2017 has been a year of dramatic change within the Central Adelaide Local Health Network.

Guy Madden

11 THEMES

11 AGEING
12 Adelaide Geriatrics Training and Research with Aged Care (G-TRAC) Centre

15 CANCER
16 Breast Biology and Cancer Unit
18 Breast Cancer Research Unit
20 Colorectal Cancer Research Group
22 Liver Metastasis Research Group
23 Northern Network Colorectal Surgical Service
24 Solid Cancer Research Group
24 South Australian Prostate Cancer Clinical Outcomes Collaborative (SA-PCCOC)

25 CARDIOVASCULAR DISEASE
26 Cardiovascular Pathophysiology and Therapeutics Group
28 Clinical Pharmacology Research Group
30 Translational Vascular Function Research Collaborative
36 Vascular Surgery Research Group
36 Zinc and Cardiovascular Disease Research Group

37 CHRONIC DISEASE
38 Clinical Pharmacology Research Group
39 Endocrinology Unit
40 Stroke Research Programme
42 The Health Observatory

43 CLINICAL SCIENCES, HEALTH SERVICES AND POPULATION HEALTH
44 Anaesthesia Research Group
45 Health Performance and Policy Research Unit

11 AGEING
12 Adelaide Geriatrics Training and Research with Aged Care (G-TRAC) Centre

15 CANCER
16 Breast Biology and Cancer Unit
18 Breast Cancer Research Unit
20 Colorectal Cancer Research Group
22 Liver Metastasis Research Group
23 Northern Network Colorectal Surgical Service
24 Solid Cancer Research Group
24 South Australian Prostate Cancer Clinical Outcomes Collaborative (SA-PCCOC)

25 CARDIOVASCULAR DISEASE
26 Cardiovascular Pathophysiology and Therapeutics Group
28 Clinical Pharmacology Research Group
30 Translational Vascular Function Research Collaborative
36 Vascular Surgery Research Group
36 Zinc and Cardiovascular Disease Research Group

37 CHRONIC DISEASE
38 Clinical Pharmacology Research Group
39 Endocrinology Unit
40 Stroke Research Programme
42 The Health Observatory

43 CLINICAL SCIENCES, HEALTH SERVICES AND POPULATION HEALTH
44 Anaesthesia Research Group
45 Health Performance and Policy Research Unit

61 RESEARCH STAFF

69 RESEARCH STUDENTS
THE HOSPITAL RESEARCH FOUNDATION

145 MESSAGE FROM THE CHAIR
146 BOARD MEMBERS
151 GRANTS AND FELLOWSHIPS
157 RESEARCH EQUIPMENT
158 CORPORATE AND COMMUNITY SUPPORT
160 FUNDRAISING AND EVENTS
163 COMMUNITY ENGAGEMENT

SPECIAL FEATURES

RESEARCHER STORIES
14 Dr Danielle Taylor
19 Ms Alexandra Shoubridge
27 Mr Sven Surikow
29 Dr Rosanna Tavella
34 Dr Rachel Dreyer
54 Dr Ashish Shrestha
57 Professor PJ Wormald
and Associate Professor
Sarah Vreugde

PERSONAL STORIES
17 Nicky’s Story
33 Tim’s Story
59 Stephane’s Story

SPECIAL FEATURE
Innovative gel to treat back pain

81 GRANTS
93 PUBLICATIONS
116 HIGH PROFILE INTERNATIONAL TALKS
120 TQEH RESEARCH DAY
122 AWARDS
127 COMMUNITY ENGAGEMENT
140 SUPPORT STRUCTURES
142 HUMAN RESEARCH ETHICS COMMITTEE REPORT
$20M+ REVENUE

- Grants, clinical academic salaries, scholarships and infrastructure support

400+
- Publications

100+
- Clinical and research staff
  TQEH and BHI

80+
- Research higher degree students

130+
- Community engagement activities
2017 has been a year of dramatic change within the Central Adelaide Local Health Network (CALHN). During this time, the move was finally made from the old Royal Adelaide Hospital to the new Royal Adelaide Hospital. This has been an enormous logistic challenge, not only at the time of the move but in settling into the new work environment at the nRAH.

The implications for a number of researchers leaving the old RAH was a loss of research space. Some of this has been accommodated at the new biomedical precinct on North Terrace which has incorporated the new Medical School of The University of Adelaide, expansion of SAHMRI with a foreshadowed SAHMRI 2 being commenced, and the almost complete University of South Australia research facilities within short walking distance of the Royal Adelaide Hospital. Nonetheless, the Royal Adelaide Hospital itself, and CALHN in particular, has no wet lab facilities, making the Basil Hetzel Institute an important resource for hospital and university research.

The BHI itself over 2017 has had a very strong performance, with in excess of $20 million in research money being expended, over 400 publications being published, 18 higher degrees being completed, and 92 refereed grants being managed through the facility. The NHMRC success has seen improvement on previous years and hopefully this will foreshadow ongoing success in 2018.

The 2017 TQEH Research Day took on an expanded format with a showcasing of new initiatives funded by The Hospital Research Foundation being presented on the Thursday prior to the usual Friday activities showcasing research from BHI groups.

With all this increased research resource being made available for the Central Adelaide Local Health Network, a decision has been made to appoint a Director of Research across CALHN. Professor John Beltrame has taken on this role and hopes to be able to bring better co-ordination between all the biomedical precinct participants and CALHN over the next few years. This cross-campus collaboration is absolutely vital. If we continue to operate in silos, unaware of what other activities are being conducted and what resources are available within the biomedical precinct, there is no value in being co-located. If, on the other hand, projects can be collaboratively staged and the results tap into the translational opportunities provided by both the Royal Adelaide Hospital and The Queen Elizabeth Hospital, then the potential for South Australia and CALHN to make a significant contribution to biomedical research in the next decade is considerable.

For this to work, there needs to be considerable trust and goodwill generated and demonstrated achievements need to take place. The relationship between the universities and the teaching hospitals needs to be more clearly defined, there needs to be more tangible collaboration between the universities, and in particular the University of South Australia and The University of Adelaide. Finally, SAHMRI needs to be seen not as a competitor but as a collaborator with all groups operating within South Australia and, in particular, the Central Adelaide Local Health Network.

These changes cannot be allowed to stagnate and rapid uptake and collaboration needs to be occurring from the beginning of 2018. This could perhaps be best shown by joint NHMRC research grants being submitted from many of the players now based in this area and would certainly provide tangible proof that we have more than just architectural monuments located along the North Terrace precinct.

GUY MADDERN
Director of Research
Basil Hetzel Institute for Translational Health Research
THE QUEEN ELIZABETH HOSPITAL
**SIGNIFICANT IMPACT PUBLICATIONS 2017**

### AGEING

**Adelaide G-TRAC Centre**  
**Impact factor: 1.482**


This is a protocol paper for a hospital based intervention trial to prevent falls. The paper describes the technology to be used in the trial. The technology was co-produced between researchers and staff of both SA Health (The Queen Elizabeth Hospital/Central Adelaide Local Health Network) and WA Health (Sir Charles Gairdner Hospital).


### CANCER

**Breast Biology and Cancer Unit**  
**Impact factor: 6.345**


We discovered that chronic low level inflammation can drive increased breast density and the associated increased risk of cancer in a mouse model. This discovery opens the door for new approaches to reduce breast cancer risk with the use of anti-inflammatory drugs targeted to women with high breast density.


**Colorectal Cancer Research Group**  
**Impact factor: 33.9**


Professor Price was invited to comment on a paper in *Lancet Oncology* that reported a trial of an antibody treatment, MABp1, that targets interleukin 1α and is derived from human neutralising antibodies aimed at blocking the inflammatory process in cancer (Hickish et al., 2017). More patients achieved the primary endpoint (quality of life measures) with a significantly better overall survival in the MABp1 group than in the placebo group. Professor Price said combining agents that target inflammation with first-line or second-line standard therapy, especially in patients with markers of inflammation present, might improve outcomes and potentially, therefore, survival.


**Liver Metastasis Research Group**  
**Impact factor: 6.513**


The majority of colorectal cancer (CRC) related deaths are attributable to liver metastasis. However, there is no prognostic biomarker that predicts metastatic risk and allows informed selection of preventive treatment. The translational challenge therefore, is to develop surrogate markers of metastatic progression. HLA-G expression by tumours is an established immune escape mechanism. In this study we demonstrate that soluble HLA-G is a prognostic marker in CRC and its levels are predictive of particular prognostic patterns in sequential disease stages.


**Northern Network Colorectal Surgical Service**  
**Impact factor: not available, new journal.**


Neutropenia and thrombocytopenia are well recognised complications of systemic chemotherapy. In cytoreductive surgery (CRS) and heated intraperitoneal chemotherapy (HIPEC) the interplay between surgical factors and systemic toxicity of chemotherapeutics must be considered when considering postoperative haematological outcomes.

This retrospective review quantified the incidence of these events at The Queen Elizabeth Hospital. We found that intraperitoneal delivery of chemotherapy as HIPEC can cause haematological toxicity with potentially fatal outcomes, however overall the incidence of neutropenia and thrombocytopenia after CRS and HIPEC was low. These results serve to set a benchmark for haematological outcomes from CRS and HIPEC and support further work in this area to assess factors that may help predict which patients are at risk of complications from this surgery.

Solid Cancer Regulation Group
Impact factor: 4.259
Smith E, Palethorpe HM, Hayden AL, Young JP, Underwood TJ, Drew PA. Sci Rep. 2017 Jun 13;7(1):3368. Fibroblasts derived from oesophageal adenocarcinoma differ in DNA methylation profile from normal oesophageal fibroblasts. Fibroblasts in cancer tissue differ from normal fibroblasts and drive cancer progression and cause resistance to therapy. This study elucidated a mechanism for the change in the fibroblasts, and suggested a possible novel treatment based on reversing the changes.

CARDIOVASCULAR DISEASE

Cardiovascular Pathophysiology and Therapeutics Group
Impact factor: 20.212
Scuffham PA, Ball J, Horowitz JD, Wong C, Newton PJ, Macdonald P, McVeigh J, Rischbieth A, Emanuele N, Carrington MJ, Reid CM, Chan YK, Stewart S, WHICH? II Trial Investigators. Eur Heart J. 2017;38(30):2340-2348. Standard vs intensified management of heart failure to reduce healthcare costs: results of a multicentre randomized controlled trial. Heart failure represents the greatest impost on health care costs in western society, both by way of hospital admissions and via poor exercise capacity/impaired independence in the general community. This study dissected out the implications of intensive individual follow-up of patients with heart failure in cost-benefit terms. In the 12 months after patients with chronic heart failure were discharged, intensified management did not reduce healthcare costs or improve health care outcomes relative to standard management.

Translational Vascular Function Research Collaborative
Impact factor: 19.309
Pasupathy S, Tavella R, Grover S, Raman B, Procter NEK, Du YT,Mahadavan C, Stafford J, Heresztyn T, Holmes A, Zeit C, Anstat M, Selvanayagam J, Horowitz JD, Beltrame JF. Circulation. 2017 Sep 5;136(10):894-903. Early Use of N-acetylcysteine With Nitratre Therapy in Patients Undergoing Primary Percutaneous Coronary Intervention for ST-Segment-Elevation Myocardial Infarction Reduces Myocardial Infarct Size the NACIAM Trial [N-acetylcysteine in Acute Myocardial Infarction]. The NACIAM trial demonstrated that high-dose intravenous N-acetylcysteine (NAC, a drug used to treat misuse of panadol) administered with low-dose intravenous nitroglycerin (a drug used to relieve severe chest pain) is associated with reduced infarct size in patients with ST-segment–elevation myocardial infarction undergoing percutaneous coronary intervention. A larger study is required to assess the impact of this therapy on clinical cardiac outcomes.

Vascular Surgery Research Group
Impact factor: 3.536
Thurston B, Pena GN, Howell S, Cowled P, Fitridge R. J Vasc Surg. 2017;pii: S0741-5214(17)31773-1 [Epub ahead of print]. Low total psoas area as scored in the clinic setting independently predicts midterm mortality after endovascular aneurysm repair in male patients. This study tested a novel method of assessing sarcopenia in patients undergoing endovascular aneurysm repair (EVAR). All patients undergo a preoperative computed tomography (CT) angiogram and these images can be used to measure the area of the psoas muscle at the level of the L3 vertebra. We found a significant association between preoperative low psoas muscle area (sarcopenia) and poorer survival and of longer length of stay in hospital. As all patients being worked up for an endovascular aortic aneurysm repair will undergo a CT scan, this method is a rapid and effective way to highlight patients in the clinic setting who have an increased risk of morbidity and mortality after EVAR. This paper was published in the Journal of Vascular Surgery, the highest ranked vascular surgical journal.

Zinc and Cardiovascular Disease Research Group
Impact factor: 4.281
Roscioni E, Tran HB, Jersmann H, Nguyen PT, Hopkins E, Lester SE, Farrow N, Zalewski PD, Reynolds PN, Hodge S. Am J Physiol Lung Cell Mol Physiol. 2017. 313(3):L453-465. The Uncoupling of Autophagy and Zinc Homeostasis in Airway Epithelial Cells as a Fundamental Contributor to COPD. Although primarily a study of altered zinc homeostasis in the airways of cigarette smoke-exposed mice, one very important finding that also emerged from this study was that cigarette smoke exposure caused a loss of zinc in the lining of the blood vessels. The mechanism appears to be due to down-regulation of a zinc uptake transporter ZIP2. The publication is in the highly regarded American Journal of Physiology.
**CHRONIC DISEASE**

► Stroke Research Programme  
Impact Factor: 6.032  

Reliably predicting a stroke patient’s functional outcome in response to therapy is a critically important requirement of patient management. Predicting outcomes in ischemic stroke patients poses many challenges because of the huge variation in both patients and their stroke. Effective treatment with reperfusion therapy can also dramatically change patient outcomes. This study has derived and validated a highly accurate model that can predict patient outcome after ischemic stroke, based on acute clinical and advanced imaging measures.  

► The Health Observatory  
Impact factor: 3.256  

This study showed that men with insomnia in addition to obstructive sleep apnea (OSA) have a higher frequency and severity of depressive symptoms than men with sleep apnea only, which was unrelated to the severity of sleep apnea. The identification and treatment of co-morbid sleep apnea and insomnia is important in order to avoid potentially harmful prescription of sedative medication in this patient group. This publication has an Altmetric Attention Score of 116. This is a measure of the quality and quantity of online attention that it has received and is in the top one percentile of all research outputs and 7th highest of over 1300 papers published by *Respirology*. An accompanying editorial stated “this study makes an important contribution to the literature in that it extends the existing evidence linking insomnia to depression”.  

**CLINICAL SCIENCES, HEALTH SERVICES AND POPULATION HEALTH**

► Anaesthesia Research Group  
Impact Factor: 2.581  

This paper continues the work on a specific blocking technique to numb the abdominal wall called TAP-Block. We have compared continuous and intermittent injection techniques of these transversus abdominis plane (TAP) blocks, looking at effectiveness and costs. We concluded that both are effective techniques, but that the intermittent injection technique is more economical.  

► Intensive Care Medicine Research Group  
Impact factor: 72.406  

A single-centre trial and observational studies have suggested Early, Goal-Directed Therapy (EGDT) reduced mortality from septic shock, however, three multi-centre trials of EGDT (ProCESS, ARISE, and ProMISe) showed no benefit. This is the first prospectively planned individual patient meta-analysis ever conducted in the critically ill, utilising data from the three trials. This meta-analysis found EGDT did not result in better outcomes than usual care and was associated with higher hospitalisation costs.  

► Psychiatry Research Group  
Impact Factor: 15.307  

This study provides evidence for a negative association between high genetic loading for SCZ, HLA Antigen and Inflammation Genes and poor response to lithium in...
patients with bipolar disorder. These results suggest that DNA, RNA and protein markers in the blood could be used to determine if a patient with bipolar disorder is likely to respond to lithium.


► Respiratory Medicine Unit & Clinical Practice Unit
Impact factor: 6.264

This systematic review found three studies with a total of 319 participants with chronic obstructive pulmonary disease and coexisting anxiety. All three studies assessed psychotherapy (CBT) with a co-intervention, versus the co-intervention alone. There was limited evidence showing some improvements in reduced levels of anxiety and improved quality of life in the psychotherapy group. It is important to note that the overall quality of the evidence was low and hence further research is needed to increase our confidence in this effect. A limitation of this review is that all three of the included studies recruited participants with both anxiety and depression, not just anxiety, which may confound the results.


► Rheumatology Research Group
Impact Factor: 12.811

This paper from the EULAR-SS task force, of which Associate Professor Maureen Rischmueller is a member, was published in the highest impact factor Rheumatology journal and describes how Sjögren’s syndrome manifestations vary with geolocation and ethnicity. It also demonstrates the power of large international collaborations and “big data” to provide new insights into disease. The task force will now continue working on the characterisation of this disease around the world.


► Surgical Science Research Group
Impact factor: 8.980

Harassment in the workplace has been thrown into the limelight in 2017. It is essential that discrimination, bullying, harassment and sexual harassment is driven out from surgical training and practice, through changing the culture of the workplace. The objective of this study was to assess and report on surgeons’ ability to identify and manage incidences of harassment. This study found that trainees were more aware of instances of harassment and were more likely to intervene during the simulated scenario. However, a large proportion of harassment went unchallenged. The hierarchical nature of surgical education and the surgical workforce in general needs to change to enable a culture in which the responsibility to intervene is allowed and respected.


► Therapeutics Research Centre
Impact factor: 3.67

This paper provides clinical evidence regarding the current procedure using dialysis in the treatment of acute poisoning with herbicides and will help streamline future treatments. Ingestion of bromoxynil and 2-methyl-4-chlorophenoxyacetic acid (MCPA) in combination is associated with high mortality with toxicity characterised by hyperthermia and metabolic acidosis. Dialysis is a proposed treatment, but little data exist regarding its effectiveness.

Virology Group
Impact factor: 4.259

Hepatitis C virus (HCV) is a significant contributor to the global burden of disease and 71-180 million people are persistently infected with the virus worldwide. Although effective direct acting anti-viral (DAA) therapies are available to cure patients, there is an urgent need for an effective vaccine as DAA therapy does not prevent re-infection and only 20% of infected individuals are diagnosed for HCV. The Gowans Laboratory has developed an innovative cytolytic DNA vaccine platform encoding perforin (rDNA-PRF) to target HCV. The vaccine is more effective than typical DNA vaccines in evoking HCV-specific T cell responses in mice and pigs which highlights exciting translational prospects for rDNA-PRF. Despite the promise of this vaccine, the mechanism of the adjuvant activity of rDNA-PRF was unknown and in this paper we show evidence to suggest that rDNA-PRF vaccination safely mimics a lytic virus infection and activates cross-presenting dendritic cells (the sentinels of the immune system) to prime T cell responses more effectively than typical DNA vaccinations. Anti-viral T cell responses correlate with natural recovery from HCV infections and consequently these findings are significant for the development of effective HCV vaccines in the future.


INFLAMMATORY DISEASE

ENT Surgery
Impact factor: 13.081

Neo-osteogenesis in chronic rhinosinusitis patients is a significant clinical problem often requiring surgical re-intervention. This manuscript provides for the first time a pathophysiological link between increased IL-13 expression and neo-osteogenesis observed in these patients. This finding may have significant therapeutic implications. Namely, IL-13 targeted biological agents are already in different stages of clinical development and may have beneficial effects on halting or reversing new bone formation in these patients.


Inflammatory Bowel Disease Research Group
Impact factor: 7.478

NOX1 is expressed in the gastrointestinal mucosal epithelium and encodes NAPDH oxidase 1, which produces reactive oxygen species (ROS). NOX1 expression is purported to play a key role in mucosal barrier function. NOX1 derived ROS is secreted into crypts to maintain mucous sterility and is involved in autophagy and regulation of epithelial proliferation. In this study, a novel mutation in NOX1 was identified in a patient with very early onset inflammatory bowel disease. Culture of colonic epithelial organoids from this patient confirmed diminished NOX1 expression and a reduction in ROS generation. The discovery of this novel mutation led to exome screening within 1878 paediatric patients. The discovery of this rare mutation in NOX1 in patients with early onset inflammatory bowel disease illustrates the importance of ROS in intestinal mucosal barrier function.


Zinc and Inflammatory Disease Research Group
Impact factor: 4.281

This paper shows that the uncoupling of zinc trafficking and autophagy in airway epithelium constitutes a fundamental disease-related mechanism for Chronic Obstructive Pulmonary Disease (COPD) pathogenesis and could provide a new therapeutic target. The publication is in the high impact American Journal of Physiology.

The Adelaide G-TRAC centre aims to improve health outcomes and well-being of older people through high-quality clinical geriatrics and gerontology training and innovative translational research thus helping older people better achieve Healthy Ageing. The G-TRAC centre includes The Queen Elizabeth Hospital - Aged & Extended Care Services, a community campus located at Resthaven (an aged care organisation) in Paradise, and leads the NHMRC Centre of Research Excellence (CRE) in Frailty & Healthy Ageing which is a global transdisciplinary research network.

Key findings in 2017

In the community, using the phenotypic method, 21% of community dwelling participants of cohort studies were frail whilst 48% were pre-frail. With the North West Adelaide Health Study (NWAHS), the frailty index (FI) classified 48% of subjects as frail. In the NWAHS study, being older, a current smoker, and having multimorbidity and polypharmacy were associated with higher frailty levels with both the phenotypic as well as the FI methods. With the FI, being female, having low income, obesity and living alone were also associated with frailty. Exercise is one suggested intervention for the treatment and prevention of frailty. Fortunately, older people have a positive attitude towards exercise. Many older people prefer to be advised about exercise firstly by their general practitioners and then by other healthcare professionals. Those living in the community and not in retirement villages reported difficulties accessing information on exercise and indicated that local governments and general practices could do more to encourage older people to be more active and exercise.

Our research has confirmed that a geriatric medicine course for 5th year medical students improved students’ perceptions of the importance of and their competence in prescribing exercise to older people. Such educational strategies would better equip our future medical workforce in encouraging older people to be more active and exercise.

Outcomes for the community

We are raising awareness in the community that although geriatric syndromes are common (e.g. under-nutrition, sarcopenia, frailty, falls and dementia) and result in poor health outcomes, there are interventions that can help prevent or treat them. Our research focuses on the development of screening strategies and the development of cost-effective interventions.

Publications for Adelaide Geriatrics Training and Research with Aged Care (G-TRAC) Centre

Professor Renuka Visvanathan (holding document) and members of her Adelaide G-TRAC group with TQEH Research Day Plenary Lecturer, The Honourable Mark Butler MP (far left), who also chairs the Advisory Group for the CRE in Frailty and Healthy Ageing.
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Basil Hetzel Institute Research Report 2017
Helping your community age healthily

DR DANIELLE TAYLOR
ADELAIDE G-TRAC CENTRE

The proud recipient of The Hospital Research Foundation’s Mid-Career Fellowship for 2017, geographer and researcher Dr Danielle Taylor has begun a three-year project aimed at ensuring our community can live longer, healthier and more fulfilling lives in the comfort of their own homes.

Joining Professor Renuka Visvanathan’s research group at the Basil Hetzel Institute for Translational Health Research (BHI), Dr Taylor is building on current research undertaken as part of the NHMRC Centre of Research Excellence in Frailty and Healthy Ageing (CRE) aimed at combating the global issue of frailty to facilitate healthy ageing in our community.

The need for healthy ageing research could not be more crucial, with the number of South Australians aged over 60 years old set to increase by 48 per cent between 2011 and 2031, resulting in more than one in four people over the age of 60. If current rates of frailty persist, it is estimated that by 2031 over 16,000 people in South Australia will be frail. It is the aim of Dr Taylor’s research and the CRE more broadly to reduce this figure.

“There is growing recognition that healthy ageing is dependent on a person’s ‘functional ability’ which is influenced by individual characteristics, including health status, mobility and cognition as well as the influences of their environment,” Dr Taylor said.

The creation of ‘age-friendly environments’ has been identified by the World Health Organisation (WHO) as an important contributor to healthy ageing. Dr Taylor’s research will be focused on using geographic population, health and environmental data to map and identify environmental factors, particularly those that relate to the accessibility of the local neighbourhood that may act as enablers or barriers to healthy ageing.

“The environment can refer to a range of factors including access to parks, transport, housing and health care to name a few. The influence of these factors, such as how far away someone’s local doctor is from their home, or the distance to the local park for exercise, on a person’s health and frailty will be investigated through my project.”

Dr Taylor’s research will aim to produce a national frailty risk index, which can highlight areas where populations are most at risk of becoming frail. By identifying areas in this way, interventions can be targeted to prevent at risk populations from progressing into frailty.

“I will also be working with other researchers on the CRE; their research will inform some of the work I will be doing and assist to build a body of knowledge about those environmental factors that are most important and which ones are modifiable and can be improved.”

Taking into account people’s changing needs as they age, Dr Taylor is hopeful this frailty risk index will inform policy makers and service providers and help them understand which environmental factors are most important and where the populations who most need assistance are located. This will ultimately result in the development of more age friendly neighbourhoods.

“The research will also inform where current services might be deficient, or where projected population growth will change the number or type of services an area requires in the future.”

Fellowship
The Hospital Research Foundation Mid-Career Fellow
Research Groups

Breast Biology and Cancer Unit
Breast Cancer Research Unit
Colorectal Cancer Research Group
Liver Metastasis Research Group
Northern Network Colorectal Surgical Service
Solid Cancer Regulation Group
South Australian Prostate Cancer Clinical Outcomes Collaborative (SA-PCCOC)
The Breast Biology and Cancer Unit was established at the Basil Hetzel Institute (BHI) in 2011. The goal of our research is to better understand the biological mechanisms that underpin breast cancer risk factors including menstrual cycling, pregnancy and breast density to aid in the prevention and early detection of breast cancer.

Key findings in 2017

In 2017 we discovered that chronic low level inflammation can drive increased breast density and the associated increased risk of cancer in a mouse model. This discovery opens the door for new approaches to reduce breast cancer risk with the use of anti-inflammatory drugs targeted to women with high breast density.

Outcomes for the community

There has been much interest in breast density as a major risk factor for breast cancer, and for its role in masking breast cancers. We may in the future be able to identify young women with extremely high density at an increased lifetime risk of breast cancer, take steps to reduce that risk, and provide altered screening protocols to detect early breast cancers.

In order to reduce breast cancer risk associated with high breast density, we must better understand the underlying biology of highly dense breast tissue, and how the increased cancer risk is conferred at the cellular and molecular level.

Our research suggests that chronic low level inflammation is a driver of both high breast density and the associated increased risk of cancer. This research opens new doors for treatments of breast density that could reduce a woman’s breast cancer risk.
The more we can understand the risks associated with breast cancer, the greater chance we have at treating each risk and preventing breast cancer from developing in women.”

Breast density research edges closer to cancer prevention

NICKY ROBERTS

Adelaide researchers are one step closer to breast cancer prevention after finding a new driver for breast density, an identified risk factor for cancer.

For the first time, researchers have shown that chronic low-level inflammation drives increased breast density and is associated with a woman’s risk of developing breast cancer. This finding opens the door for new approaches to treating density and preventing breast cancer through reducing inflammation.

Published in the international journal Breast Cancer Research, the research is led by Associate Professor Wendy Ingman, The Hospital Research Foundation (THRF) and affiliate Australian Breast Cancer Research’s (ABCR) Breast Cancer Research Fellow.

“We induced a low level of chronic inflammation in our lab models and found it was a particular protein called CCL2 that caused the increase in inflammation. This led to an increase in the density in the tissue and also an increased risk of breast cancer,” A/Prof Ingman said.

While it is already known that certain types of anti-inflammatories can reduce breast cancer risk, they are associated with longer term side effects and not recommended for women to help reduce their breast cancer risk. “With this research we believe we may be able to identify the women most at risk of inflammation-associated breast cancer through measuring their breast density and therefore identify those who will most benefit from anti-inflammatory treatment.”

Almost 8 per cent of women have extremely high breast density and are more likely to develop breast cancer in the future.

Unfortunately, loving mother Nicky Roberts is part of that 8 per cent and is fighting stage three breast cancer for the second time.

Diagnosed with invasive breast cancer in her left breast in December 2014, Nicky underwent successful radiation and got the all clear. “Thereafter I became good at checking myself for lumps and as I also have a family history of breast cancer I was having regular mammograms and ultrasounds. In June 2016 I was told there was an area of concern right where my last breast cancer was,” Nicky said.

Within a week I had an appointment with the radiographer who explained I had dense breasts and she decided to also check my right breast. I didn’t think anything of it because I had just had my scans. To my surprise, she found something.”

Nicky was diagnosed with invasive breast cancer, this time in her right breast and she underwent a mastectomy.

“I was never told what it meant to have dense breasts. That I not only had a greater risk of developing breast cancer but there was a significantly reduced chance of seeing any tumours through a mammogram and ultrasound.”

Nicky’s story proves how vital research is into breast density and A/Prof Ingman’s promising research will help inform preventative treatments.

“Our ultimate aim is to save women’s lives and our breast density research is helping us learn more about what drives this area of breast cancer risk and helps inform preventative treatments,” A/Prof Ingman said.

“The more we can understand the risks associated with breast cancer, the greater chance we have at treating each risk and preventing breast cancer from developing in women.”

Associate Professor Wendy Ingman, Research Leader of the Breast Biology and Cancer Unit.
The Breast Cancer Research Unit’s (BCRU) primary research interest is in breast cancer and bone metastasis. Breast cancer is the most common cancer in women that metastasises to bone. Despite recent advances, our knowledge of why bone is such a fertile “soil” for tumour cells to home to the bone remains poor. Our research aims to provide vigorous preclinical data that will facilitate the translation of novel therapeutics to clinical trials for bone metastases.

Key findings in 2017

Our laboratory has shown that peroxidases are causatively involved in modulating the cancer microenvironment to promote blood vessel development and extracellular matrix biosynthesis. These processes are major hallmarks in cancer progression and as such identify peroxidases as drugable targets for cancer therapy. Indeed, we have used a commercially available peroxidase inhibitor to investigate its potential anticancer efficacy with promising results.

In another study we have harnessed the body’s natural defense system to prevent cancer from coming back after it has been surgically removed. The BCRU has developed for the first time a new and innovative therapeutic approach of delivering cancer fighting T cells known as gamma delta T cells (γδ T cells), normally found in our blood but in small numbers, for the treatment of incompletely resected or inoperable tumours. We have generated large numbers of these cancer fighting cells in the lab, inserted these into hydrogel reservoirs and demonstrated that they can be released locally to promote cancer cell killing in the dish.

Using a preclinical model of breast cancer we transplanted gamma delta T cell containing hydrogel reservoirs directly in the vicinity of breast lesions. The aim is that gamma delta T cells are released locally in large numbers where they seek out and kill cancer cells while leaving normal cells unharmed. This approach has demonstrated significant efficacy, and our future preclinical studies are based on these findings. The results of these studies will provide support and justification to move relatively quickly towards clinical application.

Outcomes for the community

Our research provides vigorous preclinical data that will facilitate the translation of novel therapeutics to clinical trials for cancer and its spread to various organs. Our goal is to develop new and cutting-edge therapies to improve the quality of life and longevity of patients with primary and metastatic cancer.

Publications for Breast Cancer Research Unit
Bone regeneration could bring hope to breast cancer

ALEXANDRA SHOUBRIDGE
BREAST CANCER RESEARCH UNIT

A potential breakthrough between breast cancer and bone regeneration could significantly help manage the spread of cancer-related bone destruction and improve quality of life.

This exciting research is being led by Alex Shoubridge, currently undertaking her PhD at the Basil Hetzel Institute for Translational Health Research (BHI). Alex is focusing on the role a particular enzyme plays in the repair of healthy and diseased bones, one day leading to new treatments for breast cancer related bone loss.

“In adults, old bone is constantly being degraded and replaced with new bone. However, breast cancer, which is notorious for spreading to the bone, can cause an imbalance to this normal cycle. This is because when cancer spreads to the bone it can cause an increase in the activity of cells that cause bone loss. The bone forming cells are unable to keep up and this results in significant bone degradation, leading to a significantly impaired quality of life for the patient,” Alex said.

“I’m looking at the bone forming cells called osteoblasts to see whether a group of enzymes, called peroxidases, could stimulate these cells to promote bone regeneration. This could be used to manage the significant bone loss suffered in breast cancer patients and promote the cells needed to generate new bone.”

Alex is testing her theory by using bone cells derived from patients, either from a hip or knee replacement. Through her research Alex has discovered these enzymes can promote collagen deposition, an exciting discovery since collagen and minerals play a key role in the formation of new bones.

“When treating these human bone cells with peroxidase enzymes I have seen an increase in collagen production by these cells, which acts as a scaffold for the cells to sit on. The strands of collagen then become mineralised, which we have found is also being increased with the addition of this enzyme. Since bone is mostly composed of collagen and minerals we are confident that this particular enzyme has the ability to generate new bone,” she explained.

Currently validating one of her studies, Alex believes this will be a significant step towards determining the potential these enzymes may have clinically.

“This work has been an eye opener for me in realising the millions of people who require bone repair treatment and thus the need for better treatment strategies.”

Alex’s work will not only improve the quality of life for breast cancer patients and those suffering from cancer related bone loss, including those suffering from cancer related bone loss,” she said.

“This to me is extremely important as cancer patients have already been through so much and the last thing they want is to have further surgery to harvest some bone tissue to repair the damaged bone – or require someone else to donate some of their own bone.”

PhD Student
The University of Adelaide

Supervisors
Professor Andreas Evdokiou, Dr Mark DeNichilo and Professor Paul Anderson

Scholarship
The University of Adelaide, Faculty of Health and Medical Sciences Divisional Scholarship

“We are confident that this particular enzyme has the ability to generate new bone.”
The Colorectal Cancer Research Group headed by Professor Tim Price incorporates the SAHMRI Colorectal Cancer Node, and now works on a comprehensive program in colorectal cancer spanning prevention, development and novel therapies.

Key findings in 2017

Using a next generation genotyping platform we identified 2 profiles of single nucleotide polymorphisms (SNPs) significantly associated with longer progression-free survival or the presence of cetuximab-induced rash in DNA from 585 patients with metastatic colorectal cancer (mCRC) in the CO20 clinical trial. The SNP profiles will be validated in the CO17 mCRC trial cohort of 299 patients.

This work is being done by the Molecular Oncology group at the BHI in collaboration with the Australasian Gastro-Intestinal Trials Group (chaired by Professor Tim Price) and the Canadian Cancer Trials Group (Drs C O’Callaghan and G Liu) and was part-funded by a grant from the Cancer Council SA/SAHMRI Beat Cancer 2016.

We have found that a new type of drug derived from a plant used in herbal medicine has been shown to significantly inhibit the formation of new blood vessel networks in vitro. This process (angiogenesis) is necessary for the growth and metastasis of solid tumours such as colorectal or breast. We will be testing the efficacy of this new type of drug in animal models of cancer. This work is being done by the Molecular Oncology Group in collaboration with Professor Andrea Yool, Adelaide Medical School.

One in five young adults who develop colorectal cancer carries an inherited gene mutation which has predisposed them to this condition. Most of the young adults who carry the mutation have no characteristics which would have triggered genetic testing to be carried out. This suggests that all young patients with colorectal cancer should undergo genetic testing to identify such gene mutations as these may also be carried by other family members. Prevention strategies for colorectal cancer can then be put into place by enrolling family members into surveillance colonoscopy programs.

Outcomes for the community

- Identification, development and clinical trials of new therapeutic agents for the treatment of colorectal cancer
- Development of new cancer biomarkers of drug resistance and therapeutic targets to optimise personalised medicine approaches
- Further understanding of the molecular mechanisms underlying colorectal cancer so that pre-cancerous polyps can be used as markers of risk for both patients and their relatives
- Identification of risk factors in groups of under-recognised colorectal cancer patients, including young adults, to improve early detection in primary healthcare settings
The Liver Metastasis Research Group investigates the molecular and cellular immune mechanisms that determine the capacity of liver tissue to resist metastatic invasion. Our goal is to address the urgent medical needs of risk prediction, prevention, early detection, and treatment of liver metastases.

Key findings in 2017

In 2017, the main research interest of our group remained identification and development of protein biomarkers of liver metastasis in colorectal cancer (CRC) patients. We have found novel prognostic markers of metastatic progression in samples from colorectal cancer patients. In addition, we made a big step towards acquiring good expertise in the field of cancer immunology and immunotherapy. We identified specific lymphocyte subsets that are enriched in colorectal tumours and hepatic metastases, and characterised their phenotype and function. Moreover, in collaboration with the Cardiovascular Pathophysiology and Therapeutics Group at the BHI we found differences in platelet aggregation between CRC patients and healthy subjects.

Outcomes for the community

Our research provides vigorous preclinical data that will facilitate the translation of novel therapeutics to clinical trials for cancer and its spread to various organs. Our goal is to continue towards developing new and cutting-edge therapies to improve the quality of life and longevity of patients with primary and metastatic cancer.

As the third most commonly diagnosed cancer worldwide, CRC is an important medical health priority. The majority of CRC related deaths are attributable to liver metastasis. However, there is no prognostic biomarker that predicts metastatic risk and allows informed selection of preventive treatment. The translational challenge is to develop surrogate markers of metastatic progression. About 25% of patients with CRC develop secondary hepatic malignancy after resection of the primary tumour and the majority of metastatic CRC patients are not amenable to surgical resection. Notably, early detection of recurrent CRC can increase patient eligibility for a range of effective treatments, reduce morbidity, and improve overall survival.

Publications for Liver Metastasis Research Group

Commercialisation: Provisional patent number #2017900421.
Title: HLA-G as predictive biomarker of response to chemotherapy and uses thereof.
In 2000, the surgeons working withing the Colorectal Units at the Royal Adelaide, Lyell McEwin and The Queen Elizabeth Hospitals formed a collaborative partnership - the Northern Network Colorectal Surgical Service. This partnership has successfully facilitated the production of high quality, internationally published research and a multidisciplinary approach to ongoing clinical education and development. Group members have been involved in clinical and laboratory based research and have been based at the BHI, SAHMRI, Hospital Clinical Colorectal Units and The University of Adelaide.

Key findings in 2017

The focus of the Northern Network Colorectal Surgical Service in 2017 continued to be improvements and developments in diagnosis, treatment and care for patients with colorectal cancer.

A key finding from a clinical trial involving this group and collaborators across The Queen Elizabeth, Royal Adelaide and Lyell McEwin Hospitals, was published this year. We found that the addition of three cycles of preoperative single agent neoadjuvant Fluoropyrimidine chemotherapy during the wait period after conventional chemoradiotherapy results in similar pathological response rates compared to those patients who did not receive the additional cycles of chemotherapy. Due to these results, clinicians may be more cautious in extending chemotherapy regimes, thus potentially reducing a patient’s side effects from treatment and improving quality of life whilst awaiting surgery.

Outcomes for the community

The key findings from this research may influence the treatment pathway for patients with locally advanced rectal cancer. We demonstrated that the addition of three cycles of preoperative single agent neoadjuvant Fluoropyrimidine chemotherapy in a 10 week wait period after conventional chemoradiotherapy results in similar pathological response rates compared to those patients who did not receive the additional cycles of chemotherapy. Due to these results, clinicians may be more cautious in extending chemotherapy regimes, thus potentially reducing a patient’s side effects from treatment and improving quality of life whilst awaiting surgery.

Publications for Northern Network Colorectal Surgical Service

GROUP MEMBERS
Consultants
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Darren Tonkin
Alex Karatassas

BHI COLLABORATORS
Tim Price
Jennifer Hardingham
Colorectal Cancer Research Group
Guy Maddern
Surgical Science Research Group
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Chandra Kirana
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Royal Australasian College of Surgeons
Andrew Ruszkiewicz
SA Pathology
We study the mechanisms regulating cancer growth, particularly prostate, oesophageal and young onset colorectal cancers. Specific interests include the role of androgen signalling within fibroblasts and cancer cells, the cross-talk between fibroblasts and adjoining cancer cells, and the role of DNA methylation. We aim to increase understanding of the biology of these cancers, to discover more useful biomarkers for diagnosis, prognosis, or response to therapy to assist in clinical management, and to uncover potential new therapies.

**Key findings in 2017**

In prostate cancer we have shown a significant association between increased prostate cancer-related death and low levels of androgen receptor (the male sex hormone receptor) in the stroma (the tissue which surrounds the cancer cells). We have shown that normal androgen signaling in prostate cancer stroma appears to change the tissue around the cancer so that it inhibits cancer cell invasion, and also leads to destruction of cancer cells. Loss of the androgen receptor in the stroma therefore results in increased cancer cell survival and invasion.

In oesophageal adenocarcinoma (OAC) we have shown that the presence of the androgen receptor and genes which are regulated by this receptor in the cancer cells are related to a significantly shorter survival time. We have shown for the first time that androgen signaling can regulate growth and gene expression in oesophageal cancer cell lines in vitro. The response to androgens can be modified by fibroblasts, cells which are present in the cancer stroma. These findings are consistent for a role of androgen signalling in OAC in vivo, with androgen concentration and fibroblasts important determinants of the response.

**Outcomes for the community**

Prostate cancer is the fourth leading cause of mortality amongst Australian males. Oesophageal adenocarcinoma is a lethal cancer and its incidence is rapidly increasing. Our investigations have increased our understanding of the biology of these relatively common cancers. We expect this will lead to better prevention strategies, improved biomarkers for diagnosis and patient management, and new therapies based on targeting androgen signalling and the cross talk between the different cell types within a tumour.

**Publications for Solid Cancer Regulation Group**

**SA-PCCOC (SOUTH AUSTRALIAN PROSTATE CANCER CLINICAL OUTCOMES COLLABORATIVE)**

The South Australian Prostate Cancer Clinical Outcomes Collaborative (SA-PCCOC) brings together clinicians treating prostate cancer, patients and researchers from across South Australia. The collaborative manages the state prostate cancer registry and supports research projects utilising data from the registry. The collaborative also provides a consumer website for men with prostate cancer and hosts research and community events relating to prostate cancer in South Australia.

**Key findings in 2017**

In 2017 the SA-PCCOC published and presented a series of papers relating to the prediction of prostate cancer outcomes following treatment. This included examining all major treatment groups (surgery, radiation and hormonal therapy) and the outcomes of these treatments which are most important to patients and treating clinicians – patient symptoms, survival and the likelihood of recurrence. This series of papers provides a concise summary of the predictive tools which are available, and makes recommendations for clinical practice, based on tool accuracy and validity.

**Publications for SA-PCCOC**

(South Australian Prostate Cancer Clinical Outcomes Collaborative)
CARDIOVASCULAR DISEASE

Research Groups

Cardiovascular Pathophysiology and Therapeutics Group

Clinical Pharmacology Research Group

Translational Vascular Function Research Collaborative

Vascular Surgery Research Group

Zinc and Cardiovascular Disease Research Group
The Cardiovascular Pathophysiology and Therapeutic Group’s main interests concern the delineation of pathogenesis in common, but poorly understood, causes of heart disease and the development of new therapeutic options to improve outcomes in both acute and chronic heart disease.

We investigate:

- **Pathophysiology/therapeutic evaluations:** Takotsubo syndrome, coronary artery spasm, aortic valve stenosis.
- **Agents with potentially novel utility:** Nitroxyl donors, perhexiline, N-acetylcysteine, clopidogrel.

**Key findings in 2017**

- We have reported for the first time that in patients with Takotsubo syndrome, the size of the initial attack is a determinant of long-term mortality risk. This data provides a strong rationale for developing methodology to reduce heart damage as a result of acute attacks. We have also shown that after attacks of Takotsubo syndrome, patients often have prolonged lethargy, reflecting impairment of myocardial energetics. Finally, using a rat model of the disease, we have characterised the molecular pathways leading to associated inflammation within the heart and impairment of its contraction.
- We have evaluated some of the implications of impaired cyclic nucleotide signaling on cardiac disorders, and have shown that:
  1) Variability in patient responses to the anti-aggregatory agents clopidogrel and ticagrelor are determined primarily by function of platelet adenylate cyclase.
  2) Patients with coronary artery spasm have severe impairment of both platelet adenylate cyclase and soluble guanylate cyclase signaling.
- We have demonstrated that the combined use of N-acetylcysteine with nitroglycerine decreases myocardial infarct size, implicating the effects of N-acetylcysteine in “scavenging” hypochlorous acid as a potential component mechanism of this beneficial effect.

**Outcomes for the community**

There are two important implications of our recent findings for health care delivery to the general community.

1) Takotsubo syndrome is a major cause of long-term morbidity and mortality, especially in ageing women. Our recent findings will expedite diagnosis and our pathogenetic findings will help to improve treatment.

2) Our findings regarding coronary artery spasm will improve prospects of restoring a more normal quality of life to these patients, via suppression of symptoms.
Research continues at the Basil Hetzel Institute (BHI) in understanding the heartbreaking condition of Takotsubo Syndrome (TS), commonly known as ‘broken heart syndrome’ and ‘Stress Cardiomyopathy’.

Discovered over 20 years ago in Japan and often misdiagnosed as a form of heart attack, there is no current treatment available for this heartbreaking condition.

Fortunately, BHI PhD student Sven Surikow is determined to change this and he’s been hard at work investigating what causes TS, with the potential to develop therapies to speed up recovery, which if successful will be the first of its kind internationally.

“The aim of my research is to guide developing effective treatment by investigating the pathogenesis of TS, with hopes to accelerate recovery without causing the patient any other side effects.”

In order to develop potential therapies, Sven first had to understand what is happening to the heart when a person undergoes an emotional or physical stress and is diagnosed with TS. To do this he is using an animal model of TS which was developed at the BHI, which accurately mimics the human condition, providing invaluable data on how TS affects the heart.

“Based on past research we know when people experience physical or emotional stress they release huge amounts of adrenaline-like chemicals called catecholamines into the heart. This in turn stuns the heart’s muscles in some people, causing TS,” Sven said.

“Through our research we’ve discovered the release of these adrenaline-like chemicals results in inflammation of the heart.”

“What we don’t know is what is causing this inflammation and how we can reduce it to not only help patients heal faster but also reduce the number of deaths as a result of TS.”

TS was historically thought to be a relatively rare and benign condition; however, this is not the case, with incidence seeming to increase as clinicians become better at diagnosing the condition. Approximately 10% of cases of suspected heart attack in women >50 years of age are actually TS, and critically, the mortality rate is similar to that seen with heart attacks.

This promising research will help people like Vicki Khor, who was diagnosed with TS after her loving husband of almost 40 years Ron, passed away suddenly of a heart attack. He was only 76-years-old.

“Ron’s passing was a complete shock and left me extremely fragile. The fact that he passed away at home made it even harder for me,” Vicki said.

“I didn’t know what was happening to me when I started suffering from heart palpitations and felt like I wanted to pass out. When the doctor diagnosed me with TS, I was both relieved and grateful they could diagnose me and help me understand what was happening”. It is research like Sven’s that will improve the lives of people like Vicki with TS, and provide hope that one day there will be a cure for TS.

PhD Student
The University of Adelaide

Supervisors
Professor John Horowitz and Dr Thanh Ha Nguyen

Scholarship
The University of Adelaide Research Training Program Stipend
The Clinical Pharmacology Research Group has had a long-term interest in developing better therapies for the treatment of heart disease. We have focussed on refractory angina, where patients have failed, or are contraindicated for, conventional therapy and continue to experience severe symptoms. We are also moving into the area of cancer chemotherapy, for which the development of heart failure is often an adverse effect that limits the duration and efficacy of therapy. This places patients at greater risk of treatment failure or relapse, and concomitant heart disease.

Key findings in 2017

In 2017 we completed a pilot study investigating bone cancer using whole-body imaging of cancer growth, and compared cancer growth and a plasma marker of heart function when chemotherapy was given alone or combined with a test cardioprotective agent. In the presence of the cardioprotective agent, heart damage was completely prevented and cancer growth was also reduced compared to chemotherapy alone. Therefore, it may be possible to both prevent heart damage by cancer chemotherapy and at the same time increase the cancer killing effects of the chemotherapy. We have now secured NHMRC funding to continue this research for a further 3 years.

We are also collaborating with researchers in the United Kingdom who are developing new medicines for heart failure. This includes working with Dr Cher-Rin Chong, who recently completed her PhD studies in our laboratory, and is now an Oxford Nuffield Medical Fellow. At the BHI our laboratory is working to determine how potential new medicines are taken up into the heart, and other tissues, and how tissue exposures may be related to both beneficial and undesired effects.

Outcomes for the community

Our research will help improve the treatment and prevention of heart disease in general, particularly heart disease caused by cancer chemotherapy. Importantly, we aim to develop cardio-protective medicines that not only protect the heart, but also increase the cancer killing effects of the chemotherapy.

We are focussing on cancers that are common in children and young adults and aim to develop new treatment combinations that will offer a better chance of cancer cure and a better quality of life (free from heart disease) for these cancer survivors.

See also Clinical Pharmacology Research Group - Chronic Disease
One Australian dies from heart disease every 12 minutes, making it the largest single cause of death in our country. Clinical Data Manager and researcher at the Basil Hetzel Institute for Translational Health Research (BHI) Dr Rosanna Tavella has been passionately working on changing this statistic to improve health outcomes for the South Australian Community.

Dr Tavella has been working on the Coronary Angiogram Database of South Australia (CADOSA). Adopting the idea from America, CADOSA is having a positive impact for everyday Australians who have suffered heart disease.

“My current role is centred on trying to use clinical data more effectively, particularly using this data to monitor patient care and outcomes. This is so we can use the data we collect on a regular basis in a way that is useful for clinicians and researchers,” Dr Tavella explained.

“One key aspect of CADOSA I am very passionate about is our clinical outcome registry. In addition to monitoring the clinical care that patients receive, we can also measure the impact on quality of life and symptoms, and how often they come back to hospital, which is important to help shape future research and patient care.

“What we are moving towards in healthcare globally is patient related outcomes.”

Already making life-changing discoveries for patients living with heart disease both on a national and international scale, Dr Tavella and her team are hoping to optimise the CADOSA data for future use.

“Through CADOSA we’ve formed collaborations with international groups who are working on similar research. Using this relationship, we are looking at trends in the United States to see what we are doing differently, which is stimulating discussions on how we could then approach our work in a different way,” Dr Tavella said.

“We’ve recently observed a high uptake of a different clinical approach to the angiogram procedure in South Australia. Through CADOSA we were able to show that using a patient’s arm instead of their groin to insert a catheter into the heart has actually been less invasive and preferred by patients. This was an interesting discovery considering often patients are cautious about changing treatments for their health.

“Since this approach hasn’t taken off in the United States yet, we were able to share this with the research group over there and they are very interested in it. This global collaboration is really positive and exciting for our healthcare system.”

Using the CADOSA structure, Dr Tavella and her team have observed improvements in the door-to-balloon time in South Australian hospitals. Door-to-balloon time is a time measurement in emergency cardiac care for patients with heart attacks that reflects the amount of time between a heart attack, patient’s arrival in the emergency department and the time they receive angioplasty/stenting.

“At the moment we are also starting a trial to look at different medical therapies for patients with residual angina (chest pain caused by insufficient blood flow around the heart), and we are hoping to see benefits with the use of different tablets. We’re hoping to have early results of this in the next six months,” Dr Tavella said.

“There’s nothing else like CADOSA within Australia. I’ve been able to see changes and improvements in our healthcare system quite quickly, it’s very fulfilling. My supervisor Professor John Beltrame has been a great mentor to me and it is because of his leadership that we’ve been able to establish CADOSA. Together we have established CADOSA as one of three international sites around the world that’s piloting a standard data collection set for coronary artery disease patients which has been developed by the International Consortium for Health Outcome Measurement (ICHOM).” This collaboration with ICHOM will provide unique opportunities for us to measure, benchmark and compare patient outcomes around the world.

Clinical Data Manager
Central Adelaide Local Health Network

Registry Manager
CADOSA

Senior Lecturer
The University of Adelaide
Clinical disorders involving the coronary and peripheral circulation can be largely attributed to abnormalities within blood vessels thereby compromising the blood supply to these organs. The Translational Vascular Function Research Collaborative undertakes interdisciplinary basic, clinical and epidemiological studies into vascular dysfunction to improve our understanding of these disorders and develop new effective therapies.

The Collaborative includes both clinicians and medical scientists located at the Basil Hetzel Institute, The University of Adelaide Medical School, the Central Adelaide Local Health Network (CALHN) and the Northern Adelaide Local Health Network (NALHN). The integrative nature of the group provides a unique opportunity to ensure that innovations are bi-directionally translated; that is, as well as the traditional bench to bedside approach, innovations are derived from identifying patients with poor outcomes, understanding the contributing clinical attributes of these patients and returning to the laboratory to discover new therapies.

The multidisciplinary Collaborative consists of three groups that have combined meetings to optimise interdisciplinary input and translation:

- Molecular Physiology
- Clinical Physiology, and
- Health Outcomes

MOLECULAR PHYSIOLOGY

The Molecular Physiology group focuses on the pathophysiology and molecular signaling of vascular disorders including coronary artery spasm, coronary microvascular disorders, peripheral vascular disorders and reperfusion injury. Laboratory studies include the assessment of isolated human vessel function using myography, followed by a series of biomolecular assays aimed to provide a mechanistic understanding of the disorders and thus direct the translation to improvements in medical therapy.

Key findings in 2017

A unique endothelial biopsy technique has been established which can be easily implemented during routine cardiac investigations. This can provide a feasible and potential tool for personalised medicine.

Outcomes for the community

This research demonstrates that there is a real potential for capture of biological data for personalised medicine.

External Collaborators

Michael Worthington
James Edwards
Fabiano Viana
Robert Stuklis
CTSU, Royal Adelaide Hospital
The Clinical Physiology research team utilise both invasive and/or non-invasive techniques to identify the presence of vascular dysfunction in patients with vascular symptoms including angina (chest pain due to insufficient blood supply to the heart) and intermittent claudication (pain and/or cramping in the lower leg due to inadequate blood flow to the muscles). Techniques include the assessment of coronary artery spasm, coronary blood flow, cardiac magnetic resonance imaging, popliteal artery vasodilation, subcutaneous blood flow and endothelial function.

Key findings in 2017

- Reported that the use of N-acetylcysteine (NAC) administered with low-dose intravenous nitroglycerin is associated with reduced infarct size in ST-segment-elevation myocardial infarction patients undergoing percutaneous coronary intervention.
- Contributed to the collection of data for an international registry for patients with vasospastic angina.
- Established Myocardial Infarction with Non Obstructive Coronary Arteries (MINOCA) as an important clinical entity which has resulted in an update to international clinical practice guidelines for myocardial infarction patients.
- Demonstrated that abnormalities in coronary microvascular function are associated with on-going chest pain symptoms in patients with non obstructive coronary arteries.

Outcomes for the community

For the first time, NAC has been identified as an ancillary therapy for the reduction of infarct size. This finding from the NACIAM trial comes after a long string of neutral studies that have studied a range of compounds with the hope of reducing reperfusion injury and protecting the heart muscle in acute myocardial infarction patients. The results form this trial are very encouraging, and require larger studies to assess the impact of this therapy on clinical cardiac outcomes.

Publications for Translational Vascular Function Research Collaborative

Professor John Beltrame and members of his group visit C. Noel Bairey Merz (far right) at the Cedars-Sinai Medical Center (USA)
HEALTH OUTCOMES

The Health Outcomes group focuses on the health status of patients with vascular disorders including their symptoms, physical limitations and quality of life. Consistent with the changing environment in medicine, this group adopts a ‘patient-orientated’ approach to the delivery of health care by evaluating patient health status and quality of care delivered. The group has developed large databases from patients with coronary artery disease, microvascular disease, coronary spasm and peripheral artery disease. Most of these databases have international links thereby providing collaborative opportunities.

Key findings in 2017

Over 6,000 coronary angiography procedures are performed each year in South Australia. Although the procedures are relatively safe, some patients experience adverse complications, with some patients at much higher risk than others. Using the coronary angiography databases we can provide personalised risk assessments so both patients and clinicians are better informed about potential harm.

Around 10% of myocardial infarction patients do not show obstructive coronary artery blockages on their angiogram which leaves the cause of the heart attack unclear. Moreover, these patients are less likely to receive secondary prevention medications which may be of benefit in reducing their risk of future cardiac events.

Outcomes for the community

For the first time in Australia, internationally established quality measures for coronary artery disease have been assessed and internationally benchmarked in preliminary analyses. These will be further developed and quality assurance programs established, thereby improving the quality of care delivered to patients in South Australian Hospitals.

Publications for Translational Vascular Function Research Collaborative
In 2017 The Hospital Research Foundation (THRF) announced its inaugural Basil Hetzel Translational Grant in partnership with affiliate Australian Heart Research, in memory of Dr Basil Hetzel AC. This inaugural grant was awarded to Professor John Beltrame and his world-class team at The Queen Elizabeth Hospital who are pioneering the causes and treatment of patients living with chest pain following an ‘unexplained heart attack’.

A heart attack occurs when there are cholesterol blockages within the coronary arteries, but they can be treated with the correct medication. However, around 10 percent of patients when having an x-ray of the heart (coronary angiogram) reveal no significant cholesterol blockages in the coronary arteries. This is known as a Myocardial Infarction with Non Obstructive Coronary Arteries (MINOCA).

For 48 year old Tim Lamming this condition has severely impacted his quality of life. For a year he was in and out of hospital with specialists unable to diagnose his condition.

Living with this daily chest pain has given Tim no choice but to stop work, demonstrating the importance of finding an effective treatment method for people living with chest pain following an ‘unexplained heart attack’.

Prof Beltrame’s research is expected to deliver outcomes that will impact the lives of patients in the next three years. “This study supported by THRF’s Basil Hetzel Translational Grant will be a world-first in examining the role of the microscopic blood vessels in these unexplained heart attacks,” Prof Beltrame said.

Furthermore, this study is the first to scientifically evaluate if two standard heart attack treatments alleviate the recurrent chest pain experienced by patients with MINOCA. With an estimated 6,000 patients affected by MINOCA each year, the results of this study will have an important impact in their care.”

Prof Beltrame will be working alongside Associate Professor Chris Zeitz, an interventional cardiologist, who will lead the microscopic blood vessels studies and the internationally-acclaimed Coronary Angiogram Database of South Australia (CADOSA) will play a key role in the data collection for this study. This part will be coordinated by Dr Rosanna Tavella and Dr Sivabaskari (Tharshy) Pasupathy, based at the Basil Hetzel Institute.

“We will be collaborating internationally with leading researchers from Sweden, Denmark, Norway and the United Kingdom. These investigators will not only participate in the treatment study but also in a larger study investigating if these medications prevent future major complications in patients suffering MINOCA,” Prof Beltrame said.

This research has the ability to change the lives of so many people, including Tim’s. “Effective treatment would be life-changing. It could mean I would be able to return my daily life back to something normal again,” Tim said.

PERSONAL STORY

“Effective treatment would be life-changing. It could mean I would be able to return my daily life back to something normal again.”

A world-first study into unexplained heart attacks (MINOCA)

TIM LAMMING

This study supported by THRF’s Basil Hetzel Translational Grant will be a world-first in examining the role of the microscopic blood vessels in these unexplained heart attacks. Prof John Beltrame
Can you tell us about your recent promotion?
I was recently promoted to Assistant Professor in the Department of Emergency Medicine, Yale School of Medicine (section of Policy and Public Health & the Division of Analytics and Informatics) commencing 1 July 2017. I have served at the rank of Associate Research Scientist in the Department of Emergency Medicine since January 2016, supported by the Sidney Sax Overseas Public Health and Health Services Fellowship awarded by the Australian National Health and Medical Research Council (NHMRC). Prior to joining the Department of Emergency Medicine, I completed my postdoctoral training at the Yale University Centre for Outcomes Research and Evaluation from 2013 to 2015.

Has your area of interest remained in examining sex differences in young patients (under 55 years) with Acute Myocardial Infarction (AMI)?
During my postdoctoral studies at Yale University I was involved in leading several projects from the US VIRGO dataset, which was a direct extension of my PhD research. My prior work has been focused specifically on examining sex/gender disparities in patients with AMI, with a focus on younger women. My goal as a faculty member will involve bridging outcomes research to implementation science - with the aim of developing mobile health (mHealth) applications (e.g., mobile computing, medical sensor, or communication technologies) and risk stratification tools to assist patients, particularly women, to have a more proactive role in optimizing their recovery following AMI.

Last time you mentioned that data from your research will be used to improve the delivery of care in the management of female patients after an AMI, ultimately trying to reduce morbidity and mortality in this patient population. Is that data now making an impact?
Yes, we have spent the last 3-4 years demonstrating that women experience significant sex and gender disparities across the continuum of care for patients with AMI. My research in particular has shown that younger women 55 years and less have poorer outcomes than men and poor adherence to secondary prevention. We have identified mediators of post AMI outcomes and are now poised to move on to develop interventions to improve recovery for this patient population.

What are your plans for the next 5 years?
My plan for the next 5 years is to further establish myself in the US as Assistant Professor at Yale University, and to make important contributions to my field of research in health services and outcomes research, focusing on women's cardiovascular health.

How did the support of The Hospital Research Foundation, when you worked at the BHI, play a role in where you are today?
I am very grateful for the support I received from The Hospital Research Foundation. I received travel support from the Foundation during the course of my PhD studies at The University of Adelaide. This funding was crucial in allowing me to gain momentum in presenting my research and also in establishing collaborations with colleagues both inside the US and internationally.
VASCULAR SURGERY RESEARCH GROUP

THE UNIVERSITY OF ADELAIDE
DISCIPLINE OF SURGERY / TQEH

The Vascular Surgery Research Group studies predictive modelling to assist clinicians to judge likely outcomes from therapeutic interventions. We can predict complications and mortality after endovascular abdominal aortic repair, providing useful prognostic information to the patient and the clinician. In 2017, we have extended predictive modelling into patients with diabetic foot ulcers. We will determine which factors predict whether a patient with a diabetic foot ulcer is likely to achieve healing of the ulcer or, adversely, ultimately require amputation of the foot or the leg.

Key findings in 2017

The key outcome in 2017 has been the completion of analysis of the Endovascular aneurysm repair (EVAR) trial database which followed 694 patients throughout Australia. This study was supported by an NHMRC Project Grant from 2009-2016. Preoperative clinical and anatomical factors that predict postoperative complications have been identified and a multivariate predictive model developed. When the preoperative factors are entered into the model, the likelihood of postoperative complications, long term complications and mortality are calculated. The model is currently in the form of an interactive Excel spreadsheet but an App for use on mobile phones is also planned. A manuscript describing this model is currently in progress.

Outcomes for the community

Once developed, the EVAR App would be particularly suitable for decision making and informed consent when the patient and surgeon are considering therapeutic options.

> Publications for Vascular Surgery Research Group

ZINC AND CARDIOVASCULAR DISEASE RESEARCH GROUP

THE UNIVERSITY OF ADELAIDE
DISCIPLINE OF MEDICINE / TQEH

The Zinc and Cardiovascular Disease Research Group are investigating the role of the major dietary metal zinc in the blood vessels and vascular diseases. Our project will enable us to directly relate endothelial Zn levels and Zn transporter expression with endothelial dysfunction, vasoconstriction, cigarette smoking and both small and large artery disease in humans. It will provide the rationale for Zn interventional clinical trials.

Key findings in 2017

- In an ex vivo model, zinc protects human skin blood vessels against a potent vasoconstrictor known as endothelin-1. The zinc protection occurred at concentrations of available zinc that circulate in the blood stream suggesting the effect is physiological. Depriving blood vessels of zinc induced them to contract.
- We have obtained evidence for the presence of three members of the zinc transporter protein in the endothelial linings of the skin vessels. Exposure to cigarette smoke lowers the expression of one of these zinc transporters, ZIP2, and depletes endothelial zinc.
- We have further developed a technique to isolate endothelial cells from the linings of human arteries by detaching them from guide wires, catheters and stent balloons used in coronary angiograms and related procedures. This will enable us to study the relationship between zinc levels in arterial endothelium and cardiovascular disease.
- We were successful in winning an NHMRC grant for $685,941 over 3 years (2018-2020) to continue our research into the roles of zinc in cardiovascular physiology and protection against disease.

Outcomes for the community

As we age, the zinc levels in our body decline and make us more susceptible to disease. Our studies in blood vessels are providing the scientific evidence that zinc is important for protecting us against cardiovascular disease and that maintaining or restoring zinc levels in the body through either a well-balanced diet or via zinc supplements will help to minimise the risk of developing age-related pathological changes in our vasculature. The technique to isolate endothelial cells during coronary angiograms has a potential diagnostic role in coronary artery disease.

> Publications for Zinc and Cardiovascular Disease Research Group
CHRONIC DISEASE

Research Groups

Clinical Pharmacology Research Group

Endocrinology Unit

Stroke Research Programme

The Health Observatory
Despite significant advances in immunosuppressive therapies to prevent rejection in kidney transplantation, the average lifespan of transplanted kidneys has not improved in 30 years. This is because some immunosuppressants cause long-term kidney damage. Current clinical care involves measuring immunosuppressants in blood to maintain exposures that minimise both rejection and toxicity. Our research aims to improve clinical outcomes by understanding the factors that determine immunosuppressant exposures at their sites of action: the immune cells that cause rejection, and the transplanted kidney.

Key findings in 2017

Our work has been supported by two PhD students, Mr Zaipul MD Dom, who was awarded his PhD in 2017 and is now a postdoctoral researcher at Harvard University; and Ms Rong Hu, who is in her second year of research investigating the immunosuppressant tacrolimus. Both students continued their research utilising a large transplant recipient and donor bank of blood and tissue samples, previously established with NHMRC funding.

We now have approximately 10 years of clinical outcome data for 200 kidney transplant recipients, and have been able to couple this with assessment of polymorphisms in genes controlling immunosuppressant exposures (e.g. the ABCB1 gene, which codes for the cellular efflux transporter p-glycoprotein; and CYP3A genes which code for tacrolimus metabolising enzymes) as well as direct measurements of immunosuppressant levels in lymphocytes and kidney biopsy specimens.

Rong presented her work at the 2017 national scientific meeting of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists, showing that whilst genetic polymorphisms in the transplant recipients’ enzymes and transporters involved in tacrolimus clearance contribute to large variability in individual patient exposures to this immunosuppressant, the use of therapeutic drug monitoring ensures no adverse impact of this genetic variability in terms of rejection or long-term kidney function. However, we have also completed work demonstrating that the concentration of tacrolimus in the recipients’ blood is a poor predictor of tacrolimus concentrations within the transplanted donor kidney. Importantly, our data suggest that the net uptake of tacrolimus from the blood into kidney tissue is affected by genetic variability in the donor kidneys, and that tacrolimus-induced renal toxicity is associated with higher exposures within the transplanted kidney. We hope these observations will lead to better individualised immunosuppressant therapy for kidney transplant recipients.

Outcomes for the community

Our research will enhance understanding of the factors that contribute to the loss of a transplanted kidney, so that we can develop blood tests to better individualise immunosuppressant therapy and prevent rejection and kidney damage.
The Endocrinology Unit conducts research mainly in areas relating to diabetes and osteoporosis. We aim to gain clinical endocrine knowledge through clinical trials and other research. We also conduct translational research and patient quality improvement studies to improve patient care.

Key findings in 2017

- Mr Andrew Peel, a sixth year medical student, under the supervision of Dr David Jesudason and Professor Gary Wittert, began a study of the perception of masculinity in relation to testosterone levels in a middle/old aged male population (the Men Androgen Inflammation Lifestyle Environment and Stress (MAILES) cohort). Preliminary findings showed there is no relationship between masculinity and the level of testosterone in this population.

- Dr David Jesudason, together with Emily Meyer (Endocrine Unit, TQEH and Endocrine and Metabolic Unit, RAH) and Genevieve Gabb (Discipline of Medicine, TQEH and Department of General Medicine, RAH), conducted a clinical case series follow-up on the diagnosis of SGLT2 inhibitor associated diabetic ketoacidosis (DKA) in diabetes patients of either type 1 or 2. The SGLT2 inhibitors are a new drug, approved in 2013, for the treatment of type 2 diabetes mellitus. Cases of DKA have since emerged but are often missed. Based on the findings of this case series study, recommendations on the use of SGLT2 have been proposed including temporary cessation of these drugs, and verifying the type of diabetes that patients have.

- Nurse educators and dieticians in the Diabetes Centre continued a study on patient care improvement: Insulin adjustment clinic data analysis in order to improve type 1 diabetes patient self-care.

Outcomes for the community

Research undertaken in the Endocrinology Unit improved the diabetes patient self-care and increased our understanding of some related issues in patient treatment.

Publications for Endocrinology Unit

GROUP MEMBERS
Research Leader
David Jesudason
Consultant
Senior Medical Scientists
Jim Wang
Chris Seabor
Erica Robinson
Consultants
Narsing Laddipeerla
Kirsten Campbell
Lucy Gagliardi
Usman Mushtaq
Registrars
Alice O’Connell
Nadia Singaraveloo
Angela Chen
Marnie Nenke
Postgraduate Students
Sunita DeSousa
Usman Mushtaq
Medical Student
Andrew Peel

EXTERNAL COLLABORATOR
Gary Wittert
The University of Adelaide
Our research investigates genetic and proteomic factors that affect the risk and progress of stroke. We link internationally in our stroke-related research on genetic investigations, via collaborations with the International Stroke Genetics Collaborative and the Australian Stroke Genetics Collaborative. As part of this we investigate the cellular and molecular therapeutic application of adult stem cells and the Npas4 gene to repair the brain after stroke.

**Key findings in 2017**

- A study in the journal *STROKE* by Andrew Bivard et al., including Jim Jannes from the Stroke Research Programme has derived and validated a highly accurate model at predicting patient outcome after ischemic stroke, based on acute clinical and advanced imaging measures.

- In a conference poster, we described how the performance of the Stroke Unit, now combined with and based at the Royal Adelaide Hospital, has been increasingly successful at treating stroke patients, resulting in shorter lengths of stay of patients in hospital and reduced mortality (Milton et al., Stroke Unit Access Update. *Int J Stroke* 2017; 12(Suppl 3):43).

- We continued our work on genetic control factors for the Npas4 gene that is involved in neurogenesis (making new nerve cells) and investigating the genetic manipulation of adult stem cells from the tooth to a neural stem cell type.

- The Stroke Research Programme is also part of a multi-institutional research project on neuroplasticity in stroke that was awarded NHMRC project funding worth $735,660 over five years (2014-18) entitled “Characterising post-stroke cortical plasticity in humans - identifying a critical window for rehabilitation”.

**Outcomes for the community**

Each year 60,000 Australians suffer from a stroke and one third are left with severe disability. Our aim is to improve stroke outcomes by administering stem cells. One aspect of our research is to work out the best time to intervene after a stroke with molecular, cellular and/or rehabilitation therapies.

While results are still being analysed, we anticipate that there will be support from our research for an early adoption of multiple strategies with rehabilitation to enhance recovery following a stroke.

At this stage it is uncertain as to when intervention is best administered to overcome stroke disability. The use of this research to better coordinate new therapies and also provide rehabilitation at an optimum time will be an exciting advance.

**Publications for Stroke Research Programme**
Research in longitudinal cohorts (eg. MAILES: Men Androgen Inflammation Lifestyle Environment and Stress study; NWAHS: North West Adelaide Health Study) aims to better identify people at-risk of adverse health consequences related to sleep disorders, work factors and social determinants of health. The newly-funded NHMRC Centre for Research Excellence National Institute for Sleep Health Research, aims to develop the ability of the healthcare system to manage sleep disorders and improve sleep health. Cumberland.au applies systems thinking, design thinking, mathematical/simulation modelling and operations research to achieve lasting transformative reform in healthcare.

**Key findings in 2017**

Our research has identified relationships between mental health and urinary/sexual health with sleep in men. Sleep apnea is independently associated with depression, and there is a substantial negative additive effect of obstructive sleep apnea (OSA) and insomnia together on depression prevalence and severity. Sleep apnea and arousals from sleep are associated with mild chronic kidney disease and with erectile dysfunction.

We have also identified a significant national burden of sleep problems and disorders in Australia, associated with chronic conditions and sickness absenteeism. Our survey data and findings contributed to a report by Deloitte Access Economics, launched by the Federal Health Minister, which showed that the cost to Australia of sleep problems is $64 billion annually. Together these outcomes show that sleep problems and daytime/health consequences are endemic among Australian adults. A focus on healthy sleep at a policy level as well as increased clinician and public awareness is needed.

**Outcomes for the community**

Altmetric tracks commentary about papers online (news stories, tweets, blog post, commentaries) and this statistic is increasingly used as an indicator of social relevance of research papers. In 2017, our paper Lang et al. 2017 on depression and co-morbid insomnia/OSA scored in the top 1% of the 8.6 million articles across all journals, as did two articles from the NCD (non-communicable diseases) Risk Factor Collaboration looking at worldwide trends in blood pressure and obesity over 40 years.

Results from the Sleep Foundation national survey attracted considerable international media interest when it found sleep problems were very common and that around one-quarter of workers had missed work in the past month due to tiredness.
CLINICAL SCIENCES, HEALTH SERVICES AND POPULATION HEALTH

Research Groups

Anaesthesia Research Group

Health Performance & Policy Research Unit

Intensive Care Medicine Research Group

Psychiatry Research Group

Respiratory Medicine Unit & Clinical Practice Unit

Rheumatology Research Group

Surgical Science Research Group
The primary research interests of our department are regional anaesthesia, new applications of drugs, and specific applications for and potential complications of newer laryngeal mask airway devices.

Key findings in 2017

- Over the last few years, regional anaesthetic techniques have been a research focus in our department. We have obtained Australian and New Zealand College of Anaesthetists (ANZCA) Trials Group funding and have started an RCT into transmuscular quadratus lumborum block, which appears to give a better coverage of the abdomen compared to TAP (Transversus Abdominis Plane block).
- Systematic reviews on beta-blockade and anaesthesia show that beta-blockade appears to significantly reduce analgesia and anaesthesia dosing, whilst reducing postoperative pain, nausea and vomiting. This can have significant consequences for the provision of anaesthesia in specific higher risk cases, where for example opioids need to be avoided. Specific trials are being contemplated to explore this further.
- We are also progressing prospective trials into specific applications for Laryngeal Mask Airway devices.

Outcomes for the community

Regional anaesthesia can improve a patient’s postoperative experience by improving analgesia and reducing the effects of general anaesthesia. Beta-blockers can reduce intra-operative analgesic (opioid) and anaesthetic requirements whilst improving postoperative analgesia and reducing postoperative nausea and vomiting; again improving the patient’s experience.
The Health Performance and Policy Research Unit assesses important end results of healthcare such as effectiveness, safety, quality and costs. Combining clinical medicine and data science, our goal is to generate research that informs clinical and policy strategies to improve healthcare quality and outcomes. We achieve this vision through critical and innovative health services research and training, and by generating research output that both stimulates and empowers clinicians and health services to improve patient care.

Key findings in 2017

**ORION:** Observing Recurrent Incidence of Adverse Outcomes following Hospitalisations

With the generous support of State Health Departments, ORION brings together a decade of cardiovascular hospitalisation and procedure data from all Australian States. Encompassing more than 100 million healthcare encounters from more than 1000 public hospitals and many private facilities, ORION allows our team to assess health outcomes such as deaths, hospital readmissions and procedural complications on a national scale and understand how these outcomes vary among the many healthcare facilities in Australia. Further funding enabled ORION to expand to consider healthcare costs associated with hospitalisations which is crucial for developing effective clinical and policy strategies to improve care as cost considerations are a major driver of decision making for health providers.

The early findings of our research were presented at several national forums including the Cardiac Society of Australia and New Zealand Annual Scientific meeting, the Health Services Research Association of Australia & New Zealand Annual Meeting and local forums.

**SAFER Hospitals:** SAFety, Effectiveness of Care, and Resource Use among Australian Hospitals

The overarching goal of the SAFER Hospitals study is to estimate the national, hospital-wide incidence of serious adverse events, mortality and readmissions following hospital-based care. It further seeks to estimate the impact of these untoward outcomes by estimating the potentially avoidable costs and resources used.

Lastly, the SAFER Hospitals study seeks to develop methods to routinely monitor and profile the variation in these outcomes among hospitals.

**Outcomes for the community**

The ORION and SAFER Hospitals study will provide new insights into cardiovascular outcomes including data on short and long-term prognosis for common cardiovascular conditions, and how these outcomes vary among hospitals. The findings may enhance guideline adherence, reduces healthcare costs, empowers quality improvement efforts, and facilitates research and innovation.

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**Publications for Health Performance and Policy Research Unit**
The Department of Intensive Care Medicine participates in and conducts research aimed at improving patient outcomes and answering pragmatic, relevant clinical questions that are of importance to the clinicians who provide patient care. We also aim to deliver more efficient and effective treatments that will not only benefit critically ill patients but also decrease costs, preserve resources and increase access to scarce critical care beds. Five studies were conducted in 2017 relating to the treatment of patients with sepsis and those requiring nutritional and ventilatory support.

Key findings in 2017

**ADjunctive coRticosteroid trEatment iN criticAlly ilL patients with septic shock (ADRENAL STUDY)**

TQEH ICU participated in this NHMRC funded randomised blinded placebo controlled trial of hydrocortisone which completed recruitment of 3,800 critically ill patients with septic shock in 2017. The purpose of this study is to find out whether adult patients admitted to the Intensive Care Unit with septic shock who are given hydrocortisone compared to placebo, will have an improved rate of survival 90 days later. Results will be published in 2018.

**The Augmented versus Routine approach to Giving Energy Trial: A randomised controlled trial (TARGET NUTRITION STUDY)**

This pivotal NHMRC funded multi-centre, double-blinded, randomised, controlled, parallel-group, phase III clinical trial completed recruitment of 4000 patients in 2017. This study aims to determine if the enteral delivery of the full-recommended calorie (energy) requirement to critically ill patients improves 90 day survival benefit when compared to standard practice. Professor Peake is a Chief Investigator and co-chair of the study Management Committee. Results will be published in 2018.

**Outcomes for the community**

The research conducted within the Department of Intensive Care Medicine has the potential to deliver more efficient and effective treatments in the ICU that will not only benefit critically ill patients but also decrease costs, preserve resources and increase access to scarce critical care beds.
The Discipline of Psychiatry’s research follows five main themes:

1) Personalised psychiatry and the genomics of psychiatric disorders
2) Psychiatric neuroscience and neuroimmunology of psychiatric disorders
3) Neuropsychiatry and psychiatric and medical comorbidities
4) Clinical phenotype research into the cognitive, emotional and behavioural underpinnings of psychiatric disorders, and
5) The conduct of clinical trials, including pharmacological, psychological and neurostimulation interventions.

Key findings in 2017

- Clinical risk factors, schizophrenia polygenic risk (inversely), specific HLA alleles and inflammatory gene expression and specific mitochondrial electron transport chain gene expression are predictors of lithium response in bipolar affective disorder.
- Recognition of prosody in language and executive function (n-back test) are strongly associated with general day to day function in schizophrenia.
- Meta-analysis of clinical trials indicates that depot antipsychotic medication (slow-release, slow-acting form A:F delivered by injection) is not superior to oral antipsychotic medication in improving general function but baseline cognition and level of insight are significant predictors of functional outcomes in depot treatment of schizophrenia.
- Baseline symptoms, function and cognitive function are predictors of transition to psychosis in the Personal Assessment and Crisis Evaluation (PACE 400 Study) cohort of patients at ultra-high risk of psychosis.
- Infection during clozapine treatment for chronic psychosis results in raised clozapine levels and associated risk for toxicity. High rates of clozapine related myocarditis have been identified in metropolitan Adelaide following the implementation of a new screening protocol.

Outcomes for the community

The discipline’s work in the area of prediction of medication response for both lithium and antipsychotic medications and of prediction of outcomes in ultra-high risk psychosis represents significant advances toward personalised approaches for treatment for major mental illness. In the future these advances may help to reduce the delay to effective treatment, reduce medication side effects and improve outcomes for major mental illness.

The discipline’s analysis of adverse events in the use of antipsychotic clozapine for treatment resistant schizophrenia has been directly translated into the new 2017 South Australian Clozapine Treatment Guidelines and associated SA Health Training and eLearning package. These advances in knowledge will directly benefit patients with chronic psychotic illness.

Publications for Psychiatry Research Group

GROUP MEMBERS
Research Leaders
Bernhard Baune
Head of Discipline
Scott Clark
Clinical Academic
Oliver Schubert
Clinical Titleholder

Research Assistant
Ellen Lyrtzis
Research Psychologist

Postgraduate Student
Andrew Olagunju
PhD Student

Advanced Trainees
Nir Nachmani
Psychiatry Registrar
Vineet Jejuna
Psychiatry Registrar

BHI COLLABORATORS
John Beltrame
Translational Vascular Function Research Collaborative

EXTERNAL COLLABORATORS
Pat McGorry
Barnaby Nelson
Orygen Youth Health, Melbourne University

Thomas G Schulze
ConLiGen Consortium, Ludwig-Maximilians-University of Munich (Germany)
TQEHH Respiratory Medicine Unit and its associated Clinical Practice Unit work across many areas relating to clinical practice and improvement of health services. The unit has a number of epidemiological research studies underway addressing knowledge and practice gaps for prevalent respiratory conditions, including: chronic obstructive pulmonary disease (COPD), asthma, bronchiectasis, sleep apnoea, pneumonia, respiratory failure and smoking. Other key areas of research are non-invasive ventilation and intervention pulmonology and Indigenous health.

Key findings in 2017

- The Respiratory Medicine Unit & Clinical Practice Unit completed the first Australian study to examine risk factors for pneumothorax incidence in people with emphysema undergoing endobronchial valve (EBV) insertion. It was found that risk of pneumothorax is significantly increased in cases with previous pleural injury, but not a paraseptal/panlobular emphysema morphological subtype. These results will support improved risk assessment and discharge planning procedures.
- An investigation into the comparative diagnostic yield and safety of a newer, less invasive procedure (transbronchial lung cryobiopsy) for the diagnosis of interstitial lung disease compared to the conventional method (forceps transbronchial biopsy) was also undertaken in 2017. Results indicated that the less invasive cryobiopsy method was a safe alternative to the forceps method and provided a higher diagnostic yield. These findings were clinically significant.
- A survey of sleep physicians and electrophysiologists determined that SA’s mandatory reporting law for unsafe drivers is largely ignored and inconsistently applied and deteriorates doctor-patient relationships.

Outcomes for the community

Improved patient care, reduced hospital admissions for patients, improved quality of life for patients and reduced health care expenditure are expected outcomes of this research.

Publications for Respiratory Medicine Unit and Clinical Practice Unit

Dr Kristin Carson-Chahhoud (far right) with high school students who participated in a summer internship program.
The Rheumatology Unit aims to utilise clinical data and biological samples from a range of clinical cohorts with autoimmune and chronic inflammatory diseases, to investigate epidemiology, causation, clinical outcomes, new treatments and patient reported outcome measures. Projects are on-going in a range of disease such as osteoarthritis, rheumatoid arthritis, Sjögren’s syndrome, giant cell arteritis, polymyalgia rheumatic, gout and fibromyalgia. In addition the Rheumatology Department operates one of the largest Rheumatology clinical trials centres in Australia.

Key findings in 2017

• A/Prof Maureen Rischmueller has continued her international SGENE Sjögren’s syndrome collaboration. Key papers published this year include confirmation that X chromosome aneuploidy (either complete or partial) contributes to disease susceptibility and genetic control of hyper-responsiveness to type I interferons (OAS1 locus) also contribute to disease susceptibility. A/Prof Rischmueller also belongs to the (European League Against Rheumatism) EULAR-SS task force and Big Data consortium which published on geolocation and ethnicity and Sjögren’s manifestations, and plans to further characterise this disease on a world-wide basis. ►Brito-Zerón at al 2017.

• Dr Sam Whittle has continued with his research interest in pain, and published a paper reporting that weather variation does not influence pain levels in patients with fibromyalgia. A novel feature of this study was the use of Twitter to gather data from a first-person patient perspective.

• Professor Catherine Hill has continued with a variety of research interests. Published papers include several characterising foot pain in the community and a systematic review demonstrating that mortality is not increased in patients with Giant Cell Arteritis. This latter publication is important given the seriousness of the illness, the elderly nature of the patients, and the treatment with high dose corticosteroids.

• With PhD student, Dr Rachel Black, and a collaboration with OMERACT (Outcome Measures in Rheumatoid Arthritis Clinical Trials), Professor Hill has also published preliminary data on patient perceptions of glucocorticoid treatment in addition to describing the drivers of glucocorticoid initiation and cessation in patients from the Australian Rheumatoid Arthritis Database (ARAD).

Outcomes for the community

All research within the Rheumatology Unit has a strong clinical focus. The aim is primarily to enable optimum patient clinical management and the best treatment outcomes, which requires an understanding of disease pathogenesis, the best treatments, their side effects, and which patients are at risk of undesirable outcomes.

As treatment is ultimately a partnership between clinician and patient, patient-oriented outcome measures are also an increasing focus. Patient education is also important, and the Rheumatology Unit maintains a high level of commitment and input into programs run by Arthritis SA, as well as performing qualitative research into the effectiveness of such programs.

►Publications for Rheumatology Research Group
The Surgical Science Research Group is primarily interested in clinical research, and benchtop to bedside research in the surgical setting.

Key findings in 2017

In 2017 the Surgical Science Research Group continued its focus on enhancing teaching methods and opportunities in surgery. Surgical competence requires not only technical expertise, but effective non-technical skills to ensure patient safety and maintenance of standards. Recently the Royal Australasian College of Surgeons implemented a new Surgical Education and Training (SET) curriculum that incorporated non-technical skills considered essential for a competent surgeon. Our group sought to compare the non-technical skills of experienced surgeons who completed their training before the introduction of SET with the non-technical skills of more recent trainees. Surgical trainees and experienced surgeons undertook a simulated scenario designed to challenge their non-technical skills. Scenarios were video recorded and participants were assessed using the Non-Technical Skills for Surgeons (NOTSS) scoring system.

For most NOTSS elements, mean scores increased initially, peaking around the time of Fellowship, before decreasing roughly linearly over time. There was a significant downward trend in score with increasing years since being awarded Fellowship for six of the 12 NOTSS elements: including considering options, implementing and reviewing decisions, establishing a shared understanding, setting and maintaining standards, supporting others and coping with pressure.

The drop in NOTSS score was unexpected and highlights that even experienced surgeons are not immune to deficiencies in non-technical skills.

This unanticipated result has further highlighted the need for continued professional development programmes focusing on non-technical skills, regardless of the level of professional experience and emphasises the importance of our current project on surgical coaching to fill this gap in continued education.

Outcomes for the community

The concept of coaching for performance improvement is an accepted and well-established approach in fields such as sports, education, business and music. Only more recently has the application of this model of learning, which is grounded in established adult learning and psychological concepts, been applied in the health care setting. This project is investigating whether surgical coaching is a potentially valuable tool to enhance surgeons’ non-technical skills and beneficial to develop a surgical coaching program for General Surgeons for the purpose of improving surgeons’ ongoing professional development.

In 2017/18 we aim to design and implement a coaching program in both a theatre and outpatient setting. It will take place at The Queen Elizabeth & Royal Adelaide Hospitals positioning us at the forefront of surgical training techniques, which other institutions may then model their surgical training programs on, ultimately providing better patient care and outcomes.

Publications for Surgical Science Research Group

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DRUG AND VACCINE DEVELOPMENT

Research Groups

Therapeutics Research Centre

Virology Group
Our focus is on mechanistic, pharmacokinetic, clinical and regulatory science studies in pharmaceutical science, therapeutics and toxicology of small molecules, biologicals, nanosystems and cells. Our research covers development of sophisticated analytical methods for drug and poison analysis in patients, design and testing of pharmaceutical and nanosystem products, quantifying the disposition and effects of drugs and nanosystems in living cells as well as physiological pharmacokinetic modelling to improve therapeutics for various conditions including medicine adherence and the impact of de-prescribing.

Key findings in 2017

We continue our work in several related areas including:
- Toxicology: the effects on the body and various organs following intentional (suicide attempts) or inadvertent poisoning with several classes of drugs and chemicals (6 publications);
- Skin: the permeation parameters of various topical applications including the imaging of melanoma progression (5 journal articles, 1 book chapter);
- Population kinetic modeling of dosing regimens of antibiotics and the effects of obesity on this class of drug used to treat the critically ill (2 publications);
- Liver: studied hepatic metabolism in health and disease (1 journal article, 2 book chapters) and further used visualisation and modelling to establish the in vivo distribution of mesenchymal stem cells (1 publication).
- Multiphoton imaging has been adapted and used for many of our studies including the tracking of dyes, nanomaterials and compounds and their association with body organs.

Outcomes for the community

Our work provides insight into the effects of poisons on various organs of the body and potential treatments/antidotes with effective timelines including strategies for suicide prevention.

Every day people apply various compounds to their skin desiring protection (for example against UV rays), penetration through the skin to reach the underlying systemic circulation or delivery into the skin. Our data on nanoparticle toxicity helps to establish better regulatory and safety measures to keep the community safe.

Understanding how antibiotics behave (in terms of absorption, distribution, metabolism and elimination) in the critically ill and how they are altered by confounding disease states such as obesity allows for better management of treatments in this vulnerable population.

Publications for Therapeutics Research Centre
The primary aim of our research is to develop novel vaccine strategies for human immunodeficiency virus (HIV) and hepatitis C virus (HCV). To address this, we developed a novel DNA vaccine which is more effective than typical DNA vaccines. This vaccine elicits robust cell mediated immunity in vaccinated animals, including large animals, and generates protection in a HIV animal model. More recently, the focus has moved to develop vaccines which elicit humoral immunity that may be used independently or in combination with the vaccines which elicit cellular immunity.

Key findings in 2017

- We showed that the cytolytic DNA vaccine enhanced activation of dendritic cells resulting in increased priming of CD8 T cell immunity. This study showed that transfection of HEK cells with the vaccine resulted in release of lactate dehydrogenase, indicative of necrotic cell death. An in vivo study showed that the vaccine increased the activity of dendritic cells, a result that is important for the future translational prospects of the vaccine. More recent studies with the cytolytic DNA vaccine confirmed that a vaccine cocktail elicited a broader cell mediated immune response than a vaccine which encoded a consensus sequence.

- To complement the HCV cell mediated immune responses, a DNA vaccine was designed to elicit humoral immunity to the HCV envelope proteins, and was shown to induce HCV-specific neutralising antibody.

- A Zika virus vaccine was also shown to induce strong humoral immunity and current experiments are designed to characterise the nature of this response.

Outcomes for the community

The ability to induce HCV specific neutralising antibody simultaneously with cell mediated immune responses to a number of the viral antigens is an exciting new development that has the potential to change the direction of HCV vaccine research.

The Zika research also has a unique opportunity for introduction into human clinical trials.

Publications for Virology Group


Developing vaccines against viruses to save lives

DR ASHISH SHRESTHA
Virology Group

Supported by The Hospital Research Foundation (THRF), Dr Ashish Shrestha’s research aims to develop a universal Hepatitis C virus vaccine and a DNA vaccine to provide effective protection against the Zika virus. Currently there are no licensed vaccines for clinical use against either virus.

Hepatitis C is a blood-borne disease caused by Hepatitis C virus which can cause inflammation of the liver and can lead to carcinoma and liver cirrhosis.

Globally, more than 185 million people have been infected with the virus and estimated health care costs for the treatment is around $252 million per annum in Australia.

Zika is a disease contracted by an infected mosquito bite, which can cause fever, rash and muscle and joint pain. Aiming to develop vaccines against these viruses, Dr Shrestha’s background in microbiology will be a vital contribution to this research.

Awarded a THRF Early Career Fellowship in 2017, Dr Shrestha relocated to the Basil Hetzel Institute for Translational Health Research from the University of Queensland to pursue this vital research. Dr Shrestha is working under Professor Eric Gowans who is leading this research.

‘Prof Gowans has already developed an experimental novel cytolytic Hepatitis C DNA vaccine and I am researching to develop a vaccine which can protect against the four most common Hepatitis C virus genotypes found globally,’ Dr Shrestha explained.

‘I am also working on the development of a vaccine for the Zika virus. As the Zika virus belongs to the same family as the Hepatitis C virus I will be using a similar strategy to target it.’

‘Although there are existing treatment methods for people who contract Hepatitis C, they are very expensive. The number of Hepatitis C cases in Australia is increasing each year, so a new and cheaper vaccine is vital.’

Dr Shrestha’s potential Zika virus vaccine will be targeted to people living in tropical regions, travellers and also pregnant women, as mothers infected during pregnancy are more likely to have children with microcephaly (small brain syndrome) for which there is no treatment.

Dr Shrestha is grateful to THRF and the donor community for the opportunity to potentially develop new much-needed vaccines for these life threatening viruses.

Fellowship
The Hospital Research Foundation Early Career Fellow

Although there are existing treatment methods for people who contract Hepatitis C, they are very expensive.

DR ASHISH SHRESTHA
INFLAMMATORY DISEASE

Research Groups

ENT Surgery

Inflammatory Bowel Disease Research Group

Zinc and Inflammatory Disease Research Group
The Department of Otolaryngology, Head and Neck Surgery is focused mainly on understanding the pathogenesis of chronic rhinosinusitis (CRS), using a multidisciplinary approach, aimed at identifying new diagnostic/prognostic markers and treatment strategies to the benefit of our patients. Research projects cover all aspects of rhinological research from pathophysiological aspects of CRS to the identification and validation of new treatment strategies in vitro and in vivo, bringing research from bench to bedside. Other aspects of our research focus on wound healing and skull base surgery.

Key findings in 2017

- We have found the presence of tertiary lymphoid organs in recalcitrant CRS patients. These lymphoid follicle like structures are thought to be important in determining the type of inflammation in these patients.
- We have also identified a new treatment combination (deferiprone and gallium protoporphyrin) that has strong antimicrobial properties and can kill difficult to treat infections.
- We have made progress in wound healing projects where we have found deferiprone to have strong anti-adhesive properties in a sheep model of back surgery.

Outcomes for the community

Our research is translational, aimed at the discovery of new treatments for CRS. Hence, our research findings are bringing direct benefit to the community by developing safe and effective new treatments for CRS.

Our department is also actively involved in direct interactions with the community with the organisation of research forums and presentations that are accessible to all. An example is ‘The Pint of Science Festival’, a festival held over 3 days that brings research to the public through scientific talks in local pubs. One of the 2017 organisers was Katharina Richter, a recent PhD graduate from our department.

The department also engaged with the public via invited articles published in The University of Adelaide alumni magazine Lumen (worldwide readership), the Australasian Science magazine (readership in Australia, New Zealand and Asia) and ENT Today (readership in the USA).

Publications for ENT Surgery
Over ten years ago world-renowned Ear, Nose and Throat Specialist Professor Peter-John Wormald had the revolutionary idea of developing a gel to treat chronic and recurring inflammation after sinus surgery.

A decade later this gel is showing such life-changing results for patients’ post-surgery that Professor Wormald was awarded The Hospital Research Foundation’s 2017 Development Grant of $200,000 to expand its use to chronic pain after back surgery.

When a patient undergoes routine back surgery, it is very common for scarring and adhesions to form, leaving some patients in more pain than they had before surgery. Despite this, there are currently no therapies available to these patients to help relieve their pain.

Until now!

Prof Wormald and colleague Associate Professor Sarah Vreugde have discovered the same gel they now use to treat nasal inflammation following surgery, can also be used to prevent scarring following routine back surgery. Now armed with the support of this grant, this innovative gel will soon be available to patients through a clinical trial.

“Having had success with the gel in nasal cavities and sinuses, we identified problems with back surgery and a high failure rate with scar tissue and it seemed a logical extension to trial the gel to see if it is going to be effective.”

A/Prof Vreugde says it was the breakthrough idea of adding an additional anti-scarring compound to the gel which showed significant effects in reducing scarring after back surgery.

“We soon discovered that adding a particular compound called deferiprone, which has strong anti-scarring properties, to the gel actually strengthened its effect on preventing adhesions following back surgery,” A/Prof Vreugde said.

Through our initial research it was determined that without the gel there was 94 per cent of cases after surgery where adhesions formed, but with the gel this reduced significantly,” she said.

Our initial research determined that without the gel there was 94 per cent of cases after surgery where adhesions formed, but with the gel this reduced significantly.

A/PROF SARAH VREUGDE
INFLAMMATORY BOWEL DISEASE RESEARCH GROUP

INFLAMMATORY DISEASE

Our research focuses on the role of the microbiome and diet in inflammatory bowel disease (IBD) and other gut disorders and manipulating the microbiome and diet for therapeutic effect.

Key findings in 2017

- **Faecal transplantation in ulcerative colitis:**
  We completed 12 months of follow up for patients in the faecal microbiota transplant (FMT) for induction of remission in ulcerative colitis study. This double blind placebo randomised controlled trial demonstrated that faecal transplant can induce remission in active ulcerative colitis however the effect diminishes over time. We have learnt about the microbial and metabolite characteristics of donor stool that are associated with the treatment effect. We have concluded that more research is required to determine if FMT can be used as a maintenance therapy.

- **‘Treat to target’ in ulcerative colitis:**
  A multicentre study was performed evaluating current clinical practice in ulcerative colitis, finding that only a modest proportion of patients meet the proposed treatment target of clinical and endoscopic remission. Survey data exposed clinician perceptions and behaviour as key challenges to implementation of a ‘treat to target’ strategy in practice.

- **Commercialisation:**
  We have made a commercialisation agreement with Microbiotica (Cambridge, UK) with the aim of using our intellectual property to help develop artificial faecal microbiota transplant (FMT).

Outcomes for the community

We have demonstrated that faecal microbiota transplantation can safely induce remission of active ulcerative colitis but that the clinical effect diminishes with time. This provides evidence that this new therapy is both effective and practical in terms of delivery for patients. It is a therapeutic option for patients that does not result in immune suppression that many current therapies do.

We have also established a not for profit organisation “BiomeBank” with The Hospital Research Foundation (THRF) that will run the stool bank that is also used to treat South Australian patients with recurrent *Clostridium difficile* infection.

Publications for Inflammatory Bowel Disease Research Group
Would you ever imagine that a faecal transplant could save your life? Research underway in Adelaide is leading to treatments for patients living with chronic gut conditions. The results? Lifesaving!

Getting to the bottom of gut health

MEET STEPHANEE

A normal 16 year old enjoying a game of netball, Stephanee collapsed with no warning signs or known previous health issues. Doctors discovered she was living with an undiagnosed health issue of kidney reflux, meaning urine would travel up to her kidneys and damage them. In fact, Stephanee’s kidney function was just eight per cent.

With Stephanee’s health rapidly declining, she underwent a kidney transplant in March 2016 at the Royal Adelaide Hospital. The transplant was a success thanks to her loving mother Sam donating a kidney.

“We were compatible and it was a no brainer for me, I just wanted Stephanee to start feeling better and live a normal life at her young age,” Sam said.

Unfortunately, Stephanee’s health issues continued post-surgery and she was diagnosed with a *Clostridium difficile* infection, a consequence of antibiotics and the anti-rejection medication she was taking following the transplant.

“All my gut flora (good bacteria) was destroyed, which resulted in me being extremely sick and back in hospital. By this time my friends had part time jobs, buying new cars and travelling overseas and I was missing out,” Stephanee said.

The infection was having a drastic impact on Stephanee’s quality of life and antibiotic therapy was failing.

She was then referred to see Dr Sam Costello, Gastroenterologist at The Queen Elizabeth Hospital (TQEH) who recommended that Stephanee have a stool transplant to help restore her gut health.

“The faecal transplant provides healthy gut microorganisms that can out compete the *Clostridium difficile* infection in the bowel and rejuvenate the damaged gut ecosystem. In doing this it prevents *Clostridium difficile* from causing infection” Dr Costello said.

“Stephanee had tried many courses of traditional antibiotic therapy that had not been able to eradicate her infection and so faecal transplant was the last remaining option for her.”

On December 30, 2016 Stephanee underwent a stool transplant at TQEH, making her the first patient in Australia to have had a kidney transplant and a stool transplant. The stool transplant successfully restored Stephanee’s normal bowel function. Stephanee’s anaemia (low red blood cells) also resolved following faecal transplant.

“I was back to normal the day after my faecal transplant and had regained my energy. I’m so glad I had the operation and I hope this will work for others in a similar situation as me – it’s been life changing!”

The Hospital Research Foundation are thrilled to be working with Dr Costello to support BiomeBank, the first ever public stool bank in Australia to treat severe and chronic bowel conditions, which will improve the lives of more people like Stephanee!

“Stephanee had tried many courses of traditional antibiotic therapy that had not been able to eradicate her infection and so faecal transplant was the last remaining option for her.

DR SAM COSTELLO

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The Hospital Research Foundation are thrilled to be working with Dr Costello to support BiomeBank, the first ever public stool bank in Australia to treat severe and chronic bowel conditions, which will improve the lives of more people like Stephanee!
Chronic Obstructive Pulmonary Disease (COPD) is an incurable, cigarette-smoke related, chronic inflammatory airways disease that is predicted to be the third leading cause of death in the world by 2020. There are no treatments that prevent the disease progression, and identifying new therapeutic targets is a priority for COPD research.

Autophagy is emerging as an exciting new area of clinical research interest with therapeutic potential. We have identified several clinically approved agents that reduce autophagy and apoptosis by targeting Zinc homeostatic mechanisms. This work is funded by an NHMRC project grant 2016-2018.

Key findings in 2017

- We made the important discovery that zinc (Zn) transporter proteins and XIAP (a Zn-dependent inhibitor of apoptosis) are central to both apoptosis and autophagy, and are dysregulated in COPD and in response to cigarette smoke.
- We showed that exposure to cigarette smoke lowers the expression of one of these zinc transporters, ZIP2, and depletes airway epithelial zinc.
- An *ex vivo* model of differentiated human airway epithelium exposed to Zn depletion and cigarette smoke was used to determine the contribution of Zn in maintaining normal epithelial permeability. We showed a significant downregulation of the tight junction proteins and increased epithelial permeability.

Outcomes for the community

As we age, the zinc levels in our body decline and make us more susceptible to disease. Zn deficiency is an influential codeterminant that drives epithelial damage in smokers and patients with chronic obstructive pulmonary disease. Targeting this phenomenon may be a previously unidentified and critical avenue toward preventing and ameliorating lung damage.
AGED AND EXTENDED CARE SERVICES, TQEH

Professor in Geriatric Medicine & Clinical Director
R Visvanathan PhD GradCertEd (Higher Ed.) FRACP FANZSGM MBBS ATCL

Clinical Associate Professor in Geriatric Medicine & Deputy Director
S Yu PhD FRACP MBBS LTCL (Deputy Director)

Clinical Senior Lecturers & Consultant Geriatricians or Physicians
J Ng FRACP MBBS (Head of General Medicine)
K Tham Dip PalMed FRACP MBBS
F Cai FRACP MBBS
P Shibu FRACP MD CCT UK MRCP MBBS
S Nayir MPhil FRACP MBBS MRCP Fellowship Geriatric Medicine (Malaysia)
K Parasivam FRACP MBBS
F Ibrahim FRACP CCT UK MRCP MBBCh LRCPSI

Academic Staff

G-TRAC Centre Academic (General Practitioner)
J Teo MBBS FRCGP

G-TRAC Centre Academic (Psychologist)
N Mahajan PhD MPsych MAPsycho1 BA

G-TRAC Nurse Practitioners
D Preston RNPract
T Jaques AEP AES BAppSc (H.M.) BHlthSc

EXPRESS team
B Wymand APD BNutrDiet(Hons)

Research Nurse
C Smyth RN
K Bray RN

Administrative Staff

CRE Frailty Manager
L Baker BSc(Hons) Grad Dip Bus Administration (GP BA)

G-TRAC Administration Support Officer
N Wiltshire

Postdoctoral Fellows
J Dollard PhD Grad Cert Public Health BA (Honours in Psychology)
I Hendrix BSc PhD
D Taylor BA(Geography) MA PhD
K Umpapathysivam BSc(Hons) MSc PhD GradDip

Specialist Registrars in Geriatric Medicine
M Kee MBBS - Anemia in the Elderly
K Khow MBBS - Hip Fracture in the Elderly
S Nawi MBBS - Screening for Sarcopenia in the Community
T Jayaweera MBBS - Screening for Sarcopenia in Residential Care
H Arunasalam MBBS - Sarcopenia and Lung Function
B Bikdeli MD - Ambient Intelligent Geriatric Medicine System

Observers
WS Lim MBBS MRCP (UK) MMed(internal med) FAMS

DEPARTMENT OF ANAESTHESIA, TQEH

Consultant Anaesthetists
A Rajbhoj FANZCA
V Rao Kadam FANZCA
R Sethi FANZCA
V Thrivenkatarajan FANZCA
T Visvanathan FANZCA
R Van Wijk MD PhD FANZCA FFPMANZCA AFRACMA AFACHSM
R Watts FRACGP

CARDIOLOGY UNIT, TQEH

Professor
J Horowitz AM MBBS BMed Sci (Hons) PhD FRACP FAHA FESC

Senior Scientists
B Sallustio PhD
Y Chirkov PhD
DT Ngo PhD
TH Nguyen PhD
AL Sverdlov PhD

Research Scientist
S Liu PhD

Laboratory Manager
I Stafford

Research Assistant
T Hereszyn

Trial Coordinators
M Black RN
J Stansborough RN
G Dymmmott RN
J McIntyre RN
P Cheung RN

Administrative Staff
P Pachen
B Phillippo
D Mccracken

CLINICAL PHARMACOLOGY UNIT, TQEH

Principal Medical Scientist/Associate Professor
BC Sallustio BSc PhD

Medical Scientist
S Spencer BSc(Med Chem)

Grant Funded Scientist
J Licari BHSc(Hons), PhD (until April 2017)
Research Assistant
B Lett BSc (Otago, NZ) MSc (Otago, NZ) PhD candidate, Adelaide University

Senior Technical Officers
FA Wicks BSc
A Kalatsidis BSc

Technical Officers
Z Boaden BAAppSci
D Dinow BSc
C de Nichilo BSc

Administrative Assistant
J McEvoy EN Cert Bus Systems Analysis

**ENDOCRINOLOGY UNIT, TQEH**

**Head of Unit**
D Jesudason MBBS FRACP PhD

Endocrinologists
N Laddipeerla MBBS FRACP (Endo)
K Campbell MBBS FRACP
L Gagliardi MBBS FRACP PhD

Senior Registrars
A Chen MBBS FRACP (Feb 2017 – Aug 2017)

Registrar
N Singaraveloo MBBS FRACP

Scientists
J Wang BSc PhD MPH
C Seaborn BSc
E Robinson BSc

Clinical Nurse/Study Coordinator for T4DM
R Cox CN BN MN

Diabetes Centre Nurses
T Willson RN BN(Hons) Grad Cert Health (Diab Man and Ed) CDE
M Hodgson RN RM BMid Grad Cert (Diab Ed)
D Barrow RN Grad Cert (Diab Ed)
C Nitschke RN RM Grad Cert (Diab Man & Ed)
M Kinasz RN B app sci (Food Science and Nutrition) Cert (Diab Man & Ed)
R Wilson RN

Dietitians
C Stanton BSc DipEd MND
C Roberts BSc MND (maternity leave)
R Bowditch-Walsh BTheol, M50sci (Counselling), BHSc, MND

Administrative Staff
C Bouthemy (Dip.Hlth Sc) (finished Nov 2017)
T Abbott (commenced Nov 2017)
S Kuon
V Watson

**GASTROENTEROLOGY AND HEPATOLOGY UNIT, TQEH**

**Head of Unit**
I Lidums MBBS PhD FRACP

**Research Associate**
AG Cummins BSc(Med) MD PhD FRACP

**Senior Lecturer**
DL Worthley MBBS PhD MD FRACP

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SP Costello MBBS FRACP
R Byant MBBS FRACP PhD
J Fon MBBS FRACP
D Huynh MBBS FRACP
R Kimber MBBS FRACP
M Lorenzetti MBBS FRACP
G Nind MBBS FRACP
E Teo MBBS FRACP
M Teo MBBS FRACP

**Hospital Scientist**
W Uylaki BSc

**HAEMATOLOGY AND MEDICAL ONCOLOGY, DEPARTMENT OF, TQEH**

**Head of Haematology and Medical Oncology Unit/Clinical Research Program**
TJ Price MBBS FRACP DHSc

**Chief Medical Scientist, SAHMRI Colorectal Cancer Node**
JP Young BSc MSc Grad Dip Biotech PhD

**Principal Medical Scientist, Group Head Molecular Oncology Research**
JE Hardingham BSc PhD

**Clinical Research Staff**
AR Townsend MBBS FRACP (Translational Clinical Leader)
V Broadbridge MBBS FRACP
D Patel MBBS
L Lo MBBS
WK Patterson MBBS FRACP
KB Pittman MBBS FRACP MD
R Roberts-Thomson MBBS FRACP
JX Gray PhD MD FRACP FRCPA

**Grant Funded Scientists**
H Palethorpe BMedPharmSc(Hons)
E Smith PhD

**Clinical Research Fellow**
G Tapia Rico MBBS PhD
RESEARCH STAFF 2017 cont.

BREAST BIOLOGY AND CANCER UNIT

Associate Professor
W Ingman PhD

Postdoctoral Researcher
P Dasari PhD

Research Assistant
L Hodson BSc(Hons)

CLINICAL TRIALS

Clinical Trials Manager
S Yeend MClinT(R)

Clinical Trial Coordinators
P Cooper BSc MMedScC (finished March 2017)
N Cvijanovic (commenced May 2017) BHSc, BHSc(Hons), PhD
E Egan RN
M Fragomeni (commenced Feb 2017)
J Koch BAppSc (finished March 2017)
A Kuruni (commenced June 2017) MD
S Papacharissiou BHlthSc BBiomedSc(Hons)
A Phay BMedSc
J Pope (finished Jan 2017)
J Williams BSc Genetics(Hons) MClinT(R)

INTENSIVE CARE UNIT, TQEH

Acting Director
JL Moran MB BS FANZCA FRACP FJFICM MD

Consultant Specialists
D Clayton BSc MBBS FRCA FANZCA FCICM
S Jacobs MBChB FRCA FANZCA
K Lee MBBS MBus FACEM FJICM
MS O’Fathartaigh MB Bch BAO FFARCS (Ire.) FFICANZCA
SL Peake BM BS BSc(Hons) FJFICM PhD
J Raj MBBS MS

Research Coordinator
P Williams RN BN IntC

Research Project Officer
C Kurenda

MEDICINE, THE UNIVERSITY OF ADELAIDE,
DISCIPLINE OF

Michell Professor of Medicine
JF Beltrame BSc BMBS FRACP PhD FESC FACC FCSANZ FAHA

Professorial Staff
RJ Adams MBBS MD FRACP
JD Horowitz MBBS PhD FRACP
R Visvanathan PhD GradCertEd (Higher Ed) FRACP FANZGSM MBBS ATCL
C Zeitz MBBS PhD FRACP

Senior Lecturers
S Rajenderan MBBS FRACP PhD
P Zalewski BSc(Hons) PhD

NHMRC Australian Biomedical (Peter Doherty) Postdoctoral Training Fellowship
C Lang BSc (Hons) PhD

Postdoctoral Researchers
S Appleton PhD

Clinical Data Project Manager
R Tavella PhD

Biostatistician
T Air BA(Hons) M Biostatistics

CADOCA Research Assistants
C Tavella BA B Media Arts
C Cilento BMedRadSc(Hons)(NucMed)
S Tan BLabMed(Hons) PhD (Molecular Microbiology)
K Sivasanker BHlthSc

CALHN (TQEH) Research Assistants
R Jakobczak BSc
M Hay BSc(Hons)
A Milton BSc(Hons) Dip Comp Sci

HEALTH PERFORMANCE AND POLICY RESEARCH UNIT

NHF Future Leaders Fellow
I Ranasinghe MBChB MMed PhD FRACP

Research Officers
D Horton BMaCompSc
S Hossain PhD
S Hariharaputhiran PhD
NEUROLOGY UNIT, TQEH

Head of Neurology, Central Adelaide Local Health Network (CALHN) / Clinical Associate Professor
J Jannes BMBS FRACP PhD

Senior Consultant Neurologist
MK Robinson MBBS FRACP

Professor of Neurology and Neuroscience / Clinical Academic Neurologist / Director of Stroke Research Programme (SRP)
SA Koblar MBBS FRACP PhD

Chief Clinical Neuropsychologist
AC Kneebone BA Dip App Psych MA PhD FAPS

Consultant Neurologists
C Short BSc MBBS FRACP
A Tan MBBS FRACP
J Hafner MBBS FRACP
R Ghaoui MBBS FRACP
S Lee MBBS FRACP

Affiliate Associate Professor / Principal Medical Scientist/ Co-Director of SRP
MA Hamilton-Bruce BSc MSc MBA PhD FCHSE FRSB CSci FIBMS

Senior Medical Scientist
MB Donk BHSc

Chief EEG Technologist
J Pruszkowski Diploma in Medical Analysis

Memory Unit Secretary
K McKinna

Clinical Nurse Manager
KJ Webb RN BN

Epilepsy Nurse Practitioner
S Horn NP MNSc

Transient Ischaemic Attack (TIA) Nurses
P Toner RN BN
S Castle RN

Clinical Research Trials
PK Cheung RN
S Casey RN BN

Senior Medical Scientist for SRP
AG Milton BSc(Hons) Dip Comp Sci

Postdoctoral Research Fellows
K Kremer BBTech (Hons) PhD
X Kaidonis BSc (Biomed Sci) (Hons) PhD

PSYCHIATRY, THE UNIVERSITY OF ADELAIDE, DISCIPLINE OF

Professor
BT Baune MD PhD FRANZCP

Clinical Academics
S Clark MBBS PhD BSc(Hons) FRANZCP
O Shubert MD PhD FRANZCP
N Mills MBBS PhD FRANZCP

Lecturers
C Toben PhD
C Jawahar PhD

Research Assistant
E Lyrtzis BHSc (Hons Psychology)

RESEARCH STAFF 2017 cont.

RESPIRATORY MEDICINE UNIT AND CLINICAL PRACTICE UNIT, TQEH

Professor
BJ Smith MBBS FRACP Dip Clin Epi PhD

Clinical Practice Unit Staff
K Carson-Chahhoud PhD
J van Agteren BSc MSc
M Kluge
TB Truong BPsysc(Hons)

Consultants
D Grosser FRACP MBBS
S Lehman FRACP MBBS
J Polasek FRACP MBBS
A Roy FRACP MBBS
Z Usmani FRACP MBBS
A Veale PhD FRACP MBBS
S Lehman FRACP MBBS

Advanced Trainees
M Tan MBBS
A Oh MBBS

Principal Medical Scientist
M Jurisevic PhD

Pulmonary Function Laboratory
D Keatley BSc (Biomed) (Hons)
X Liu BSc PhD
P Kid BSc

Clinical Trials Unit Coordinators
K Boath Mgt Cert Adv Cert BHlthSc
TB Truong BPsysc(Hons)


RESEARCH STAFF 2017 cont.

**RESEARCH STAFF 2017 cont.**

Research Nurse  
P Gluyas RN RM CC Cert

Sleep Laboratory  
T Faulkner BPsych (Hons)  
V Coe BSc  
N Elgar BSc (Hons) BTh

Respiratory Nurses  
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K Royals RN

RHEUMATOLOGY UNIT, TQEH

Director  
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M Rischmueller MBBS FRACP  
S Whittle MBBS (Hons) M ClinEpi  
S Burnet MBBS FRACP

Rheumatology Clinical Research Administrator  
S Downie-Doyle PhD

Clinical Trial Coordinators  
C Ruediger PhD  
C Davis PhD

Rheumatology Infusion Nurse  
C Jukic RN

Rheumatology Nurse  
H Vanderhaak RN

Rheumatology Clinical Trials Nurses  
A Cayzer RN  
S White RN

Clinical Trial Assistant  
J Harris BBus

Chief Medical Scientist  
S Lester BSc(Hon)

Secretary  
M Devine

SURGERY, THE UNIVERSITY OF ADELAIDE  
DISCIPLINE OF/SURGICAL DIRECTORATE

RP Jepson Professor of Surgery  
G Maddern PhD MS MD FRACS FAAHMS

Professor of Colorectal Surgery  
P Hewett MBBS FRACS

Associate Professor  
M Goggin MB BCh BAO DO FRCSI (Ophth) FRCOphth FRANZCO MS

Senior Medical Scientist  
E Hauben PhD

Research Officers  
C Kirana PhD  
K Fenix PhD

Research Assistant  
Z Tvorogova Production Engineer (Saint-Petersburg Mining University)  
LabTech (Helsinki) Med Equip Maintenance (Helsinki)

Visiting Research Fellow  
P Drew PhD

Project Coordinators  
L Leopardi BSc BEng(Biomedical)(Hons)  
A Bonnici BHlthSc (until Feb 2017)  
J Reid BSc PhD

Technical Officers  
M Smith  
M Slawinski  
B Hutchens

SURGERY - ENT

Professor of Otolaryngology Head & Neck Surgery and Head of Department  
PJ Wormald MD FRACS FCS(SA) FRCS(Ed)

Head of Clinical Services  
A Psaltis MBBS FRACS PhD

Senior Lecturer  
G Rees MBBS FRACS

Staff Specialists  
S Floreani MBBS FRACS  
J Ling MBBS FRACS  
S Rajapaksa MBBS FRACS  
H Pant MBBS FRACS  
D Close MBBS FRACS  
K Ha MBBS FRACS
RESEARCH STAFF 2017 cont.

SURGERY - ENT cont.

Rhinology Fellow
Yi Chen Zhao MBBS FRACS

ENT Registrars
J Murphy MBBS
C Frauenfelder MBBS

Chief Scientist, Otolaryngology Head & Neck Surgery
S Vreugde MD PhD

ENT Research Assistants
C Cooksley BSc PhD
M Ramezanpour MSc PhD
D Miljkovic BMedPharmBiotechnology
C Bennett BMSc

Visiting Research Fellow
M Suzuki PhD

Clinical Nurse Operating Theatres
A Nieckarz RN

Secretaries
L Martin (retired October 2017)
A Kreutner AssocDipAcc

SURGERY - VIROLOGY GROUP

Professor
EJ Gowans MAppSci PhD

Research Fellow
B Grubor-Bauk BSc(Hons) PhD

THRF Early Career Research Fellows
A Shrestha PhD
D Wijesundara BSc(Hons) PhD

SURGERY - BREAST CANCER RESEARCH UNIT

Professor
A Evdokiou PhD

Postdoctoral Researcher
I Zinonos PhD

THRF Early Career Research Fellow
V Panagopoulos PhD

SURGERY – VASCULAR SURGERY RESEARCH GROUP

Professor
R Fitridge MBBS MS FRACS

Vascular Fellow
J Dawson MBBS ChM MD MRCS

Principal Medical Scientist
P Cowled BSc(Hons) PhD

Data Manager
R Battersby BSc Grad Cert Drug Dev (UNSW)

SA-PROSTATE CANCER CLINICAL OUTCOMES COLLABORATIVE

Chair
K Moretti MBBS FRACS(Urol)

THERAPEUTICS RESEARCH CENTRE, UNIVERSITY OF SOUTH AUSTRALIA

Professor
MS Roberts BPharm PhD DSc MBA FACP

Centre Manager
L Mackenzie BSc PhD

Postdoctoral Researchers/Research Associates
A Abdalla BPharm PhD
A Alinaghi BPharm PhD
O Chernyavskiy PhD
A Holmes BSc(Hons) PhD
L Sandiford PhD
T Robertson BSc PhD

Technical Officer
K Burns BSc (until 24 March 2017)
RESEARCH STUDENTS 2017

RESEARCHERS IN TRAINING

The Basil Hetzel Institute (BHI) is committed to providing academic training opportunities in research, and this year a total of over 80 students across our campus were being supervised by BHI clinical and science staff affiliated with either The University of Adelaide or the University of South Australia.

Of the 80, we are proud to report that 18 students completed their research higher degrees and were awarded either PhDs or Masters Degrees (Surgery and Medicine). We congratulate them for their aptitude, dedication and particularly for their contribution to knowledge in their chosen field.

The BHI has excellent research facilities at The Queen Elizabeth Hospital campus, providing an ideal environment for undertaking research. The majority of students are colocated with research and technical staff in the Basil Hetzel Institute facility, and with scientific and academic support to get on with their research projects, as well as ample opportunity to broaden their knowledge and understanding of other areas of research through regular scientific talks and presentations. Opportunities to obtain communication training to better tell their research story to media, lay audiences etc are also available.

Enquiries from new students with clinical (medical/nursing/allied health) and science backgrounds interested in tackling real health and medical issues affecting patients in our hospitals, are always welcome.

L-R Dr Aneta Zysk, Dr Dijana Miljkovic and Dr Katharina Richter after their graduation ceremony at The University of Adelaide
RESEARCH STUDENTS 2017
COMPLETED HIGHER DEGREES
BHI BASED SUPERVISORS ARE UNDERLINED

THE UNIVERSITY OF ADELAIDE
DISCIPLINE OF MEDICINE (TQEH)

Cher-Rin CHONG BPharm
A pharmacological approach towards myocardial protection: new perspectives in acute and chronic cardiac disease
Supervisors: Horowitz JD, Sallustio B
Cardiovascular Pathophysiology and Therapeutics Group
The University of Adelaide, PhD awarded 1 June 2017

Michael DJUKIC BHSc(Hons) GradCertBus(Acc) GradCert Sci&TechComm Doctor of Physiotherapy (UMelb)
Proteomic investigations and biomarker discovery in Transient Ischaemic Attack
Supervisors: Chatway T, Lewis M, Hamilton-Bruce A, Koblar S
Stroke Research Programme
The University of Adelaide, PhD awarded 7 July 2017

Zaipul MD DOM BHSc(Hons)
Mycophenolic Acid pharmacokinetics and clinical outcomes in renal transplantation: effect of ABCC2 Haplotype analysis and distribution into lymphocytes and kidney
Supervisors: Sallustio BC, Somogyi AA, Coller JK
Clinical Pharmacology Research Group
The University of Adelaide, PhD awarded 27 January 2017

Victor LAMIN BSc(Hons) MSc MPhil
Molecular mechanisms of sex-differences in vascular reactivity of human internal mammary artery
Supervisors: Beltrame JF, Wilson D
Translational Vascular Function Research Collaborative – Molecular Physiology
The University of Adelaide, PhD awarded 9 June 2017

Zeya KZY MAUNG BSc(Hons)
AML gene discovery project
Supervisors: Gray JX, Bray SC, Arceri CD, D'Andrea R
Haematology and Medical Oncology Department
The University of Adelaide, PhD awarded 20 December 2017

Graeme TUCKER B.MathSc
Statistical and methodological aspects of assessment of health-related quality of life
The Health Observatory
The University of Adelaide, PhD awarded 26 May 2017

WMASB WICKRAMASINGHE BSc (Hons)
Ambulatory monitoring using passive RFID Technology
Supervisors: Ranasinghe D, Visvanathan R
Aged and Extended Care Services
The University of Adelaide, PhD awarded 25 January 2017

THE UNIVERSITY OF ADELAIDE
DISCIPLINE OF SURGERY (TQEH)

Chun CHAN MBBS
The microbiome of otitis media with effusion and the influence of Alloicoccus otitidis on Haemophilus influenza in polymicrobial biofilm
Supervisors: Wormald PJ, Psaltis A, Vreugde S
ENT Surgery
The University of Adelaide, PhD awarded 30 January 2017

Jason GUMMOW BSc(Hons)
The development of a Multi-Antigenic Cytolytic DNA vaccine against HCV
Supervisors: Gowans EJ, Grubor-Bauk B
Virology Group
The University of Adelaide, PhD awarded 10 February 2017
Dean’s Commendation for Doctoral Thesis Excellence

Thanh HA MBBS
Strategies for controlling bleeding and healing during and after sinus surgery
Supervisors: Wormald PJ, Vreugde S
ENT Surgery
The University of Adelaide, PhD awarded 27 March 2017

PhD students Zenab Dubhwala (left) and Clementine Labrosciano presented their results at the Florey Postgraduate Research Conference, The University of Adelaide.
THE UNIVERSITY OF ADELAIDE
DISCIPLINE OF SURGERY (TQEH) cont.

Dijana MILJKOVIC BMedPharmBiotechnology
The role of immune cells in Chronic Rhinosinusitis
Supervisors: Wormald PJ, Vreugde S, Psaltis A
ENT Surgery
The University of Adelaide, PhD awarded 18 April 2017
Dean’s Commendation for Doctoral Thesis Excellence

Vasilios (Bill) LIAPIS BAgSc
Targeting cancer in the bone with the hypoxia activated prodrug Evofosfamide
Supervisors: Evdokiou A, De Nichilo M, Zinonos I
Breast Cancer Research Unit
The University of Adelaide, PhD awarded 3 July 2017

Aneta ZYSK BSc(Hons)
Adoptive transfer of ex vivo expanded Gamma Delta T Cells targeting osteolytic cancer in the bone
Supervisors: Evdokiou A, De Nichilo M
Breast Cancer Research Unit
The University of Adelaide, PhD awarded 18 July 2017

Katharina RICHTER MSc(Pharmacy)
Staphylococcus aureus biofilm molecular ultrastructure and its breakdown upon challenge with antibacterial compounds
Supervisors: Wormald PJ, Vreugde S, Prestidge C
ENT Surgery
The University of Adelaide, PhD awarded 31 July 2017
Dean’s Commendation for Doctoral Thesis Excellence

Siti Noor DIN BHlthSc(Hons)
Effect of C1q null mutation on mammary gland development and breast cancer risk
Supervisors: Ingman W, Robertson S
Breast Biology and Cancer Unit
The University of Adelaide, PhD awarded December 2017

UNIVERSITY OF SOUTH AUSTRALIA – THERAPEUTICS RESEARCH CENTRE

Michael PASTORE BPharm MPharm
Getting through the skin’s formidable barrier: understanding the role of solute structure, skin morphology and formulation in skin delivery
Supervisors: Roberts MS, Mackenzie L
Therapeutics Research Centre
University of South Australia PhD awarded 23 February 2017

Vivek NOONEY BPharm
Determinants of clinical response to platelet ADP receptor antagonists
Supervisors: Roberts M, Horowitz JD, Chirkov Y
Therapeutics Research Centre
University of South Australia, PhD awarded 15 June 2017

Ana MACEDO BPharm
Skin deep - understanding the transport within the skin and nail for formulation design
Supervisors: Roberts MS, Mackenzie L, Holmes A
Therapeutics Research Centre
University of South Australia, PhD awarded December 2017

Poster Presenters at TQEH Research Day.
Beatrix MARTINS  BMed (University of San Paolo, Brazil)  
-specialisation in Geriatric and Internal Medicine  
Physical Activity and Frailty: Exploring Cross-cultural and  
Neighbourhood Influences  
Supervisors:  Visvanathan R, Barrie H  
The University of Adelaide Beacon of Enlightenment/Nagoya  
University Joint Postgraduate Postgraduate Scholarship  

James SMYTH  MBBS MB, BCh, BA, FACEM, FRCP, FRCSI,  
FFSEM, DCH, BA(Mod)  
Potential roles of assessments of frailty and activities of daily  
living for nursing home residents in relation to the transfer to the  
hospital emergency department  
Supervisors:  Visvanathan R, Arendts G, Grantham H  

CARDIOLOGY UNIT  

Chucks AJAERO  MBBS FMCP FRACP  
Vascular “remodelling” from a physiological and biochemical  
point of view as a potential source of variable improvement  
post CRT insertion  
Supervisors:  Horowitz JD, Arstall M, Chan A, McGavigan A  

Vincent GOH  MBBS FRACP  
Reverse genesis: does atrial fibrillation perpetuate  
dyshomeopathic origins?  
Supervisors:  Horowitz JD, Hii J  

Hasan IMAM  MedBiosc BPharm  
Post-receptor signalling mechanisms and platelet  
responsiveness to ADP receptor antagonists  
Supervisors:  Horowitz JD, Chirkov Y  
The University of Adelaide International Postgraduate  
Research Scholarship  

Gao ONG  MBChB  
The natural history and treatment of Takao-Tsubo  
Cardiomyopathy  
Supervisors:  Horowitz JD, Chirkov Y  

Sven SURIKOW  BSc(Hons)  
The role of oxidative and nitrosative stress in the pathogenesis  
of Takao-Tsubo Cardiomyopathy-Tsubo Cardiomyopathy  
Supervisors:  Horowitz JD, Nguyen TH, Chirkov Y  
The University of Adelaide Research Training Program Stipend
CLINICAL PHARMACOLOGY UNIT

Rong HU BSc ms
Pharmacogenomics research on tacrolimus and mycophenolate mofetil among patients receiving kidney transplantation
Supervisors: Somogyi AA, Sallustio BC, Collier JK, Daniel TB
The University of Adelaide International Postgraduate Research Scholarship.

ENDOCRINOLOGY UNIT

Sunita DESOUSA MBBS
The role of ARMC5 in non-adrenal tumours
Supervisors: Torpy D, Gagliardi L, Scott H

DEPARTMENT OF HEMATOLOGY AND MEDICAL ONCOLOGY

Yoko TOMITA MBBS FRACP MSc
Pharmacological Blocking of Aquaporin 1 to Restrict Tumour Angiogenesis and Metastasis in Pre-Clinical Models of Human Colon Cancer
Supervisors: Hardingham J, Price T, Yool A
The University of Adelaide Research Training Program Stipend

NEUROLOGY: STROKE RESEARCH PROGRAMME

Anjali Nagpal MBBS MD FRCA (UK)
TOOTH Stroke Study – Impact analysis of an early phase clinical stem cell study
Supervisors: Koblar S, Hamilton-Bruce A

Joshua WINDERLICH BSc(HealthSc)(Hons)
Investigations into the mechanisms of action of stem cell therapy for stroke
Supervisors: Koblar S, Kremer K

Victor J KRAWCZYK BSoCSc(Hum Serv) BA(Hons) GDipArtHist
Human-animal relations in organizations: Identifying discourses for compassionate engagements with animals
Supervisors: Higgins-Desbiolles F, Caluya G, Hamilton-Bruce A, Walton S

Chelsea GRAHAM BSc (Animal Sc)(Hons)
Developing a Schwann cell line from Tasmanian devil (Sarcophilus harrisii) dental pulp stem cells
Supervisors: Pyecroft SB, Trott D, Hamilton-Bruce A, Kremer KL.
The University of Adelaide Research Training Program Stipend

RESPIRATORY MEDICINE UNIT AND CLINICAL PRACTICE UNIT

Zafir USMANI MBBS FRACP
Treatment of anxiety in patients with Chronic Obstructive Pulmonary Disease
Supervisors: Smith B, Esterman AJ

Zoe KOPSAFTIS BMedRadSc(NucMed) BHlthSc(Hons)
A multimodal evidence based clinical guideline for multidisciplinary use in the management of patients with COPD
Supervisors: Smith B, Phillips P, Carson-Chahhoud K
The University of Adelaide Research Training Program Stipend

RHEUMATOLOGY UNIT

Rachel BLACK MBBS
The epidemiology of glucocorticoid prescribing and ophthalmological side effects in patients with rheumatoid arthritis
Supervisors: Hill C, Dixon WG, Cleland L
The University of Adelaide Research Training Program Stipend

Jem NINAN MBBS
Giant Cell Arteritis - Understanding mechanisms of disease, improving the diagnostic certainty, and optimising management through Fast Track Clinics
Supervisors: Hill C, McNeil J, Bartholomeusz D

Joanna TIEU MBBS
Optimising therapy in ANCA-associated Vasculitis
Supervisors: Hill C, Proudman S, Jayne D (Cambridge), Peh CA
NHMRC Postgraduate Research Scholarship
Andrew OLAGUNJU MBBS Psych
Predictors of functional outcome in individuals with Psychosis
Supervisors: Baune B; Clark S
The University of Adelaide International Scholarship

THE UNIVERSITY OF ADELAIDE DISCIPLINE OF SURGERY (TQEH)

ENT SURGERY

Jae MURPHY MBBS
The mucosal barrier in chronic rhinosinusitis
Supervisors: Wormald PJ, Vreugde S, Psaltis A
Garnet Passe and Rodney Williams Memorial Foundation Research Scholarship

Mian Li OOI MBBS
The use of chitodex gel as slow-release drug delivery system to improve wound healing after sinus surgery in chronic rhinosinusitis
Supervisors: Wormald PJ, Psaltis A, Vreugde S
Joint The Hospital Research Foundation/The University of Adelaide Postgraduate Research Scholarship

Ho Yin (Aden) LAU MSc
Autoimmunity in salivary gland and upper airway mucosal surfaces
Supervisors: Vreugde S, Lester S, Rischmueller M
Joint The Hospital Research Foundation/Rheumatology Unit Postgraduate Research Scholarship

Stephanie FONG MBBS DipChildHlth
Surfactant-based carriers incorporating corticosteroids for the treatment of Chronic Rhinosinusitis
Supervisor: Wormald PJ
Joint The Hospital Research Foundation/The University of Adelaide Postgraduate Research Scholarship

Sathish PARAMASIVAN MBBS BMedSc(Hons)
Microbe-microbe and microbe-host interactions in Chronic Rhinosinusitis
Supervisors: Wormald PJ, Vreugde S
The University of Adelaide Research Training Program Stipend

Alistair JUKES MBBS(Hons) B.LibStud(USYD)
Haemorrhage control in skull base surgery
Supervisors: Wormald PJ, Vreugde S

Lisa CHERIAN MBBS
The effect of topical and oral corticosteroids on the sinonasal microbiome
Supervisors: Wormald PJ, Vreugde S
The University of Adelaide International Scholarship

Rachel GOGGIN MBBS BMedSc(Hons)
The role of viruses in Chronic Rhinosinusitis
Supervisor: Wormald PJ
The University of Adelaide Research Training Program Stipend

Beula Subashini PANCHATCHARAM MBBS MD(Microbiology)
Effect of toxins of Staphlococcus aureus on the nasal epithelial barrier in chronic sinusitis
Supervisors: Wormald PJ, Vreugde S
The University of Adelaide International Scholarship

Giri KRISHNAN MBBS MClinSc
Evaluating the accuracy of lymphotropic iron tracers for sentinel lymph node mapping in an orthotopic VX2 rabbit head and neck cancer model
Supervisors: Wormald PJ, Foreman A
The University of Adelaide Faculty of Health and Medical Sciences Divisional Scholarship

VIROLOGY GROUP

Makutiro MASAVULI BSc(Hons)
DNA vaccines to induce neutralising antibody to HCV
Supervisors: Gowans EJ, Grubor-Bauk B, Wijesundara D
The University of Adelaide Faculty of Health and Medical Sciences Divisional Scholarship

Zelalem MEKONNEN BSc(Hons)
A novel large animal challenge for HCV
Supervisors: Gowans EJ, Grubor-Bauk B, Wijesundara D
The University of Adelaide International Scholarship
RESEARCH STUDENTS 2017
CONTINUING PHD STUDENTS cont.

BREAST CANCER RESEARCH UNIT

Christopher DIFELICE BSc (Hons)
Fibrosis, cancer and the pre-metastatic niche: implications for peroxidases
Supervisors: Evdokiou A, De Nichilo M, Zinonos I
The University of Adelaide Research Training Program Stipend

Alexandra SHOUBRIDGE BSc(Hons)
The role of peroxidase enzymes during bone repair and regeneration
Supervisors: Evdokiou A, De Nichilo M, Anderson P
The University of Adelaide Research Training Program Stipend

Namfon (Bee) PANTARAT BSc(Biology) MSc(Biotech)
Hydrogel-based delivery of cancer fighting T cells for the localised treatment of completely resected or inoperable tumours
Supervisors: Evdokiou A, Zinonos I, Hauben E
The University of Adelaide Discipline of Surgery Scholarship

SOLID CANCER REGULATION GROUP

Helen M PALETHORPE BMedPharmSci(Hons) BlabMed DipBiomedSci
The regulation of tumour cell behaviour by cancer associated fibroblasts
Supervisors: Drew P, Smith E
The University of Adelaide Faculty of Health and Medical Sciences Divisional Scholarship

Jannatul (Tuli) FERDOUSH BSc MSc
Characterisation of human cancers by molecular imaging mass spectrometry
Supervisors: Drew P, Gustafsson J
The University of Adelaide Research Training Program Stipend

BREAST BIOLOGY AND CANCER UNIT

Madison ARCHER BSc(Biomedical science) BHSc(Hons)
Immune modulation of breast density and cancer risk
Supervisors: Ingman W, Evdokiou A, Dasari P
The University of Adelaide Research Training Program Stipend

Vahid ATASHGARAN BSc(Medical Bioscience) MBiotec(Biomedical)
Hormonal regulation of immune microenvironment in the breast: implications for breast cancer susceptibility
Supervisors: Ingman W, Dasari P, Barry S
Adelaide Graduate Research Scholarship

Sarah BERNHARDT BSc(Biomedical) BHSc(Hons)
Hormonal modulation of prognostic and predictive biomarkers in premenopausal breast cancer
Supervisors: Ingman W
The University of Adelaide Research Training Program Stipend

Amita GHADGE Integrated BSc MSc
Biological determinants of breast density
Supervisors: Ingman W, Dasari P
The University of Adelaide International Wildcard Scholarship

Joe WRIN BSc
The role of Ctq and macrophages in breast carcinogenesis and cancer progression
Supervisor: Ingman W
The University of Adelaide Research Training Program Stipend

GASTROENTEROLOGY & HEPATOLOGY UNIT, TQEH

Sam COSTELLO MBBS FRACP
The role of faecal transplantation in the treatment of ulcerative colitis
Supervisors: Roberts-Thomson J, Hughes P, Conlon M, Andrews J

Zenab DUDHWALA BHSc(Hons)
Promotion of intestinal adaptation by induction of crypt fission through the Wnt-b-catenin pathway
Supervisors: Cummins A, Howarth G, Gibson R
The University of Adelaide Research Training Program Stipend

SURGERY

Joseph SMITH PhD
Surgery, ethics and climate change
Supervisors: Maddern G, Hewett P
Royal Australasian College of Surgeons Foundation for Surgery in Surgical Ethics Scholarship
Lemlem GEBREMICHAEL  MSc (Pharmacology)
Pharmacokinetics of drugs and drug response in at risk patients
Supervisors: Roberts MS, Mackenzie L
University of South Australia Postgraduate Research Scholarship

Shuping QIANG  BSc
Quantification, pharmacokinetics and efficacy of drug poisoning treatment
Supervisors: Roberts M, Mackenzie L
University of South Australia President’s Scholarship

Muhammad Suleman KHAN  MMedBiol(Sweden) MPhil (Clinical Epidemiology) Australia
Optimising therapies in vulnerable patients- a pharmacokinetic approach
Supervisors: Roberts M, Mackenzie L
University of Queensland Postgraduate Research Scholarship

Hanumanth Srikanth CHERUVU  BPharm MSPharm (Pharmaceutics)
Improving drug delivery and safety using Quality by Design principles
Supervisors: Roberts M, Mackenzie L
Joint The Hospital Research Foundation/University of South Australia Postgraduate Research Scholarship

L-R: Senior PhD students who presented at TQEHR Research Day, Vahid Atashgarian, Maddison Archer, Christopher DiFelice and Ade Lau.
### THE UNIVERSITY OF ADELAIDE
**DISCIPLINE OF MEDICINE (TQEH)**

**Sally AHIP**  M.Med MBBS  
The Malaysian Pictorial Fit-Frail Scale (M-PFFS): Development and testing of feasibility, validity and reliability in Malaysia  
Supervisors: Visvanathan R, Theou O  
Master of Philosophy (Medicine)  
Government of Malaysia Scholarship

**Kathy LAWTON**  BAN  
Management of Bronchiectasis: a tertiary healthcare perspective  
Supervisors: Smith B, Veale A, Carson-Chahhoud K  
Master of Philosophy (Medicine)  

**Usman MUSHTAQ**  MBBS FRACP  
Pathophysiology of changes in calcium homeostasis and testosterone levels and its impact on regulation of bone mineral density following bariatric surgery  
Supervisors: Wittert G, Jesudason D  
Masters of Philosophy (Medicine)  
Freemason’s Centre for Men’s Health Scholarship/THRF Scholarship

**Karen ROYALS**  RN  
Outreach respiratory nursing in the management of Chronic Obstructive Pulmonary Disease (COPD)  
Supervisors: Smith B, Veale A, Carson-Chahhoud K  
Masters of Philosophy (Medicine)  

**Ruth TEH**  BPharm (Hon) MBBS  
A health information tool to prevent falls  
Supervisors: Visvanathan R, Wilson A, Mahajan N  
Masters of Philosophy (Medicine)  

**Mark THOMPSON**  BAppiedSc (Occupational Therapy)  
M Pub Health  
The influence of frailty on four years mortality, disability and quality of life in community dwelling older South Australians  
Supervisors: Visvanathan R, Yu S  
Masters of Philosophy (Medicine)  

### THE UNIVERSITY OF ADELAIDE
**DISCIPLINE OF SURGERY (TQEH)**

**Justin CHAN**  MBBS, FRACS  
Morbidity and Mortality in Australian cardiothoracic surgery  
Supervisors: Maddern G, Worthington M  
Master of Philosophy (Surgery)

**Tom ELDREDGE**  MBBS  
Diagnosing Bile reflux  
Supervisors: Kiroff G, Shenfine J  
Master of Philosophy (Surgery)

**Hannah GOSTLOW**  MBBS  
Development of a simulated laparoscopic short course that can be delivered in a Mobile Simulation Unit to both rural and metropolitan surgical trainees  
Supervisors: Maddern G, Babidge W  
Master of Philosophy (Surgery)  
Royal Australasian College of Surgeons scholarship (to end January 2017)

**Annika MASCARENHAS**  MBBS  
An endoscopic bovine model of small vessel intracranial arterial haemorrhage control  
Supervisors: Wormald PJ, Psaltis A  
Master of Philosophy (Surgery)  
The University of Adelaide Faculty of Health and Medical Sciences Postgraduate Research Scholarship

**Jaewook OH**  MBBS  
Effect and biocompatibility of human recombinant Lubricin on the formation of adhesions in rats  
Supervisors: Maddern G, Tiong L  
Master of Philosophy (Surgery)

**Sakiko OUE**  MBBS  
Neo-osteogenesis in chronic rhinosinusitis  
Supervisors: Wormald PJ, Psaltis A, Vreugde S  
Master of Philosophy (Surgery)
RESEARCH STUDENTS 2017
CONTINUING MASTERS STUDENTS cont.

Panos PANAYIOTOU BSc(Hons equiv.)
Injectable Fibrin as a biocompatible polymer scaffold that propagates T cell-mediated cytotoxicity to Cancer
Supervisors: Evdokiou A, Zimonos I, Panagopoulos B
Master of Philosophy (Surgery)
The University of Adelaide International Wildcard Scholarship

Guilherme PENA MD Basic Surgical training degree (Federal University of Minas Gerais, Brazil)
Predicting outcomes in patients with diabetic foot ulcers
Supervisors: Fitridge R, Cowled P, Dawson J
Master of Philosophy (Surgery)

Richard SMITH FRACS
Optimising post-operative radiotherapy for retroperitoneal sarcoma
Supervisors: Maddern G, Neuhaus S
Master of Philosophy (Surgery)

Claire STEVENS MBBS, FRACS
Trends and variability in Hepatobiliary Surgery in Australia
Supervisors: Maddern G, Trochsler M
Master of Philosophy (Surgery)

RESEARCH STUDENTS

Kyle BREWER BSc
Injectable thermoresponsive Hydrogels for adaptive cell therapies
Supervisors: Blencowe A, Evdokiou A
Breast Cancer Research Unit
The Hospital Research Foundation Honours Scholarship Awarded: BSc(Hons) First class

Dongqin (Kelly) CHEN BChem and Pharm Eng
Early Detection of Chemotherapy-Induced Cardiomyopathy
Supervisors: Horowitz J, Liu S
Cardiovascular Pathophysiology and Therapeutics Group
Honours in BHealthSc 2017-2018 (mid-year commencement)

Sean MANGION BHealthSc(Advanced)
The role of formulation in the effective delivery of solutes for various skin conditions
Supervisors: Holmes A, Mackenzie L
Therapeutics Research Centre
The Hospital Research Foundation Honours Scholarship Awarded: BBiomed Research (Hons) First class

The University of Adelaide Postgraduate Coordinators for 2018 based at the Basil Hetzel Institute:

Dr Prue Cowled
Surgery
► prue.cowled@adelaide.edu.au

Associate Professor Betty Sallustio
Medicine
► benedetta.sallustio@sa.gov.au or
► benedetta.sallustio@adelaide.edu.au

University of South Australia Postgraduate Coordinator for 2018:

Associate Professor Craig Williams
Associate Head/Research/Research Degrees Coordinator, School of Pharmacy and Medical Sciences
► craig.williams@unisa.edu.au
NHMRC grants 2017

Other peer reviewed grants 2017 (excluding NHMRC and THRF)

The Hospital Research Foundation grants 2017

Non-peer reviewed externally funded grants 2017

Peer reviewed grants commencing in 2018

NHMRC $6,053,149

THRF $2,870,533

Other peer reviewed $3,892,358

Non-peer reviewed $979,393
# NHMRC Grants

**$6,053,149**

BHI Based Researchers are in **bold**

<table>
<thead>
<tr>
<th>Grant Recipients</th>
<th>Granting Body</th>
<th>Funding Period</th>
<th>Project Title</th>
<th>Revenue 2017</th>
<th>Type of Grant</th>
<th>Total Grant Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lang CL</td>
<td>NHMRC 399221</td>
<td>2012-17</td>
<td>The role of zinc in the respiratory system and in Chronic Obstructive Pulmonary Disease</td>
<td>39,673</td>
<td>Early Career Fellowship</td>
<td>238,038</td>
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<td>Sverdlov A</td>
<td>NHMRC 1037603</td>
<td>2012-17</td>
<td>Lipotoxicity, mitochondrial dysfunction and the pathogenesis of heart failure</td>
<td>34,903</td>
<td>CJ Martin Biomedical Fellowship</td>
<td>364,884</td>
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<td>Buckley N, Isbister G, Dawson A, <strong>Roberts M</strong></td>
<td>NHMRC 1055176</td>
<td>2014-18</td>
<td>An integrated research program in human toxicology to ensure rapid translation of results into practice and regulation</td>
<td>310,269</td>
<td>Program</td>
<td>6,846,800</td>
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<tr>
<td>Beltrame JF, Zeitz CJ, <strong>Tavella R</strong>, Worthley MI</td>
<td>NHMRC 1062331</td>
<td>Sept 2013-31 August 2017</td>
<td>The ACCESS Project - Assessment of Coronary Artery disease using CT Effectively for Stable Symptoms</td>
<td>95,386</td>
<td>Project</td>
<td>1,564,165</td>
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<td>Chapman M, Peake SL, Dean A, O’Connor</td>
<td>NHMRC 1078026</td>
<td>2015-19</td>
<td>The Augmented versus Routine approach to Giving Energy Trial (TARGET)</td>
<td>707,847</td>
<td>Project</td>
<td>3,534,236</td>
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<tr>
<td>Visvanathan R, Hill K, Ranasinghe D, Langer K, Wilson A</td>
<td>NHMRC 1082197</td>
<td>2015-17</td>
<td>Effectiveness of an Ambient Intelligence Geriatric Management system to prevent falls in older people in hospitals: a clinical trial</td>
<td>276,102</td>
<td>Project</td>
<td>1,609,305</td>
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<tr>
<td>Khow K</td>
<td>NHMRC 1133707</td>
<td>2017-18</td>
<td>Fragility fractures and outcomes in older people</td>
<td>43,366</td>
<td>Postgraduate Research Scholarship</td>
<td>86,733</td>
</tr>
<tr>
<td>Andrews J, Hughes P, Conlon M, Roberts-Thompson I, Costello S</td>
<td>NHMRC 1085080</td>
<td>2015-17</td>
<td>Faecal microbiota transplant for ulcerative colitis:A randomised controlled trial</td>
<td>200,000</td>
<td>Project</td>
<td>695,895</td>
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<tr>
<td>Holliday E, Attia J, Thijis V, Koblar S, Sturm J, Maguire J, Lincz L</td>
<td>NHMRC 1085550</td>
<td>2015-18</td>
<td>Helping stroke physicians choose who to thrombolyse – the “Targeting Optimal Thrombolysis Outcomes” (TOTO) study</td>
<td>257,917</td>
<td>Project</td>
<td>1,031,670</td>
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<td>Carson KV</td>
<td>NHMRC 1092680</td>
<td>and Cancer Australia (cofunded)</td>
<td>2015-17</td>
<td>Translating Research into Practice Fellowship</td>
<td>14,414</td>
<td>TRIP Fellowship</td>
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<td>Hodge S, Zalewski P, Roscioli E</td>
<td>NHMRC 1099040</td>
<td>2016-17</td>
<td>Exploiting increased autophagy in bronchial epithelial cells: a new therapeutic approach for chronic obstructive pulmonary disease (COPD)</td>
<td>241,387</td>
<td>Project</td>
<td>724,161</td>
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<td>Visvanathan R, Karnon J, Kitson A, Bellby J, Cameron I, Chehade M, Bell S, Feist H</td>
<td>NHMRC 1102208</td>
<td>2016-20</td>
<td>Frailty Trans-Disciplinary Research To Achieve Healthy Ageing</td>
<td>449,861</td>
<td>Centres of Research Excellence - Health Services</td>
<td>2,301,169</td>
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<tr>
<td>GRANT RECIPIENTS</td>
<td>GRANTING BODY</td>
<td>PROJECT TITLE</td>
<td>REVENUE 2017</td>
<td>TOTAL GRANT</td>
<td></td>
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<td>Roberts M</td>
<td>NHMRC 1107356</td>
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<td>170,396</td>
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<tr>
<td>Teichtahl A et al, inc Hill C</td>
<td>NHMRC 1127981</td>
<td>METHODS - A randomised controlled trial of METhotrexate to treat Hand Osteoarthritis with Synovitis</td>
<td>256,671</td>
<td>770,014</td>
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<td>Ritchie R, Horowitz J, Kemp-Harper B, Du XJ, Chirkov Y</td>
<td>NHMRC 1120895</td>
<td>Therapeutic Approaches to Circumvent NO• Resistance in the Type 2 Diabetic Heart and Vasculature</td>
<td>187,779</td>
<td>563,337</td>
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<td>Lipman J, Peake S et al</td>
<td>NHMRC 1121481</td>
<td>BLING III: A phase III randomised controlled trial of continuous beta-lactam infusion compared with intermittent beta-lactam dosing in critically ill patients</td>
<td>653,989</td>
<td>3,269,943</td>
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# PEER REVIEWED GRANTS (EXCLUDING NHMRC AND THRF)

$3,892,358

<table>
<thead>
<tr>
<th>GRANT RECIPIENTS</th>
<th>GRANTING BODY</th>
<th>FUNDING PERIOD</th>
<th>PROJECT TITLE</th>
<th>REVENUE 2017</th>
<th>TYPE OF GRANT</th>
<th>TOTAL GRANT</th>
</tr>
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<tbody>
<tr>
<td>Kopsaftis Z, Carson KV, Van Agteren J, Smith BJ</td>
<td>ANZSOG</td>
<td>2016-17</td>
<td>Smoking cessation policies for hospitalised smokers</td>
<td>5,000</td>
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<td>Rao Kadam V, Van Wijk R, Moran J, Williams P, Thirumeni V</td>
<td>ANZCA Trials Group</td>
<td>2017-19</td>
<td>Comparison of Trans-muscular Quadratus Lumborum (TQL) block catheter technique with surgical pre-peritoneal catheter for postoperative analgesia in abdominal surgery</td>
<td>14,000</td>
<td>Novice Grant</td>
<td>14,000</td>
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<td>Beltrame J, Zeit C, Worthley M, Arstall M, Tavella R</td>
<td>Astra Zeneca: ESR-14-10465</td>
<td>2016-17</td>
<td>Ticagrelor In Coronary microvascular dysfunction (TIC) Program: Anti-anginal Efficacy in Primary Coronary Microvascular Disorders</td>
<td>150,000</td>
<td>Project</td>
<td>300,000</td>
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<td>Hill CL, Ruediger C</td>
<td>Arthritis Australia/THR</td>
<td>2017</td>
<td>A randomised clinical trial of colchicine in inflammatory hand osteoarthritis</td>
<td>50,000</td>
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<td>Gowans EJ, Grubor-Bauk B, Wijesundara D</td>
<td>Australian Centre for HIV and Hepatitis Virology</td>
<td>2016-17</td>
<td>A multigenotypic HCV DNA vaccine</td>
<td>85,000</td>
<td>Project</td>
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<td>Yool A, Heng S, Hardingham J</td>
<td>Australian Research Council DP160104641</td>
<td>2016-18</td>
<td>Properties enabling rapid cell migration by Aquaporin-1 channel expression</td>
<td>116,650</td>
<td>Discovery</td>
<td>350,000</td>
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<td>Haydon A, Segelov E, Zalcberg J, Simes J, Walpole E, Yip D, Price T, Jefford M</td>
<td>Cancer Australia 1086013</td>
<td>2015-17</td>
<td>SCOT - Short Course Oncology Therapy - A study of adjuvant chemotherapy in colorectal cancer</td>
<td>20,195</td>
<td>Project</td>
<td>90,253</td>
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<td>Carson K, Bedson D, Van Agteren J, Williamson L, Veale A, Smith B</td>
<td>Fay Fuller Foundation</td>
<td>2016-17</td>
<td>Investigation into the causative factors contributing to the high incidence of asthma hospitalisation and mortality in South Australia, compared to other states and territories</td>
<td>138,436</td>
<td>Partnership</td>
<td>276,872</td>
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<td>Foreman A, Evdokiou A</td>
<td>Garnett Passe and Rodney Williams Memorial Foundation</td>
<td>2016-18</td>
<td>Tumour-associated microbiota and its role in oral cavity cancer carcinogenesis</td>
<td>125,000</td>
<td>Conjoint</td>
<td>375,000</td>
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<td>Psaltis A, Vreugde S</td>
<td>Garnett Passe and Rodney Williams Memorial Foundation</td>
<td>2016-17</td>
<td>The effect of corticosteroid therapy on the host immune response and microbiome profile in Chronic Rhinosinusitis (CRS)</td>
<td>125,000</td>
<td>Project</td>
<td>375,000</td>
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<td>Mackay M, Adams R, Bean N</td>
<td>Government, SA</td>
<td>2015-18</td>
<td>The Promulgation of Operational Research, Systems Thinking and Design Thinking within the Australian Health Care Sector</td>
<td>80,000</td>
<td>Premier’s International Research Fund</td>
<td>400,000</td>
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<td>Ranasinghe I, Beltrame J, Tavella R, Zeitz C, Mazumdar S, Cooper B</td>
<td>HCF Research Foundation</td>
<td>IRUA2015149 2016-17</td>
<td>Reducing Unwarranted Variation in Early Complications After Cardiac Pacemaker and Defibrillator Implantation among Australian Hospitals</td>
<td>125,000</td>
<td>Project</td>
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<td>C Pham, J Karnon, C Gibb, Fitridge R, Maddern G</td>
<td>Health Sciences Charitable Gifts Board</td>
<td>2015-17</td>
<td>Predicting 12 month mortality risk in elderly patients after elective surgery</td>
<td>84,000</td>
<td>Project</td>
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<tr>
<td>Adams R, Appleton SL, McEvoy RD, Beltrame J</td>
<td>Heart Foundation</td>
<td>2017</td>
<td>Cardiovascular impacts of obstructive sleep apnea in men</td>
<td>75,000</td>
<td>Vanguard</td>
<td>75,000</td>
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<tr>
<td>Tavella R, Beltrame JF, Zeitz C, Ranasinghe I</td>
<td>Heart Foundation</td>
<td>2017</td>
<td>EVALuation of Appropriate UsE of Elective Percutaneous Coronary Intervention – Value of PCI</td>
<td>75,000</td>
<td>Vanguard</td>
<td>75,000</td>
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<td>Ranasinghe I</td>
<td>Heart Foundation (101186)</td>
<td>2017-20</td>
<td>Leveraging Big Data to Inform Cardiovascular Healthcare Outcomes</td>
<td>130,000</td>
<td>Future Leader Fellowship</td>
<td>520,000</td>
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<td>Tavella R</td>
<td>Heart Foundation (Tom Simpson Trust Fund)</td>
<td>2017</td>
<td>Coronary Angiogram Database of South Australia (CADOSA) Biobank</td>
<td>14,030</td>
<td>Equipment</td>
<td>14,030</td>
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<td>Clark SR, Schubert KO, Watson D, Baune BT</td>
<td>Lundbeck Institute</td>
<td>2016-18</td>
<td>Trajectories of response to Aripiprazole Maintena (TRAMS)</td>
<td>46,667</td>
<td>Investigator Initiated</td>
<td>140,000</td>
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<td>Gowans EJ, Grubor-Bauk B, Wijesundara D</td>
<td>National Foundation for Medical Research and Innovation</td>
<td>2016-18</td>
<td>A DNA vaccine for Zika virus</td>
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<td>Project</td>
<td>293,000</td>
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<td>Kremer K, Kaidonis X, Koblar S</td>
<td>National Stroke Foundation</td>
<td>2016-17</td>
<td>Preclinical investigations towards the TOOTH Clinical Stroke Trial</td>
<td>9,950</td>
<td>Small Project</td>
<td>19,900</td>
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<td>Gould G, Bonevski B, O’Mara P, Clarke M, Oldmeadow C, Clough A, Carson KV, Reath J, Bar Zeev U</td>
<td>NSW Minister of Health</td>
<td>2016-18</td>
<td>The Indigenous Counselling and Nicotine (ICAN) QUIT in Pregnancy: a Cluster Randomised Control Trial to Improve Strategies for the Management of Smoking Cessation in Pregnant Aboriginal and/or Torres Strait Islander Women</td>
<td>50,000</td>
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<td>Marlow N, Maddern G</td>
<td>Royal Australasian College of Surgeons James Ramsay Foundation</td>
<td>2016-17</td>
<td>Laparoscopic simulations skills program</td>
<td>180,000</td>
<td>Project</td>
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<td>Jones KL, Horowitz M, Rayner CK, Soenen S, Visvanathan R</td>
<td>RAH Research Foundation</td>
<td>2017</td>
<td>Management of post-prandial hypotension (PPH) is suboptimal and there is a need for new and effective therapy</td>
<td>57,205</td>
<td>Near Miss</td>
<td>57,205</td>
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<td>Koblar SA, Choy FC, Hamilton-Bruce MA, Kremer KL, Milton AG</td>
<td>Rebecca L. Cooper Medical Research Foundation Ltd</td>
<td>2017</td>
<td>Npas4, a promising target to repair brain injury after stroke</td>
<td>25,000</td>
<td>Equipment</td>
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<td>Moretti K</td>
<td>SAHMRI/Beat Cancer/ The Hospital Research Foundation</td>
<td>2017</td>
<td>SA-PCCOC - Consumer Website</td>
<td>37,480</td>
<td>Project</td>
<td>37,480</td>
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**PEER REVIEWED GRANTS (EXCLUDING NHMRC AND THRF)** cont. **$3,892,358**
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<tr>
<th>Grant Recipients</th>
<th>Granting Body</th>
<th>Funding Period</th>
<th>Project Title</th>
<th>Revenue 2017</th>
<th>Type of Grant</th>
<th>Total Grant Funding</th>
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<tr>
<td>Graham C</td>
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<td>Developing a Schwann cell line from Tasmanian Devil (Sarcophilus harrisii) dental pulp stem cells</td>
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<td>PhD Support Grant</td>
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<td>Nann T, Voelcker NH, Roberts M</td>
<td>South Australian Collaboration Pathways Program</td>
<td>2014-17</td>
<td>Nanotechnology based delivery and response systems</td>
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<td>Program</td>
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<td>Beltrame JF</td>
<td>The University of Adelaide</td>
<td>2017-18</td>
<td>The anti-anginal benefits of Zibotentan in the Coronary Slow Flow Phenomenon (CSFP)</td>
<td>7,000</td>
<td>Commercial Accelerator Scheme (CAS) Project</td>
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<td>Somogyi AA, Salustio BC, Coller JK, Hutchinson M, Barratt D</td>
<td>The University of Adelaide</td>
<td>2017</td>
<td>Ultra high performance liquid chromatography – tandem mass spectrometer</td>
<td>302,000</td>
<td>Pharmacology Equipment Round</td>
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<td>Khan S, Roberts M</td>
<td>Translational Australian Clinical Toxicology Program</td>
<td>2017</td>
<td>Minimising treatment related toxicities in vulnerable patients using a pharmacokinetic based approach</td>
<td>18,000</td>
<td>Project - pilot</td>
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<tr>
<td>Mackenzie L, Burns K, Abdalla A, Roberts M</td>
<td>Translational Australian Clinical Toxicology Program</td>
<td>2017</td>
<td>Optimising sample preparation for analysis for Toxicokinetic and Toxicodynamic assessment, storage and tracking following Poison Exposure</td>
<td>10,000</td>
<td>Project - pilot</td>
<td>10,000</td>
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<td>Zalewski P, Hodge S, Beltrame J, Murgia C, Tavella R</td>
<td>The University of Adelaide</td>
<td>2017</td>
<td>Endothelial Zinc Deficiency As A Previously Unrecognized Factor Linked To Cardiovascular Disease Risk Factors</td>
<td>9,992</td>
<td>Investment for success NHMRC Near-Miss grant</td>
<td>9,992</td>
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<tr>
<td>Wormald PJ</td>
<td>The University of Adelaide</td>
<td>2017</td>
<td>The microbiome in chronic rhinosinusitis</td>
<td>10,000</td>
<td>Investment for success NHMRC Near-Miss grant</td>
<td>10,000</td>
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<td>Sverdlov A</td>
<td>The University of Adelaide</td>
<td>2017</td>
<td>Are mitochondrial reactive oxygen species key mediators of metabolic syndrome-induced heart disease?</td>
<td>10,000</td>
<td>Start up</td>
<td>10,000</td>
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<td>Maddern G</td>
<td>The University of Adelaide FHMS</td>
<td>2017</td>
<td>High Speed centrifuge for BHI - co contribution from THRF ($15,500)</td>
<td>33,000</td>
<td>Faculty of Health and Medical Sciences Research Infrastructure Award</td>
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**Total** | $3,892,358 |
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<tr>
<td>Ranasinghe I</td>
<td>The University of Adelaide Interdisciplinary Research Funding Scheme 2016-17</td>
<td>Novel Applications of Machine Learning in Healthcare</td>
<td>12,500 Project</td>
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<tr>
<td>Koblar SA, Choy FC, Hamilton-Bruce MA, Kremer KL, Milton AG</td>
<td>The University of Adelaide Medical School 2017</td>
<td>The potential of Npas4 to enhance brain repair following ischaemic stroke</td>
<td>10,000 Investment for Success NHMRC Near-Miss Grant</td>
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<td>Roberts M</td>
<td>University of South Australia 2017</td>
<td>Vivascope upgrade (co-contribution of $20,000 from THRF)</td>
<td>32,000 Sansom Institute Equipment grant</td>
<td>32,000</td>
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<td>Roberts M</td>
<td>US Food and Drug Administration 2014-19</td>
<td>Characterisation of critical quality attributes for semisolid topical drug products</td>
<td>314,447 (AUD) Project</td>
<td>1,499,500 USD</td>
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<td>Roberts M</td>
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<td>Physiologically based biopharmaceutics and pharmacokinetics of drug products for dermal absorption in humans</td>
<td>251,223 (AUD) Project</td>
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<td>Fitridge R, Miller M, Delaney C</td>
<td>Vascular Foundation 2017</td>
<td>Outcomes in diabetic foot ulcers</td>
<td>37,500 Project</td>
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PEER REVIEWED GRANTS (EXCLUDING NHMRC AND THRF) cont.

$3,892,358
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<tr>
<td>Beltrame J, Zeitz C, Lindahl B</td>
<td>The Hospital Research Foundation</td>
<td>Potential mechanisms and treatment of post-infarct Angina in patients with Myocardial Infarction with Non Obstructive Coronary Arteries (MINOCA)</td>
<td>375,000</td>
<td>Translational</td>
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<td>Wormald PJ, Vreugde S, Prestige C</td>
<td>The Hospital Research Foundation</td>
<td>A novel formulation to prevent epidural adhesions post-laminectomy</td>
<td>50,000</td>
<td>Development</td>
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<tr>
<td>Gowans E, Wijesundara D, Maddern G</td>
<td>The Hospital Research Foundation</td>
<td>The protective efficacy of cytolytic DNA vaccine for HCV in marmosets: a step forward towards human clinical trials</td>
<td>50,000</td>
<td>Development</td>
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<tr>
<td>Evdokiou A</td>
<td>The Hospital Research Foundation</td>
<td>Michell McGrath Breast Cancer Research Fellowship</td>
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<td>Fellowship</td>
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<td>Ingman W</td>
<td>The Hospital Research Foundation</td>
<td>THRFB Breast Cancer Research Fellowship</td>
<td>200,000</td>
<td>Associate Professor in Breast Cancer Research Fellowship</td>
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<td>Taylor D</td>
<td>The Hospital Research Foundation</td>
<td>Inequalities in neighborhood Accessibility: Implications for Frailty and Healthy Ageing</td>
<td>70,000</td>
<td>Mid Career Fellowship</td>
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<td>Ngo D</td>
<td>The Hospital Research Foundation</td>
<td>Modulation of the anti-angiogenic VEGF-A165b in adipose tissue: novel approach to combat obesity</td>
<td>120,000</td>
<td>Mid Career Fellowship</td>
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<td>Wijesundara D</td>
<td>The Hospital Research Foundation</td>
<td>Exploiting cytolytic adjuvants and novel recombinant viral vaccines as a way forward for HIV-1 and HCV vaccine design</td>
<td>120,000</td>
<td>Early Career Researcher</td>
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<td>Panagopoulos V</td>
<td>The Hospital Research Foundation</td>
<td>Targeted inhibition of inflammatory peroxidases, a new therapeutic strategy against breast cancer and metastatic disease</td>
<td>60,000</td>
<td>Early Career Researcher</td>
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<td>Shrestha A</td>
<td>The Hospital Research Foundation</td>
<td>The development of novel cytolytic DNA vaccine which elicits cellular immunity to conserved viral proteins</td>
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<td>Early Career Researcher</td>
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<td>Ranasinghe I</td>
<td>The Hospital Research Foundation</td>
<td>Reducing unwanted variation in early complications after cardiac pacemaker and defibrillator implantation among Australian hospitals</td>
<td>50,000</td>
<td>Mid Career Fellowship</td>
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<td>Visvanathan R</td>
<td>The Hospital Research Foundation</td>
<td>Frailty to achieve healthy ageing</td>
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<td>Challenge funding</td>
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<td>Evdokiou A</td>
<td>THRFB/UAHFMS</td>
<td>New Immunotherapeutic approaches targeting incompletely resected or inoperable tumours</td>
<td>42,500</td>
<td>Elcombe Fellowship</td>
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<td>Townsend A, Hardingham J, Tomita Y, Yool A, Price T, Evdokiou A</td>
<td>The Hospital Research Foundation</td>
<td>Preclinical investigation of the efficacy of novel aquaporin 1 inhibitors in preventing growth and metastasis of breast cancer</td>
<td>85,000</td>
<td>ABCR Elcombe Preclinical Project</td>
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<tr>
<td>Moretti K</td>
<td>SAHMRI/Beat Cancer/ The Hospital Research Foundation</td>
<td>SA - PCCOC - Data Collection Automation Project</td>
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<td>Gowans E</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>A DNA vaccine to induce protective neutralizing antibodies to the HIV Tat</td>
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<td>Maddern G</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>The nexus between visceral adiposity, associated liver composition, and metastatic progression in colorectal cancer patients</td>
<td>75,000 Near Miss Project</td>
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<tr>
<td>Wormald PJ</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>Preclinical development of a novel formulation to prevent adhesions post-abdominal surgery</td>
<td>75,000 Near Miss Project</td>
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<tr>
<td>Hill CL</td>
<td>The Hospital Research Foundation</td>
<td>2017-20</td>
<td>The Australian Arthritis and Autoimmune Biobank Collaborative (A3BC)</td>
<td>38,853 Project</td>
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<tr>
<td>Mackay M, Adams R, Bean N, Varley J</td>
<td>The Hospital Research Foundation</td>
<td>2017-18</td>
<td>Identification of causes of access block for short stay and long-term patients at TQEH, and use of simulation to formulate wait-reduction strategies.</td>
<td>62,500 Project</td>
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<tr>
<td>Hauben E, Voelcker N, Maddern G</td>
<td>The Hospital Research Foundation</td>
<td>2017-18</td>
<td>Development of targeted nanoparticles as preventative therapy for liver metastasis</td>
<td>62,500 Project</td>
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<tr>
<td>Ingman W</td>
<td>The Hospital Research Foundation</td>
<td>2017-18</td>
<td>Breaking immune tolerance in triple negative breast cancer</td>
<td>62,500 Project</td>
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<td>Evdokiou A</td>
<td>The Hospital Research Foundation</td>
<td>2017-18</td>
<td>Localised treatment of solid tumours with cytotoxic γδ T cells</td>
<td>62,500 Project</td>
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<td>Visvanathan R, Martins B</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>InBody 570 Body Composition Analyser</td>
<td>27,665 Equipment</td>
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<tr>
<td>Maddern G</td>
<td>The Hospital Research Foundation/The University of Adelaide</td>
<td>2017</td>
<td>High Speed centrifuge for BHI - co contribution ($33,000) from The University of Adelaide</td>
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<td>Costello S</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>Anaerobic Chamber</td>
<td>41,475 Equipment</td>
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<td>Roberts MS</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>Upgrade of Vivascope 2500</td>
<td>20,000 Equipment</td>
</tr>
<tr>
<td>Wijesundara D</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>FlowJo software</td>
<td>7,381 Equipment</td>
</tr>
<tr>
<td>Various</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>Honours projects</td>
<td>9,000 Strategic Research Directions</td>
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<tr>
<td>Various</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>Postgraduate Research Scholarships</td>
<td>75,381 Strategic Research Directions</td>
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<tr>
<td>BHI</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>Infrastructure support</td>
<td>250,000 Strategic Research Directions</td>
</tr>
<tr>
<td>BHI</td>
<td>The Hospital Research Foundation</td>
<td>2017</td>
<td>Career and research skills training support for Postgraduate students (attendance at workshops, conference dinners, posters, conference travel awards, TQEH Research Day)</td>
<td>38,447 Strategic Research Directions</td>
</tr>
</tbody>
</table>
# Non-Peer Reviewed Externally Funded Grants 2017

**$979,393**

<table>
<thead>
<tr>
<th>Chief Investigator</th>
<th>Department/Organisation Name</th>
<th>Source Type (e.g. Federal Government, State Governments, Pharma, Non-Government)</th>
<th>Revenue 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gupta AD</td>
<td>Neurology / Aged and Extended Care Services</td>
<td>Allergan Australia</td>
<td>80,000</td>
</tr>
<tr>
<td>Maddern G</td>
<td>The University of Adelaide, Discipline of Surgery</td>
<td>Australian Department of Health, Queensland Department of Health, Victorian Department of Health and Human Services, The Sax Institute, Medibank Pty Ltd, Ludwig Boltzmann Institute, American College of Surgeons, Government of Sri Lanka</td>
<td>899,393</td>
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</table>

Excludes externally funded clinical trials.
<table>
<thead>
<tr>
<th>GRANT RECIPIENTS</th>
<th>GRANTING BODY</th>
<th>PROJECT TITLE</th>
<th>REVENUE 2018 TYPE OF GRANT</th>
<th>TOTAL GRANT FUNDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soebarto V, Pisaniello D, Zuo J, Williamson T, Hansen A, Visvanathan R, van Hoof J</td>
<td>ARC</td>
<td>Improving thermal conditions in housing to support ageing in place</td>
<td>137,667 Discovery</td>
<td>413,000</td>
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<tr>
<td>Keen H, Whittle S, Delir Haghighi P, Sharma C</td>
<td>Arthritis Australia</td>
<td>Community perceptions of rheumatoid arthritis pharmacotherapy: An analysis of social media platforms</td>
<td>35,000 Project</td>
<td>35,000</td>
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<tr>
<td>Krishnan G</td>
<td>Australian-American Fulbright Commission</td>
<td>2018 Fulbright SA Postgraduate Scholarship</td>
<td>38,500 Scholarship</td>
<td>38,500</td>
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<tr>
<td>Krishnan S (Giri)</td>
<td>Garnett Passe and Rodney Williams Memorial Foundation</td>
<td>Magnetic Nanotechnology For Diagnostics and GuidedTherapeutics in Oral Cancer</td>
<td>75,000 Academic Surgeon Scientist Research Scholarship</td>
<td>300,000</td>
</tr>
<tr>
<td>Paramasivan S</td>
<td>Garnett Passe and Rodney Williams Memorial Foundation</td>
<td>2018-21</td>
<td>75,000 Academic Surgeon Scientist Research Scholarship</td>
<td>300,000</td>
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<tr>
<td>Ranasinghe I, Kaambwa B, Adams R</td>
<td>Heart Foundation</td>
<td>Healthcare Costs and Resource Use associated with 30-day Hospital Readmissions among Heart Failure Patients</td>
<td>75,000 Vanguard</td>
<td>75,000</td>
</tr>
<tr>
<td>McEvoy D, Stocks N, Zwar N, Grunstein R, Chai-Coetzer C, Lack L, Adams R, Redman S, Vakulin A, Wesselingh S</td>
<td>NHMRC 1134954</td>
<td>National Centre for Sleep Health Services Research - Positioning Primary Care at the Centre of Sleep Health Management</td>
<td>500,000 CRE in Health Services Research</td>
<td>2,500,000</td>
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<tr>
<td>Zalewski P, Hodge S, Beltrame J, Murgia C, Tavella R</td>
<td>NHMRC 1138917</td>
<td>Role for zinc and ZIP2 in the action of nitric oxide and in vascular protection against cigarette smoke and cardiovascular disease</td>
<td>219,055 Project</td>
<td>685,941</td>
</tr>
<tr>
<td>Sallustio B, Evdokiou A, Horowitz J J</td>
<td>NHMRC 1145776</td>
<td>Prevention of Heart Damage during anthracycline cancer</td>
<td>109,071 Project</td>
<td>327,214</td>
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<tr>
<td>Johnson G, Abramson M, Dooley M, Bonevski B, Smith BJ, Webb A</td>
<td>Pfizer</td>
<td>Varenclline And Nicotine replacement therapy for Smokers admitted to Hospitals (VANISH)</td>
<td>$USD 100,000 Global Research Awards for Nicotine Dependence (GRAND)</td>
<td>$USD 200,000</td>
</tr>
<tr>
<td>Clark, SR, Ciobanu, L, Baune BT</td>
<td>RAH Research Committee</td>
<td>Patterns of gene expression in chronic psychosis associated with cognitive and general function</td>
<td>49,888 Clinical Project</td>
<td>49,888</td>
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<tr>
<td>Rogerson T, Schubert KO, Toben C, Clark S, Baune BT</td>
<td>SA RANZCP</td>
<td>The association between Interleukin-1 and psychotic symptoms in patients treated with clozapine and aripiprazole</td>
<td>2,500 Student</td>
<td>2,500</td>
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</tbody>
</table>
### NEW PEER REVIEWED GRANTS COMMENCING IN 2018 cont.

**$1,958,803**

<table>
<thead>
<tr>
<th>GRANT RECIPIENTS</th>
<th>GRANTING BODY</th>
<th>PROJECT TITLE</th>
<th>REVENUE 2018</th>
<th>TOTAL GRANT FUNDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richter K</td>
<td>The University of Adelaide/The Hospital Research Foundation 2018</td>
<td>Ironing out superbugs- validation and translation of a novel treatment that kills antibiotic-resistant bacteria by targeting iron metabolism</td>
<td>145,000</td>
<td>145,000</td>
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<tr>
<td>Gupta AD</td>
<td>The Hospital Research Foundation 2018-20</td>
<td>A Randomized Placebo Controlled Double Blind Trial of Post Stroke Lower Limb Spasticity Using Botulinum Toxin A (BoNTA)</td>
<td>35,000</td>
<td>105,000</td>
</tr>
<tr>
<td>Wormald PJ, Vreugde S, Richter K</td>
<td>The University of Adelaide/The Hospital Research Foundation 2018</td>
<td>A new medicated surgical hydrogel to improve wound healing after endoscopic sinus surgery</td>
<td>120,000</td>
<td>120,000</td>
</tr>
</tbody>
</table>
By Administrative Unit

Aged & Extended Care Services, TQEH

Anaesthesia, TQEH

Cardiology Unit, TQEH

Emergency Medicine, TQEH

Endocrinology Unit, TQEH

Gastroenterology & Hepatology Unit, TQEH

Haematology & Medical Oncology Department, TQEH

Intensive Care Unit, TQEH

The University of Adelaide Discipline of Medicine, TQEH

Neurology Unit, TQEH

The University of Adelaide Discipline of Psychiatry / TQEH Psychiatry

Respiratory Medicine Unit & Clinical Practice Unit, TQEH

Rheumatology Unit, TQEH

The University of Adelaide Discipline of Surgery, TQEH

Therapeutics Research Centre, University of South Australia


**ANAESTHESIA, TQEH**


increased during the acute phase of Takotsubo cardiomyopathy. *Int J Cardiol.* 2017 Sep 15;243:296-299.


**ENDOCRINOLOGY UNIT, TQEH**


**GASTROENTEROLOGY & HEPATOLOGY UNIT, TQEH**


9. Dudhwaia ZM, Howarth GS, Drew PA, Moore DJ, Cummins AG. Abstract: Intestinal crypt fission and...


**HAEMATOLOGICAL AND MEDICAL ONCOLOGY DEPARTMENT, TQEH**


<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Authors</th>
<th>Journal/Source</th>
<th>Year</th>
</tr>
</thead>
</table>


INTENSIVE CARE UNIT, TQEH


4 Gotmaker R, Peake SL, Forbes A, Bellomo R.


THE UNIVERSITY OF ADELAIDE DISCIPLINE OF MEDICINE, TQEHP


12 Cai S, Coates AM, Buckley JD, Berry NM, Burres L, Beltrame J, Howe PR, Schrader G. There is no association between the Omega-3 Index and
PUBLICATIONS 2017 cont.


33 Pasupathy S, Tavella R, Beltrame J. Myocardial


THE UNIVERSITY OF ADELAIDE
DISCIPLINE OF PSYCHIATRY / TQEHP SYCHIATRY

PSYCHIATRY, TQEHP


THE UNIVERSITY OF ADELAIDE, THE DISCIPLINE OF PSYCHIATRY


**RESPIRATORY MEDICINE UNIT AND CLINICAL PRACTICE UNIT, TQEH**


**RHEUMATOLOGY UNIT, TQEH**


PUBLICATIONS 2017 cont.


119 Zhao YC, Wormald PJ. Role of fungi in chronic rhinosinusitis through ITS sequencing. Laryngoscope. 2017; doi:10.1002/lary.26702 [Epub ahead of print]


Book Chapter


THERAPEUTICS RESEARCH CENTRE, UNIVERSITY OF SOUTH AUSTRALIA


Book Chapters


<table>
<thead>
<tr>
<th>CONFERENCE/MEETING</th>
<th>TITLE OF PRESENTATION</th>
<th>SIGNIFICANCE</th>
<th>LOCATION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RENUKA VISVANATHAN</td>
<td>ADELAIDE G-TRAC CENTRE</td>
<td>International Association of Gerontology and Geriatrics (IAGG) World Congress</td>
<td>Symposium: Trans-Disciplinary Research in Frailty to Achieve Healthy Ageing</td>
<td>Session Chair</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Active Ageing Conference - Healthy Ageing Advisory meeting</td>
<td>Healthy Ageing</td>
<td>Invited Attendee</td>
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<tr>
<td></td>
<td></td>
<td>World Health Organisation - Clinical Consortium on Healthy Ageing</td>
<td>Clinical Consortium on Healthy Ageing</td>
<td>Invited Attendee</td>
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<tr>
<td></td>
<td></td>
<td>Chinese University of Hong Kong Jockey Club Institute of Ageing Conference: Promoting Intrinsic Capacity in Ageing</td>
<td>Hospitals as Healing Environment for Older People</td>
<td>Invited Speaker</td>
</tr>
<tr>
<td>TIM PRICE</td>
<td>COLORECTAL CANCER RESEARCH GROUP</td>
<td>Mumbai Cancer Cooperative</td>
<td>Current concepts in treatment for mCRC</td>
<td>Lecture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AsiaPacific Gastrointestinal Cancer Summit</td>
<td>Does side matter for metastatic colorectal cancer?</td>
<td>Lecture</td>
</tr>
<tr>
<td>KIM MORETTI</td>
<td>SOUTH AUSTRALIAN PROSTATE CANCER CLINICAL OUTCOMES COLLABORATIVE</td>
<td>7th Asian Pacific Prostate Society Meeting</td>
<td>Comorbidity in localised prostate cancer</td>
<td>Keynote, invited “State of the Art” Lecture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Third Asian Prostate Cancer (A-CaP) Study Meeting</td>
<td>Consensus meeting</td>
<td>Invited Contributor</td>
</tr>
<tr>
<td>JOHN HOROWITZ</td>
<td>CARDIOVASCULAR PATHOPHYSIOLOGY AND THERAPEUTICS GROUP</td>
<td>Acute Cardiac Care, 10th International Conference</td>
<td>N-acetylcysteine for the limitation of infarct size in STEMI. Is there any benefit at all?</td>
<td>Invited Speaker</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12th International Congress on Innovations in Coronary Artery Disease (ICCAD)</td>
<td>Inter-individual variability in platelet responsiveness to P2Y1S receptor antagonists reflects status of platelet adenylate cyclase pathway</td>
<td>Invited Speaker</td>
</tr>
<tr>
<td>CHER-RIN CHONG</td>
<td>CARDIOVASCULAR PATHOPHYSIOLOGY AND THERAPEUTICS GROUP</td>
<td>Acute Cardiac Care, 10th International Conference</td>
<td>Perhexiline sensitizes platelets to nitric oxide in diabetics</td>
<td>Invited Speaker</td>
</tr>
<tr>
<td>THANH HA NGUYEN</td>
<td>CARDIOVASCULAR PATHOPHYSIOLOGY AND THERAPEUTICS GROUP</td>
<td>Division of Cardiovascular Medicine, Keck School of Medicine, University of Southern California</td>
<td>Takotsubo syndrome: hiding in plain sight</td>
<td>Invited Speaker</td>
</tr>
<tr>
<td>JOHN BELTRAME</td>
<td>TRANSLATIONAL VASCULAR FUNCTION RESEARCH COLLABORATIVE</td>
<td>American College of Cardiology, 66th Annual Scientific Sessions</td>
<td>Angina in the Absence of Obstructive CAD. What do we do with these patients?</td>
<td>Invited Speaker, Panel Session</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Symposium on Ischaemic Heart Disease, Catholic University of Rome</td>
<td>Microvascular Angina</td>
<td>Invited Speaker</td>
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<tr>
<td>CONFERENCE/MEETING</td>
<td>TITLE OF PRESENTATION</td>
<td>SIGNIFICANCE</td>
<td>LOCATION</td>
<td>DATE</td>
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</tr>
<tr>
<td><strong>JOHN BELTRAME</strong> TRANSLATIONAL VASCULAR FUNCTION RESEARCH COLLABORATIVE cont.</td>
<td>European Society of Cardiology Congress</td>
<td>Coronary Microvascular Disease: What is the Added Value of Invasive Diagnostic Testing?</td>
<td>Invited Speaker</td>
<td>Barcelona, Spain</td>
</tr>
<tr>
<td></td>
<td>American Heart Association Scientific Sessions</td>
<td>Management of Women with MINOCA and ANOCA</td>
<td>Invited Speaker</td>
<td>Anaheim, USA</td>
</tr>
<tr>
<td></td>
<td>American Heart Association Scientific Sessions</td>
<td>Myocardial Infarction with Non-Obstructive CAD (MINOCA): A Practical Approach for Clinicians</td>
<td>Session Chair</td>
<td>Anaheim, USA</td>
</tr>
<tr>
<td></td>
<td>American Heart Association Scientific Sessions</td>
<td>Framework for the Emergency Department Assessment of Patients with Possible Acute Coronary Syndromes</td>
<td>Invited Speaker, Hotline Discussant</td>
<td>Anaheim, USA</td>
</tr>
<tr>
<td></td>
<td>Division of Cardiovascular Medicine, Keck School of Medicine, University of Southern California</td>
<td>Overview and Complexities of Angina in the Absence of Obstructive CAD</td>
<td>Invited Speaker</td>
<td>Los Angeles, USA</td>
</tr>
<tr>
<td><strong>ROBERT FITRIDGE</strong> VASCULAR SURGERY RESEARCH GROUP</td>
<td>Asian Vascular Society</td>
<td>Global Vascular Guideline for the Management of Chronic Limb-Threatening Ischemia (CLTI): Anatomical staging (GLASS) [report on outcomes from an international working group on critical limb-threatening ischaemia]</td>
<td>Plenary Lecture</td>
<td>Kuala Lumpur, Malaysia</td>
</tr>
</tbody>
</table>

Professor John Beltrame, Translational Vascular Function Research Collaborative.
<table>
<thead>
<tr>
<th>CONFERENCE/MEETING</th>
<th>TITLE OF PRESENTATION</th>
<th>SIGNIFICANCE</th>
<th>LOCATION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BENEDETTA SALLUSTIO</strong>  CLINICAL PHARMACOLOGY RESEARCH GROUP</td>
<td>International Congress of Therapeutic Drug Monitoring and Clinical Toxicology Invited presentation as part of Symposium on Biomarkers and TDM of Immunosuppressive Drugs</td>
<td>Invited Speaker</td>
<td>Kyoto, Japan</td>
<td>25th September</td>
</tr>
<tr>
<td><strong>SIMON KOBLAR</strong>  STROKE RESEARCH PROGRAMME</td>
<td>Stroke Society of Australasia Cellular and molecular therapies for neurorestoration post-stroke</td>
<td>Plenary Lecture</td>
<td>Queenstown, New Zealand</td>
<td>24th August</td>
</tr>
<tr>
<td><strong>ROBERT ADAMS</strong>  THE HEALTH OBSERVATORY</td>
<td>Australasian Sleep Association, Sleep DownUnder Epidemiology of sleep complaints in the community</td>
<td>Invited Speaker</td>
<td>Auckland, New Zealand</td>
<td>27th November</td>
</tr>
<tr>
<td><strong>CATHERINE HILL</strong>  RHEUMATOLOGY RESEARCH GROUP</td>
<td>Combined Australian Rheumatology Association and New Zealand Rheumatology Association Annual Scientific Meeting Giant Cell Arteritis</td>
<td>Plenary Lecture</td>
<td>Auckland, New Zealand</td>
<td>23rd May</td>
</tr>
<tr>
<td></td>
<td>5th World Congress on Controversies, Debates &amp; Consensus in Bone, Muscle &amp; Joint Diseases Alternative treatment to symptomatic slow acting drugs in treating symptoms and structural changes</td>
<td>Plenary Lecture</td>
<td>Gold Coast, Australia</td>
<td>31st August</td>
</tr>
<tr>
<td><strong>MAUREEN RISCHMUELLER</strong>  RHEUMATOLOGY RESEARCH GROUP</td>
<td>5th World Congress on Controversies, Debates and Consensus in Bone, Muscle and Joint Diseases Practical approach to the extra-articular manifestations of Rheumatoid Arthritis: Sjögren’s</td>
<td>Plenary Lecture</td>
<td>Gold Coast, Australia</td>
<td>31st August</td>
</tr>
<tr>
<td><strong>MICHAEL ROBERTS</strong>  THERAPEUTICS RESEARCH CENTRE</td>
<td>14th European ISSX (International Society for the Study of Xenobiotics) Meeting A PBPK Model Describing the in vivo distribution of Administered Mesenchymal Stem Cells.</td>
<td>Invited Speaker</td>
<td>Cologne, Germany</td>
<td>27th June</td>
</tr>
<tr>
<td><strong>PETER-JOHN WORMALD</strong>  ENT SURGERY</td>
<td>Sapporo Hokkaido University, Rhinology Conference Planning surgery in the frontal recess</td>
<td>Keynote speaker</td>
<td>Sapporo, Japan</td>
<td>13-24 January</td>
</tr>
<tr>
<td></td>
<td>International Nepalese Rhinology FESS Course Talks: Planning surgery on the frontal recess; Tips and pearls in frontal drillout surgery; Pathogenesis of chronic sinusitis; Pathogenesis of chronic sinusitis; New topical treatments in CRS; Complications in CRS</td>
<td>Key Note Speaker and invited Honoured Guest</td>
<td>Kathmandu, Nepal</td>
<td>25-31 January</td>
</tr>
<tr>
<td></td>
<td>Asia-Oceania Otolaryngology Head and Neck Surgery Meeting Talks: Anatomy of the paranasal sinuses; Understanding the frontal recess and frontal sinus; The role of the mucosal barrier in CRS</td>
<td>Key Note Speaker</td>
<td>Taipei, Taiwan</td>
<td>17-20 February</td>
</tr>
<tr>
<td></td>
<td>University of Pennsylvania Endoscopic Skull Base Meeting &amp; Penn Distinguished Skull Base Professorship and Forum Management of vascular encased tumors of the skull base</td>
<td>Invited Speaker</td>
<td>Philadelphia, USA</td>
<td>7-11 May</td>
</tr>
<tr>
<td>CONFERENCE/MEETING</td>
<td>TITLE OF PRESENTATION</td>
<td>SIGNIFICANCE</td>
<td>LOCATION</td>
<td>DATE</td>
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</tr>
<tr>
<td><strong>PETER-JOHN WORMALD</strong> ENT SURGERY cont.</td>
<td>Advanced Wessex FESS Course</td>
<td>Talks: New classification of Frontal Sinus cells &amp; surgical approaches; Endoscopic DCR; Managing massive polyposis; 3D anatomy of the sinuses and skull base; 3D anatomy beyond the sinuses</td>
<td>Keynote speaker and Honoured Guest</td>
<td>Winchester, UK</td>
</tr>
<tr>
<td></td>
<td>Advanced Indonesian FESS Course</td>
<td>Talks: Frontal sinus masterclass; Managing the difficult frontal sinus; Cutting Edge Rhinology; New topical treatments for recalcitrant CRS; Complications in CRS</td>
<td>Keynote speaker and honoured guest</td>
<td>Jakarta, Indonesia</td>
</tr>
<tr>
<td></td>
<td>Singapore Advanced FESS Course</td>
<td>Talks: 3D anatomy of the sinuses and beyond; Update on the pathogenesis of CRS; Managing bleeding in CRS and skull base surgery; Frontal Sinus Masterclass</td>
<td>Keynote Speaker and Honoured Guest</td>
<td>Singapore</td>
</tr>
<tr>
<td></td>
<td>American Rhinological Society 63rd Annual Meeting</td>
<td>Managing industry Relationships</td>
<td>Panelist</td>
<td>Chicago, USA</td>
</tr>
<tr>
<td></td>
<td>American Academy of Otolaryngology Head and Neck Surgery</td>
<td>Instructional Courses: Endoscopic DCR; Managing tumors of the infratemporal fossa; Biofilms and new topical treatments. Panelist: Endoscopic Potpurri</td>
<td>Presenter &amp; Panelist</td>
<td>Chicago, USA</td>
</tr>
<tr>
<td></td>
<td>Masterclass in Advanced Endoscopic Sinus Surgery</td>
<td>Talks: 3D anatomy of the sinuses and beyond; Endoscopic management of infra temporal fossa tumors; Frontal sinus masterclass</td>
<td>Keynote speaker and Honoured Guest</td>
<td>Montreal, Canada</td>
</tr>
<tr>
<td></td>
<td>Thailand Advanced Endoscopic Sinus Surgery Course</td>
<td>Talks: Pathophysiology of CRS; Frontal sinus anatomy and planning; Frontal sinus masterclass; Role of the microbiome in CRS; Management of tumors of the skull base</td>
<td>Keynote Speaker and Honoured Guest</td>
<td>Bangkok, Thailand</td>
</tr>
<tr>
<td></td>
<td>17th ASEAN Otorhinolaryngology Head and Neck Surgery Congress</td>
<td>Endoscopic Management of Skull Base Malignancies</td>
<td>Keynote Speaker</td>
<td>Yangon, Myanmar</td>
</tr>
<tr>
<td><strong>SAM COSTELLO</strong> INFLAMMATORY BOWEL DISEASE RESEARCH GROUP</td>
<td>European Crohn’s and Colitis Organisation (ECCO) meeting</td>
<td>Short duration, low intensity pooled faecal microbiota transplantation induces remission in patients with mild-moderately active Ulcerative Colitis: A randomised controlled trial</td>
<td>Invited Presentation - Best Clinical Trial at the ECCO meeting</td>
<td>Barcelona, Spain</td>
</tr>
</tbody>
</table>
For the first time in its 26 years, The Queen Elizabeth Hospital (TQEH) Research Day was held over two days: Thursday 19th and Friday 20th October 2017. The format was changed to allow the poster presentation competition to be held on Thursday morning, and for a new “THRF Showcase” to feature in the afternoon. During the Showcase, each grant and fellowship recipient who benefited from the $2.7 million in The Hospital Research Foundation (THRF) funding awarded to TQEH based researchers in 2017, presented a short summary of their project to other BHI and TQEH researchers, as well as to significant donors of the THRF.

The long-established purpose of Research Day is to provide an opportunity for students and those “in training” to practice and develop presentation skills under conditions that are typical of most professional society meetings. Students are required to write an abstract and prepare either a 10-minute oral presentation, or a poster and 3 minute mini-oral presentation. Prizes are awarded in a number of categories for the best presentation and competition is fierce!

Our congratulations go to all the students and registrars who participated, and especially to the award winners, who were all outstanding. The quality and scope of the research presented continues to develop and improve each year which is a testament to the students, and to the guidance and support provided by their supervisors and peers. This all adds to the campus’ reputation as a significant and high quality research facility.

On the Friday of TQEH Research Day, students presented in one of five “oral presentation” categories, depending on their level of experience and course of study. At midday, TQEH Research Day’s Plenary Lecture on “The Politics of Ageing” was given by The Honourable Mark Butler, Federal Member for Port Adelaide. He delivered a thought-provoking and refreshingly positive perspective on the ageing of Australia’s baby boomer generation and the political impact that has followed, and discussed the continuing contribution older Australians make to our community.

Research Day is recognised as a significant annual event in the research calendar at TQEH and its continued success would not be possible without the many volunteers who contribute to the successful running of the day. Our gratitude is extended to the chairs of all the sessions, the judges of the abstracts, poster and oral presentations and the members of the Research Day Organising Committee. Special thanks must go to The Hospital Research Foundation for their wonderful support over the years in underwriting the day, as well as sponsoring two of the oral speaker prizes and providing the coffee baristas! Many thanks also go to our other University and Trade sponsors.

LISA LEOPARDI
CHAIR, ORGANISING COMMITTEE
TQEH RESEARCH DAY 2017
## AWARD WINNERS

<table>
<thead>
<tr>
<th>RESEARCH DAY AWARD</th>
<th>TRADE / UNIVERSITY SPONSOR VALUE</th>
<th>WINNER</th>
<th>BHI RESEARCH GROUP</th>
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<tbody>
<tr>
<td>Best Lay Description</td>
<td>Pattech</td>
<td>Maddison Archer</td>
<td>Breast Biology and Cancer Unit</td>
</tr>
<tr>
<td>Best Poster/Mini-oral presentation</td>
<td>Southern Cross Science</td>
<td>Alexandra Shoubridge</td>
<td>Breast Cancer Research Unit</td>
</tr>
<tr>
<td>Best Oral Presentation: Honours and Summer students</td>
<td>The Hospital Research Foundation</td>
<td>Sean Mangion</td>
<td>Therapeutics Research Centre</td>
</tr>
<tr>
<td>Best Oral Presentation: Junior Laboratory PhD students</td>
<td>Co-sponsored by ThermoFisher</td>
<td>Sathish Paramasivan</td>
<td>ENT Surgery</td>
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<tr>
<td>Best Oral Presentation: Senior Laboratory PhD students</td>
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<td>Chris DiFelice</td>
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<td>Best Oral Presentation: Clinical Trainees</td>
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<tr>
<td>Best Oral Presentation: Clinical Higher Degree students</td>
<td>University of South Australia</td>
<td>Mian Ooi</td>
<td>ENT Surgery</td>
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<tr>
<td>Ivan de la Lande Award</td>
<td>Not applicable</td>
<td>Sven Surikow</td>
<td>Cardiovascular Pathophysiology and Therapeutics Group</td>
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L-R: Alexandra Shoubridge, Maddison Archer, Mian Ooi, Sathish Paramasivan, Anna Nolan - Chief Financial Officer THRF, Professor John Beltrame - CALHN Director of Research, Fiona Chan, Christopher DiFelice and Sean Mangion.
## AWARDS 2017

<table>
<thead>
<tr>
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<tr>
<td>Joanne Dollard</td>
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<td>Course</td>
<td>The Hospital Research Foundation and BHI</td>
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<td>Beatriz Martins</td>
<td>THRF Travel Award, to attend IAGG World Congress</td>
<td>Travel</td>
<td>THRF</td>
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<td>Beatriz Martins</td>
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<td>Fee subsidy (for voluntary assistance at conference)</td>
<td>IAGG $899 US</td>
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<td>Joanne Dollard</td>
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<td>THRF</td>
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<td>Travel</td>
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<td>Joe Win</td>
<td>selected to attend Science In Public media and communications workshop</td>
<td>Course</td>
<td>THRF and BHI</td>
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<td>Pallave Dasari</td>
<td>Superstar of STEM</td>
<td>One of 30 female scientists and technologists selected from around Australia</td>
<td>Science and Technology Australia</td>
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<td>Sarah Bernhardt</td>
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<tr>
<td>Vasilios (Bill) Panagopoulos</td>
<td>ASMR Ross Wishart Memorial Award (to person who delivers the most outstanding presentation at the SA Division of ASMR Annual Scientific Meeting</td>
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<tr>
<td>Alexandra Shoubridge</td>
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<tr>
<td>Alexandra Shoubridge</td>
<td>THRF Travel Award</td>
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**Vasilios (Bill) Panagopoulos**, Breast Cancer Research Unit - Joint Winner of the ASMR Ross Wishart Memorial Award.
# AWARDS 2017 cont.

<table>
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<tr>
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<td>Thanh H Nguyen</td>
<td>Faculty of Health and Medical Sciences Research Travel Award</td>
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<td>European Society of Cardiology Travel Award</td>
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<td>Cardiac Society of Australia and New Zealand (CSANZ)</td>
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<td>Rosanna Tavella</td>
<td>THRF Travel Award</td>
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<td>THRF and BHI</td>
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<td>Clementine Labrosciano</td>
<td>Travel Scholarship to attend Cardiac Society of Australia and New Zealand (CSANZ) Annual Scientific Meeting, Perth, Australia</td>
<td>Travel</td>
<td>Cardiac Society of Australia and New Zealand (CSANZ)</td>
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<td>Sivabaskari Pasupathy</td>
<td>Finalist for the Derek Frewin Early Career Researcher Award</td>
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<tr>
<td>Rong Hu</td>
<td>3MT Finalist</td>
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<td>The University of Adelaide</td>
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<td>September</td>
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<td><strong>ENDOCRINOLOGY UNIT</strong></td>
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<tr>
<td>Emily Meyer, Genevieve Gabb and David Jesudason</td>
<td>2017 Australia Diabetes Society Annual Scientific Meeting Poster Award</td>
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<td><strong>GASTROINTESTINAL HEALTH AND DISEASE</strong></td>
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<td>Zenab Dudhwala</td>
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<td>Zoe Kopsaftis</td>
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<td>Asthma Australia &amp; Dyson</td>
<td>$500 +Dyson Vacuum</td>
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<td>Binh Truong</td>
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<td>Sam Whittle</td>
<td>Best Clinical Science Free Paper, Australian Rheumatology Association Annual Scientific Meeting</td>
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<td>Sam Whittle</td>
<td>Tom Highton Award for Best Presentation, Annual Scientific Meeting</td>
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<td>New Zealand Rheumatology Association</td>
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<td>Fiona Chan</td>
<td>Best Clinical Presentation, Annual South Australian Rheumatology Association Meeting</td>
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<tr>
<td>Scott Clark</td>
<td>RANZCP Early Career Psychiatrist Award (presented to fellow, within 5 years of election to Fellowship of the College, or registrar who has contributed the most significant paper published in the past 2 years).</td>
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<td>RANZCP (The Royal Australian and New Zealand College of Psychiatrists)</td>
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<td>Sean Mangion</td>
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<td>ASMR SA Annual Scientific Meeting</td>
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Sean Mangion, Therapeutics Research Centre - Winner of the ASMR Honours Poster Presentation Award.
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<tr>
<td>Jason Gummow</td>
<td>Dean's Commendation for Doctoral Thesis Excellence</td>
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<tr>
<td>Danushka Wijesundara</td>
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<td>THRF and BHI</td>
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<tr>
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<tr>
<td>Danushka Wijesundara</td>
<td>The Westmead Institute for Medical Research Young Achiever Award</td>
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<td>Australian Centre for HIV and Hepatitis Virology Research (ACH2), 12th Annual Scientific Meeting</td>
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<tr>
<td>Makutiro Masavuli</td>
<td>Executive Dean's Award Florey Postgraduate Research Conference</td>
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<tr>
<td>Makutiro Masavuli</td>
<td>Adelaide Medical School Prize, Florey Postgraduate Research Conference</td>
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<td><strong>VIROLOGY cont.</strong></td>
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<tr>
<td>Branka Grubor-Bauk</td>
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<tr>
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<td>Faculty Health &amp; Medical Sciences, The University of Adelaide</td>
<td>Travel</td>
<td>The University of Adelaide</td>
<td>$3,000</td>
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<tr>
<td>Danushka Wijesundara</td>
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<td>Eric Gowans</td>
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### RECIPIENT | AWARD | TYPE | SPONSOR | VALUE
---|---|---|---|---
**ENT SURGERY**

| Katharina Richter | April | Conference Travel Award | Travel | The University of Adelaide | $1,000 |
| Dijana Miljkovic | May | Dean's Commendation for Doctoral Thesis Excellence | Academic | The University of Adelaide | |
| Katharina Richter | June | European Society of Clinical Microbiology and Infectious Diseases Travel Award | Travel | European Society of Clinical Microbiology and Infectious Diseases | $1,000 |
| Katharina Richter | July | Dean's Commendation for Doctoral Thesis Excellence | Academic | The University of Adelaide | |
| Aden Lau | September | THRF Travel Award | Travel | THRF | $627 |
| Katharina Richter | November | SA Fresh Science Ambassador, one of 10 early-career researchers selected from SA | Media training | Fresh Science SA, Science in Public | |
| Katharina Richter | November | Best ECR Science Communicator Award | | | |

### INFLAMMATORY BOWEL DISEASE RESEARCH GROUP

| Sam Costello | February | Best Clinical Trial, European Crohn's and Colitis Organisation (ECCO) meeting, Barcelona Spain | ECCO | $1,200 |

Katharina Richter, ENT Surgery - Fresh Science SA Best Early Career Researcher Science Communicator Award.
BHI researchers were involved in over 130 community engagement activities during 2017. Many of these were arranged and hosted by The Hospital Research Foundation (THRF). These activities include talks for members of the general public or specific community groups. They were either held out in the community, or at the BHI in which case they were followed by guided tours of the BHI laboratories.

THRF’s communications team also liaise with BHI researchers to write articles for THRF and their affiliate newsletters and websites, coordinate media releases with the relevant University and SA Health, and arrange any media opportunities, including a regular radio interview segment on Coast FM.
SCIENCE ALIVE! 2017

Science Alive! forms part of the South Australian celebrations for National Science Week each August. Around 60 different organisations participated in the 12th Science Alive! which was held at the Adelaide Showground in Wayville. Organisers estimate that more than 30,000 people visited during the 3 day event (4-6 August).

For the 4th consecutive year, the Basil Hetzel Institute set up a hands-on display. Interactive activities at the BHI stand allowed visitors of all ages to use hand-held spirometers to measure the amount of air they are capable of expelling in 1 second (FEV1 or forced expired volume of air in 1 second), and to test their surgical skills on Laparoscopic Box-Trainers on loan from The Royal Australasian College of Surgeons (RACS).

Many thanks to Nicholas Marlow from RACS for arranging for the laparoscopic box-trainers to be made available. It was fantastic to have many of the TQEH surgeons who volunteered at the 2016 event come back and help out again this year. Having surgeons with a working knowledge of the various laparoscopic techniques available to talk with school students and members of the general public is invaluable.

Thanks go to BHI, TQEH staff and students for volunteering at Science Alive! 2017:

**BHI RESEARCHERS**

- Ruth Battersby
- Eilen Lyrtzis
- Ha Nguyen
- Zenab Dudhwala
- Dan Wijesundara
- Prue Cowied (photo top)
- Kathryn Hudson
- Zoe Kopsaftis
- Jo Dollard
- Joe Whin
- Sarah Bernhardt
- Irene Stafford
- Kati Richter
- Beula Panchatcharam
- Helen Palethorpe
- Rebecca Anderson

**TQEH SURGEONS**

- Jonathan Yong
- Lilian Kuan
- David Rodda
- Peter Hewett
- Markus Trochsler
- Simon Wood
- Martin Bruening
Twenty year 11 Biology students from Tyndale Christian School worked with BHI researchers to develop research projects and present their findings.

Related programs that enabled high school students to experience life as a researcher included one arranged by Dr Kristin Carson-Chahhoud (Respiratory Medicine Unit & Clinical Practice Unit). Seven STEMM interns (Science Technology Engineering Mathematics in Medicine) completed a two-week summer internship, and worked with BHI researchers and a print and design company to develop a health intervention for the iSNAP project (interactive smoking, nutrition, alcohol and physical activity).

A similar program, The University of Adelaide’s G-TRAC Medical Placement Program provided two Prince Alfred College year 11 students with the opportunity to explore the Geriatric branch of medicine during two weeks in April. This included spending time at the G-TRAC Centre in the Resthaven Nursing Home as well as with researchers based at the BHI, TQEH.

A similar program, The University of Adelaide’s G-TRAC Medical Placement Program provided two Prince Alfred College year 11 students with the opportunity to explore the Geriatric branch of medicine during two weeks in April. This included spending time at the G-TRAC Centre in the Resthaven Nursing Home as well as with researchers based at the BHI, TQEH.


BRIDGING THE GAP – ILLUMINATING THE FACE OF STEM

This project aims to increase the relevance of science taught in high schools by exposing pre-service science teachers to business and industry settings in South Australia. This will help to inform their teaching methods with high school students. The project is a research collaboration between Flinders University, the State Government, and high schools.

Three teaching students attended the BHI on 4th October and met with Dr Chandra Kirana, Liver Metastasis Research Group, and Daniel Badger, Nuclear Medicine TQEH. On their second visit to the BHI the students attended part of TQEH Research Day on 19th October. As part of this project, they find a research ‘problem’ that scientists are working on, think about this problem and how it ‘could’ be solved (without actually solving it) and then devise a unit plan and lesson plans around the issue, which can then be taught on the next teaching placement.

WORK EXPERIENCE HIGH SCHOOL STUDENTS

In addition to community engagement activities, many BHI researchers also host work experience students. In 2017 year 10/11 students from Wilderness School, Westminster School, Glenunga International High School, Saint Peters Girls College, Saint Aloysius College, Scotch College, Portside Christian College, Pulteney Grammar School and St Columba’s College chose to undertake their work experience placement at the BHI.

Visitingschool students help Katharina Richter (far left) prepare silver nanoparticles. The students then tested the antibacterial properties of these nanoparticles in their own experiments back at school.

Twenty year 11 Biology students from Tyndale Christian School worked with BHI researchers to develop research projects and present their findings.

Related programs that enabled high school students to experience life as a researcher included one arranged by Dr Kristin Carson-Chahhoud (Respiratory Medicine Unit & Clinical Practice Unit). Seven STEMM interns (Science Technology Engineering Mathematics in Medicine) completed a two-week summer internship, and worked with BHI researchers and a print and design company to develop a health intervention for the iSNAP project (interactive smoking, nutrition, alcohol and physical activity).

A similar program, The University of Adelaide’s G-TRAC Medical Placement Program provided two Prince Alfred College year 11 students with the opportunity to explore the Geriatric branch of medicine during two weeks in April. This included spending time at the G-TRAC Centre in the Resthaven Nursing Home as well as with researchers based at the BHI, TQEH.


Prince Alfred College students Kevin Ho (left) and Jason Charlwood, spent two weeks at the BHI, TQEH as part of the G-TRAC Medical Placement Program.
### COMMUNITY ENGAGEMENT ACTIVITIES 2017

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<th>ACTIVITY</th>
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<tr>
<td><strong>AGED AND EXTENDED CARE SERVICES</strong></td>
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<tr>
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Dr Beatriz Martins. Adelaide G-TRAC Centre gives a talk on Healthy Ageing to members of the University of the Third Age (U3A) Flinders University.
## COMMUNITY ENGAGEMENT 2017 cont.

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**Professor Andreas Evdokiou** (far left) and **Dr Irene Zinonos** (back far left), Breast Cancer Research Unit, spoke at a fundraising event organised by the Ladies Auxiliary of the Cyprus Community of SA.
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<td>Advances in chemotherapy</td>
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Dr Ashish Shrestha, Virology Group, taking members of the general public on a tour of the BHI laboratories.
### COMMUNITY ENGAGEMENT 2017 cont.

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<td>Science Alive! 2017</td>
<td>General Public</td>
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*Associate Professor Sarah Vreugde* with David Hearn of Coast FM.
The Basil Hetzel Institute (BHI) Policy Committee provides strategic advice for the running of the BHI and optimises the available support for research programs across The Queen Elizabeth Hospital (TQEH).

The Committee is comprised of senior representatives from:
- the two universities with whom the hospital is affiliated, The University of Adelaide and the University of South Australia
- The University of Adelaide academic heads of departments at TQEH (Medicine and Surgery)
- Chair, BHI Strategic Research Directions Working Group
- BHI Facility Manager and
- TQEH scientific community

MEMBERS, DECEMBER 2017
Prof Guy Maddern
Prof John Beltrame
Prof Alastair Burt (proxy Prof Andrew Zannettino)
Prof Michael Roberts (proxy Dr Lorraine Mackenzie)
Dr Prue Cowled
Dr Peter Zalewski
Dr Dan Wijesundara
Dr Chandra Kirana
A/Prof Anne Hamilton-Bruce
Mr Paul Flynn
Prof Eric Gowans
Ms Kathryn Hudson
Dr Rebecca Anderson
Executive Support: Ms Gwenda Graves

BHI MANAGEMENT COMMITTEE

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<td>Ms Leonie Baker</td>
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<td>Dr Chandra Kirana</td>
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<td>Dr Dan Wijesundara (ECR position)</td>
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<td>Ms Irene Stafford</td>
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<td>Surgical Suite</td>
<td>Mr Matthew Smith</td>
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<td>Mr Christopher DiFelice (July 2017 – June 2018)</td>
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<td>Dr Lorraine Mackenzie (first half of 2017) &amp; Level 2 representative</td>
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BHI Management Committee 2017.
SUPPORT STRUCTURES 2017 cont.

Several sub–committees assist The Institute (BHI) Policy Committee as required, notably the:

- **TQEH Research Days Organising Committee**, chaired by Lisa Leopardi, and also supported by co-chair, Dr Prue Cowled, both from The University of Adelaide Discipline of Surgery, in the planning and running of the inaugural 2 day Research Days event in 2017.

- **Scholarship Selection Committee**, chaired by Professor Maddern, in awarding a range of scholarships funded by THRF.

- **BHI Management Committee**, in managing the Basil Hetzel Institute. Dr Lorraine Mackenzie chaired January to June 2017 and Dr Rosanna Tavella assumed the chairing role from August 2017.

- **The BHI Strategic Research Directions Group** provides a forum for BHI researchers to interact and discuss Institute issues and initiatives as well as focus on academic issues such as teaching and postgraduate student recruitment and completions. It reports to The Institute (BHI) Policy Committee, and provided recommendations to The Hospital Research Foundation on the 2017 funding framework. All TQEH researchers at Associate Professor level, Postgraduate coordinators, Heads of departments, and Chief Investigators on Category 1 grants are eligible to attend each forum, as well as a postdoctoral representative. Professor Eric Gowans has chaired the group since 2012, with Executive Support provided.

Professor Guy Maddern was reappointed for a five- year term to the position of Director of Research (April 2015- 31 March 2020). This leadership position has been critical to furthering the aims of research excellence and enhancing the research reputation of TQEH.

TQEH Research Secretariat undertakes a range of activities to assist the Director of Research in supporting, fostering and administering quality research activity across TQEH. Rebecca Anderson, BHI Communications Officer, joined the team in January 2015.

**SEMINARS**

Three regular seminar programs were held in 2017, including:

- **Postgraduate Research seminars** which provided all BHI based higher degree students an opportunity annually to brief staff and students on the progress of their research. Mr Roy Sneddon, Faculty of Health and Medical Sciences, The University of Adelaide, coordinated this program; Dr Prue Cowled chaired the sessions.

- **Invited external speaker research seminars**, held weekly between April and the end of October 2017. The Research Secretariat coordinated this program;

- **Staff seminars**, coordinated by Dr Chandra Kirana and Dr Bill Panagopoulos, provided new and existing staff an opportunity to brief other BHI staff and students about their research.

**RESEARCH TRAINING**

The BHI Policy Committee aims to support the research capacity within basic and clinical areas through its strategy of providing scholarships at postgraduate, honours and vacation levels.

**Promotion**

In 2017 research training opportunities and scholarship support were actively promoted through the BHI website with links to key university research training sites.

**Vacation Research Scholarships**

Over the 2017-2018 summer vacation, 12 undergraduate placements provided scholars with the opportunity to gain valuable research experience in a clinical/laboratory environment. These placements were funded by individual departments.

**Honours Research Scholarships**

Honours Scholarships continued to be offered at TQEH in 2017 and will continue to be supported through The Hospital Research Foundation.

**Higher Research Degree Scholarships**

In 2017 over eighty scholars undertook research towards Higher Degrees at TQEH, with five students supported with The Hospital Research Foundation (THRF) Scholarships. Responsibility for the selection and award of THRF Honours and Postgraduate scholarships lies with the BHI Scholarship Selection Committee. The Committee draws representatives from clinical academic and scientist streams, with both The University of Adelaide and University of South Australia represented. Scholarships provide stipends that match the Research Training Program Scholarship (RTPS) rate. Other higher degree students at TQEH had scholarship support from a range of funding bodies, including NHMRC, The University of Adelaide and University of South Australia (International scholarships, RTPS, and University of Adelaide Faculty of Health and Medical Sciences ‘Divisional’ scholarships).

**STATISTICAL SUPPORT SERVICE, TQEH**

The Statistical Support Service, jointly funded by the BHI and the Faculty of Health Sciences at The University of Adelaide, provided 15 hours per week of statistical assistance to staff and students at the BHI and TQEH more generally. In 2017 the Statistical Service was provided by Dr Stuart Howell of the Data, Design and Statistics Service, Adelaide Health Technology Assessment (AHTA), School of Public Health at The University of Adelaide.

The range of services has included advice to research staff and postgraduate students about:

- Design of health-related research
- Statistical aspects of research programs
- Preparing data for analysis
- Data analysis
- Manuscript preparation
- Analysis of data from research programs based at the BHI and TQEH.
Rev John Cullen – my thanks to each for their help. Durand; Kerry Poulish; Chi Nguyen; Rev Nicholas Rundle; and meetings in 2017 have been: John McPhail; Jan-Louise requirements for a HREC quorum. Alternates attending HREC member which has enabled the HREC to fulfil NHMRC to the HREC. The HREC has been fortunate in having support Dr Carlee Ruediger who has brought clinical trial experience West who has brought social science expertise to the HREC; During 2017 new members were appointed: Dr Priscilla Dunk- and contributions made in 2017.

committees and to Heather for the involvement, organisation My personal thanks go to the membership of both Scientific Review Subcommittee and the HREC membership. Because of the excellent work that is undertaken by the TQEH/LMH/MH HREC has only functioned effectively the RAH HREC. The best way to manage the number of applications is yet to be sorted and there will be some flexibility in the HREC. The RAH REC will continue to be involved in the CALHN reorganisation of the RAH HREC and TQEH/LMH/MH HREC into a single HREC commencing in 2018. A Chair for the new Central Adelaide Local Health Network (CALHN) HREC, Ian Tindall, has been appointed and will commence work in January. The full arrangements for meeting times and the site of meetings is to be determined. It is hoped that the membership of both previous TQEH/LMH/MH HREC and the RAH REC will continue to be involved in the CALHN HREC. The best way to manage the number of applications is yet to be sorted and there will be some flexibility in the arrangements of meetings taking into account the needs of valued members of the HREC.

The TQEH/LMH/MH HREC has only functioned effectively because of the excellent work that is undertaken by the Scientific Review Subcommittee and the HREC membership. My personal thanks go to the membership of both committees and to Heather for the involvement, organisation and contributions made in 2017. During 2017 new members were appointed: Dr Priscilla Dunk-West who has brought social science expertise to the HREC; Dr Carlee Ruediger who has brought clinical trial experience to the HREC. The HREC has been fortunate in having support from alternate members covering occasional absences of an HREC member which has enabled the HREC to fulfil NHMRC requirements for a HREC quorum. Alternates attending meetings in 2017 have been: John McPhail; Jan-Louise Durand; Kerry Poulish; Chi Nguyen; Rev Nicholas Rundle; and Rev John Cullen – my thanks to each for their help.

During 2017 the HREC lost the services of: Dr Kareeann Khow (1 year) as she progressed from trainee to consultant; Rev Jeff May (5 years) as NALHN reorganised pastoral care services; and Cassandra Ryan (10 years) as nursing professional. My thanks to each for their service.

The Scientific Review Subcommittee (SRS) has provided the HREC with guidance about what needs to be considered from the scientific perspective within those research topics which have involved sponsored clinical trials or investigator led studies. This Subcommittee’s input allows the HREC to function efficiently and with the reassurance that the submissions the HREC reviews are scientifically valid and of high quality. My thanks go to the SRS members for their reviews and discussion.

I would like to pass on my personal thanks to the administrative staff including Heather O’Dea, Jan-Louise Durand, and Lisa Barrie who have provided outstanding support in the conduct of HREC activities.

During 2017 there has been the completion of the Ethics course (run by Praxis) by a number of members. This Ethics training for the membership remains integral to the HREC achieving high performance standards. There has been the opportunity for researchers to continue to meet with the Chair and other members of the administrative staff to discuss the submission of protocols. The HREC continues to find that face to face meetings overcome some of the difficulties of miscommunication which can happen by email. An education role for junior researchers new to research and ethics remains an important function of an HREC.

Without the dedicated membership of the HREC and SRS, research would be significantly hampered at TQEH, LMH and MH. There will be a continuing need with a single CALHN HREC for involvement of clinicians from CALHN as well as the involvement from other professional groups and the community to enable the requirements of the NH&MRC to be met and enable HREC accreditation.

I wish the researchers at TQEH/LMH/MH the best of success in their research endeavours, and I am sure that with the researchers’ involvement and advice, the new CALHN HREC structure will develop and meet their needs. In turn the outcomes from ethical health research will positively impact on the health and well-being of our community.

RICHARD RUFFIN
CHAIR TQEH/LMH/MH HREC 2017

The Human Research Ethics Committee (HREC) has continued to have the support of Heather O’Dea (photo, left) as the Executive Officer. Heather works with both the The Queen Elizabeth Hospital (TQEH), Lyell McEwin Hospital (LMH), Modbury Hospital (MH), Human Research Ethics Committee (HREC) as well as the Royal Adelaide Hospital (RAH) HREC.

During 2017 Heather’s training of Dominic How resulted in him being appointed to a higher position at Flinders Medical Centre and as a consequence there has been restructure in the HREC administration, so that Lisa Barrie (photo, right) is working with Heather in supporting the full submissions coming to the HREC. Jan-Louise Durand has acted as an alternate legal member for the HREC, and continues to have a lead role in reviewing low and negligible risk applications with the support of Eloise Spooner.

In addition, Jan-Louise has taken on a role in the reorganisation of the RAH HREC and TQEH/LMH/MH HREC into a single HREC commencing in 2018. A Chair for the new Central Adelaide Local Health Network (CALHN) HREC, Ian Tindall, has been appointed and will commence work in January. The full arrangements for meeting times and the site of meetings is to be determined. It is hoped that the membership of both previous TQEH/LMH/MH HREC and the RAH REC will continue to be involved in the CALHN HREC. The best way to manage the number of applications is yet to be sorted and there will be some flexibility in the arrangements of meetings taking into account the needs of valued members of the HREC.

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RICHARD RUFFIN
CHAIR TQEH/LMH/MH HREC 2017

The pattern of The Queen Elizabeth Hospital (TQEH), Lyell McEwin Hospital (LMH), Modbury Hospital (MH) HREC workload over the last 5 years is shown in the table above.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>FULL HREC SUBMISSIONS</th>
<th>LNR/AUDIT/QA SUBMISSIONS</th>
<th>AMENDMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>57</td>
<td>70</td>
<td>N/A</td>
</tr>
<tr>
<td>2014</td>
<td>39</td>
<td>73</td>
<td>N/A</td>
</tr>
<tr>
<td>2015</td>
<td>35</td>
<td>74</td>
<td>187</td>
</tr>
<tr>
<td>2016</td>
<td>41</td>
<td>75+</td>
<td>120+</td>
</tr>
<tr>
<td>2017</td>
<td>36</td>
<td>62</td>
<td>136</td>
</tr>
</tbody>
</table>

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Message from the Chair

THRF Board Members

THRF Grants and Fellowships

BHI Research Equipment

THRF Corporate and Community Support

THRF Fundraising and Events

THRF Community Engagement
BECAUSE OF YOU, WE CAN BRING HOPE FOR BETTER CARE, TREATMENTS AND CURES.

For over 50 years, The Hospital Research Foundation has supported world-leading medical research that translates into the prevention of disease, the relief of suffering, improved patient care and the restoration of health and wellness for all in our community.

Vasilios (Bill) Panagopoulos, Breast Cancer Research Unit. Previous page: Sarah Bernhardt, Breast Biology & Cancer Unit.
Having served on THRF’s Board for four years and appointed Chair in November 2017, I feel immensely proud of the researchers we support and the outcomes they achieve. But this is only possible because of you, the donors and ticket buyers in our lottery who are integral to our success.

In 2017, THRF continued to expand across South Australia, driving towards our organisational strategic objectives. Underpinning this has been the strength of our commercial activities, led by the Hospital Research Home Lotteries. Not only does the success of the Lotteries mean that we have a sustainable income stream to support and promote the outcomes of medical research, it also means that the growing support we receive in donations from the community to THRF and our charitable affiliates are directed solely to the cause: finding cures, improving care.

THRF’s Board and its dedicated team led by Chief Executive Paul Flynn have continued to guide the organisation’s future growth, making 2017 a record year. At the end of its 2016/17 financial year, the organisation reported a contribution of $9.6million into research and patient care in South Australia and another $2.4million into its research reserve for future research commitments. This outstanding achievement is only made possible thanks to the ongoing support of all our stakeholders.

In October 2017 we expanded our activity into the Northern Adelaide Local Health Network with a new partnership with the Lyell McEwin Hospital. We also expanded further across the Central Adelaide Local Health Network, establishing a physical presence at the new Royal Adelaide Hospital (RAH) and providing $1.6million in funding to establish the RAH’s own purpose-built Clinical Trials Centre.

This expansion has been essential to ensuring we can deliver more lifesaving impact to more people, but importantly it also strengthens and complements our existing support of translational ‘bench to bedside’ research at the Basil Hetzel Institute for Translational Health Research (BHI) and The Queen Elizabeth Hospital. In fact, 2017 saw our largest grant round at the BHI to date, awarding $2.7million to researchers through development and project grants as well as early-career and mid-career fellowships.

This funding also included the inaugural ‘The Basil Hetzel Translational Grant’, in memory of Dr Basil Hetzel, awarded to a world-first research project developing a new treatment for chronic pain following an ‘unexplained heart attack’.

Looking forward to 2018, we anticipate a year that will deliver even more hope and that will deliver greatly improved health and wellbeing outcomes for South Australians through our ongoing support of evidence based patient care and treatment advancements.

To the researchers, donors and ticket buyers in our lottery, thank you for your ongoing support of our foundation and for making an impact on our community. You are part of an exciting future and it’s only just beginning.

With your support – we can save more lives.

DR STEPHEN RODDA
CHAIR
THE HOSPITAL RESEARCH FOUNDATION
Dr Stephen Rodda (Chair) is Chief Executive of UniSA Ventures Pty Ltd, the technology commercialisation and investment management arm of the University of South Australia. He was educated at the University of Adelaide gaining a first class honours degree, a PhD in Biochemistry and was awarded the University Medal. Subsequently he was awarded the prestigious CJ Martin and Arthritis Foundation fellowships for post-doctoral training at Harvard University.

Dr Rodda has a combined 16 years of experience in the areas of scientific research, research management, technology commercialisation, investment management and corporate governance. Dr Rodda holds an MBA, is a Fellow of the Australian Institute of Company Directors and has undertaken the Advanced Management Program (AMP) at the Harvard Business School.

John Macphail (Deputy Chair) is a partner of Lynch Meyer Lawyers, a leading Adelaide law firm providing a range of services for small-to-medium enterprises, large corporations and not-for-profit organisations. John has more than 30 years’ experience working in commercial law in firms in London, Sydney, Melbourne, and Adelaide as an intellectual property and technology law specialist.

He is a past President of the Copyright Society of Australia, and taught part-time as a postgraduate university law lecturer and professional examiner on intellectual property subjects. As a practising lawyer he advises clients working in a wide range of industries, particularly medical and healthcare, biotechnology, wine, retail, sports, education and research, marketing and sponsorship, and ITC.

Melinda Oleary is co-founder, and consultant with Nova Aerospace, which employs 450 staff across Australia and internationally in Singapore, the United Kingdom and Europe. Prior to joining Nova Aerospace, Melinda held senior positions in several recruitment firms including State Operations Manager for Select Staff and General Manager for both Manpower Services and Kelly Services.

Melinda has considerable experience both in Business and Human Resources in both small and medium size businesses. Melinda is also a professional Company Director, holding the current positions of Chair of The Hospital Research Foundation and a Director on the South Australian Lifetime Support Authority in addition to her membership on the South Australian Training and Skills Commission.

She is a former board member with ‘Time for Kids’ and a volunteer Carer with this Not for Profit organisation.
Leading cardiologist Professor John Beltrame brings a medical perspective to the board. He has degrees in both science and medicine, and is a Fellow of the Royal Australasian College of Physicians, the European Society of Cardiology, the American College of Cardiology, the American Heart Association and the Cardiac Society of Australia and New Zealand. He is the Michell Professor of Medicine and the Director of Research for the Central Adelaide Local Health Network.

Professor Peter Hewett is a Clinical Professor of Surgery with the Adelaide University Discipline of Surgery and is Head of Colorectal Surgery at The Queen Elizabeth Hospital. He has published more than 130 articles in peer reviewed journals and has held three NHMRC grants. Prof Hewett has developed and is the coordinator of the Adelaide University Masters Course in Minimally Invasive Surgery. He is chairman of Colorectal Surgery which is a busy 8 surgeon private colorectal practice based in North Adelaide.

Ken Milne is the Director of Milne Architects Pty Ltd and adds a different aspect to the board. He received a Diploma of Architecture at the University of South Australia and is a Fellow of the Royal Australian Institute of Architects. He is a Past President and former Chapter Councillor of the Royal Australian Institute of Architects, he was National Chair of RAIA Public Affairs Committee & Awards Director. He was also a Board member & Deputy Chair of the Rostrevor College for 10 years overseeing the formulation & introduction of the College Master Plan.
LUCIANA LARKIN

Luciana Larkin is the lead partner of Tregloans, an established and respected Chartered Accountancy practice. As a sharp and strategic thinker, she applies her expertise in financial, complex tax & business transactions to deliver effective outcomes. Luciana brings this professional expertise and strong focus on accountability & governance to the THRF Board together with experience as a trusted advisor to numerous other Corporate Boards and not-for-profit bodies.

JOHN WOODWARD

John Woodward has more than 25 years’ experience in technology related change programs, projects and consulting services across industries including the health, water, energy, and entertainment sectors. John is Non-Executive Director at Statewide Super, an Elected Member (Councillor) with West Torrens City Council, and lectures at the University of Adelaide (Masters of Project Management).

John holds an MBA specialising in technology management, is a graduate of the Australian Institute of Company Directors and Australian Institute of Superannuation Trustees. He is also certified Project Management Professional through the Project Management Institute. John joined the Board of The Hospital Research Foundation in 2013.

MARYLOU BISHOP

For the last 26 years MaryLou Bishop has run a surgical devices company selling highly technical operating room equipment into our largest hospitals across SA, WA and NT. MaryLou has a strong understanding of the medical world and the health industry. In 2014 MaryLou was elected a councillor to The Town of Walkerville. For spiritual and artistic nurturing MaryLou has become involved in the philanthropic Chairman’s Circle which supports The Adelaide Festival of Arts. She joined the Board of The Hospital Research Foundation in 2014.
Valerie Timms has more than 18 years experience in Adelaide’s competitive real estate industry. After only two years, Valerie was the number one salesperson for a large franchise group and went on to run her own award winning office for nine years. Six years ago she created her own independent real estate company – Timms Real Estate. Valerie is a skilled salesperson, coach and mentor within the property sector and is dedicated to serving the community and helping others achieve business success.

Air-Vice Marshal Brent Espeland AM enjoyed a career in the Royal Australian Air Force spanning 36 years. He was an experienced commander, having held unit and formation command twice as well as having tenure as the Air Officer Commanding Training Command and Deputy Chief of Air Force.

His final military service position was on secondment to the Department of the Prime Minister and Cabinet. Once retired, he was National President of the Australian Flying Corps and Royal Australian Air Force Association, past National President and South Australian President of the Royal United Services Institute of Australia, a Director of the Sir Richard Williams Foundation, a member of the Department of Veterans Affairs Round Table, a member of the Air Force Heritage Advisory Committee and was especially pleased to serve as a member of the National Council of the Australian Air Force Cadets.

He was also actively involved as a founding and steering group member of the Alliance of Defence Service Organisations. More recently, following the merger of The Repat Foundation with THRF he became Chair of the Board of Governors and a Board Member of those respective organisations. In June 2016 he was appointed Chair of the Veterans’ Advisory Council to the South Australian Government.

Brent was a major contributor to the fabric of our community and is sorely missed.
BRIGADIER ALISON CREAGH CSC
RETIRED

Alison Creagh is the Executive Director Spirit of Anzac Centenary Experience. She is also a Member of the Australian War Memorial Council, a Non-Executive Director of The Hospital Research Foundation and The Repat Foundation and a Committee Member of the Australian Peacekeeping Memorial Project.

Alison was educated at Canberra Girls Grammar School, and joined the Australian Regular Army in 1985 graduating from the Officer Cadet School Portsea. Alison retired from the Army in 2015 as a Brigadier after a 30 year career and remains a member of the Australian Army Reserve.

During her career in the Army Alison held numerous appointments from Lieutenant to Brigadier in a range of roles including operations, capability development, acquisition, personnel management, public affairs, strategic communication and event management. She commanded the Defence Force School of Signals, responsible for delivering Information and Communication Technology training to the Australian Defence Force, and the independent 145th Signal Squadron. She served on operations in Cambodia, East Timor, Iraq and Afghanistan. Alison was awarded the Conspicuous Service Cross, the NATO Meritorious Service Medal and a Chief of the Defence Force Commendation for significant contributions to roles during her career.

Alison has a Master in Management Studies (Project Management) and a Master in Defence Studies from the University of New South Wales, and Graduate Diplomas in Strategic Studies and Communications and Information Systems. She was awarded a CEW /WLIA scholarship in 2014 to attend the Women’s Leadership Forum at Harvard Business School.

PAUL FLYNN
CHIEF EXECUTIVE

Paul Flynn came to The Hospital Research Foundation team in 2009 to take on the role of Chief Executive Officer. Paul is an innovative and entrepreneurial Executive who has earned a stellar reputation for achievement during a multifaceted career in both the Finance and Not for Profit sectors. He has been acknowledged for his contribution by being a previous recipient of the Ernst & Young Social Entrepreneur of the Year in SA/NT and was also previously awarded the Equity Trustees Australian CEO Award for Innovation.

Paul is passionate about the opportunity to help medical and scientific researchers in their important voyage of discovery which will benefit all Australians. In November 2017, Paul was appointed as an independent Director of Medvet Sciences Pty Ltd, the medical research support and commercialisation arm of the Central Adelaide Local Health Network in SA Health.
Each year The Hospital Research Foundation (THRF) proudly provides financial support to vital medical and clinical research teams and individuals whose endeavours translate into improved treatments and healthcare outcomes for the Australian community. In 2017, THRF were delighted to announce the recipients of our largest Grant Funding Round to date at the Basil Hetzel Institute for Translational Health Research (BHI) and The Queen Elizabeth Hospital (TQEH).

The applications we received this year were of an outstanding quality and I congratulate the recipients of our Translational Grant, Development Grants, Fellowships and Project Grants. This is the first year we have announced a Translational Grant, in honour of Dr Basil Hetzel AC, one of our nation’s most cherished pioneers of medical research.

It is Dr Hetzel’s legacy, paired with the ongoing support of our community that provides the encouragement to our researchers to continue to find new treatments and ultimately cures for the heartbreaking diseases affecting our loved ones.

Our ability to enhance the health and wellbeing of our family, friends and the broader community through the provision of improved treatments and care informed by the latest research outcomes continues to grow. We thank our donors, supporters, partners and researchers for making this possible and a priority in your lives.

PAUL FLYNN
THRF CHIEF EXECUTIVE
The Basil Hetzel Translational Grant

This grant is designed to support high community impact, “shovel ready” projects that have a high likelihood of translating into improved therapy, care or cure within three years from the start of the grant.

POTENTIAL MECHANISMS AND TREATMENT OF POST-INFARCT ANGINA IN PATIENTS WITH MYOCARDIAL INFARCTION WITH NON-OBSTRUCTIVE CORONARY ARTERIES (MINOCA)

$750,000

Professor John Beltrame, Associate Professor Christopher Zeitz and Professor Bertil Lindahl were the successful recipients of our inaugural translational grant for $750,000 with a research project that will impact the lives of those living with chest pain following a Myocardial Infarction with Non Obstructive Coronary Arteries (MINOCA).

In the majority of heart attacks, a completely or severely blocked artery is the culprit, which can be diagnosed by a coronary angiogram procedure. However, it has been shown that about 11 per cent of heart attacks have occurred even with fully open arteries or with minimal blockages. This condition is called MINOCA and there is limited knowledge about the heart attack cause and how these people can be treated. This research project will trial a new treatment for these patients who experience debilitating chest pain after MINOCA.

This study is using established clinical registries - CADOSA in South Australia together with Prof Lindahl’s collaboration, the SWEDHEART registry in Sweden. This partnership is the first international collaborative clinical trial in MINOCA and the first clinical trial to assess treatments for patients with MINOCA.

Professor John Beltrame, Translational Vascular Function Research Collaborative.
Development Grants

THRF’s Development Grants support researchers to undertake health and medical research at the proof-of-concept stage that specifically drives towards a commercial outcome within a foreseeable timeframe.

A NOVEL FORMULATION TO PREVENT EPIDURAL ADHESIONS POST-LAMINECTOMY
$200,000

Professor Peter-John Wormald, Associate Professor Sarah Vreugde and Professor Clive Prestidge secured a THRF Development Grant to provide relief for patients undergoing back surgery, a common procedure in Australia. When a person undergoes back surgery, there is often adhesion formation following it. This is a big problem because these adhesions bind to the nerves that come out of the canal and that causes the patient to suffer from more pain than they were having pre-surgery. Professor Wormald and the team have developed a new treatment to prevent these adhesions from forming and this grant will allow them to progress their research to patients in a clinical trial.

Professor Peter-John Wormald, ENT Surgery.

THE PROTECTIVE EFFICACY OF A CYTOLYTIC DNA VACCINE FOR HCV: A STEP TOWARDS HUMAN CLINICAL TRIALS
$200,000

Professor Eric Gowans, Dr Danushka Wijesundara and Professor Guy Maddern also received a 2017 THRF Development Grant. This grant enables the team to progress the development of a new DNA vaccine for Hepatitis C (HCV), which affects over 175 million people worldwide. In Australia, there are approximately 230,000 HCV infected individuals and approximately 10,000 new infections each year, estimated to cost $252M per annum in health care costs.

Dr Danushka Wijesundara and Professor Eric Gowans, Virology Group.
In 2017, THRF was delighted to award Fellowships to three outstanding researchers to conduct life-changing research at the BHI.

**INEQUALITIES IN NEIGHBOURHOOD ACCESSIBILITY: IMPLICATIONS FOR FRAILTY AND HEALTHY AGEING**  
$420,000 (July 2017 - June 30 2020)

Dr Danielle Taylor, THRF’s 2017 Mid-Career Fellow is funded for three years to conduct research that will lead to people in our community living longer, healthier and more fulfilling lives. Dr Taylor has joined Professor Renuka Visvanathan’s research group and her research complements research work being undertaken as part of the NHMRC Centre of Research Excellence in Frailty and Healthy Ageing.

This research aims to understand the influence of environmental factors, as enablers or barriers to healthy ageing. It will have a focus on the role geographic access and locational disadvantage plays in facilitating or impeding high functional ability. It will also develop an enhanced area level frailty risk index, incorporating geographic demographic information and accessibility measures of relevance to frailty. This can be used as a planning tool for the equitable and effective provision of health services.

**TARGETED INHIBITION OF INFLAMMATORY PEROXIDASES, A NEW THERAPEUTIC STRATEGY AGAINST BREAST CANCER AND METASTATIC DISEASE**  
$240,000 (July 2017 - June 30 2019)

Dr Vasilios (Bill) Panagopoulos, one of THRF’s two Early-Career Fellows, is supported by THRF to continue his potentially lifesaving breast cancer research for the next two years. During his PhD, under the supervision of Professor Andreas Evdokiou and Dr Mark deNichilo, Dr Panagopoulos made an important discovery, demonstrating for the first time that a group of proteins called peroxidases promotes breast cancer spread and metastasis.

His research will now test a specific peroxidase blocker currently being investigated in other settings, which has not been previously contemplated for cancer therapy.

**THE DEVELOPMENT OF A NOVEL CYTOLYTIC DNA VACCINE WHICH ELICITS CELLULAR IMMUNITY TO CONSERVED VIRAL PROTEINS**  
$240,000 (July 2017 - June 30 2019)

Dr Ashish Shrestha, THRF’s second Early-Career Fellow, relocated from the University of Queensland to the Virology Group at the BHI. Dr Shrestha was awarded his PhD from the University of Queensland in September 2016 and his research and expertise include medical microbiology, public health and health services. His research will firstly develop a universal Hepatitis C vaccine to target the most common HCV genotypes and examine the ability of the vaccine to help prevent Zika virus.
THRF’s Project Grants support early stage research or knowledge creation. In 2017, THRF awarded five Project Grants to the following research teams.

**THE AUSTRALIAN ARTHRITIS AND AUTOIMMUNE BIOBANK COLLABORATIVE (A3BC)**

$233,118 (July 2017 - June 2020)

Professor Catherine Hill, Associate Professor Maureen Rischmueller and Professor Lyn March were successful recipients of a THRF Project Grant to support the Australian Arthritis and Autoimmune Biobank Collaborative (A3BC) following the Rheumatology Research Group at the BHI being selected as the South Australian node for A3BC. This collaboration will enable high quality musculoskeletal disease research, resulting in better patient outcomes for the community.

**BREAKING IMMUNE TOLERANCE IN TRIPLE NEGATIVE BREAST CANCER**

$125,000 (July 2017 - June 2018)

Associate Professor Wendy Ingman, Professor Andreas Evdokiou and Mr Joseph Wrin are conducting a research project to develop a new approach to breaking tolerance in triple negative cancer, a very aggressive subtype of breast cancer which is notoriously difficult to treat. Triple negative breast cancers make up 15 per cent of all breast cancer diagnoses. Development of a new treatment could be used in conjunction with existing treatments such as chemotherapy or radiotherapy.

Mr Joseph Wrin and Associate Professor Wendy Ingman. Breast Biology and Cancer Unit
Project Grants cont.

USING OUR OWN CANCER FIGHTING T CELLS TO TREAT INCOMPLETELY RESECTED OR INOPERABLE TUMOURS
$125,000 (July 2017 – June 2018)

Professor Andreas Evdokiou, Professor Andrew Zannettino and Dr Anton Blencowe are now undertaking new research using our own cancer fighting T cells to treat incompletely resected or inoperable tumours. The aim of this project is to harness our body’s natural defence system to prevent cancer from coming back after it has been surgically removed or to treat those difficult to remove cancers.

The team have developed a simple, cost effective, safe, and non-invasive injectable gel system of delivering the patient’s own cancer fighting T cells directly to the tumour site where they seek out and kill cancer cells in their tracks while leaving normal cells unharmed. The results of this approach will provide justification to move quickly towards clinical application.

DEVELOPMENT OF TARGETED NANOPARTICLES AS PREVENTATIVE THERAPY FOR LIVER METASTASIS
$125,000 (July 2017 – June 2018)

Dr Ehud Hauben, Professor Nicolas Voeckler and Professor Guy Maddern’s project grant is building on previous research on prognostic biomarkers and potential therapeutic targets for prevention of liver metastasis. Now, in collaboration with the Monash Institute of Pharmaceutical Sciences, the research team at the BHI aims to develop a novel preventative therapy against liver metastasis. Approximately 50 per cent of bowel cancer patients will be diagnosed with liver metastasis and the majority are not suitable for surgery. This project will be the first in Australia to focus exclusively on the development of a new therapeutic strategy for colorectal liver metastasis.

IDENTIFICATION OF CAUSES OF ACCESS BLOCK FOR SHORT-STAY AND LONG-STAY PATIENTS AT TQE, AND USE OF SIMULATION TO FORMULATE WAIT-REDUCTION STRATEGIES
$72,000 (July 2017 – June 2018)

Dr Mark Mackay, Professor Robert Adams and Professor Nigel Bean are building on considerable overseas modelling in health system redesign and on previous local simulation modelling by Dr Mackay and Prof Adams at the RAH and TQE. They aim to identify the main causes of waiting times for short-stay and long-stay services at TQE and subsequently propose specific and appropriate wait-reduction strategies for these services. This research will prove, at the local level, the benefits of using modelling and simulation to improve patient flow to significantly improve patient outcomes in hospitals.
Advanced medical equipment is essential to providing Basil Hetzel Institute (BHI) researchers with the best possible tools to conduct their lifesaving research. Having access to state-of-the-art equipment enables researchers to translate their work into treatments as quickly as possible and to improve the health and wellbeing of our community.

THRF is proud to fund vital equipment that will assist in finding treatments and cures for life-threatening diseases such as all cancers and chronic diseases along with many other health conditions.

IN 2017 THRF SUPPORTED THE PURCHASE OF THE FOLLOWING EQUIPMENT:

- $41,475 for an Anaerobic Chamber at the BHI to help Dr Sam Costello set up Australia’s first public stool bank as part of BiomeBank, assisting in faecal transplantation for patients living with severe and debilitating gut conditions.
- $15,500 for a high-speed centrifuge replacing the original one to enable researchers to conduct their lifesaving work with the most up-to-date technology.
- $25,150 for an InBody 570 Analyser to allow the Healthy Ageing research group at the BHI and TQEH to conduct body composition analysis to help with their studies into sarcopenia, physical activity and frailty.
- $20,000 for a Flexible Arm VivaScope 2500, enhancing imaging capabilities at the BHI. This new technology will strengthen the work on cancer diagnostics and the development of innovative cancer therapies, two important fields of research in which Professor Michael Roberts has collaborations with Associate Professor Claudine Bonder from the Centre for Cancer Biology and Dr Warren Weightman at TQEH.
- $7,381 for FlowJo Software that will allow three separate groups at the BHI to access and use this technology including the Haematology and Medical Oncology group for solid tumour research, the Virology Group for their research into HIV, HCV and Zika vaccine developments and the ENT Surgery group for their chronic rhinosinusitis research. The software is a laser technology that can analyse the physical and chemical characteristics of cell particles in fluids.

Zelalem Mekonnen, Virology Group.
Finding a Cure Together

The beginning of 2017 saw an exciting partnership form between THRF’s charitable affiliate Australian Breast Cancer Research (ABCR) and the passionate team behind Australian business G-Fresh!

In February G-Fresh launched the new pink packaging of their popular herbs, spices and seasonings and donated part proceeds from each sale to vital breast cancer research through ABCR.

“We want to find a cure for this horrible disease. While recognising that this is a big dream, we’re excited to work with ABCR in the prevention, detection and management of breast cancer in Australian women,” said Peter, Simon and Theo, Directors of G-Fresh.

“We think it’s so important to keep making improvements to the quality of life for patients during their journey of treatment.”

Ongoing Support from Drakes Supermarkets

THRF was grateful to be a recipient of $22,268 for health and medical research thanks to the invaluable support of Drakes Supermarkets, their suppliers and the South Australian community.

This incredible amount was raised through the annual sale of Drakes Supermarkets Charity Show Bags. Drakes Supermarkets CEO Roger Drake and wife Wendy have been producing this show bag for 18 years, an incredible effort throughout the years thanks to the continuous generosity of South Australian local suppliers.

Paul Fynn, CEO THRF with Roger and Wendy Drake accepting a cheque for THRF at the annual Drake’s Morning Tea.
Rallying Around the World for Prostate Cancer Research

Participating in an adventure rally of a lifetime, four mates from Queensland and Nuneaton in England, Dave Taylor, Ray Hobbs, Ryan Watts and Gavin Fulleylove spent two months driving over 17,000 kilometres for the Mongol Rally, raising $1,400 for prostate cancer research through THRF’s charitable affiliate Australian Prostate Cancer (APC).

Beginning in London and finishing in Russia, the rules of the rally only permitted participants to take a small vehicle, with the men travelling in a 15-year-old Diahatsu Terios. Having no support along the journey, it took the four men six weeks to complete the rally, choosing to donate the funds they raised for their efforts towards prostate cancer research, each of them knowing at least one person who has been affected by the heartbreaking disease.

“Choosing to donate to prostate cancer research through APC gave the rally meaning to us. Knowing we were doing something good for others whilst partaking in this adventure motivated us when we faced challenges along the way,” Dave said.

“I think research is vitally important in reducing the effects of diseases such as prostate cancer.”

Pink Ladies Day for ABCR!

Losing his beloved wife Dianne to breast cancer in 2016 at the young age of 46, Tom Lane transformed the Gawler Central Sporting Club’s inaugural 2017 Ladies Day event to a Pink High Tea to raise vital funds for breast cancer research. He raised an incredible $5,500 for THRF’s charitable affiliate Australian Breast Cancer Research (ABCR)!

Dianne was first diagnosed with breast cancer at 30-years-old in 2001, and was given the all clear, until 2016 when she visited the doctor after suffering from persistent headaches. Sadly, Dianne and Tom found out the cancer was back and had spread to her brain. She passed away only 11 weeks later.

Determined to see research bring an end to the devastation this heartbreaking disease brings, in memory of his wife Dianne and for the many other women battling breast cancer in the community, Tom hosted his High Tea on Saturday 29 July 2017.

“It was a day to highlight women in sport and women in our community,” Tom said.

“There are also some people at South Gawler and Gawler Central still going through issues with cancer.”

Ladies on the day wore pink and were treated to a glass of bubbles on arrival along with delicious food, a guest speaker and market stalls and raffles – all going towards breast cancer research at the BHI through ABCR.
Mercer SuperCycle – A Ride Like No Other

Riding for an important cause, the annual Mercer SuperCycle had another successful year in 2017, with 51 riders completing the cycling challenge through some of the best parts of South Australia, raising money for country cancer patients.

All funds raised through Mercer SuperCycle go directly towards building family-style accommodation for country cancer patients and their families through THRF’s Under our Roof project. An incredible $405,000 was raised through their efforts in 2017, bringing a total of over $2million raised by Mercer SuperCycle since its inception six years ago.

Travelling away from home and normal support networks for treatment is often a patient’s second biggest stressor after a cancer diagnosis. THRF’s Under Our Roof project provides much needed accommodation to country cancer patients and their families to stay together while receiving treatment at Adelaide hospitals. The two homes, Mercer House and Bendigo Bank House are proudly named after two major sponsors of Mercer SuperCycle.

The homes provide a welcoming, warm and safe environment for families to stay in at a crucial time – each home has two living areas, two bathrooms and can sleep up to six people. They also are free of charge to patients covered by the Country Health South Australia’s PATS scheme, or at a low cost to patient’s ineligible for this scheme. This removes the financial burden for patients and their families at this difficult time in their lives.

In 2017 the current Under Our Roof homes were occupied for 84 per cent of the year, seeing patients and their families travel from 13 different country towns.

Helping patients and their families is the main motivation for the riders, as third time SuperCyclist Stephen Brough from Mercer describes SuperCycle as a great way to “help others and make a difference to people’s lives in a meaningful way.”

“Knowing the work that you’ve done on the bike has a direct benefit to cancer patients is a great feeling and meeting those living in rural areas and talking about what we are doing helps you get through the long days. The whole experience from the moment you start training to the time you ride into Adelaide will not be forgotten,” Stephen said.

This event would not be possible without our Major Event sponsors. Thank you to Mercer and Bendigo Bank, to all our riders, support crew members, donors and the incredible SuperCycle Inc. Board for their tireless efforts to ensure this major fundraising event runs smoothly each year.
The Longest Table

It was a record year for THRF’s annual cancer fundraiser, The Longest Table (TLT) with more hosts than ever before raising vital funds for cancer research. We were overwhelmed with the number of hosts participating to #forkcancer across the country. In an incredible effort from over 220 hosts, TLT raised over $230,000 for cancer research!

In 2017 TLT also welcomed over 20 Participating Venues on board from across Adelaide where hosts could choose to hold their dinner if they didn’t want to host at home. We were blown away by the passion of so many of our hosts, with many sharing their stories about the impact cancer has on their lives. One of our top fundraisers, Rebecca De Cicco, hosted her Longest Table for her dad who is battling Multiple Myeloma.

“The Longest Table was a way for me to share my dad’s story and to draw and raise awareness for Multiple Myeloma, as it is so rare and generally not spoken about. It enabled me to bring together family and friends to discuss something we all needed to know more about, while supporting my father through this tough time. To me, a future free of cancer means I can share my life longer with those I love and create beautiful memories with them for as long as possible.”

Thank you to all the wonderful hosts who held their Longest Tables this year, and thank you to the BHI for hosting a lunch and raising vital funds for cancer research.

We are proud to say 100 per cent of the funds raised go towards researchers at the BHI and across South Australia who are dedicated to saving lives from cancer by improving treatments and finding cures for this heartbreaking disease.

Rebecca and her family are determined to #forkcancer.
The Hospital Research Home Lottery

2017 was the biggest year yet for the Hospital Research Home Lottery. For the first time we held three lotteries with each selling out in record time!

We were blown away by the community’s support and thanks to the public were able to fund even more lifesaving medical research to save lives and improve patient care in South Australia.

**SOMERTON PARK**

We kicked off 2017 with a bang, launching the first Hospital Research Home Lottery of the year with a Grand Prize worth $1.8 million.

The prize included a stunning Scott Salisbury Homes house in Somerton Park, only minutes from the foreshore, along with a Porsche Macans and $250,000 in cash!

Selling out in just a few weeks, the winners of the Grand Prize Lyle and Jade Wansbury (Ticket Number 015086) were excited to receive the keys to their brand new home and car – truly setting them up for life!

This lottery offered a 1 in 12 chance of winning 7,404 prizes!

**TENNYSON**

In April 2017 we launched our second lottery offering up our biggest Grand Prize yet – a stunning Tennyson home, fully refurbished and renovated by Scott Salisbury Homes, a Mercedes-Benz GLC 250 Coupe and $500,000!

Selling out once again in only two weeks, the winner of this stunning beachside home Cyrus Santos (Ticket Number 097955) and wife Merridy along with their two daughters couldn’t wait to move into their dream home!

This was our first lottery to offer up not only the biggest cash prize yet, but also a 1 in 10 chance to win 10,545 prizes!

**MALVERN**

Our third lottery in October 2017 was our biggest Grand Prize to date – a luxury home in Malvern built by Scott Salisbury Homes, plus a Range Rover Sport SE and $1 million!

With a 1 in 10 chance of winning over 11,600 prizes, this lottery had more prizes than ever before!

Anthony Vinci (Ticket Number 020297) and his lovely family couldn’t believe they won the Grand Prize and were extremely thrilled when they received the life-changing phone call.
THRF COMMUNITY ENGAGEMENT

THRF’s community awareness program provides an invaluable opportunity for researchers and clinicians to engage with our donor community and showcase how their funds are supporting vital research.

The program also gives local community groups the exciting opportunity to hear and see first hand the world-class research that is happening in Adelaide. Aside from being involved in speaking engagements, researchers also can showcase their research through hosting public tours for donors at the BHI.

In 2017, THRF hosted 23 speaking engagements, our researchers visiting local groups including the University of the 3rd Age Flinders, Adelaide Hills and Port Adelaide, VIEW (Voice, Interests and Educations of Women), Greenwith Community Centre, Pan Arcadian, Prospect Ladies Probus Club, Lions Club of West Beach, Brown Hill Creek Probus Club and Tea Tree Gully Probus Club.

In 2017 these community groups heard from many talented researchers about various diseases and health concerns that may affect themselves or a loved one. The topics covered were:

- Adoptive Cell Therapy: Harnessing Body’s Immune Cells to Fight Cancer
- Advances in Alzheimer’s
- Arthritis
- Breast Cancer
- Cardiovascular Disease
- Colorectal Cancer Liver Metastasis
- Diabetes
- Frailty and Environment
- Healthy Ageing
- New Novel Bone Repair Treatments (osteoporosis and related fractures)
- Oral Health
- Prostate Cancer
- Returning to hospital after a heart attack
- Stroke (research, risk and prevention)
- The Hospital Research Foundation
- Virology: Progress towards a HIV Vaccine

THRF’s annual BHI tours invite the public to come behind the scenes to see where the world-class medical research takes place. In 2017 guests were treated to a variety of research topics, hosted by BHI researchers themselves, including frailty, arthritis, breast cancer and diabetes.

Information on upcoming public tours or community group presentations is available on our website:

▶ hospitalresearch.com.au

Susan Lester, Rheumatology Research Group (front centre), shows people through the BHI laboratories.
On Thursday 3 November 2017, THRF hosted an annual lunch for a group of our valued supporters who are dedicated to raising vital funds for medical research. The Basil Hetzel Society Luncheon, hosted for the first time at the Glenelg Golf Club, is a great way to thank our supporters for their continuous support and vital contributions towards lifesaving medical research at the BHI, improving the lives of everyday people.

Providing exciting developments in research was an exceptional panel who shared with our guests where their donations are going and most importantly, the impact our supporters are making towards medical research each time they donate.

Our panel included researchers from the BHI, including Dr Rosanna Tavella, Clinical Data Manager from the Translational Vascular Function Research Collaborative Group and Dr Sam Costello from the Gastroenterology Group.

We would like to thank our loyal supporters who have been connected to THRF for many years and congratulate them on their contribution towards medical research to ultimately save lives and improve patient care.
Media Appearances

In 2017 research developments from the BHI were featured in the media on a number of occasions, making national and even international news!

In collaboration with The University of Adelaide in January 2017, THRF coordinated a media announcement following Associate Professor Wendy Ingman’s publication demonstrating that inflammation is a driver of breast density and associated with breast cancer risk. This exciting research outcome was then featured on ABC 891, FIVEaa, Radio National, including the Radio National Health Report, 2MCE Radio and gained international exposure on Deutsche Welle, Germany’s international broadcaster. This was broadcast on their technology radio programme, Spectrum, broadcast globally and heard in Australia via ABC Radio National on Sunday afternoon. The story also featured in print in The Advertiser on January 24 2017, the ABC News 24 Health Report TV and also received a number of online outcomes. This included ABC Online, The Lead South Australia, SBS World News Australia, Science Daily, Women’s Fitness and News.com.au, which was then syndicated on all News Limited platforms.

In February 2017, THRF coordinated Dr Rosanna Tavella to feature on a lengthy segment on Ballarat Community Radio, an opportunity for us to share the work we coordinate in this field in regional Victoria.

In May 2017, THRF also drove a Channel 9 News story about research undertaken by Professor Andreas Evdokiou and his group at the BHI. This research is looking at ways to regenerate growth in bones after cancer related bone loss. Jenni Eyles, one of our wonderful THRF ambassadors, is now living with Osteoporosis as a result of breast cancer and was interviewed for the story.

In June 2017, The Advertiser showcased Professor Peter-John Wormald’s revolutionary research on the idea of developing a gel to treat chronic pain after back surgery after they received a THRF Development Grant. Prof Wormald and colleague Associate Professor Sarah Vreugde have discovered this same gel they now use to treat nasal inflammation following surgery can be used to prevent scarring following routine back surgery.

Channel 9 News featured a story in July 2017 on Professor John Beltrame and Associate Professor Christopher Zeitz’s research on patients living with chest pain following an ‘unexplained heart attack.’ This study is supported by THRF’s inaugural Basil Hetzel Translational Grant and is a world-first in examining the role of microscopic blood vessels in these unexplained heart attacks.

Coast FM Radio

Our ongoing monthly segment with community radio station Coast FM 88.7 is a great opportunity for researchers to share their work with esteemed presenter David Hearn. The following BHI staff and students had the opportunity to experience discussing their work with local media:

Katharina Richter and Dr Nicky Thomas, Dr Beatriz Martins, Kathryn Hudson, Associate Professor Sarah Vreugde, Zenab Dudhwala and Dr Danielle Taylor.

L: Kathryn Hudson with Coast FM presenter David Hearn.
R: Professor Andreas Evdokiou and PhD student Alexandra Shoubridge being interviewed for Channel 9 News.
Professional Membership

THRF has been a longstanding member of Brand SA and is proud to help showcase the state’s growth and success in the field of translational medical research and innovation in treatments and delivery of patient care.

THRF is also proud to be a nominated charity partner of both the American Chamber of Commerce (AMCHAM) and the Australia Israeli Chamber of Commerce (AICC). These affiliations give THRF the opportunity to engage and build positive relationships with the South Australian corporate community and showcase the health benefits and outcomes made possible through local media.

Sponsorships

Each year THRF is delighted to sponsor a range of activities and projects at the BHI that significantly extend educational endeavour or have a direct benefit to the community.

In May of this year THRF was pleased to support the ‘Pint of Science’ Festival which was coordinated by BHI researcher Katharina Richter. With varying themes over the three nights, several scientists were given the opportunity to present their latest discoveries to a live audience.

THRF also provided sponsorship for the Australian Society for Medical Research (ASMR) Gala Dinner and purchased a table for BHI researchers to attend on the evening.

In November 2017, THRF was thrilled to support Dr Branka Grubor-Bauk to coordinate a Zika Virus Meeting at the BHI, an opportunity for Adelaide scientists to establish collaborations with each other and exchange ideas.

In addition to the above sponsorship, THRF continues to provide career and research skills training support for staff and postgraduate students. In 2017 this included sponsoring two BHI researchers to attend a one-day Media and Communications training workshop run by “Science in Public”. Additional support from the BHI allowed two more researchers to attend. Postgraduate students Clementine Labrosciano, Joe Wrin, and postdoctoral researchers Dan Wijesundara and Joanne Dollard, all found this a very worthwhile day and have participated in media and community engagement opportunities with increased confidence since then.

As well as continuing to provide funding for researchers to print their conference posters, BHI researchers are now able to apply for THRF Travel Awards to enable them to present their research results at national or international conferences (see Awards, for details of individuals who received these awards in 2017).

Finally, as the major sponsor, THRF maintains its invaluable support of TQEH Research Day which is held every October (see TQEH Research Day section for more information).

BHI researchers attending the ASMR Gala Dinner, thanks to sponsorship from THRF.