respiratory Virus Infections  
*Dr Tuckweng Kok*

Role of Chemokines in Immunity  
and Disease Processes  
*Professor Shaun McColl*

The Role of Membrane Proteins in  
Bacterial Pathogenesis  
*Dr Chris McDevitt*

Pathogenesis of Enteric Bacterial Infections  
*Dr Renato Morona*

Pathogenesis and Prevention of  
Pneumococcal Infections  
*Dr David Ogunniyi*

Pathogenesis and Prevention of  
Pneumococcal and E. coli Infections  
*Professor James Paton*

Enteric Virus Infections  
*Dr Rodney Radcliffe*

Food Microbiology and Food Borne  
Bacterial Infections  
*Dr Connor Thomas*

Antibiotic Resistance in Bacteria  
*Professor John Turnidge*





## INSTITUTIONS WITH AFFILIATED RESEARCHERS



Child Health Research Institute

Commonwealth Scientific and Industrial  
Research Organisation (CSIRO)

Evolutionary Biology Unit of the SA Museum

Hanson Institute



Institute of Medical and Veterinary Science

Repatriation General Hospital

Royal Adelaide Hospital



The Queen Elizabeth Hospital

University of South Australia

Women's and Children's Hospital

## HONOURS & POSTGRADUATE OPPORTUNITIES

If you are interested in studying an Honours,  
Masters or PhD by research program in this  
area, please visit:

[www.sciences.adelaide.edu.au/pgprograms](http://www.sciences.adelaide.edu.au/pgprograms)

