

HEALTH SCIENCES

RESEARCH CENTRES AND INSTITUTES

UNIVERSITY RESEARCH INSTITUTES

Adelaide Cancer Research Institute
www.adelaide.edu.au/rb/centres/institutes.html
The Robinson Institute
www.health.adelaide.edu.au/school_paedrepro/res_centres/robinson/

UNIVERSITY RESEARCH CLUSTERS

Computational Neurosciences
www.adelaide.edu.au/cnrc
Defence and Security
www.adelaide.edu.au/desec
Health Ageing
www.adelaide.edu.au/harc
Healthy Development
www.adelaide.edu.au/hda

UNIVERSITY RESEARCH CENTRES

Australian Research Centre for Population Oral Health
www.arcpoh.adelaide.edu.au
Centre for the Early Origins of Health and Disease
www.adelaide.edu.au/earlyorigins
Centre for Orofacial Research and Learning (CORAL)
Centre for Reproductive Health
www.adelaide.edu.au/rcrh
Centre for Stem Cell Research
www.adelaide.edu.au/stemcell
Children's Research Centre
www.adelaide.edu.au/childrens_research/
Freemasons Foundation Centre for Men's Health
www.adelaide.edu.au/menshealth/

A full list of University research centres, groups and units is available at:
www.adelaide.edu.au/rb/centres/unicent.html

CONTACT DETAILS:

Executive Dean: Professor Justin Beilby

Manager, Research Secretariat:
Dr Christiane Niess

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The Faculty of Health Sciences consists of six Schools: Dentistry; Medical Sciences; Medicine; Paediatrics and Reproductive Health; Population Health and Clinical Practice; and Psychology.

The Schools encompass 17 Disciplines which form the nucleus for new research foci, strength, concentrations and excellence. In recent years the Faculty of Health Sciences has focused on specific areas of research strengths. Research Institutes and Research Centres have been established to support the vision and mission of the Faculty of Health Sciences. They will help to maintain our competitive edge as a research-intensive Faculty and provide new facilities for clinical, research and teaching activities. This focused approach enables the Faculty to serve community needs, develop its international stature and take advantage of new funding opportunities.

The Faculty of Health Sciences is well positioned to provide a foundation for a successful research career. We encourage the development of research teams and groups within and across disciplines at all levels and with affiliated hospitals; collaborations with other institutions and faculties nationally and internationally are strongly supported. We are planning to attract more excellent international students to enhance the diversity of our research environment and culture.

DENTISTRY

Dean and Head: Professor Johann de Vries

Postgraduate enquiries: Dr Janet Fuss

Phone: 61 8 8303 6069 **Fax:** 61 8 8303 3444

Email: janet.fuss@adelaide.edu.au

Web: www.health.adelaide.edu.au/dentistry/

Research in the School of Dentistry has a long and distinguished history at the University of Adelaide.

The School is home to the Australian Research Centre for Population Oral Health (ARCPOH), the University Research Centre for Orofacial Research and Learning (CORAL) and the Colgate Clinical Dental Research Centre, which is the

most advanced dental research centre in the southern hemisphere.

The School and the Centres have a broad scope of dental research, including child and geriatric dental health, dental services research and fluoride studies.

Research Interests

- Biomaterials research
- Craniofacial biology and genetics
- Dental education
- Endodontics and pulp biology
- Forensic odontology
- Mechanisms of bone destruction in periodontitis
- Oral and maxillofacial surgery
- Oral microbiology - physiology, interactions between, and ecology of microorganisms in dental plaque
- Oral pathology - nature, identification and management of diseases affecting the oral and maxillofacial regions
- Orthodontics
- Paediatric dentistry
- Periodontal ligament stem cells
- Periodontics
- Restorative dentistry
- Tissue engineering of periodontal matrices.

MEDICAL SCIENCES

Head: Professor Robert Vink

Postgraduate enquiries:

Associate Professor Rod Irvine

Phone: 61 8 8303 5976 **Fax:** 61 8 8224 0685

Email: rod.irvine@adelaide.edu.au

Web: www.health.adelaide.edu.au/school_medsci/

The School offers a dynamic research-intensive environment that nurtures the development of our students to their full potential, and fosters excellence in inter-disciplinary research.

The School of Medical Sciences encompasses the disciplines of anatomical sciences, pathology and pharmacology. Together, these disciplines are:

- Investigating the morphology of the human body at the macroscopic and microscopic levels to illustrate how structure relates to function
- Understanding the causes and mechanisms of disease and its consequences, *and*
- Establishing how drugs may be used to improve health and quality of life, as medicines to treat and prevent diseases, or as a research tool to further explore the function of the human body.

Anatomical Sciences

Phone: 61 8 8303 5488 **Fax:** 61 8 8303 4398

Email: bruce.firth@adelaide.edu.au

Web: www.adelaide.edu.au/health/anat/

Research Interests

- Biological anthropology and comparative anatomy
- Evolution in sperm form and function in mammals with special reference to the cytoskeleton
- Extratesticular sperm maturation in male and female reproductive tracts
- Factors determining the sperm production rates and testis size
- Organisation of the extracellular matrix of the egg coat, the zona pellucida, and its relationship to putative species-specific sperm binding and penetration
- Sperm and egg production and structural organisation, their maturation and sperm-egg interaction at fertilisation
- Pineal gland and hormone in circadian and thermoregulatory rhythms
- Permeable barriers in brain and spinal cord trauma.

Pathology

Phone: 61 8 8303 3180 **Fax:** 61 8 8303 4408

Email: david.haynes@adelaide.edu.au

Web: www.health.adelaide.edu.au/pathology/

Research Interests

- Research around traumatic brain and spinal cord injury, stroke, peripheral nerve injury, and degeneration, particularly Parkinson's and Alzheimer's Diseases
- Molecular mechanisms in loss of tissue function in major disease processes such as atherosclerosis, blood vessel aneurysms and pulmonary emphysema
- Molecular mechanism in congenital disorders such as Marfan syndrome and a variety of corneal and muscular dystrophies
- Bone cell metabolism and pathogenic bone loss
- Biomaterials
- Tissue-level morphology during development, growth and ageing together with changes associated with adult onset bone disease such as osteoarthritis and osteoporosis.

Pharmacology

Phone: 61 8 8303 5976 **Fax:** 61 8 8224 0685

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Web: www.health.adelaide.edu.au/pharmacology

Research Interests

- Addiction
- Clinical pharmacology
- Cyanobacterial toxicology
- Drug metabolism, drug transporters and pharmacokinetics
- Neuropharmacology
- Neuroscience and cannabinoid research
- Oxidative stress and Alzheimer's disease and lipid peroxidation
- Pain
- Pharmacogenetics and genomics
- Signal transduction and control of neurotransmission.

MEDICINE

Head: Professor Gary Wittert

Postgraduate enquiries:

Associate Professor David Callen

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Web: www.health.adelaide.edu.au/school_medicine/

The School of Medicine incorporates the disciplines of anaesthesia and intensive care, medicine, ophthalmology and visual sciences, orthopaedics and trauma, surgery and psychiatry. The School is based across four clinical locations: The Royal Adelaide Hospital; The Queen Elizabeth Hospital; The Lyell McEwin Health Services; and Modbury Hospital. Research in the School covers a broad spectrum of interests. Several researchers of the School of Medicine are embedded into the Adelaide Cancer Research Institute, the Freemasons Foundation Centre for Men's Health and the Centre for Clinical Research Excellence in Nutritional Physiology, Interventions and Outcomes.



Anaesthesia and Intensive Care

Phone: 61 8 8222 4000 **Fax:** 61 8 8222 5887

Email: guy.ludbrook@adelaide.gov.au

Web: www.anaesthesia.adelaide.edu.au/

Research Interests

- Anaesthetic pharmacology
- Peri-operative safety.

Medicine (Royal Adelaide Hospital, SA Pathology/Hanson Institute)

Phone: 61 8 8222 3145 **Fax:** 61 8 8222 3217

Email: david.callen@imvs.sa.gov.au

Research Interests

- Ageing
- Alcohol exposure and birth defects
- Appetite, nutrition, obesity and diabetes mellitus
- Biology and possible treatments for alimentary (oral and gastrointestinal) mucositis
- Cancer - breast cancer, prostate cancer, cancer immunology, bone loss in malignancy, cytokine receptors, micro-RNA and metastasis, improving treatments for chronic myeloid leukaemia
- Cardiovascular research
- Functional neuroscience of human movement, cognition and behaviour
- Gastrointestinal motor function
- Gastrointestinal tract and the nervous system in disease
- Haemopoietic stem cell transplantation including cord blood transplantation
- Leukaemia biology and targeted drug development
- Lung research - smoking-related lung disease, pulmonary hypertension and lung



- transplantation
- Men's health, androgens, androgen receptors and prostate disease
- Mesenchymal stem cell biology and tissue regeneration
- Metabolic bone and joint disease
- Nerve gut research
- Nutrition in critical illness
- Programmed cell death
- Public health
- Respiratory physiology
- Vasculogenesis and leukocyte recruitment in disease
- Vitamin D and skeletal health.

Medicine (Queen Elizabeth Hospital)

Email: jenny.kennedy@nwahs.sa.gov.au

Research Interests

- Basic neuroscience in genetics
- Basic neuroscience in genetics of stroke
- Cell physiology and molecular science in nerve, gut, kidney, cardiac, synovial and respiratory tissues
- Clinical science in gastroenterology, geriatrics, cardiology, rheumatology, neurology, respiratory and renal medicine
- Population health and epidemiology of chronic disease
- Stem cell research.

Ophthalmology and Visual Sciences

Phone: 61 8 8222 2729 **Fax:** 61 8 8222 2741

Email: robert.casson@adelaide.edu.au

Research Interests

- Aspects of optic nerve pathology after retinal excitotoxic injury
- Baseline rapid visual impairment and cataract assessment in rural Myanmar and implementation of an enhanced cataract surgery service
- Bio-energetic based neuroprotection for glaucoma and retina diseases
- Detection of bacterial and viral DNA in ocular-adnexal lymphoma
- Glaucoma and retina diseases
- Immunohistochemistry of normal lacrimal sac and tumours of lacrimal sac
- Indigenous eye health
- Ocular and endocrinological changes in ageing men
- Osteopontin in the retina

- Potential neuroprotective qualities of coenzyme-Q10 on the retina
- Prevalence and causes of visual impairment
- Prevalence and risk factors for cataract and retinal disease in central Sri Lanka
- Retinal anatomical features and brain structure and function in ageing men
- Risk factors of common age-related eye diseases.

Orthopaedics and Trauma

Phone: 61 8 8222 5760 **Fax:** 61 8 8232 3065

Email: oksana.holubowycz@adelaide.edu.au

Web: www.health.adelaide.edu.au/ot/

Research Interests

- Abductor muscle assessment after hip replacement
- Animal models for cervical disc degeneration
- Assessment of spinal fusion in animal models
- Fracture healing
- Functional anatomy of the hip muscles
- Identifying cells and molecules that are responsible for bone diseases including osteoporosis, osteoarthritis, bone cancer and bone loss around artificial joints
- Impaction bone grafting in joint replacement
- Imaging of the hip and knee after joint replacement
- Induction of programmed cell death
- Interaction of human osteoblasts with new orthopaedic biomaterials
- Osteoclast production
- Outcomes following spinal cord injury
- Outcomes following surgery for spinal stenosis
- Outcomes of hip pathologies in young patients
- Outcomes of knee fractures
- Outcomes of pelvic and acetabular fractures
- Outcomes of total hip replacement
- Surgical anatomy of the hip and knee
- Techniques in deformity correction
- 3-D imaging analysis of distal radial plate fixation.

Psychiatry

Phone: 61 8 8222 5141 **Fax:** 61 8 8222 2865

Email: helen.winefield@adelaide.edu.au

Web: www.health.adelaide.edu.au/psychiatry/

Research Interests

- Cognition, psychosocial function and treatments in schizophrenia
- Communication and understandings of health risks, including genetic risk
- Identification and management of depression



Irina Majumder, Russia

Discipline of Pharmacology
International PhD student

“A number of factors helped me choose to undertake my PhD in the Discipline of Pharmacology at the University of Adelaide. The quality of research undertaken at the University is internationally renowned.”

“Studying in Adelaide has been a very rewarding experience for me so far. I recommend it to all international students.”

“The University provides excellent opportunities for research students to work with experts, to present their findings at conferences both in Australia and overseas and to have their work published in leading scientific journals. The supervisors, faculty and administrative staff are all professional, friendly and helpful.”

in patients with heart failure and angina

- Occupational stress in service professionals
- Psychosocial supports for people suffering serious and/or chronic illness
- Relationship between companion animal ownership and physical and psychological health
- Therapeutic interaction in cognitive behavioural therapy.

Surgery (Royal Adelaide Hospital)

Phone: 61 8 8222 2415 **Fax:** 61 8 8222 5896

Email: neville.deyoung@adelaide.edu.au

Web: www.health.adelaide.edu.au/surgery/

Research Interests

- Development and evaluation of computer-based resources for medical education complications of surgical procedures
- Gastroesophageal reflux disease and oesophageal cancer
- Head injury neurotrauma and spinal cord trauma
- Immune system and tumour growth
- Oesophageal cancer and Barrett's oesophagus treatment and gene expression
- Sentinel lymph node surgery in breast cancer and melanoma treatment
- Tumour immunology
- Tumour antigens and dendritic cells.

Surgery (Queen Elizabeth Hospital)

Phone: 61 8 8222 7541 **Fax:** 61 8 8222 6028

Email: prue.cowled@adelaide.edu.au

Web: www.health.adelaide.edu.au/surgery/

Research Interests

- Breast, colon and rectal cancer
- Health technology assessment in surgery
- Inflammatory bowel disease
- Mechanisms of reperfusion injury following skeletal muscle ischaemia
- Preoperative predictors of outcomes after open or endovascular repair of abdominal aortic aneurysms
- Prevention of adhesion formation in abdominal surgery
- Techniques for liver tumour destruction.

PAEDIATRICS AND REPRODUCTIVE HEALTH

Head: Professor Julie Owens

Postgraduate enquiries:

Associate Professor David Kennaway

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Web: www.health.adelaide.edu.au/school_paedrepro/

The School of Paediatrics and Reproductive Health has an international reputation for research in many aspects of reproduction and child health. Research is conducted in the Discipline of Paediatrics and the Discipline of Obstetrics & Reproductive Health as well as the new established Robinson Institute, with a focus on reproductive health, intergenerational health and new stem cell research. The Australian Research Centre for Health of Women and Babies located at the Women's and Children's Hospital promotes and supports evidence based health care during and after pregnancy and childbirth.

Obstetrics And Gynaecology

Phone: 61 8 8303 4090 **Fax:** 61 8 8222 6028

Email: david.mottershead@adelaide.edu.au

Web: www.health.adelaide.edu.au/og/

Research Interests

- Cerebral Palsy
- Developmental neuromotor physiology
- Early life programming of health and disease
- Health and social outcomes in reproduction
- Human and animal reproductive biotechnology and stem cells
- Maternal and foetal biology and medicine
- Menopause
- Nutrition, environment and reproduction
- Oocyte and early embryo development
- Ovarian and follicular function
- Growth factors and ovarian function

- Reproductive immunology
- Uterine biology, implantation and placental development.

Paediatrics

Phone: 61 8 8161 6562 **Fax:** 61 8 8161 7031

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Web: www.health.adelaide.edu.au/paediatrics/

Research Interests

- Characterisation of genes implicated in various forms of intellectual disability
- Endothelial function in type 1 diabetes and obesity, preclinical diabetes and psychological impact of chronic disease
- Involvement of genes in a number of lysosomal storage disorders
- Mental health and wellbeing of children and adolescents
- Motility research of upper gastrointestinal tract
- Non-invasive modalities to study gut function pathophysiology and interventions
- Novel therapies for prevention and treatment of gastrointestinal diseases including pre and probiotics and hyperimmune bovine colostrum
- Zinc stable isotope studies in animal models and humans in health and disease.

POPULATION HEALTH AND CLINICAL PRACTICE

Head: Professor Konrad Jamrozik

Postgraduate enquiries:

Associate Professor Annette Braunack-Mayer

Phone: 61 8 8303 3569 **Fax:** 61 8 8303 3511

Email: annette.braunackmayer@adelaide.edu.au

Web: www.health.adelaide.edu.au/school_phcp/

The School of Population Health and Clinical Practice brings together academic disciplines concerned with preventing disease and promoting health in populations, provision of health services which are the first point of contact for individuals and families in the community, health services

generally and in rural and remote localities, nursing in all its practice specialities, and Indigenous health.

Centre For Military and Veterans' Health

Phone: 61 8 8303 5200 **Fax:** 61 8 8303 5368

Email: alexander.mcfarlane@adelaide.edu.au

Web: www.health.adelaide.edu.au/school_phcp/cmvh/

Research Interests:

- Disaster and trauma research with a special interest in post-traumatic stress disorder
- Effects of stress and longitudinal adjustment on physical and psychological health
- Health outcomes of military personnel deployed overseas with a special interest in mental health and behavioural outcomes
- Neurobiology and epidemiology of post-traumatic stress disorder.

General Practice

Phone: 61 8 8303 3569 **Fax:** 61 8 8303 3511

Email: annette.braunackmayer@adelaide.edu.au

Web: www.adelaide.edu.au/health/gp/

Research Interests

- Assessment and management of chronic respiratory disease
- Bereavement and minor mental illness
- Risk factors, early detection and ongoing management of cardiovascular disease.

Nursing

Phone: 61 8 8303 4878 **Fax:** 61 8 8303 3594

Email: rick.wiechula@adelaide.edu.au

Web: www.health.adelaide.edu.au/nursing/

Research Interests

- Change management and clinical audit
- Clinical research
- Design and analysis of research studies
- Embedding evidence in health systems and decision support systems
- Evidence review, synthesis, transfer and utilisation/implementation
- Health services research.

Public Health

Phone: 61 8 8303 3569 **Fax:** 61 8 8303 3511

Email: annette.braunackmayer@adelaide.edu.au

Web: www.health.adelaide.edu.au/publichealth/

Research Interests

- Bioethics
- Health services and health systems research
- Health technology assessment
- Occupational hygiene and workplace safety
- Perinatal and social epidemiology
- Population health strategies in general practice settings.

Rural Health

Phone: 61 8 8303 6030 **Fax:** 61 8 8683 2095

Email: jonathan.newbury@adelaide.edu.au

Web: http://sgrhs.unisa.edu.au/

Research Interests

- Child and maternal health and early detection and management of chronic disease in Aboriginal communities
- Community based studies to counter overweight and obesity and mitigate risk factors of chronic disease (CVD, diabetes, respiratory disease)
- Epidemiology of chronic disease and chronic disease risk factors including the familial, sociocultural and environmental determinates of chronic disease, chronic disease risk factors and health behaviours
- Factors influencing community participation in health
- Implementation and impact of community based chronic disease self-management programs, including in mental health, and their integration into mainstream health services
- Men's health, including the role of men's sheds as a primary health care strategy for men's health
- Prevalence and management of stroke in rural communities
- Quality use of medicines in rural communities
- Rural workforce.

Medicine, Learning and Teaching Unit (MITU)

Phone: 61 8 8303 4696 **Fax:** 61 8 8303 6225

Email: anne.tonkin@adelaide.edu.au

Research Interests

- Curriculum implementation
- Development of reasoning ability, assessment of performance in a clinical setting
- Role of language in learning in medicine.

PSYCHOLOGY

Head: Professor Deborah Turnbull

Postgraduate enquiries:

Professor Ted Nettelbeck

Phone: 61 8 8303 3764 **Fax:** 61 8 8303 3770

Email:

ted.nettelbeck@complex.psych.adelaide.edu.au

Web: www.adelaide.edu.au/psychology/

Staff and students within the School of Psychology are engaged in research fields of cognition, perception, neuropsychology, and individual differences. There is also a strong emphasis on applied research engaging with social and organisational issues. Further interests focus on human health and wellbeing through the lifespan and the evaluation of interventions to promote health and wellbeing, and the health policy implications of all.

Research Interests

- Aging and intellectual disability
- Assessment and management of pain in children
- Categorisation and knowledge representation
- Changes in information processing associated with ageing
- Early intervention and prevention of mental health problems
- Evaluation of aged care resident committees
- Evaluation of community living
- Health psychology and intergenerational wellbeing
- Human categorisation
- Human decision-making
- Intellectual disability – epidemiology and psychopathology
- Language research with a focus on sentence parsing processes and the extraction of propositional information from text
- Memory
- Model evaluation methods, such as 'landscaping' and 'parameter space partitioning'
- Model of driver rehabilitation
- Needs assessment and support services for people with disabilities
- Psychoneuroimmunology.

