

# Health Research at UniSA

## Research Degree Opportunities

Sansom Institute for Health Research

Division of Health Sciences, UniSA



## Welcome

The aim of this brochure is to provide information to potential research students, both honours and postgraduate, about the range of research we do, and the research training opportunities we provide. This brochure links to a more extensive research handbook at [www.unisa.edu.au/health/researchbrochure](http://www.unisa.edu.au/health/researchbrochure)

As you will see in the following pages, the Division of Health Sciences offers a dynamic research environment across biomedical, pharmaceutical, clinical, population health, and health policy and practice investigations. The Division hosts the internationally recognised **Sansom Institute for Health Research**, which focuses on finding research solutions to the health care needs of a rapidly changing world.

If you have an interest in undertaking a research degree with us, we recommend the following:

1. Browse through this brochure, and the Sansom Institute for Health Research website at <http://www.unisa.edu.au/sansominstitute/ResearchActivities/Concentrations.asp>
2. Contact the relevant researchers and let them know that you are interested in discussing a research degree with them
3. When you have decided on a project and supervisor, have a discussion about scholarship possibilities. Scholarship are available to both Honours [http://www.unisa.edu.au/health/research/honours\\_scholarships.asp](http://www.unisa.edu.au/health/research/honours_scholarships.asp) and Postgraduate students <http://www.unisa.edu.au/resdegrees/scholarships/default.asp>
4. For questions of a more general nature, you also have access to Honours degree coordinators, research degree coordinators, and the Dean: Research & Research Education. Names and contact details are provided in the back of this brochure.

We look forward to talking with you about your research interests.



Professor Allan Evans  
Pro Vice Chancellor and Vice President  
Division of Health Sciences



Associate Professor Pat Buckley  
Dean: Research and Research Education  
Division of Health Sciences

## Research Concentrations

### **Body in Mind**

<http://bodyinmind.org/>

**Led by Professor Lorimer Moseley** [lorimer.moseley@unisa.edu.au](mailto:lorimer.moseley@unisa.edu.au)

**Ph +61 8 8302 1416**

Affecting around one in five adults, chronic pain is estimated to cost Australia approximately \$35 billion a year – a financial burden that is greater than cardiovascular disease and diabetes combined.

The Body in Mind research concentration is focussed on shedding light on how the brain responds and processes pain, and in turn developing non-pharmacological treatments to help the millions of people who suffer from chronic pain.

Led by behavioural neuroscientist and physiotherapist Professor Lorimer Moseley, the group conducts fundamental behavioural research in humans to further their aim of developing better treatments and preventative strategies. Areas of research interest include complex regional pain syndrome and early intervention after injury and its effect on later development of chronic pain.

### **Bone Growth and Repair**

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/Groups/BoneGrowth.asp>

**Led by Professor Cory Xian** [cory.xian@unisa.edu.au](mailto:cory.xian@unisa.edu.au)

**Ph +61 8 8302 1944**

This research group focuses in paediatric bone biology research. They explore the mechanisms and regulation of children's bone growth, bone growth defects, growth plate and bone injury and repair.

The groups research is aimed at developing biological treatments that impact on children's bone growth, bone mass accumulation, and adult bone health.



## **Cancer Epidemiology**

<http://www.unisa.edu.au/sansominstitute/cancer/default.asp>

**Led by Professor David Roder** [david.roder@unisa.edu.au](mailto:david.roder@unisa.edu.au)

**Ph +61 8 8302 2640**

With around one in two people likely to be diagnosed at some point in their lives, cancer in its many forms is one of Australia's major research and health care priorities.

Despite the growing disease burden, prognoses for many cancer patients are improving, with survival rates on the rise and an increasingly effective variety of screening techniques, therapies and preventative strategies available. Ensuring our healthcare systems make the best use of all such strategies is one of the key aims of the Cancer Epidemiology research group.

Examining the continuum from prevention to screening to treatment and patient outcomes, the group works to produce and translate research evidence to improve patient outcomes and inform decision makers on how best to deliver care to the many Australians requiring cancer-related health services each year.

*"Knowing I might be helping men to cope with a recurrence of their cancer is very rewarding"*

Kevin; PhD Candidate in the School of Nursing and Midwifery

## **Cell Biology of Diseases**

<http://www.unisa.edu.au/sansominstitute/ResearchActivities/Groups/Cell.asp>

**Led by Professor Doug Brooks** [doug.brooks@unisa.edu.au](mailto:doug.brooks@unisa.edu.au)

**Ph +61 8 8302 1229**

Endosomes and lysosomes are directly involved in a group of genetic diseases called lysosomal storage disorders, as well a range of other disease states including heart disease, cancer, bone disease and bacterial infection. With support from government and the pharmaceutical and biotechnology sectors, the Cell Biology of Diseases Research Group is involved in collaborative projects, developing new products and technologies with the ultimate aim of improving human health.

*"Doing a PhD in medical research is exciting and challenging, and gives you a real chance to make a difference"*

Erin; PhD Candidate in the School of Pharmacy and Medical Sciences

## Centre for Drug Formulation and Delivery

<http://www.unisa.edu.au/sansom institute/ResearchActivities/Groups/CDFD.asp>

**Dr May Song** [may.song@unisa.edu.au](mailto:may.song@unisa.edu.au)

**Ph +61 8 8302 2429**

As part of the Therapeutics and Pharmaceutical Science group, the Centre for Drug Formulation and Delivery (CDF&D) is an educational, research and pharmaceutical production facility based at UniSA's Sansom Institute for Health Research. It is part of the Institute's Therapeutics and Pharmaceutical Science research concentration.



Established in 2007, the CDF&D aims to harness South Australia's pharmaceutical science expertise to become a world leader in the development of novel drug delivery technologies.

*"Doing a PhD gave me the opportunity to live in the US for 3 months and do some research with some great people in my area, a fantastic experience!"*

Georgie; PhD Candidate in the School of Health Sciences

## Drugs of Dependence

<http://www.unisa.edu.au/sansom institute/ResearchActivities/Groups/drugs.asp>

**Led by Professor Jason White** [jason.white@unisa.edu.au](mailto:jason.white@unisa.edu.au)

**Ph +61 8 8302 1203**

Opioids and stimulants have been widely used for thousands of years, and despite their potentially addictive properties, they continue to play an important role in modern medicine. Advances in technology and clinical practice are now allowing researchers to understand how to harness such drugs for therapeutic use while limiting their adverse effects. Meanwhile, increased capacity for human trials research is opening the door to more effective treatments for addiction.

As part of the Therapeutics and Pharmaceutical Science group and Headed by leading psychopharmacologist Professor Jason White, the Drugs of Dependence Research Group conducts trials examining the physiological, behavioural and cognitive effects of a wide range of drugs, particularly opioids, stimulants and drugs that work on the central nervous system.

## **Epilepsy**

<http://www.unisa.edu.au/sansominstitute/epilepsy/default.asp>

**Led by Associate Professor Leanne Dibbens** [leanne.dibbens@unisa.edu.au](mailto:leanne.dibbens@unisa.edu.au)

**Ph +61 8 8302 1124**

Affecting more than 50 million people worldwide, there are more than 30 different types of epilepsy with 70 per cent of cases thought to have a genetic basis. Many of the epilepsies have an onset during childhood, but epilepsy can first present at any age.

Headed by Associate Professor Leanne Dibbens, the Sansom Institute's epilepsy research group is a global leader at the forefront of a wave of research that is changing the way we think about epilepsy and providing insights into the disorder with the aim of helping patients and their families.

Researchers from the group have made a major contribution to the field, identifying the genes responsible for some of the familial types of epilepsy and forms of severe childhood epilepsies that can co-occur with intellectual disability and/or autistic features.

*"Uni SA provided me with a invaluable opportunity to complete a PhD research program based at the Australian Institute of Sport where I was able to conduct my research into decision making expertise using Australia's best athletes, and work concurrently with the Australian Netball Diamonds as their performance analyst"*  
Lyndall; PhD Candidate in the School of Health Sciences

## **Early Origins of Adult Health**

<http://www.unisa.edu.au/sansominstitute/ResearchActivities/groups/adulthealth.asp>

**Led by Dr Janna Morrison** [janna.morrison@unisa.edu.au](mailto:janna.morrison@unisa.edu.au) **and Professor Caroline McMillen**

**Ph +61 8 8302 2166**

An international leader in pregnancy and fetal-development research, UniSA's Early Origins of Adult Health Research Group (EOAHRG) is involved in a variety of important projects looking at how events before birth have an impact on health later in life. The group uses a range of models and analytical techniques to investigate how the physiological environment before conception and during pregnancy can contribute to a range of conditions in adulthood such as obesity, diabetes, and cardiovascular disease.



## Health and Wellbeing Through the Generations

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/Groups/HWTG.asp>

Led by Professor Jan Pincombe [jan.pincombe@unisa.edu.au](mailto:jan.pincombe@unisa.edu.au)

Ph +61 8 8302 2027

As part of the Nursing Midwifery and Mental Health concentration, and drawing upon UniSA's recognised strengths in nursing and midwifery, the Health and Wellbeing Through the Generations group aims to optimise health outcomes by contributing to research in a variety of population health areas including family health, women's health, men's health, the health of infants, children and young people, and pregnancy/prenatal health and wellbeing.



Members' individual research interests are broad and include midwifery models of care, breastfeeding, substance use and pregnancy, postnatal depression and mental health, midwifery and infant health in developing countries and Indigenous communities, cross-cultural issues, midwifery education, and the effects of stress and fatigue on shift work.

*"I've discovered - and published - that complex interventions are required to comprehensively educate allied health practitioners on evidence-based practice"*

Janine; PhD Candidate in the School of Health Sciences

## Health Care: Practice, Outcomes and Evaluation

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/Groups/HCPQE.asp>

Led by Professor Kay Price [kay.price@unisa.edu.au](mailto:kay.price@unisa.edu.au)

Ph +61 8 8302 2721

As part of the Nursing Midwifery and Mental Health concentration, the Health Care: Practice, Outcomes and Evaluation research group is a multidisciplinary team working to optimise health by changing how ageing populations live with complex conditions.

Through local, national and international collaborations the group provides world class evidence for improving policy and practice. Our practice, outcomes and evaluation projects inform clinicians, educators and decision-makers on how best to address important health and social care issues

## Health Economics and Social Policy

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/Groups/HESPG.asp>

Led by Professor Leonie Segal [leonie.segal@unisa.edu.au](mailto:leonie.segal@unisa.edu.au)

Ph +61 8 8302 2473

With more than \$90 billion spent in the Australian health sector each year, health economics is an increasingly important field of research used to inform policy makers on how best to spend the health dollar to improve services and health outcomes. The Health Economics and Social Policy Group (HESPG) conducts



research exploring how to effectively allocate resources to improve the health and wellbeing of the community. Under the leadership of Professor Leonie Segal, the HESPG is working closely with the State government to increase health economics capacity in South Australia.

The group's research can be classified into three areas – developing health economics research methods; applying health economics to important issues affecting health and wellbeing; and supporting the adoption of economics-informed policy and practice.

*A PhD is not just about developing research skills; it is as much about developing perseverance, flexibility, a workable balance of realism and optimism and a sense of humour!*

Rebekah; PhD Candidate in the School of Health Sciences

## Infectious Diseases and Microbiology

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/groups/infectiousdiseases.asp>

Emeritus Professor Mary Barton

Ph +61 8 8302 2933

With research aimed at addressing a variety of biological challenges affecting human and animal health, this group investigates the microbiological factors affecting a range of vital health issues including antibiotic resistance, food-borne disease, water quality, and *Rhodococcus equi*.

## International Centre for Allied Health Evidence

<http://www.unisa.edu.au/cahe/>

**Lead by Professor Karen Grimmer-Somers** [karen.grimmer-somers@unisa.edu.au](mailto:karen.grimmer-somers@unisa.edu.au)

**Ph +61 8 8302 2769**

The International Centre for Allied Health Evidence (iCAHE) centre provides evidence-based solutions to allied health problems and helps clinicians ensure that their treatment strategies are based on the best available evidence. iCAHE focuses on producing resources that relate to physiotherapy/physical therapy, occupational therapy, podiatry, medical radiation and complementary or alternative therapies.



## Mental Health and Substance Abuse

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/Groups/MentalHealth.asp>

**Led by Professor Nicholas Procter** [nicholas.procter@unisa.edu.au](mailto:nicholas.procter@unisa.edu.au)

**Ph +61 8 8302 2148**

As part of the Nursing Midwifery and Mental Health concentration, the Mental Health and Substance Use group is involved in numerous initiatives aimed at improving the lives of people with mental health issues, including research, education and professional development initiatives, as well as providing policy advice to state and federal governments.

With an estimated one in five Australians affected by mental illness at some point in their lives, mental health is now emerging as a critical priority on the research landscape. Despite growing awareness and improving policies and practices, much remains to be understood about the most effective ways to diagnose, treat and prevent a variety of mental health problems, from increasingly common conditions like depression and anxiety, to chronic illnesses such as schizophrenia and bipolar disorder.

*“My research degree has been an exciting journey of both scientific and personal growth, which has spanned five cities across two continents!”*

Lisa; PhD Candidate in the School of Pharmacy and Medical Sciences

## **Molecular and Evolutionary Physiology of the Lung**

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/Groups/lung.asp>

**Led by Associate Professor Sandra Orgeig** [sandra.orgeig@unisa.edu.au](mailto:sandra.orgeig@unisa.edu.au)

**Ph +61 8 8302 2649**

A better understanding of how lungs work can point the way to a diverse range of innovations in health, from better care for premature babies and their mothers, to improved treatments for respiratory disease, and preventing the spread of infectious diseases such as avian flu. The laboratory's key aim is to understand the evolution, molecular function and regulation of the pulmonary surfactant system, a complex mixture of lipids and proteins that forms a film at the air-liquid interface of the lung. Researchers examine the surfactant system under different environmental conditions (including temperature, pressure and hypoxia) and in different animals, particularly around birth/hatching. In addition to its focus on lungs, the group also contributes to other evolutionary and functional molecular physiology.

## **Mosquito and Public Health**

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/groups/mozzie.asp>

**Led by Dr Craig Williams** [craig.williams@unisa.edu.au](mailto:craig.williams@unisa.edu.au)

**Ph +61 8 8302 1906**

As South Australia's only provider of mosquito-borne disease consulting services, this Group aims to improve the health of people and places by applying specialist knowledge of mosquitoes and other insects to various ecological contexts.



The group works closely with government, industry, and interstate university laboratories to provide expert advice on important issues to managing mosquitoes and the diseases they spread. Its research focus extends from the local to the global, from predicting and preventing Ross River Virus in South Australia, to studying the nature of tropical diseases such as Dengue Fever. As well as its work into mosquitoes and disease, the group is also involved in a variety of other biology research.

## **Musculoskeletal Health**

**Led by Professor Howard Morris** [howard.morris@unisa.edu.au](mailto:howard.morris@unisa.edu.au)

**Ph +61 8 8302 1029**

Vitamin D deficiency is a growing problem in Australia, with around 70 per cent of the population estimated to not be getting enough of the vitamin for optimal health. A person is admitted to hospital in Australia with an osteoporotic fracture every eight minutes; many of these admissions could be prevented with improved nutrition, particularly Vitamin D and calcium supplements, which have been proven to improve bone health and help prevent osteoporosis.

An international pioneer in the field, Professor Howard Morris leads various studies aimed at shedding light on the mechanisms surrounding Vitamin D and calcium supplementation and their effect on bone strength and density.

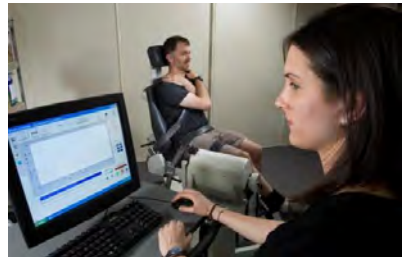
## **Nutritional Physiology Research Centre**

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/Groups/Nutritional.asp>

**Led by Associate Professor Jon Buckley** [jon.buckley@unisa.edu.au](mailto:jon.buckley@unisa.edu.au)

**Ph +61 8 8302 1853**

The Nutritional Physiology Research Centre (NPRC) is recognised worldwide for its' research into the beneficial effects of diet, nutrition and exercise. The NPRC has particular expertise in the areas of physical function, cardiovascular, metabolic and mental health benefits of diet and physical function and the underlying mechanisms in populations ranging from patients with chronic disease to elite athletes. The NPRC is providing scientific solutions to the many health challenges Australia will face in the future.



With an aging population, a rapid increase in obesity and mental health conditions, the centre collaborates with hospitals, universities and other research centres to provide scientific evidence to define diet and lifestyle changes which will optimise health, prevent disease and mental decline and improve physical function in our overall population.

With so much conflicting information regarding the health benefits of certain foods, the NPRC also provides the food industry with the scientific evidence required by Australian and overseas regulatory bodies to advertise health benefits such as omega-3 fatty acids, cocoa flavanols, tea catechins and other nutrients.

## **Public Health**

<http://www.unisa.edu.au/sansominstitute/ResearchActivities/Groups/PublicHealth.asp>

**Led by Professor Kerin O’Dea** [kerin.odea@unisa.edu.au](mailto:kerin.odea@unisa.edu.au) **and Professor Robyn McDermott** [robyn.mcdermott@unisa.edu.au](mailto:robyn.mcdermott@unisa.edu.au)

**Ph +61 8 8302 2648**

How can we act earlier to prevent illness before it occurs? Why is there such a big difference between the life expectancy of Indigenous and non-Indigenous Australians, and what can be done to close the gap? How can we better use routinely collected data in health, education and community services to know if policies and programs are working? These are just some of the important questions being investigated by members of the Public Health research concentration at UniSA’s Sansom Institute for Health Research.

With multiple major NHMRC-funded projects underway, the Public Health research concentration has members with high-level expertise across a range of areas including epidemiology, biostatistics, nutrition, clinical interventions, population health interventions, and large-scale data linkage.

*“Overhearing a conversation was one of the driving forces for my PhD, and subsequently my research has smashed those anecdotal remarks”*

Craig; PhD Candidate in the School of Nursing and Midwifery

## **Quality use of Medicines and Pharmacy Research Centre**

<http://www.unisa.edu.au/sansominstitute/ResearchActivities/groups/qumprc.asp>

**Associate Professor Libby Roughead** [libby.roughead@unisa.edu.au](mailto:libby.roughead@unisa.edu.au)

**Ph +61 8 8302 1238**

The Quality Use of Medicines and Pharmacy Research Centre (QUMPRC) works to improve the use of medicines and health outcomes in Australia and internationally through research and consultation.

Members of the QUMPRC are highly regarded for their successful research in: national and international health policy development and evaluation; the development, evaluation and implementation of national medicines policies and quality use of medicines; pharmacoepidemiological research, teaching and training; research into traditional and complementary medicines; and management and care of older people with multiple chronic conditions.

## **Social Epidemiology and Evaluation**

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/Groups/epidemiology.asp>

**Led by Professor Mark Daniel** [mark.daniel@unisa.edu.au](mailto:mark.daniel@unisa.edu.au)

**Ph +61 8 8302 2518**

The Social Epidemiology and Evaluation Research Group conducts local and international research in the areas of (i) social and chronic disease epidemiology, (ii) disease prevention and health promotion, particularly with disadvantaged populations (including Aboriginal peoples) and (iii) "health and place" research dealing with the relationships between social, physical and built environments and population health.

The group also studies the biological mechanisms that underlie the association between environments, socioeconomic factors and health. Understanding such relation is necessary for policy interventions, which will enable people to live healthfully and with quality of life.

## **Therapeutics and Pharmaceutical Science**

<http://www.unisa.edu.au/sansomstitute/ResearchActivities/Groups/therapy.asp>

**Led by Professor Michael Roberts and Associate Professor Robert Milne**

[michael.roberts@unisa.edu.au](mailto:michael.roberts@unisa.edu.au) or [robert.milne@unisa.edu.au](mailto:robert.milne@unisa.edu.au)

**Ph +61 8 8302 2815 or Ph +61 8 8302 2335**

From identifying better medicines for angina and infection, to developing safer treatments for psoriasis and skin cancer, the Therapeutics and Pharmaceutical Science research concentration is involved in a wide range of projects aimed at treating disease and optimising health. Research strengths are numerous and include synthetic and natural products, drug delivery, pharmacokinetics and computer modelling of drug disposition, fundamental surface science in biochemical processes, pharmacogenetics, pharmacogenomics and ethnopharmacology.



People to contact for more information about Honours and postgraduate research in the Division of Health Sciences.

## **HONOURS RESEARCH**

### ***Bachelor of Health Science (Honours)/ Bachelor of Applied Science (Honours)***

#### ***Dr Alison Coates***

Location: BJ1-36, City East

Phone: +61 8 8302 2313

Email: [alison.coates@unisa.edu.au](mailto:alison.coates@unisa.edu.au)

### ***Bachelor of Laboratory Medicine with Honours***

#### ***Dr Maurizio Costabile***

Location: P5-47, City East

Phone: +61 8 8302 2176

Email: [maurizio.costabile@unisa.edu.au](mailto:maurizio.costabile@unisa.edu.au)

### ***Bachelor of Pharmacy with Honours***

#### ***Dr Michael Ward***

Location: R6-23, City East

Phone: +61 8 8302 2838

Email: [michael.ward@unisa.edu.au](mailto:michael.ward@unisa.edu.au)

#### ***Dr David Foster***

Location: P4-08, City East

Phone: +61 8 8302 2055

Email: [david.foster@unisa.edu.au](mailto:david.foster@unisa.edu.au)

### ***Bachelor of Pharmaceutical and Medical Sciences (Honours)***

#### ***Dr John Hayball***

Location: P5-30, City East

Phone: +61 8 8302 1202

Email: [john.hayball@unisa.edu.au](mailto:john.hayball@unisa.edu.au)

### ***Bachelor of Physiotherapy with Honours***

### ***Bachelor of Podiatry with Honours***

#### **Associate Professor Marie Williams**

Location: C7-66, City East

Phone: +61 8 8302 2554

Email: [marie.williams@unisa.edu.au](mailto:marie.williams@unisa.edu.au)

***Bachelor of Occupational Therapy with Honours***

***Dr Mandy Stanley***

Location: BJ2-09, City East

Phone: +61 8 8302 2705

Email: [mandy.stanley@unisa.edu.au](mailto:mandy.stanley@unisa.edu.au)

***Bachelor of Medical Radiation Science with Honours***

***Dr Kerry Thoires***

Location: BJ1-29A, City East

Phone: +61 8 8302 2903

Email: [kerry.thoires@unisa.edu.au](mailto:kerry.thoires@unisa.edu.au)

**POSTGRADUATE RESEARCH**

**Dean: Research and Research Education**

***Associate Professor Pat Buckley***

Location: P5-06E

Phone: +61 8 8302 2934

Email: [pat.buckley@unisa.edu.au](mailto:pat.buckley@unisa.edu.au)

**Higher Degrees by Research (Postgraduate)  
Coordinators**

***Associate Professor Robert Milne***

***School of Pharmacy and Medical Sciences***

Location: P4-32, City East

Phone: +61 8 8302 2335

Email: [robert.milne@unisa.edu.au](mailto:robert.milne@unisa.edu.au)

***Associate Professor Marie Williams***

***School of Health Sciences***

Location: C7-66, City East

Phone: +61 8 8302 2554

Email: [marie.williams@unisa.edu.au](mailto:marie.williams@unisa.edu.au)

***Dr David Gillham***

***School of Nursing and Midwifery***

Location: C6-39, City East

Phone: +61 8 8302 2507

Email: [david.gillham@unisa.edu.au](mailto:david.gillham@unisa.edu.au)