# 2019

# GRADUATION CEREMONIES

## THE UNIVERSITY OF ADELAIDE


THE UNIVERSITY
*of* ADELAIDE

# CHANCELLOR'S *Welcome*

## On behalf of the University of Adelaide may I offer sincere congratulations to you, our new graduates.

You have joined a distinguished community of University of Adelaide alumni that spans the globe.

As a graduate of the University of Adelaide you hold a degree that is recognised and valued around the world. Our graduates have gone on to be pioneers and leaders in many fields – from science, medicine and engineering, to law, the social sciences and the performing arts. They have won Nobel Prizes, distinguished themselves in politics and the arts, and helped to improve the lives and wellbeing of countless communities.

The University of Adelaide is committed to providing an inspiring university experience and producing talented and skilled graduates. I hope that your skills and the friendships that you have made will endure throughout your life.

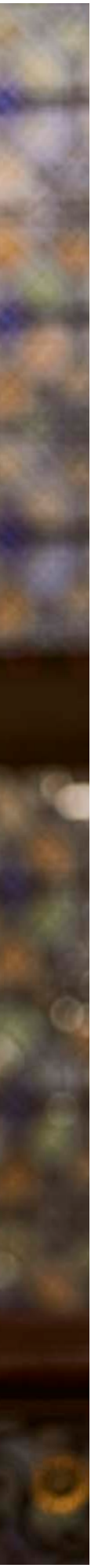
You should be proud today of your achievement in completing your studies, which is the first step on what I trust will be a satisfying and exciting career.

I would also take this opportunity, on behalf of the University, to thank those who have supported you and, in many cases, have made it possible for you to be here today.

You will always remember the University of Adelaide, and I hope you will consider it a significant part of your life, not just the past few years while studying, and not just today but forever. I encourage you to join our network of alumni and enjoy the benefits of a long association with your University.

My congratulations to you all.

**Rear Admiral the Honourable Kevin Scarce**
**AC CSC RAN (Rtd)**
Chancellor



# *Message from the* VICE-CHANCELLOR AND PRESIDENT

## Congratulations on graduating from one of Australia's leading universities.

This ceremony marks the culmination of years of study that now place you into lifelong membership of the University of Adelaide alumni – a group spread across all corners of the globe.

And you follow in the footsteps of extraordinary individuals, including some who have redefined the world as we know it, and many others who are changing their communities for the better each day. Your University of Adelaide degree will open doors to new, transformational opportunities.

Today is about celebrating your achievements with family, friends, members of staff and fellow graduates. I strongly encourage you to maintain those professional connections you have made here: many of them will stay with you for life.

Use your knowledge wisely, be bold and generous in the way you share ideas with others, and always be open to learning.

Well done: you go forward today with the warmest wishes of the University of Adelaide community.

**Professor Peter Rathjen**
**BSc (Hons) (Adel), DPhil (Oxon), Hon DLitt (Tas)**
Vice-Chancellor and President

# *The University of Adelaide* GRADUATION TRADITIONS

## ACKNOWLEDGEMENT OF COUNTRY

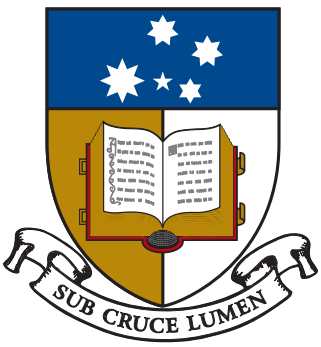
Ngadlurlu Kaurna miyurna tampinthi.
Parna yarta mathanya Wama Tarntanyaku.

University of Adelaide Kaurna yartangka yuwanthi – Tarntanyangga (North Terrace), Waitengga, Thebartonilla, Roseworthyngga kuma. (Lit. the University of Adelaide stands on Kaurna land in Adelaide (North Terrace, Waite, Thebarton and Roseworthy.)

We acknowledge the Kaurna people past and present, the original custodians of the Adelaide plains and the land on which the University of Adelaide campuses are built.

## COAT OF ARMS

The University of Adelaide's coat of arms was granted to the University by the College of Arms, London, in 1925. It is the official symbol of the University and the stamp which ratifies every degree parchment bestowed by the University.




The crest or shield displays an open book and five stars; one of eight, two of seven, one of six and one of five points – representing the Southern Cross. A scroll containing the University's Latin motto sits directly below the shield; Sub Cruce Lumen, meaning 'The light (of learning) under the (Southern) Cross'.

## BONYTHON HALL

Bonython Hall is the University of Adelaide's "great hall". It was built in the years of 1933-1936 using a generous donation of over £50,000 from renowned public benefactor Sir John Langdon Bonython.

Planned construction of Bonython Hall was surrounded in controversy. Colonel William Light, Surveyor-General for the City of Adelaide, had an original vision to extend Pulteney Street north towards North Adelaide. The Adelaide City Council was keen to see his plans carried out.

Following much debate, it was City Alderman and lawyer George McEwin who was able to convince the City Council of the University's master plan and evolving architectural beauty. Further, he pointed out that the City Council had no legal prerogative to construct roads on the private property of the University.

Consequently construction of the great hall began. This proved a critical juncture in the University's history - resulting in the University of Adelaide expanding to become one of the most picturesque campuses in the country today.

Today, Bonython Hall is home to all onshore graduation ceremonies and a number of official University events, including the annual Carols on Campus event in December.

## ABOUT THE ORGAN

The organ in Bonython Hall was installed in 2002. Made in England to a tonal design by the leading Dutch firm Johannus Orgelbouw, it uses custom-built speakers to reproduce digital recordings of individual organ pipes with the acoustic qualities of a piped instrument. The four manual instrument is the largest of its type in Australia.

## UNIVERSITY MACE

Thousands of years ago the Mace, a heavy club weighted at one end, was used as a blunt weapon in battle. In the sixteenth century the Mace came to be used more ceremonially – representing a symbol of protection of the King. Today, the Mace is celebrated as a symbol and warrant of office, particularly of royal or ecclesiastical office, and of institutions deriving authority from the Crown or Church.

The University of Adelaide Mace was designed by Mr I. Milward Grey of the School of Fine Arts, North Adelaide, and was made under his personal supervision by an Adelaide firm of silversmiths.

The Mace is 24 inches in length and is made of silver gilt throughout. Seventy-three ounces, just over 2kg, of metal was used in its manufacture. The Mace head forms an orb, representing the world, and features a book, a symbol of learning, and a design of gum leaves on matted ground. On either side of the orb, the University's Coat of Arms is featured along with the motto: *Sub Cruce Lumen*.

The University Mace was first carried by President of the Students Council, K H Boykett, at a Jubilee procession at St Peter's Cathedral in 1926, marking the 50th anniversary since classes first commenced.

The traditional role of the Mace Bearer in the University of Adelaide graduation ceremony is to protect the Chancellor, meaning the bearer of the Mace always precedes the Chancellor in the academic procession.

## ACADEMIC DRESS

Academic dress, including the full-length robe, hood and classical headwear, dates back to the medieval 12th and 13th centuries in Europe when universities, as we know them today, were developing.

The regalia were originally worn daily by university scholars for reasons of warmth and to reflect their status in society. The sense of purpose and propriety evoked by formal academic dress has ensured the tradition has been preserved over the centuries.

In contemporary times, academic dress is largely reserved for graduation ceremonies and formal university events.

### Gown

University of Adelaide graduates wear black gowns in the Cambridge style, with the exception of:

- Professional Doctorate and PhD candidates whose gowns are black and faced with scarlet
- Higher Doctorate and Doctor of the University candidates who wear scarlet gowns faced respectively with the colour of their discipline or ultramarine blue.

### Hood

Professional Certificate and Sub-bachelor graduates do not wear a hood.

Other graduates wear a black hood that displays a colour representative of their discipline area, except that:

- Postgraduate coursework candidates wear a black hood lined in white
- Research masters wear a black hood lined in scarlet
- PhD, Higher Doctorate and Doctor of the University candidates wear a scarlet hood lined in scarlet.

### Headwear

Graduates receiving a Professional Certificate, Sub-bachelor Certificate or Diploma, Bachelor, Honours, Graduate Certificate or Diploma or Masters qualification wear a black trencher cap or mortarboard.

Graduates receiving a Professional Doctorate, PhD, Higher Doctorate, Doctor of Medicine or a Doctor of the University wear a bonnet of black velvet.

*Creative Arts and Architecture*
*Cendre Green*

*Business*
*Helvetia Blue*

*Engineering and related technologies*
*True Purple*

*Health Sciences*
*Eosin Pink*

*Natural and Physical Sciences*
*Primuline Yellow*

*Society, Culture and Education*
*Pale Violet Grey*

# *Information for* GUESTS

The following information is provided to ensure the comfort, safety and enjoyment of everyone attending the ceremony. Please take a moment to read before the ceremony commences.

## GENERAL

Toilets are located at the entrance to the hall, downstairs from the foyer.

A water cooler for your use can also be found in the foyer.

Please supervise babies and young children at all times. If they are disturbing other guests, please take the opportunity to relocate to the foyer.

Please switch off or silence mobile phones for the duration of the ceremony.

## APPLAUSE

Guests are invited to applaud each graduate as they are presented on stage.

## PHOTOGRAPHY

Guests are welcome to take photographs during the ceremony. However, you are requested not to disrupt the ceremony by leaving your seat or using flash photography.

Professional photographers will take a photograph of each graduate as they are presented on stage. These photographs will be available immediately after the ceremony from GFP Graduations, who will be temporarily located on the Goodman Lawns.

Alternatively graduates can order their stage photos online after the ceremony.

## SAFETY AND EMERGENCY

For safety reasons guests may not enter the galleries upstairs or sit on the steps in the balcony area.

Emergency exits are marked on the plan below. Please note your nearest exit.

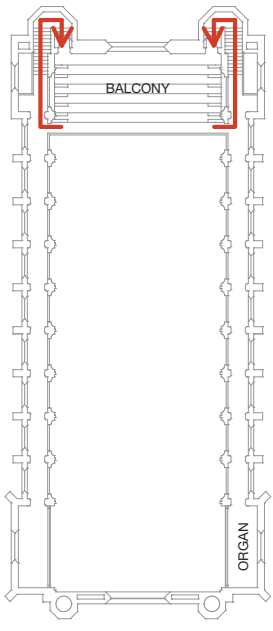
The emergency assembly point is on Goodman Lawns, west of the hall.

If it becomes necessary to evacuate Bonython Hall, an announcement will be made. Follow the directions of the Ushers, exit the hall and move to the assembly point. Guests in wheelchairs should exit the hall via the eastern entrance.

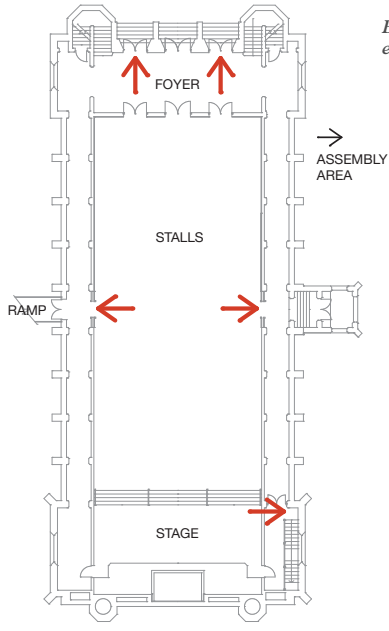
## ADDITIONAL INFORMATION

Student Ushers in white shirts can provide further information and assistance.

The ceremony will last around 70 minutes.




*South gallery level*




*Ground floor*

*Bonython Hall emergency exits*

# *Order of* PROCEEDINGS

Before the ceremony, music will be played on the Bonython Hall Organ by Haowei Yang (Student in the Elder Conservatorium of Music)

*JS Bach: Schmücke dich, o liebe Seele and L Vierne: Carillon de Westminster*

**THE ACADEMIC PROCESSION** *(please stand)* will enter Bonython Hall.

*Trumpet Voluntary* by Jeremiah Claire, arr. Iveson, performed by the Elder Conservatorium Brass Ensemble.

- Marshals
- Doctorates in all Faculties/Schools
- Heads of Affiliated Colleges
- Academic and Graduate Staff
- Executive Deans and Heads of Schools
- Senior University Officials
- The Valedictorian
- The Orator
- The Vice-Chancellor
- The Mace Bearer
- The Deputy Chancellor

**THE NATIONAL ANTHEM** to be sung by
Charlotte Kelso DipA, BA/BMus(Clas).

*Australians all let us rejoice, For we are young and free;*
*We've golden soil and wealth for toil, Our home is girt by sea;*
*Our land abounds in nature's gifts Of beauty rich and rare;*
*In history's page, let every stage Advance Australia Fair.*
*In joyful strains then let us sing, Advance Australia Fair.*

*Guests to be seated*

**WELCOME BY THE DEPUTY CHANCELLOR**
The Honourable Catherine Branson AC QC

**THE OCCASIONAL ADDRESS** to be given by
Professor Isabella Caroline McMillen

**THE MACE BEARER THANKS THE ORATOR**
Dr Robert Venning Bryant will thank the orator

**CERTIFICATION STATEMENT** by the
Vice-Chancellor Professor Peter Rathjen
BSc (Hons) (Adel), DPhil (Oxon), Hon DLitt (Tas)

**PRESENTATION OF AWARDS** by Faculty/School

**VALEDICTORY ADDRESS** given by
Ms Rhaneela Mary Simone Punitham

**CLOSING REMARKS** given by the
The Honourable Catherine Branson AC QC

**THE ACADEMIC RECESSION** *(please stand)* The academy will leave Bonython Hall in reverse order to that of entry, followed by the new graduates. During the recession, the organist will play *CM Widor: Toccata from Symphony No. 6.*

*Guests are requested to remain standing while the procession is leaving Bonython Hall.*

# *Presentation of* AWARDS

*Conferral of the*

# HONORARY DEGREE

**Presented by the Vice-Chancellor and President Professor Peter Rathjen BSc (Hons) (Adel), DPhil (Oxon), Hon DLitt (Tas)**

**Doctor of the University (honoris causa)**

Professor Isabella Caroline McMillen

*Faculty of*

# HEALTH AND MEDICAL SCIENCES

**Presented by the Interim Executive Dean of the Faculty of Health and Medical Sciences, Professor Andrew Zannettino BSc(Hons), PhD**

### To the Degree of Bachelor of Health and Medical Sciences

Basil Abou-Assali — Medical Sciences

Rico Andre Acuna — Medical Sciences

Julianne Elizabeth Baldock — Nutritional Health

Olivia Marie Bellas — Nutritional Health

Madelyn Rose Boyce — Medical Sciences

Georgia Sheridan Clarke — Reproductive and Childhood Health

Gemma Anne Collett — Reproductive and Childhood Health

Jason George Cutler — Neurosciences

Gracie Marie Dametto — Reproductive and Childhood Health

Ryan Bradley Fullwood — Addiction and Mental Health

Caitlin Gow — Medical Sciences

Tara Alysse Guckel — Addiction and Mental Health

Elise Hill — Medical Sciences

Alex-Marie Howard — Medical Sciences

Andrew Ioakim — Medical Sciences

Hannah Marie Kovacs — Neurosciences

Hamish Kowalick — Medical Sciences

Manushi Sandaruwani Kumarasiri Jayawardana — Medical Sciences

Jonathan William Lathlean — Medical Sciences

Tsz Ching Lee — Medical Sciences

Alan Orogi-Seysan — Nutritional Health

Freshta Rahimi — Medical Sciences

Lucia Melissa Ramos Begazo — Addiction and Mental Health

Shirin Safaeian — Medical Sciences

Madison Paeta Sandeman — Neurosciences

Gracie Mabel Scarman — Medical Sciences

Aleesha Jayde Searle — Medical Sciences

Ines Semendrić — Neurosciences

Shannon Mikayla Stuckey — Medical Sciences

Bridgette Erin McIntosh Syrus — Nutritional Health

Zoe Marie Tammita — Medical Sciences

Lee Kenneth Williams — Medical Sciences

Tom Paul Windram — Neurosciences

Dongying Xie — Medical Sciences

### To the Degree of Bachelor of Health Sciences

Vanessa Apolonio — Health Promotion and Epidemiology

Corey James Behan — Pathology

Aafke Boomsma — Neuroscience

Georgina Bridgland — Genetics and Anatomical Sciences

Catherine Yeoh Gui Thing — Genetics

Leah Ann Collins — Exercise Science

Geordie John Davies — Exercise Science and Pathology

Jessica Rosanna Demczuk — Physiology

Narayanee Dick — Anatomical Sciences

Ruby Charlotte Gamlen — Pathology and Physiology

Sophie Lee-Anne Georgonicas — Anatomical Sciences and Physiology

Georgia Louise Gray — Nutrition

David Jonathan Guevara — Nutrition

Isobel Therese Harris — Neuroscience

Julian Marlowe Harris-Janson — Neuroscience

Ivana Helena Janssen ..... Physiology

Anna Anne Kalamkarian ..... Nutrition and Human Reproductive Health

Ellen Vanessa Kessling ..... Exercise Science and Nutrition

Sebastian Oliver Levesque ..... Genetics

Alexander James Lewis ..... Pathology and Physiology

Ryan Douglas Lloyd ..... Pathology

Hayley Louise Macpherson ..... Health Promotion, Pathology

Angelo Gabriele Mastropasqua ..... Pathology

Lev Maximov ..... Physiology and Exercise Science

Coen Broderick McLeod ..... Physiology

Erin Louise McNichola ..... Human Reproductive Health

Alex Minopoulos ..... Anatomical Sciences and Physiology

Lili Montesi ..... Health Promotion and Epidemiology

Stephanie Kate Morris ..... Anatomical Sciences and Exercise Science

Maitri Punitkumar Nakum ..... Health Promotion and Epidemiology

Carmen Ng ..... Pathology and Pharmacology

Yen Nguyen ..... Pathology

Isabella Louise Pastorelli ..... Health Promotion and Human Reproductive Health

Natalie Kate Petrou ..... Exercise Science and Nutrition

Samuel Leo Harry Phillips ..... Pharmacology

Rhaneela Mary Simone Punitham ..... Pharmacology and Microbiology

Thanat Rattanakosit ..... Exercise Science

Amy Elizabeth Rees ..... Anatomical Sciences and Exercise Science

Grace Madelaine Reid ..... Exercise Science and Nutrition

Tikari Morgan Rigney ..... Pathology and Nutrition

April Dimity Rivers-Kennedy ..... Pathology and Pharmacology

Alexandra Kate Routley ..... Neuroscience and Pathology

Ashley Nicole Rowland ..... Neuroscience and Pathology

Caitlyn Simone Schmied ..... Pharmacology

Ellie Rose Seiboth ..... Reproductive Health and Psychology

Sada Weliyi Sheka ..... Health Promotion, Pathology

Bradley Vaughan Sing ..... Physiology and Exercise Science

Jenny Anne Smith ..... Nutrition

Olivia Marie Sprod ..... Health Promotion

Lilli Grace Stephenson ..... Pathology and Pharmacology

Yun Tang ..... Pathology

Ellenore Jade Thomas ..... Pathology and Anatomy

Madison Ellen Thompson ..... Health Promotion and Epidemiology

Emma-Tien Giang Tran ..... Pathology

Rebecca Paige Turci ..... Pathology

Madeleine Nicole Veitch ..... Pathology

Taylor Jade Wain ..... Genetics and Pathology

Dawn Margaret Whelan ..... Pharmacology and Microbiology

Patricia Ariandne Marie Pangan Zamora ..... Pathology and Nutrition

Joshua Paul Zechner ..... Pathology and Pharmacology

## To the Degree of Bachelor of Health and Medical Sciences (Advanced)

Keshani Shakila Alagiyage ..... Medical Sciences

Emily Baxendale ..... Medical Sciences

Samuel James Cannata ..... Medical Sciences

Scott James Corbett ..... Medical Sciences

Criscell Joyce Del Rosario ..... Medical Sciences

Keyi Krystal Feng ..... Clinical Trials

Xiaolin Feng ..... Medical Sciences

Jana Marta Gropl ..... Neurosciences

Olivia Jane Haller ..... Neurosciences

Rachel Aileen Lipert James ..... Medical Sciences

Sarena So Duyen La ..... Medical Sciences

Kim Le ..... Clinical Trials

Madeleine Emily Lilburn ..... Medical Sciences

Jared Benjamin Mules ..... Clinical Trials

Shenyi Peng ..... Medical Sciences

Hosanna Sara Mathew ..... Clinical Trials

Srisankavi Sivasankar ..... Neurosciences

Dane Song ..... Addiction and Mental Health

Emily Jane Squires ..... Neurosciences

Linh Hoang Thai ..... Medical Sciences

Shae Tozer ..... Medical Sciences

Katherine Barbara-Jayne Turner ..... Neurosciences

Zoe Lee Watkins ..... Medical Sciences

Kellie Wise ..... Medical Sciences

## To the Degree of Bachelor of Health Sciences (Advanced)

Steven Gaitaneris ..... Epidemiology & Indigenous Health

Emilia Tiziana Iacobini ..... Epidemiology & Nutrition

Hayley Bridget Parkinson ..... Human Reproductive Health and Genetics

## To the Degree of Doctor of Philosophy

**Dr Kelsi Nicole Dodds**

*For a thesis entitled:* Exploring the Role of Spinal Glia and Toll-Like Receptor 4 in the Development of Endometriosis and Neuroimmune-Associated Pain

*Thesis abstract:* Endometriosis is an inflammatory condition in females, characterised by endometrial-like tissues forming lesions outside the uterus. It is often associated with pelvic pain, although there is poor correlation between lesion characteristics and pain symptoms.

Interactions between immune-like glial cells and neurons within the central nervous system are known to alter pain signalling pathways and peripheral inflammation. This may occur through stimulation of the innate immune pattern recognition receptor, Toll-like receptor 4 (TLR4).

Using a novel mouse model, this thesis thus explored the involvement of spinal glia and TLR4 in the development of endometriosis-like lesions and associated pain.

**Dr Ankit Kumar Dutta**

*For a thesis entitled:* A Genomic Approach Towards an Understanding of Clonal Evolution and Disease Progression in Multiple Myeloma

*Thesis abstract:* Multiple myeloma (MM) is a haematological malignancy characterised by intraclonal heterogeneity. The genomic changes and tumour evolution associated with progression from Monoclonal Gammopathy of Undetermined Significance (MGUS) and Smouldering MM (SMM), to MM remain unknown.

This thesis presents next generation sequencing analyses of a rare cohort of paired samples, isolated from patients when first diagnosed with MGUS/SMM, and subsequently with MM.

Patients who progressed in a short time frame exhibited clonal stability, with sufficiently genetically complex tumours to be on the threshold of transformation to MM. This suggests early intervention at MGUS/SMM may be possible to prevent disease progression.

**Dr Mohamad Kourghi**

*For a thesis entitled:* A Comparative Study of Physiological and Modulators of Aquaporin ion Channels in Diverse Phyla

*Thesis abstract:* Upregulation of Aquaporin 1 (AQP1) expression has been linked with aggressive cancers such as astrocytoma, glioblastoma, colon and breast cancer. Preventing ion and water transport with the use of pharmacological modulators of the AQP1 channels in cancer cells could provide potential therapeutic treatments for preventing cancer metastasis.

We discovered that bacopaside I and II compounds from Bacopa monnieri, and the arylsulfonamide compounds AqB007, AqB011 are blockers of the AQP1 channels.In vitro studies revealed that cancer migration was impaired by blocking AQP1-mediated water or ion transport. The newly identified AQP1 blockers serve as promising tools in preventing cancer metastasis.

## ADELAIDE MEDICAL SCHOOL

**Presented by the Dean and Head of the Adelaide Medical School, Professor Ian Symonds BM BS MMedSci DM FRCOG FRANZCOG**

### To the Degrees of Bachelor of Medicine and Bachelor of Surgery

Andrew Chu Wei Yong
Bahador Asadi-Khansari
Nurul Sakinah Azlan
Madeleine Sophia Bain
Antonio Barbaro
Oliver James Barker
Alexander Patrick Bate
Vasana Yaso Bhaskaran
Alison Julie Bird
Zoe Patricia Boling
Malcolm Joseph Borg
Declan Patrick Brady
Denise Alexandra Braica
Joshua William Bramwell
Madeleine Lee Brenner
Sophie Claire Burn
Gayatri Caplash
Rebecca Jane Carnell
Boon Ping Chai
Stephane Kaed Choong Chang
Monica Wang Chen
Yiyang Chen
Joy Cheng
Rachel Cheng
Vincent Wang Hon Chow
Eleanor Lucinda Clarke
Samuel James Clements
Eliza Mary Colley
Henry Thomas Colovic
Simon Peter Cousins
Jessica May Ellen Dalwood
Sean Stuart Davis
Olivia Kate Dickinson
Thomas Gordon Eckert
Jordan Anne Ellaby-Hall
Nicholas David Fitzgerald
Katarina Penfold Foley
Kayla Louise Foord
Lauren Rose Footner
Raghav Goel
Sarah Jane Gray
Benjamin Christopher Gricks
Aashray Kant Gupta
Antonije Gvozdenovic
Samuel David Harms
Zachary Hender-Hill
Xuan Heng
Joseph Nicholas Hewitt
Lily Hollis-Sando
Cassandra Lucy Holt
Jarrad Andrew Hopkins
Stephanie Louise Inat
Edward Richard James
Jessica Rose Johannsen
Thomas Hugh Johns
Erin Elizabeth Jose
Aswin Joy
Georgina Elise Juniper
Emma Whitney Kelly
Samuel Marc Koopowitz
Cameron Michael Yao Ren Lau
Dzi Him Alex Lau
Jenn Yuan Lee
Nathan Ngou Yuen Lee
Timothy James Lee
Zhenhui Shawn Lee
Rebecca Kate Lees
Leslie Zhi Wei Lew
Candice Chiew Yin Li Sung Sang
Andy Mackinley Lim
Carene Wei Qin Lim
Daniel James Rong Ern Lim
Ryan Wei-Jie Lim
Nathan Ying Lei Lin
Peter Stanislaw Litwin
Jianliang Liu
Aaron Charles Long
Vincent Win Loo
Joe Lu
Matthew Halford Lui
Kirstin Emma Marchand
Brianna Adele Martin
James David Martin
Mau Tam Nguyen
Brendan May
Ruby Kathleen McNamara
Balapuwaduge Amanthi Sharaka Mendis
Thomas James Milton
Georgina Elise Minns
Meena Nachiappan
Silas Daniel Nann
Shidharth Shavneel Narayan
Kevin Wei Shen Neoh
Peng Yu Ng
Bang Dai-Hai Nguyen
Huyen Thi Thanh Nguyen

Shilsha Suzanne Ninan
Niran Victor Nitchingham
Caitlyn Jane Olds
Christopher Dillon Ovenden
Grace Evangeline Parker
Charlotte Pugh
Abner Jing Yan Quek
Jessica Lee Ransom
Maxwell Timothy Reilly
Michael David Riceman
Ingrid Alis Richards
Mia Peta Roberts
Thomas Stewart Robertson
Antonia Charmaine Rodrigues
Thomas Keats Rogerson
Sebastian Bruno Rositano
Tess Graney Ryan
Josiah Benjamin Salagaras
Olivia Lysandra Salagaras
Olivia Madeleine Sallis
Suhanya Seimon
Samantha Lim Hui Min
Donald Dineish Shivakkumar
Anastassia Silaeva
Brett Alexander Slarks
Antony Chun Fai So
Samuel Richard Spencer
Ellen Marie Stamati
Amy Rose Stewart
Lachlan Neil Tamlin
Tan Jun Guang Kendric
Brian Kok Shaun Teoh
Christina Theodore
Hannah Louise Thompson
Wuen Lynn Toh
Morgan Jeanne Margaret Tolley
Truc Thanh Tran
Briah Kay Victory
Jessica Mary Walker
Hollie Lynnette Wickstein
Ben Michael Wingrove
Christopher Paul Wylde
Jennifer Zhen Ni Xu
Benjamin James Young
Anna Anyun Zeng
Toby Jordan Zerner

## To the Degree of Doctor of Philosophy

**Dr Chukwudiebube Nnanna Ajaero**

*For a thesis entitled:* Interactions between Cardiac Resynchronisation Therapy and Amelioration of Peripheral Vascular Dysfunction: Impact upon Outcomes

*Thesis abstract:* Cardiac resynchronisation therapy is an established modality of treatment in patients with chronic heart failure associated with electrical dyssynchrony, and it has been shown to reduce mortality and mortality. However, about a third of patients do not respond to this therapy and the mechanisms by which patients derive benefits are not fully known.

This thesis examined the effects of cardiac resynchronisation therapy on peripheral vascular endothelial function and whether these vascular effects contribute to the overall benefits of resynchronisation. This research has also shed more light on the effect of cardiac resynchronisation therapy on intra cardiac electrical remodelling.

**Dr Azmeraw Tayelgn Amare**

*For a thesis entitled:* Genetic Predictors of Response to Pharmacotherapy in Patients with Mood Disorders: Steps on the Path to Personalised Psychiatry

*Thesis abstract:* Lithium and Selective serotonin reuptake inhibitor (SSRIs) are first-line drugs for the treatment of bipolar illness and depressive disorder, respectively. However, response to these drugs is inadequate and a large inter-individual variability has been reported, in which genetic factors are a major source of the variability.

Using advanced bioinformatics research methodologies, I successfully identified genetic (polygenic) determinants and biological mechanisms underlying response to lithium and SSRIs. The findings have a huge translational potential for future application to pharmacogenetic testing, and for providing individualised treatment in patients with bipolar disorder and major depressive disorder.

**Dr Vahid Atashgaran**

*For a thesis entitled:* Hormone and transcription factor regulation of cytokines in the mammary gland

*Thesis abstract:* Increased number of menstrual cycles is associated with an increased lifetime risk of breast cancer, however the biological basis for this increased risk is not well understood. The work in this thesis aims to investigate hormonal regulation of transcription factors and cytokines that affect cells of the immune system in the mammary gland, using an array of approaches including primary human mammary epithelial organoids, human mammary epithelial cells lines, and mouse mammary gland tissues. The data presented in this thesis suggest that cytokine expression and function are hormonally-regulated in mammary epithelial cells, which could affect immune responses to tumorigenesis.

**Dr Timothy James Baillie**

*For a thesis entitled:* The In Vivo Comparison of Invasive and Non-Invasive Assessments of Pulmonary Vessel Haemodynamics and Vasoreactivity in Patients with Known or Suspected Pulmonary Arterial Hypertension: a Cardiac Magnetic Resonance Imaging Study

*Thesis abstract:* Pulmonary hypertension is a late manifestation of pulmonary vascular disease. Earlier detection should improve outcomes. We describe a novel non-invasive method to interrogate the cardiopulmonary unit using adenosine-stress and magnetic resonance imaging. Non-invasive mean pulmonary blood flow velocity correlated closely with hemodynamics at rest and during adenosine stress. At maximal hyperemia, this parameter was an excellent functional correlate for cardiopulmonary reserve across a spectrum of clinical risk phenotypes and was closely related to validated prognostic markers at initial assessment and over time. Additionally, impaired coronary supply and demand relationships may contribute to right ventricular dysfunction.

**Dr Macarena Bermudez Gonzalez**

*For a thesis entitled:* Dietary Interventions for Improving Fertility

*Thesis abstract:* The influence of obesity on the ovarian environment as well as its impact on stress pathways in ovarian cells are not well understood.

This thesis explores how different factors impact the obesity phenotype in female mice, especially ovarian function and the expression of stress responses in ovarian cells, and ultimately how they affect oocyte quality and developmental potential. For this, two different mouse models of obesity, namely an androgen-induced PCOS model and a dietary fat-induced model were used. Finally, we investigated the induction of cytoprotective heat shock proteins with specific chaperone-inducing micronutrients, in order to identify a natural fertilityprotective diet.

**Dr Robert Venning Bryant**

*For a thesis entitled:* Improving Quality of Care in Inflammatory Bowel Disease: Treatment Targets and Body Composition

*Thesis abstract:* Quality care in inflammatory bowel disease (IBD) aims to modify the course of disease and normalise quality of life. This thesis explores disparate aspects of quality care in IBD: treatment targets and body composition.

Incorporation of objective treatment targets into routine practice stands to benefit patients with IBD. Histological remission in particular was found to impart prognostic benefit. Body composition is frequently abnormal in patients with IBD and may be associated with morbidity, yet is often unrecognised in practice.

Both treatment targets and body composition are part of the same challenge: to improve the quality of care in IBD.

**Dr Alexander MacGregor Cameron**

*For a thesis entitled:* The Role of Flightless Protein in Hypertrophic Scarring its Potential as a Target for a Novel Therapy

*Thesis abstract:* Hypertrophic scarring is a poorly understood condition which carries a high degree of morbidity. Despite its prevalence, current treatments are of limited efficacy and new anti-scarring approaches are required. Flightless (Flii) has previously been identified as a negative regulator of acute and chronic wound healing. The aim of this study was to investigate if Flii was involved in the fibroproliferative processes responsible for hypertrophic scarring. Using human tissue samples, a novel murine model and in vitro and in vivo techniques, it was shown that Flii is a key determinant of fibroproliferation and may represent a promising target for anti-scarring therapies.

**Dr Sukanya Das**

*For a thesis entitled:* Small molecular inhibitors of Amyloid beta and alpha Synuclein amyloidogenic aggregation, toxicity and in silico design of amyloid-binding ligands

*Thesis abstract:* Aggregation of amyloidogenic proteins, such as amyloid beta and alpha-Synuclein is a central neuropathologic process in Alzheimer's and Parkinson's diseases, respectively.

This study identified two natural polyphenolic and two synthetic heterocyclic compounds that inhibited both amyloidogenic protein's aggregation and neurotoxicity towards cultured neuronal cells. Additionally, this study has identified the antiaggregative properties of two other natural compounds against both proteins.

Finally, a set of novel amyloid ligands were designed computationally, from the natural polyphenolic and synthetic compound structures, which showed improved amyloid binding affinity in molecular modelling. Identification of new small molecular inhibitors could facilitate drug design targeting amyloidogenic aggregation.

**Dr Md Hasan Imam**

*For a thesis entitled:* Inter-Individual Variability in Platelet Adenylate and Soluble Guanylate Cyclase Signaling: Therapeutic Perspectives

*Thesis abstract:* Variability in integrity of platelet prostanoid adenylate cyclase (PG/AC) signaling: pathogenetic and therapeutic implication

The major results of the experiments described in this thesis can be summarised as follows: -

(a) Integrity of PG/AC signaling exerts a major influence on individual responses to inhibitors of the P2Y12 receptor (b) Patients with threatened myocardial infarction have impairment of PG/AC signaling relative to normals. (c) Coronary artery spasms (CAS) is associated with impairment of both PG/AC and nitric oxide signaling, which may be pivotal to occurrence of CAS. (d) PG/AC signaling is potentiated by the anti-anginal agent perhexiline.

**Dr Jovanka Rosslyn King**

*For a thesis entitled:* Newborn Screening for Primary Immunodeficiency Diseases

*Thesis abstract:* Screening newborns for primary immunodeficiency diseases (PID) facilitates early diagnosis, treatment and improved outcomes for affected children. Current screening methodologies enable detection of only a fraction of the 320+ known molecular causes of PID, with scope for expansion. In the largest prospective screening study of its kind, the efficacy of an assay identifying newborns with T and/or B cell lymphopaenia was confirmed. The wider clinical applicability of this test was also demonstrated. Additionally, two novel screening approaches are reported: (1) a strategy harnessing transcriptomics to identify hypogammaglobulinaemia; and (2) a genotyping assay to identify genetic polymorphisms conferring specific disease susceptibility.

**Dr Bin Li**

*For a thesis entitled:* Epidemiology, Seasonal Variation and Factors Associated with HIV Testing and Sexually Transmitted Infections Among Men Who Have Sex with Men and Heterosexuals in South Australia

*Thesis abstract:* Sexually transmitted infections have a profound impact on sexual and reproductive health.

Despite decades of global control effort, STIs other than HIV have been neglected as a public health priority.

This thesis uses longitudinal clinical data in Adelaide to examine the STI epidemiology to improve our understanding of STI distribution and HIV testing in the community, to explore the potential risk factors associated with STI transmission, to evaluate the effectiveness of STI treatments in order to inform prevention efforts, and to provide policy implications and suggestions for governments and NGOs for the effectiveness of prevention interventions, especially among MSM population.

**Dr Bo Liu**

*For a thesis entitled:* Dietary Intervention and Tissue Remodelling

*Thesis abstract:* Obesity is associated with increased inflammation and fibrosis in fat and muscle, which are linked to the development of insulin resistance and can be partially reversed by daily calorie restriction. Intermittent fasting is effective to promote weight loss and reduce risks for cardiovascular diseases, but its impact on insulin sensitivity and inflammation and fibrosis in adipose tissue and skeletal muscle is not clear.

The thesis compared the effects of eight weeks of daily calorie restriction versus intermittent fasting on insulin sensitivity in women and also examined adipose tissue and skeletal muscle inflammation and fibrosis in both humans and mice.

**Dr Yohannes Adama Melaku**

*For a thesis entitled:* Diet and Epidemiology of Non-communicable Chronic Diseases: focusing on dietary and nutrient patterns and bone fragility in adults

*Thesis abstract:* Existing evidence supports the increasing consumption of an unhealthy diet and the associated and growing impact on the current burden of non-communicable diseases (NCDs) globally. However, evidence on the extent of diet-related NCD burden remains limited.

This thesis assesses trends in diet-related NCDs in Australia and 34 other countries from 1990 to 2015. The association of dietary and nutrient patterns with bone fragility (osteoporosis and fracture risk) is also investigated and different dietary pattern analysis methods are evaluated.

The thesis broadens the existing understanding of methods in nutritional epidemiology and has significant implications for public health interventions and clinical practice.

**Dr Manasi Murthy Mittinty**

*For a thesis entitled:* Vitamin D Deficiency and its Role in Chronic Nonspecific Musculoskeletal Pain

*Thesis abstract:* Chronic pain is a universal and costly medical problem. Chronic nonspecific musculoskeletal pain (CNMP) is a type of chronic pain, marked by the absence of clear pathophysiology. CNMP causes major disruption to patients' lives, relationships, and functionality. A rising prevalence of CNMP is observed in the general population. There is a growing body of evidence that suggests vitamin D deficiency may play an important role in the etiology of CNMP. The work described in this thesis evaluated the management of CNMP by GPs', its relationship with vitamin D deficiency and patients' perspectives about effectiveness of vitamin D supplementation.

**Dr Jae Viktor Murphy**

*For a thesis entitled:* The Mucosal Barrier in Chronic Rhinosinusitis

*Thesis abstract:* The pathogenesis of chronic rhinosinusitis (CRS) is multifactorial. There has been recent interest in the CRS mucosal barrier and current research suggests a deficit of this innate immune defence.

Staphylococcus aureus (S. aureus) is implicated in the development and recalcitrance of CRS. Furthermore, S. aureus secretes an unidentified factor with mucosal barrier disrupting properties.

This thesis explores the potential contributors to mucosal barrier disruption in the setting of CRS. Specifically, it identifies two extracellular S. aureus factors, which disrupt the in-vitro mucosal barrier tight junction. Additionally, it elucidates mucosal zinc deficiency as a cause of barrier disruption in CRS.

**Dr Stephen Martin Pederson**

*For a thesis entitled:* BMEA: Bayesian Modelling for Exon Array Data

*Thesis abstract:* The development of Affymetrix Exon Arrays was a significant step forward from 3' Microarray technology, however detection of alternate splicing events proved challenging. In this work a novel method, Bayesian Modelling for Exon Arrays (BMEA), is described which shows an improvement in performance over previous approaches, and fits a more appropriate model for each gene using an MCMC process. Applying BMEA to an in-house dataset contrasting resting and stimulated Treg and Th cells, shed significant new light into key mechanisms involved in regulation of the T cell activation response.

**Dr Sebastian Oliver Stead**

*For a thesis entitled:* Dendritic Cell Targeted Therapy Utilising Porous Silicon Nanoparticles for the Induction of Immunological Tolerance

*Thesis abstract:* Dendritic cells (DC) are the most potent antigen-presenting cells in the immune system and have shown the ability to induce immunological tolerance. Current therapies exploiting the tolerogenic function of DC utilise ex vivo modification and intravenous infusion. Here, we describe a method utilising DC-targeting nanoparticles for the targeted release of tolerance inducing drug, rapamycin, completely in vivo, to promote immune suppressive regulatory T-cells. This thesis explores the bio-distribution of the nanoparticle both within murine and non-human primate animal models. Within the murine study, significant upregulation of regulatory T-cells ,induced with DC-targeting nanoparticles was seen, highlighting the benefit of nanoparticle therapy.

**Dr Zafar Ahmad Usmani**

*For a thesis entitled:* Treatment of Anxiety among Patients with Chronic Obstructive Pulmonary Disease

*Thesis abstract:* Co-existing anxiety in Chronic Obstructive Pulmonary Disease (COPD) patients impacts on patients' psychological status and healthcare costs.The evidence for management of anxiety in COPD prior to this thesis was limited.

The work described in this thesis examined psychological and pharmacological interventions for the treatment of anxiety in COPD through systematic reviews and a randomised placebo-controlled trial.

Paroxetine was found to reduce anxiety symptoms and COPD-related hospital admissions,however, several medication related side-effects were observed. Overall,Cognitive Behavioral Therapy has proven to be more effective for control of anxiety in COPD patients and advocacy is required for its incorporation in management guidelines.

**Dr Bing Wang**

*For a thesis entitled:* Improving Adolescent Health Through Immunisation: A Case Study - Invasive Meningococcal Disease

*Thesis abstract:* Vaccine uptake is suboptimal in adolescents. Adolescent attitudes towards vaccination were investigated in online surveys with a higher level of vaccine hesitancy demonstrated than adults. Adolescents expressed strong preferences for vaccination against a life-threatening illness. Invasive meningococcal disease (IMD) was used as a case study as it affects adolescents, is life-threatening and is vaccine preventable. A systematic review and markov costing model show IMD imposes a substantial clinical and financial burden on patients, families and society. Improving vaccine confidence and providing publicly funded vaccines are important factors that may positively affect adolescent vaccine uptake and protection against serious infectious diseases.

## *School of* PSYCHOLOGY

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Lucia Melissa Ramos Begazo ..... Neuroscience

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**To the Degree of Bachelor of Mathematical and Computer Sciences**

Catherine Yeoh Gui Thing ..... Statistics and Applied Mathematics

Rhaneela Mary Simone Punitham ..... Statistics

## THE UNIVERSITY DOCTORAL RESEARCH MEDAL

**Presented by the Vice-Chancellor and President, Professor Peter Rathjen BSc (Hons) (Adel), DPhil (Oxon), Hon DLitt (Tas)**

Dr Azmeraw Tayelgn Amare

Dr Robert Venning Bryant

Dr Caroline Gerda Thea Giezenaar

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