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.

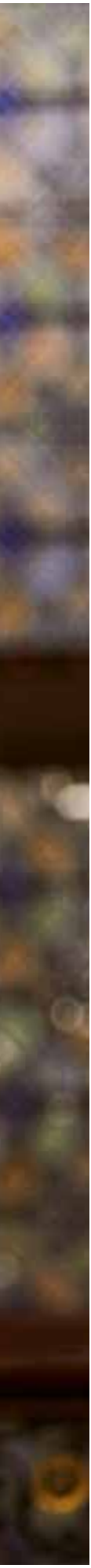
You should be proud today of your achievement in completing your studies, which is the first step on what I trust will be a satisfying and exciting career.

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.

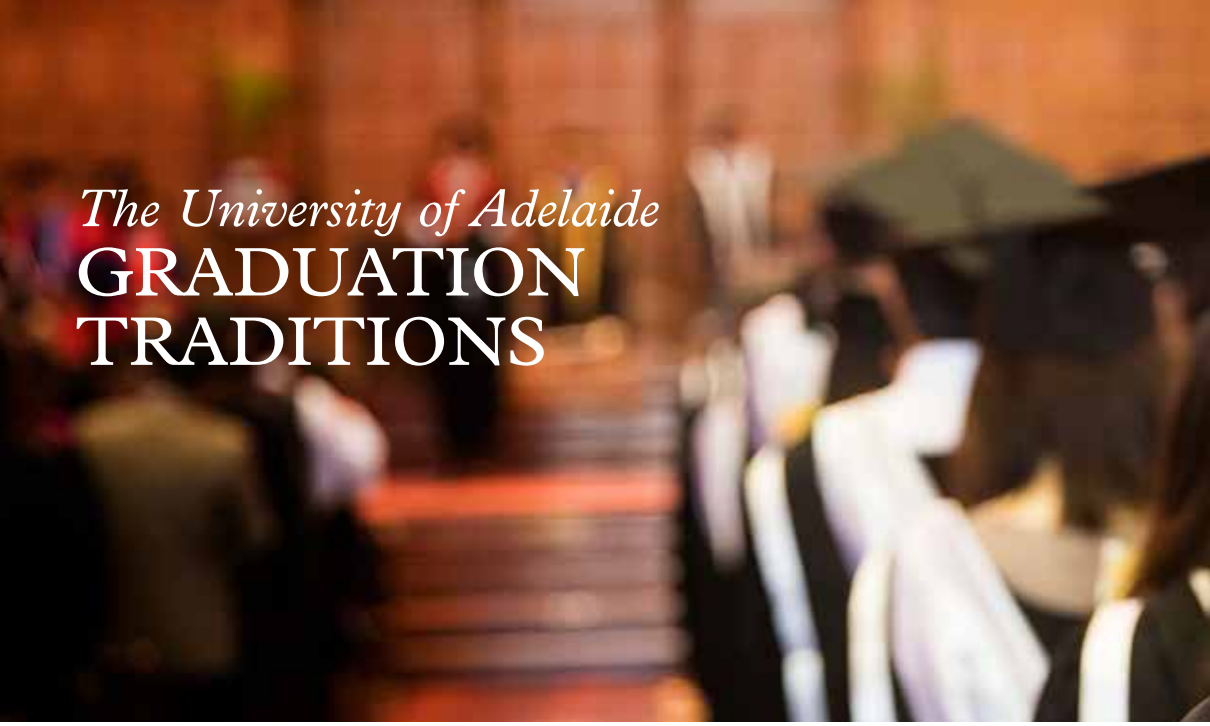
And you follow in the footsteps of extraordinary individuals, including some who have redefined the world as we know it, and many others who are changing their communities for the better each day. Your University of Adelaide degree will open doors to new, transformational opportunities.

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
AO, 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.

The University's two Reconciliation Statements, along with the Reconciliation Action Plan support the objectives and strategic directions of the renewed 2019 Tarrkarri Tirrka Aboriginal and Torres Strait Islander Strategy. Together, these statements document the University's ongoing commitment to Aboriginal and Torres Strait Islander empowerment and self-determination.

The University campuses are located on inscribed country and the land holds many stories, every feature in this landscape is imprinted with meaning and lore. North Terrace has always been a place of learning where ceremony and conference were hosted annually.

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.

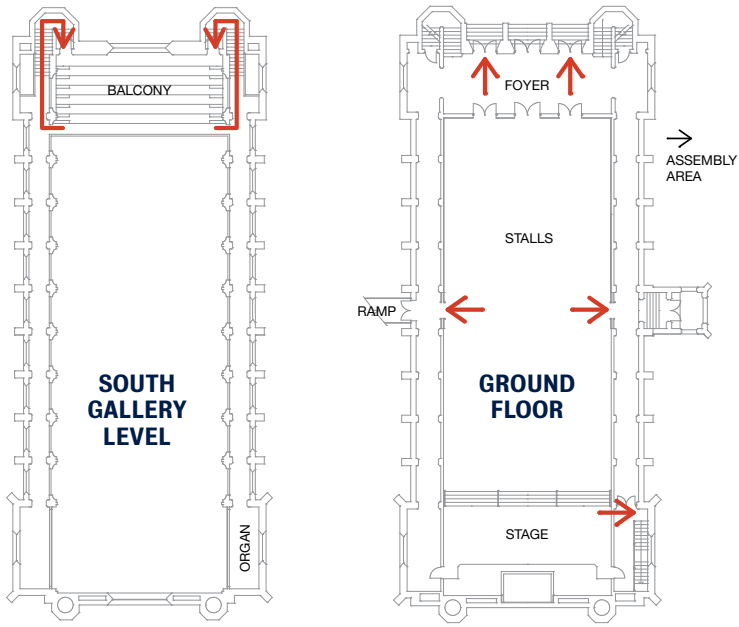
If it becomes necessary to evacuate Bonython Hall, an announcement will be made. Follow the directions of the Ushers, exit the hall and move to the assembly point. Guests in wheelchairs should exit the hall via the eastern entrance.

ADDITIONAL INFORMATION

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

The ceremony will last around 70 minutes.

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 Tune and Air by Henry Purcell, arr. Howarth,
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 Pro Vice-Chancellor - Student Learning
- The Mace Bearer
- The 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 CHANCELLOR
Rear Admiral the Honourable Kevin Scarce AC CSC RAN (Rtd)

THE OCCASIONAL ADDRESS to be given by Mr Scott Ashby

THE MACE BEARER THANKS THE ORATOR
Dr Patrick Leo Taggart will thank the orator

CERTIFICATION STATEMENT
by the Pro Vice-Chancellor - Student Learning Professor Philippa Levy BA (Hons) (Birmingham), MA (Warwick), MA (Sheffield), PhD (Sheffield), FHEA

PRESENTATION OF AWARDS by Faculty/School

VALEDICTORY ADDRESS given by Dr Jasmin Carmel Amina Martino

CLOSING REMARKS given by the Rear Admiral the Honourable Kevin Scarce AC CSC RAN (Rtd)

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. 7*

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

Presentation of AWARDS

Faculty of
THE PROFESSIONS

ADELAIDE BUSINESS SCHOOL

Presented by the Head of the School of Economics, Professor Gareth D Myles B.A, M.Sc. D.Phil., FRSA (Fellow of Royal Society of Arts)

Degree of Bachelor of Innovation and Entrepreneurship

Thuraiya Majid Saif Al Mahruqi
Ahmed Rashid Amur Sultan Al-Mashaykhi
Aysha Farook
Patrick Leonard Payne
Todd Smythe
Keven Nathaniel Stockmann

Degree of Bachelor of Finance

William Horton
Sebastian Wiech

Degree of Bachelor of Commerce (Management)

Chloe Joy Pruszinski

Degree of Bachelor of Commerce (International Business)

Connor James Rossi
Jenny Taing

Degree of Bachelor of Commerce (Accounting)

Diandra Rose Ciacciarelli
Thomas Harris Graham
Mark Richard Lane
Alix Martine Miller
Ashleigh Olivia Smith

Graduate Certificate in Wine Business

Katherine Elizabeth Fleming

Graduate Certificate in Self Managed Superannuation Funds

Brooke Rebecca Elizabeth Hepburn-Rogers
Katherine Hope
Jane Maree Partington

Graduate Diploma in Applied Project Management

Antonio Fonseca

Degree of Master of Wine Business

Yubo Peng
Rhea Katyal
Zhao Shao
Anqi Wang
Doudou Wang
Chih-Ling Yu

Degree of Master of International Business

Mitchell Graham Abrahams
Dylan de Blaquiere
Andrew John Donhardt Riley

Degree of Master of Marketing

Linge Cai
Anna Dudás
Inga Goldberg
Gretel Isabella Ramsey
Zhongqi Sheng

Degree of Master of Business Administration

Andrew Aldahn
Brent Alexander
Roberto Cardone
Serena Anjelle Carnarvan
Jonathan Conti
Damien James Egan
Ashleigh Falconer-Edwards
Mohammad Raqibul Hasan
Caroline Hurr
Steven Brett King
Kellie Anne Louise Knight-Stacey
Anna Lim
Ashley Jon Schultz
Robert John Tanner
Tina Dandan Xu

Degree of Master of Applied Project Management (Project Systems)

Dharmapriya Chandrarathne Bandara
Aman Kulshrestha
Xiangyu Liu

Degree of Master of Applied Project Management

Zhaorui Chen

Natalija Demic

Yao Fu

Sheng Gao

Yuncheng Jia

Paul Mayen Malual

Ruijia Qi

Zhaochen Wang

Lai Wei

Zhenxiang Xu

Renyuan Zhang

Degree of Master of Applied Innovation and Entrepreneurship

Steven Joseph Hansen

Yani Tsapaliaris

THE CENTRE FOR GLOBAL FOOD AND RESOURCES

Presented by the Head of the School of Economics, Professor Gareth D Myles B.A, M.Sc. D.Phil., FRSA (Fellow of Royal Society of Arts)

Degree of Master of Global Food and Agricultural Business

Yuka Mitoma

Jacqueline Anne Schiller

Wang Yeling

Degree of Master of Agribusiness

Benjamin David Pitt

Degree of Doctor of Philosophy

Dr Laura Ashlea Bateman

thesis: Economic Incentives to Strengthen Ecosystem Connectivity in a Central Sumatran Agricultural Landscape

thesis abstract: This research investigates the use of payments for environmental services to support a wildlife corridor between two Tiger Conservation Landscapes in Sumatra, Indonesia. Several hundred smallholders operate within a Protection Forest linking the Tiger Conservation Landscapes. This study explores the willingness of these smallholders to accept a payment requiring them to forgo access to their land for five years, asking households directly what they would be willing to accept (WTA), as well as inferring what their neighbour would accept. Results show evidence of hypothetical bias in the conventional WTA values and demonstrate how inferred valuation techniques can mitigate against this.

SCHOOL OF ECONOMICS

Presented by the Head of the School of Economics, Professor Gareth D Myles B.A, M.Sc. D.Phil., FRSA (Fellow of Royal Society of Arts)

Degree of Bachelor of Economics

Nicholas Robert Bendall

Kiu Ching Chin

Patrick John Dolan

Thomas Mervyn Hennessy

William Horton

Neha Karamat

Zhan Liang

Yean Ying Loh

Megat Mohd Haziq Zamir Zairi

Degree of Bachelor of Economics (Advanced)

Griffith Asher Blewett

Danyal Carapiet

Mohammad Kifli Bin Shahabuddin.....Finance

Degree of Master of Advanced Economics

John Lourenze S Poquiz

Degree of Doctor of Philosophy

Dr Dessie tarko Ambaw

thesis: Essays on Political Economy and Economic Development

thesis abstract: This thesis explores the causal impact of institutional, geographical and cultural factors on civil conflict and economic development in least developing countries. To estimate the causal effect of interest, the thesis exploits quasi-experimental research designs and state-of-the-art econometric approaches that establish causality. The results show that stable monetary policy regime, modern commodity exchanges, access to port, and genealogical distance from technology frontier significantly affect foreign direct investment, trade and technology diffusion into developing countries. The study also suggests that stabilization of real exchange rate fosters political stability in sub-Saharan Africa by having preventive effects on conflict in the region.

Dr Sarah Brittany Lehmann Cornell-Farrow

thesis: Standardised Test Scores and Educational Achievement in Australia

thesis abstract: This research analyses the factors determining educational achievement in Australian schoolchildren. In particular, we analyse the National Assessment Program - Literacy and Numeracy (NAPLAN) standardised test score data. After introductory chapters that outline a research agenda for NAPLAN, we explore the effect of school funding on NAPLAN achievement in schools, and then the effects of social disadvantage on individual student achievement. We conclude with a short machine learning study, which provides a policy tool that may be used by schools and education departments to predict poor achievement before it occurs.

Dr Habtamu Tesfaye Edjigu

thesis: Essays on International Trade and Firm Performance

thesis abstract: The thesis aims to study the factors affecting trade and firm productivity. To this end, the thesis makes use of invaluable data from Ethiopia for the first 3 chapters, and then expands the analysis to 36 sub-Saharan African countries in chapter 6, and to firm-level data from 94 countries in chapter 5. This topic is especially important for the countries that might consider introducing market reforms and encourage presence of foreign-owned firms in their economy. The research question and the findings presented in this thesis are useful to researchers and policy makers in multiple fields such as development economics.

THE INSTITUTE FOR INTERNATIONAL TRADE

Presented by the Head of the School of Economics, Professor Gareth D Myles B.A, M.Sc. D.Phil., FRSA (Fellow of Royal Society of Arts)

Degree of Master of International Trade and Development

Cheuk Yiu Pang

ADELAIDE LAW SCHOOL

Presented by the Dean of the Adelaide Law School, Professor Melissa de Zwart BA (Hons) LLB (Hons) LLM (Melb) PhD (Monash) Grad Cert Higher Ed (Monash) Grad Cert Higher Ed (Online Learning) (Adelaide) FAAL

Degree of Bachelor of Laws

Eneesa Begovic

Samantha Bennett

Georgia Eilish Brazenall

Kate Eleanor Brown

Matilda Kidman Burfield

Michelle Louise Elliott

Thomas Harris Graham

Morgan Hartley-Marschner

Nicholas Earle Hay

Georgia Rose Hogg

Mark Richard Lane

Phoebe Rose Mawby Smart

William Stewart McLachlan

Daniel Walter Messemaker

Alix Martine Miller

Damon Richard Nicholson

Julio Cesar Olalla Gallo

George Stephen Panayotopoulos

Chloe Joy Pruszinski

Michael Augustus Rydon

Silvana Rocha Santos

Melanie Smart

Ashleigh Olivia Smith

Andre Julian Vafiadis

Blake Thomas Carrington Wadlow

Degree of Bachelor of Laws with Honours

Nicholas Philip Aplin

Riley Stephen Calaby

Diandra Rose Ciacciarelli

Mitchell David Francis

Jacinta Clare May Frater

Matthew Joseph Howe

Sarah Ann Jenkin-Hall

Callum Stephen Morris

Ella Ann Byfield Price

Connor James Rossi

Saskia Carla Sutton

Jenny Taing

Jessica Wakelam

Kelly Louise Williamson

Graduate Diploma in Legal Practice

Jacqueline Dettman

Thomas Harris Graham

Gabriella Hunt

Mamer Deng Jur

Tai Yuen Lam

Damon Richard Nicholson

Samuel Asher Talbot

Degree of Master of Laws

Valerie Alexandra Pantow

Nuttanich Wariwong

Degree of Master of Comparative Laws (Adelaide/Mannheim)

Christopher George Kiroff

Degree of Doctor of Philosophy

Dr James Gilchrist Stewart

thesis: Demystifying Critical Legal Studies

thesis abstract: This thesis revisits Critical Legal Studies (CLS) and interrogates how it has been remembered. Challenging this remembrance, this thesis reframes CLS as a legal-subculture, operating in the United States from 1977, until it was declared dead in the early-1990s. This CLS is differentiated from other “”Critical Legal Studies”” in the form of a Family Tree, before focusing on its death and what this meant for posthumous CLS works. Addressing the death, the continuing CLS is presented as haunted by its predecessor, demonstrated through comparative readings. Finally, the original CLS is revisited with a method of application for contemporary legal issues.

Faculty of SCIENCES

Presented by the Executive Dean of the Faculty of Sciences, Professor Keith Jones BSc Phd

Degree of Bachelor of Viticulture and Oenology

Ziyu Ding

Brooke Anastasia Edson

Sa Li

Ziyuan Zhao

Degree of Bachelor of Science (Wildlife Conservation Biology)

Rachael Karen Coggan

Thomas William Goulden

David Michael Harrison

Claire Alice Hartvigsen-Power

Nathan James Moore

Degree of Bachelor of Science (Veterinary Bioscience)

Jack Dominic Kayias

Degree of Bachelor of Science (Mineral Geoscience)

Sean Thomas Charles

Josiah Samuel Materne

Degree of Bachelor of Science (Evolutionary Biology)

Chris Thomas.....Systematics and Molecular Evolution

Degree of Bachelor of Science (Biotechnology)

Zahraa Nima Saeed Al-Delfi ..... Biochemistry and Microbiology and Immunology

Siena Marie Centofanti .....Microbiology and Immunology and Molecular Biotechnology

Jacinta Clare May Frater.....Genetics and Molecular Biotechnology

Xuetong Alice Han .....Molecular Biotechnology

Degree of Bachelor of Science (Biomedical Science)

Yiu Sing Chan .....Genetics and Microbiology and Immunology

Jill Chmielewski .....Biochemistry and Microbiology and Immunology

Nanda Fais Irjayandi ..... Microbiology and Immunology

Yingzi Pan .....Biochemistry and Microbiology and Immunology

Charles James Westwell ..... Biochemistry and Microbiology and Immunology

Degree of Bachelor of Science (Animal Science)

Kassidy Michelle Coulthard

Brooke Anne Green

Lara Alys Tomlinson

Degree of Bachelor of Science

Samuel Joel Abdilla ..... Geology

Muhammad Nadhir Abdul Aziz ..... Microbiology and Immunology, and Physiology

Gulmira Ahmed..... Physiology

An Ruowei.....Biochemistry and Genetics

Nikita Butakov.....Genetics

Andrew Jeremy Chua ..... Palaeontology (Geology)

Alexandra Nicole Descalzi..... Ecology and Palaeontology

Alysson Sarah Eisemann .....Ecology

Gerard Hurles..... Ecology and Evolutionary Biology

Alexander William Jackson..... Geology

Tara Louise Jarrad .....Genetics

Jasmin Laundy.....Palaeontology (Geology)

Matthew Lawrence Linke.....Geology and Geophysics and Applied Geology

Christopher Lowczak ..... Chemistry and Geology

Tsz Ching Ma .....Genetics

Susmin Elizabeth Mathews.....Chemistry

Danielle Jade McBride.....Evolutionary Biology and Genetics

Lucy Alice McCarthy..... Chemistry (Double)

Ella Ann Byfield Price.....Ecology and Zoology

Shani Claire Sandercock.....Evolutionary Biology and Genetics

Zhen Hui See.....Microbiology and Immunology

Michael James Slade ..... Biochemistry

Tina Stazic ..... Ecology, and Microbiology and Immunology

Morgan Nicole Sweet .....Ecology

Johnny Taing .....Microbiology and Immunology

Hamish Andrew McMahon Templer.....Biochemistry and Microbiology and Immunology

Matthew Joseph Vasileff .....Theoretical Physics and Pure Mathematics

Jaric Webb ..... Zoology and Palaeontology

Sebastian Wiech.....Physics

Degree of Bachelor of Science (Advanced)

Rachel Amber Atkins

Tory Lyn Botha

Lucas De Garis

Oliwia Anna Derda
Carla Ruth Gallasch
Bipen Preet Kaur Gill
Luke Tobias Haig-Moir
Tate Jason James Hancox
Alexandra Janice James
Jessica Santina Limongelli
Teagan Laryssa Romyn
Sophie Lauren Saegenschnitter
Jacqueline Claire Scaffidi
Grace Louise Tulysewski

Degree of Bachelor of Food and Nutrition Science

Shin Jan Ti

Degree of Bachelor of Agricultural Sciences

Oscar William Bricknell
Meixuan Liao
Syon Yang Lu
Jacob Nathan Shaw
Ziyang Wang
Yiting Xie

Honours Degree of Bachelor of Science (High Performance Computational Physics)

Apoorv Jaiswal

Honours Degree of Bachelor of Science

Molly Rose Altschwager ..... Ecology and Environmental Science
Angus James Butler..... Plant Science
Madalene Marie Giannotta..... Genetics and Evolution
Hugh Holds ..... Wine Science
Sarah Izzah Ishak..... Ecology and Environmental Science
Vasilli Kasimov ..... Animal Science
Madeline Kurpita ..... Animal Science
Maximilian Dirk McQuillan ..... Soil Science
Kelly Marie Meaney ..... Ecology and Environmental Science
Winona Faye Onglao ..... Molecular and Biomedical Science
Zoe Adelaide Pfeiffer ..... Animal Science
Elliott Grayson Raymond ..... Chemistry
Sheryn Ann Thomas..... Animal Science
Kalan Jharii Ward..... Animal Science
Lauren Elizabeth Werner ..... Ecology and Environmental Science

Graduate Certificate in Biotechnology (Biomedical)

Abbey Grace Cochrane

Graduate Diploma in Biotechnology (Biomedical)

Suzanne Elizabeth Angas

Degree of Master of Viticulture and Oenology

Alexey Dumbuay
Chandrakumar Gamage Don
Yi He
Chunjie Hong
Yujie Xie
Sha Yang
Tian Zhao

Degree of Master of Biotechnology (Biomedical)

Sonali Shrikant Deshmukh
Weixiong He
Roujun Li
Li Ma
Jiayu Ruan
Jiang Shao
Junyi Wang
Xiaowei Wang
Yi-Chao Wang
Yuqi Xiao
Tianzhi Yu

Degree of Master of Philosophy

Catisha Leigh Coburn

thesis: Measuring genome wide changes in chromatin state using ChIP-seq

thesis abstract: Modifications to DNA through proteins can be observed using chromatin immunoprecipitation sequencing (ChIP-seq). Software is required to identify putatively bound genes and the results from different software could be combined using Latent Class Analysis (LCA) to identify a set of bound genes. The aim of this thesis is to apply LCA to ChIP-seq data. This was tested both with real data and with a series of simulations. A new method was developed that used the LCA model to generate more accurate results. This approach was shown to be the most effective at producing a combined set of genes.

Christopher Luke Diassinas

thesis: Application of Expectation Maximisation Algorithm on Mixed Distributions

thesis abstract: This thesis presents a thorough analysis of mixture modelling with parameter estimation undertaken via the Expectation Maximisation (EM) algorithm. The component distributions of interest to this work are normal, Weibull, exponential, gamma, loglogistic, and uniform. Full derivations of relevant EM equations are provided, including censored EM equations for exponential and Weibull component distributions. Goodness-of-fit testing of resultant mixture models are considered via formal hypothesis based tests and information criteria tests. The work culminates with the application of the previously discussed statistical methodology to an analysis of limit-order inter-arrival times, and mid-price waiting times on the London Stock Exchange.

Joshua Juan Anak George Pandong

thesis: Conservation Ecology of Bornean Orang-utans in the Greater Batang Ai-Lanjak-Entimau Landscape, Sarawak, Malaysia

thesis abstract: This thesis provides a comprehensive and updated report on orangutan conservation in Sarawak. It expounds on the current threats and conservation strategies, recent population and distribution studies in core habitats, and recommendations for future studies at sites with remnant population in Sarawak. The major findings include an estimate of 355 orangutans with the 95% highest density interval of 135 to 602 individuals at the project sites. The data were needed to draft a policy on a long-term strategic action plan for orangutans. If approved, collaboration is anticipated between conservation partners and government agencies to implement the recommendations in Sarawak.

James Douglas Hook

thesis: Assessment of Vineyard Performance to Predict Winegrape Quality

thesis abstract: Models were developed for predicting winegrape quality from vineyard performance measurements in commercial Shiraz and Cabernet Sauvignon vineyards in the McLaren Vale, Langhorne Creek and Adelaide Hills wine regions. Known vine performance measures were taken at key phenological growth stages and then assessed for their ability to predict winegrape quality. Two models for predicting winegrape quality were developed - a growing season (GS) and a harvest (HRV) model. This research showed that models of winegrape quality can be developed in commercial vineyards by combining canopy architecture measurements with grape berry composition.

Peter Geoffrey Hunter

thesis: A Systematic Study of Quartz Thermoluminescence for Forensic and Retrospective Dosimetry

thesis abstract: This project uses thermoluminescence (TL) techniques to investigate materials exposed to man-made ('artificial') radiation, from the perspective of two applications: forensic investigation and retrospective dosimetry measurement. Quartz grains were extracted from the concrete bioshield of the decommissioned ANSTO Moata reactor. It was shown that the 620 nm TL peak at 190 C could be used to determine the relative accumulated dose. In another study a novel quick screening test was developed that can indicate prior exposure to high doses, based on relative sensitisation of 480 nm emission at 210 C and 350 C.

Daniel Justin Rankin

thesis: Entrance Effects on Solution Transport Through Nanoporous Membranes

thesis abstract: Solution transport across nanoporous membranes can be limited by the access resistance, which is the resistance associated with the transition from the bulk solution to the solution inside the nanopores. In this thesis the access resistance to electrical ion current and concentration-gradient-driven solution flow is examined using finite element method (FEM) and molecular dynamics (MD) simulations. Two new theories for the access resistance are developed, one for the electrical ion current, and one for concentration-gradient-driven-flow. An existing MD algorithm that simulates a concentration difference across a membrane is also modified to work at high solute concentrations.

Elisabeth Schrefl

thesis: Polarisation Effects of Exciton Migration and Singlet Fission in TIPS-Pentacene Nanoparticles

thesis abstract: Singlet fission (SF) is a process which may potentially increase the efficiency of solar cells. In this thesis, SF and exciton migration are investigated as a function of intermolecular distance in TIPS-pentacene/polymer nanoparticles (NPs) using polarisation-sensitive time-resolved spectroscopic techniques and Monte Carlo (MC) simulations. Polarisation anisotropy data give insight into exciton migration, but our analyses show that diffusion-limited SF acts to increase (or suppress the decay of) the fluorescence anisotropy in an amorphous system. Furthermore, the experimental anisotropy data may only be reproduced by the MC simulation if the TIPS-pentacene molecules are assumed to form amorphous clusters within the NPs.

Degree of Doctor of Philosophy

Dr Muslihudeen Abdul-Razaq Abdul-Aziz

thesis: Ancient and Contemporary Analyses of the Impact of the Agricultural Transition on the Human Oral Microbiome

thesis abstract: Communities of bacteria known as the microbiome inhabit the human body and play key roles in human health and disease. Here, I used the dental calculus remains of individuals from Africa and Asia to explore the oral microbiome of ancient hunter-gatherers and agriculturalists to examine the impact of the agricultural transition on oral health. I find stark differences in functions present within the two groups while fewer differences in species composition. This result is of great value to our understanding of how changes in human diet and environment impact our oral microbiome, and further enriches our understanding of human prehistory.

Dr Ali Abdullah M Alkathiri

thesis: Charge Symmetry Violation in the Extraction of Strangeness Form Factors of the Nucleon

thesis abstract: The strange quark contributions to the proton's electromagnetic form factors are ideal quantities to study the role of hidden flavours in proton structure. A major remaining source of systematic uncertainty in these determinations is the assumption that charge symmetry violation (CSV) is negligible. In this thesis, parity-violating electron scattering data are reanalysed using recent theoretical determinations of the CSV form factors. This analysis concludes that the CSV does not have a significant impact on the interpretation of the measurements and hence suggests an opportunity for future parity-violating measurements to precisely map the strangeness distribution.

Dr Matthew Kevern Aubert

thesis: Molecular and Genetic Characterisation of Early Aleurone Development in Barley (Hordeum vulgare L.)

thesis abstract: Within cereal grains, an outer tissue layer known as the aleurone is crucial for grain germination and the development of malt for brewing. Large differences in aleurone development and layer number are observed across cereal species and it is currently unclear why aleurone morphology differs so significantly. This thesis investigated the multilayered barley aleurone across multiple populations. Several genomic regions were found to associate with aleurone traits, which were further investigated via intricate molecular and genetic methods. The work presented here adds to the body of knowledge regarding the molecular genetics of aleurone development in barley.

Dr Thazin Nwe Aung

thesis: Molecular Mechanisms of Natural Compounds: Compound Kushen Injection (CKI) in Cancer

thesis abstract: Compound Kushen Injection (CKI) is a natural compound mixture which has been used in clinics in China to treat solid tumors in combination with standard chemotherapies. Despite the reported anti-cancer properties of CKI, the mechanisms attributable to specific compounds within the mixture remain unknown. In this thesis, I describe a multi-disciplinary approach combined with a subtractive fractionation method to explore the effects of several major compounds present in CKI on specific pathways. This thesis has shown that the effect of CKI on cancer cells depends on interactions between a number of compounds, with no effect from single compounds.

Dr Felicia Bardan

thesis: New Forensic DNA Profiling Techniques for Human Identification

thesis abstract: Highly degraded human DNA samples are commonly encountered in forensic cases. Often, this causes unsuccessful DNA profiling with conventional testing. Alternative genotyping strategies such as single nucleotide polymorphism typing and the emergence of massively parallel sequencing have ushered in a new era of forensic DNA testing for such samples. The research in this thesis explores, develops and applies alternative genotyping techniques, and curates an historical population DNA database, for the retrieval and interpretation of genetic ancestry, sex and hair and eye colour data from highly degraded and historical Australian samples to assist in forensic investigations.

Dr Sima Bargrizan

thesis: Spectrophotometric Determination of pH and its Influence in Soils

thesis abstract: This thesis describes the development of spectrophotometric methods, using sulfonephthalein indicator dyes, for the determination of pH of soils. Chapter 2 describes the fundamental development of the method for soils in a pH range of 5.0-8.5. Chapter 3 describes the extension of the method for use in extremely acid soils (pH 3-5.5). Chapter 4 describes an important extension of the approach where the simultaneous addition of a four indicator dye mixture extended the range of the method from pH 3-9. Chapter 5 describes the application of the method and models for evaluating the soil inorganic carbon system.

Dr Giacomo Betti

thesis: Changing the Physical Properties of Texture-Contrast Soils by Clay Delving

thesis abstract: Australian texture-contrast soils have low productivity because the surface sand is infertile and the subsoil clay is impermeable. A practice called 'clay delving' can increase productivity by mixing subsoil clay with surface sand but aside from improving chemical fertility of the soil we don't really know why. This study sought to understand the physical effects of clay delving by field observation and by measuring plant available water in the laboratory. Delving caused greater infiltration and redistribution of water in the field, and increased plant available water as measured by water retention, integration of limiting factors, and measurement of root growth.

Dr Matthew Thomas Briggs

thesis: Painting a Picture of the Ovarian Cancer N-Glycome

thesis abstract: MALDI mass spectrometry imaging has emerged as a platform to spatially map and visualise N-glycans in tissue-specific regions. This platform was utilised to investigate the intrapatient and interpatient variability between early- and late-stage ovarian cancer patients using FFPE tissue sections. From these studies, specific N-glycan differences were identified between the early- and late-stage tumour microenvironment that could lead to the development of novel clinical strategies and treatment regimens for ovarian cancer patients in the future.

Dr Romana Elysium Carthew Dew

thesis: Tectonic evolution and palaeogeography of Thailand

thesis abstract: The tectonic evolution and palaeogeography of Thailand requires refinement with many of the details of its history still unknown. This thesis endeavours to better unravel the tectonic evolution and palaeogeography of the three Thai terranes. But, it aims to do this by coupling disparate geological disciplines from palaeontology and sedimentology of the SW margin of Indochina to igneous geochemistry and detrital geochronology Thailand-wide. This thesis demonstrates the varied histories of these terranes from juvenile western Indochina with links to South China, Sukhothai, an arc system with juvenile and evolved sources and the ancient Sibumasu with strong ties to northwestern Australia.

Dr Oscar Andres Estrada Santamaria

thesis: Ancient Plant DNA to the Rescue: Unlocking Crop Genetic Diversity from the Past

thesis abstract: This thesis applied high-throughput sequencing in historical and ancient specimens of wheat and quinoa. Two novel hybridisation-capture-arrays retrieved genetic variability in historical wheat species from Georgia, a region with a significant number of native varieties. Sequencing of quinoa specimens (~1,400 years-old) from Argentina allowed the reconstruction of the first known ancient genomes reported from a crop domesticated in South America and identified a bottleneck in the recent history of quinoa. The knowledge gained provides a potential resource for further research on plant domestication, as well as the investigation of genetic changes that occurred in loci of breeding value.

Dr Camilo Moitinho Ferreira

thesis: The Role of Herbivores in a Near Future Ocean: Positive and Negative Effects of Climate Change on Herbivore Ecological Function

thesis abstract: This thesis evaluates how the functional role of marine herbivorous species is affected by climate change and the possible cascading effects on other marine species. The results reveal that whilst populations of many species are forecast to collapse due to climate change, some herbivorous species may capitalize on environmental change boosting their densities by actively modifying the habitat. Additionally, such modifications strengthen positive interactions under ocean acidification facilitating species coexistence and ecosystem functioning. However, under ocean warming the functional role of herbivores is eroded releasing opportunistic algae from trophic control which can potentially drive marine systems to undergo structural modifications.

Dr Kayla Louise Gilmore

thesis: Tracking Trends in Hypoxia: A Freshwater Perspective

thesis abstract: Hypoxia or low dissolved oxygen occurs in both marine and freshwater systems and is a threat to aquatic life. This thesis investigates the long-term physiological impacts of hypoxia to freshwater fish and develops the science to trace its occurrence through time. Physiological effects and tolerance of fish to long-term hypoxia exposure were determined through measures of metabolic rate. Prolonged exposure benefited individuals' ability to remain in low oxygen environments longer. Trace elements found on the otoliths (ear stones) acted as natural tracers of hypoxia, such that trace elements could be utilised to reconstruct hypoxic occurrences through time.

Dr Taylor Ryan Haar

thesis: Optimisations to Hybrid Monte Carlo for Lattice QCD

thesis abstract: The object of this work is to investigate a variety of improvements over the basic Hybrid Monte Carlo method for generating Lattice QCD configurations, and determine which combinations produce independent configurations at the lowest cost. We start by performing a systematic study of filtering for double-flavour simulations, comparing polynomial filtering to the common technique of mass filtering. Next, we investigate improvements to single-flavour simulations, comparing polynomial filtering with a different method that we denote truncated ordered product RHMC. Finally, we extend our single-flavour techniques to Lattice QCD+QED simulations, which include electromagnetic effects via a photon field.

Dr James William Hall

thesis: The thermochronological evolution of the northern Gawler Craton and northern Adelaide Rift Complex

thesis abstract: Cratons preserve information about the deformation history of surrounding terrains and the thermal history of mineral deposits. This thesis constrains the effects on the Gawler Craton of various deformation events using multi-method thermochronlogy. Samples throughout the northern Gawler Craton and Willouran Ranges of the Adelaide Rift Complex reveal multiple thermal events from 2000 Ma to present. High-temperature cooling spans from ~2000-1300 Ma and is dominated by ~1500 Ma ages in the east and 1300-1400 Ma in the north west of the Craton. Low-temperature cooling is dominated by ~500 Ma and ~300 Ma cooling craton-wide.

Dr Michael Thomas Huxley

thesis: Studying Transition Metal Chemistry inside a Metal-Organic Framework

thesis abstract: This work describes the incorporation of first-row transition metal complexes within a porous, crystalline Metal-organic Framework (MOF) that allows for their coordination sphere to be characterised using X-ray crystallography. By virtue of the periodic MOF structure, the included metal centres are physically isolated from each-other and accessible via the MOF pores, providing a pathway to isolating reactive complexes which might have applications in catalysis. Furthermore, the site-isolation of MOF-bound metal-azide complexes was employed to perform site-selective reactions on dialkyne molecules that were shorter than the azide-azide separation. In each case, the metal-centred chemical processes were followed using X-ray crystallography.

Dr Josephine Charlotte Anne Hyde

thesis: Investigating the internal and external ecology of six subterranean diving beetle species from the Yilgarn Region of Central Australia

thesis abstract: Calcrete aquifers (carbonate deposits) of Western Australia are rich in aquatic subterranean fauna (stygofauna), but little is known about their ecological dynamics and microbial diversity. Using longitudinal ecological surveys and massive DNA sequencing of individual dytiscid beetles (metagenomics), this thesis examined the microbial communities (microbiome) and complex dynamics of calcrete ecosystems. The microbiome of beetle species was distinctive in each location and life stage studied, while rainfall played a role in driving overall diversity of stygofauna. These results demonstrated that metagenomic research can be used effectively for investigating the trophic ecology of certain species, particularly where traditional methods are ineffective.

Dr Karl Koch Jones

thesis: Investigating Respiration and Gas Exchange in the Aquatic Bug Aphelocheirus aestivalis (Hemipetra: Aphelocheiridae), and Surface Dwelling and Subterranean Diving Beetles (Coleoptera: Dytiscidae)

thesis abstract: Insects have a gas filled respiratory system which provides a challenge for insects that have become aquatic secondarily. To overcome this challenge, many aquatic insects use bubbles, exchange through the body surface, or snorkels to allow them to survive underwater. This thesis investigates the different respiratory modes used by the aquatic bug Aphelocheirus aestivalis and diving beetles (Dytiscidae) to improve our understanding of how different modes of respiration in aquatic insects function and how the ability of these modes to supply oxygen changes in response to physiological and environmental variables under a range of physical constraints.

Dr Marcell Kustos

thesis: The gastronomic experience of fine Australian wines of provenance and food pairings

thesis abstract: The relationship between food and fine Australian wines of provenance (FAW) has been rarely examined and no specific studies address how wine sensory attributes and food-wine pairing affect the overall dining experience. This thesis investigated: consumers' perceptions of FAW, and food-wine pairing; chemical and sensory characterisation of a range of FAWs and explored the impact of FAW provenance in blind and informed states on consumer perception of food and wine pairing. The outcomes defined the sensory profiles for fine Australian Chardonnay and Shiraz wines and provided a better understanding about food-wine pairing and the consumer gastronomic experience and memorability.

Dr Rebecca Jayne Lehmann

thesis: The Neurogenic Potential of Stem Cells is Altered in Mucopolysaccharidosis Type IIIA

thesis abstract: Mucopolysaccharidosis IIIA (MPS IIIA) is a metabolic disorder characterised by a severe neurological phenotype, resulting in accumulation of partially degraded, highly sulphated fragments of the glycosaminoglycan, heparan sulphate (HS). This thesis aimed to elucidate the effects of MPS IIIA HS on neurogenesis through the development of a range of stem cell models with neurogenic properties. MPS IIIA HS impaired neural progenitor proliferation, survival and maturation, likely via alterations in HS-dependent signalling pathways integral to stem cell proliferation and differentiation. Disrupted stem cell proliferation and neurogenesis were identified as potential mechanisms for the neurological pathology prominent in MPS IIIA patients.

Dr Jasmin Carmel Amina Martino

thesis: Linking Chemistry and Sclerochronology to Physiological Processes in Fish

thesis abstract: Physiology underpins how species survive, reproduce and interact with their environment but is difficult to directly monitor in fish. This thesis investigated intrinsic biomarkers for reconstructing physiological processes (growth and metabolic rate) in Australasian snapper. Otolith (ear stone) sclerochronology and mixed-effects modelling uncovered almost forty years of growth trends in snapper and assessed the potential of isotopic signatures and elemental concentrations to track physiological histories in wild fish. Laboratory experiments involving temperature treatments and intermittent-flow respirometry then validated stable carbon isotopes in otoliths as metabolic biomarkers. The intrinsic biomarkers developed will facilitate sustainable management of wild fish into the future.

Dr Casey Lauren O'Brien

thesis: Understanding the causes of humanwombat conflict and exploring non-lethal damage mitigation strategies for the southern hairy-nosed wombat (Lasiorhinus latifrons)

thesis abstract: Human-wombat conflict has occurred since European settlement in Australia, with far reaching environmental, social, and economic impacts. Current management fails to provide long-term relief from conflict and raises conservation concerns. This thesis examines attitudes towards southern hairy-nosed wombats (Lasiorhinus latifrons) and assesses potential conflict mitigation strategies. Landholder opinions of L. latifrons and their management were investigated using postal surveys. Most landholder's perceived L. latifrons to cause severe damage, despite this, most supported their conservation and the developement of non-lethal management techniques. Translocation trials proved unsuccessful at reducing conflicts and of four potential deterrents tested, only CD's reduced L. latifrons visitation.

Dr Kym David Perry

thesis: The colonisation of canola crops by the diamondback moth, Plutella xylostella L., in southern Australia

thesis abstract: Insect pests threaten annual crops worldwide and effective management requires understanding of movement ecology. The diamondback moth, Plutella xylostella, attacks Australian canola crops but source populations leading to outbreaks are uncertain. The seasonal colonisation of canola crops was investigated at a regional scale in southern Australia. Genetic markers confirmed deep divergence between two cryptic Plutella species and a lack of genetic structure among Australian P. xylostella. Field monitoring of P. xylostella dynamics and analysis of climate effects revealed colonisation of canola by the insect early in the cropping cycle, most likely originating from pre-existing local populations in the landscape.

Dr Trang Anh Pham

thesis: Cell Wall Biosynthesis in Barley Powdery Mildew Blumeria graminis f. sp. Hordei

thesis abstract: Blumeria graminis f. sp. hordei (Bgh) is a pathogenic fungus responsible for powdery mildew in barley. As the fungal cell wall is essential for survival it is an ideal target for the design of novel antifungal agents for disease control. In order to advance disease control practices, it is imperative to characterise the composition of the cell wall and genes involved in cell wall metabolism. This work focuses on characterising the Bgh cell wall and examining the genes responsible for its synthesis during pre-penetrative events of pathogenesis.

Dr Anum Qureshi

thesis: Search for Supersymmetry with the ATLAS Detector using the Recursive Jigsaw Technique in Zero Lepton Final States

thesis abstract: I have presented the search for supersymmetry in Run II data at 13 TeV centre-of-mass energy using the ATLAS detector at the CERN Large Hadron Collider. SUSY searches are described using the supersymmetric partners of quarks (squarks) and gluons (gluinos). Firstly, prospects and then results are shown for an inclusive search for squark and gluino production in hadronic final states using the Recursive Jigsaw technique of variable construction. This novel method is described and simulation studies illustrate potential sensitivity to SUSY signatures involving jets and missing transverse momentum.

Dr Sarah Katherine Scholten

thesis: High-Resolution Molecular Spectroscopy with an Optical Frequency Comb

thesis abstract: Optical frequency combs are revolutionising the old science of molecular spectroscopy. One key challenge is developing a protocol to unravel the densely-packed information provided by the comb into a conventional absorption spectrum that is amenable to analysis. This thesis details a new type of spectrometer that can achieve this goal with accuracy and precision. The spectrometer is based around a virtually-imaged phased array and allows fast quantitative measurements of temperature, composition and concentration of complex gas mixtures. High-resolution and high frequency-accuracy molecular spectra are demonstrated as well as the ability to differentiate between isotopologues of the same species.

Dr Andrew William Scott

thesis: Non-selfmutation in a Drosophila model of expanded CAG repeat neurodegenerative disease

thesis abstract: This thesis uses an established Drosophila double-stranded RNA (dsRNA) model of expanded repeat neurodegenerative disease to further define the mechanisms underlying pathology at the cellular and molecular level. The suppression of antiviral signalling ameliorated pathology, suggesting that 'non-self' antiviral recognition of the expanded repeat dsRNA drives disease pathology. Additionally, mitochondrial quality control was demonstrated to be important for restricting pathology. Finally, the glial subtypes responsible for Drosophila blood-brain barrier formation were found to be key non-cell autonomous determinants of the expanded repeat pathology. This 'non-self' RNA pathogenesis provides a novel common mechanism underlying expanded repeat neurodegenerative diseases.

Dr Apriadi Situmorang

thesis: Elucidation of the Ammonium Major Facilitator (AMF) Family in Plants

thesis abstract: The Ammonium Major Facilitator (AMF) transport proteins are present across all plants. Three orthologs in Arabidopsis, AtAMF1, AtAMF2 and AtAMF3 are localised to the ER, tonoplast, and plasma membrane, respectively. Overexpression of the tonoplast-localised AtAMF2 induces a toxic phenotype in the mep triple knockout yeast strain 31019b while overexpression in an ammonium hypersensitive strain, CY162, rescues growth at high ammonium and limited potassium. Accordingly, a double knockout mutant amf2amf3 in plants creates hypersensitivity to ammonium at low potassium. It is suggested that AtAMF2 is a functional ammonium transporter pumping ammonium from the vacuole into the cytoplasm.

Dr Erinne Stirling

thesis: Nutrient Cycling Between Litters and Soil after Fire in Native Woodland and Pinus radiata Plantations

thesis abstract: The research herein used soil incubation studies, 13C NMR characterisation, and Illumina Sequencing to determine the effects of fire on microbial nutrient limitation, microbial decomposition of pre- and post-fire litters, and the effects of thermal alteration of pine needles on soil nitrogen cycling and the soil microbial biomass. The results indicate the study soils were resilient to fire, the post fire litters caused changed nitrogen dynamics, and thermally altered foliage has the capacity to absorb mineral nitrogen and alter the soil microbial community. The results also indicate a thermally induced step change in litter chemistry and soil responses.

Dr Patrick Leo Taggart

thesis: Ecology of Cat-borne Parasitoses in Australia

thesis abstract: Toxoplasma gondii, Sarcocystis gigantea and Sarcocystis medusiformis are cat-borne protozoal parasites that share similar biology and ecology, and cause disease in wildlife, livestock and humans. I demonstrated that these parasites have higher occurrence on Kangaroo Island compared to the South Australian mainland and identify ecological factors that are associated with their sustainability within ecosystems. Soil and intermediate host characteristics were associated with the parasites prevalence, however, cat (definitive host) density appeared to be most strongly associated with the parasites ability to cycle within an ecosystem.

Dr Jack Tatler

thesis: Integrated analysis of the movement and ecology of wild dingoes in the arid zone

thesis abstract: In this thesis I explored the biology of Australia's largest terrestrial predator, the dingo, and adopted an integrative approach to studying the ecology of wild individuals. My research focussed on the genetics, behaviour, resource selection, movement patterns, and energetics of a population in remote central Australia. I integrated the novel statistical approaches and robust results from my chapters on genetics and phenotypic variation; diet; behaviour; and movement to produce a comprehensive assessment of the daily cost of living in a wild canid. Combining multiple biologging techniques and statistical methodologies is the way forward in animal ecology.

Dr Merrine Thomas

thesis: Factors Affecting Cadmium Uptake and Distribution in Barley

thesis abstract: Food crops often accumulate heavy metals above the recommended limits. Cadmium is the most problematic metal in terms of its potential dangers to human health. The factors that affect the uptake and distribution of cadmium in barley were investigated by radiotracer studies and elemental analysis. The main route of cadmium entry into the plants could be via iron and zinc transporters and distribution is bidirectional through xylem and phloem. Excretion of root cadmium into the soil may also be a detoxification strategy, in addition to the compartmentalisation of the majority of cellular cadmium into vacuoles predominantly as complexed form.

Dr Ayla Lore van Loenen

thesis: The 'next generationof ancient DNA research: a series of methods and approaches to improve our understanding of the evolutionary history of species in general, and European bison in particular

thesis abstract: Understanding the complex and dynamic patterns and processes underlying the evolutionary history of a species in an environmental context is key to our understanding of how species evolve. This can be used predict how species may continue to evolve in future, and to develop appropriate conservation management strategies for species currently under threat. Ultimately the research presented in this thesis contributes towards the next-generation of ancient DNA research by providing a series of tools and approaches for future research into the evolutionary history of species in general, with a specific focus on the evolutionary history of European bison.

Dr Jason Lee Wedding

thesis: Application of Synchrotron-Based Spectroscopic Techniques XAS and XFM towards Probing the Cellular Metallome

thesis abstract: Synchrotron-based techniques have gained recognition as powerful tools to explore the cellular metallome. Biological systems are inherently complex; biometals of interest are within an intricate matrix. Synchrotron-based techniques have specific benefits; reduced sample preparation, direct metal distribution imaging, and the ability to characterise the chemical nature of the intracellular metal pool. This thesis describes the use of two synchrotron-based techniques; X-ray absorption spectroscopy and X-ray fluorescence microscopy, to investigate the effects that biometal-based agents have on the intracellular metallome. Showcasing that these techniques provide pathways to exploring diseases, the production of better therapeutics, and could be used diagnostically in medicine.

Dr Carly Ellyse Whyte

thesis: Chemokine-mediated control of immunity to tumours and infectious pathogens

thesis abstract: In this thesis, new insights into chemokine-mediated regulation of immune responses were generated. ACKR4 was identified as a novel factor controlling the magnitude of tumour-directed immune responses, through control of chemokine abundance. Preclinical studies showed that inhibiting ACKR4 was able to induce greater therapeutic responses to multiple immunotherapies. Additionally, the chemokine receptor CCR2 was identified as being enriched on memory CD4 T cells in models of viral and bacterial infection. CCR2 was important for maintenance of these cells after infection, with deletion of this receptor reducing the number of memory CD4 cells present.

Dr Keryn Dianne Wolff

thesis: Regional Carbonate Geochemistry and Biogeochemistry for Cu Exploration on the Yorke Peninsula, South Australia

thesis abstract: This thesis presents geochemical, petrographic and hyperspectral data from carbonate rocks and mallee leaf samples from the Yorke Peninsula, South Australia, and assesses the potential of the data to aid in the discovery of buried ore deposits. A regional sampling program was undertaken in the context of a newly constructed regolith landform map. Pedogenic carbonates (formed by weathering processes) and mallee leaves sampled nearby to Cu occurrences contain elevated Cu concentrations compared to background levels. Ca/Sr can be used to identify pedogenic carbonate from marine carbonates, which do not carry a geochemical signature from underlying basement.

Additional AWARD

FACULTY OF ARTS

Diploma in Languages

Jenny Taing

Kelly Louise Williamson

Degree of Bachelor of International Studies

Nicholas Earle Hay

Damon Richard Nicholson

Degree of Bachelor of International Development

Georgia Eilish Brazenall

Phoebe Rose Mawby Smart

Degree of Bachelor of Arts

Muhammad Nadhir Abdul Aziz ..... Anthropology

Nicholas Philip Aplin ..... German Studies

Riley Stephen Calaby ..... History, and Politics and International Relations

Morgan Hartley-Marschner Politics and International Studies

Melanie Smart ..... French Studies

Morgan Nicole Sweet ..... Anthropology

Jaric Webb ..... Anthropology

Kelly Louise Williamson ..... Spanish

Your ALUMNI COMMUNITY

As a graduate of the University of Adelaide, we welcome you to the alumni community.

Our alumni have a history of shared experiences and memories, understood by those who came before you, those who studied with you and those who will soon join the alumni community.

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We offer a range of diverse and informative publications to keep you informed of the latest news and events across the University.

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REUNIONS

Alumni Reunions provide the opportunity for all alumni – students and staff alike – to revisit the people and places that made their time at the University of Adelaide unique. Find an upcoming reunion at **ua.edu.au/alumni/reunions**

ALUMNI COUNCIL

As an alumnus, you have the right to vote or nominate members for the Alumni Council which represents the global alumni community's views. The Alumni Council commits to supporting a dynamic and relevant alumni program, for the mutual benefit of alumni and the University.

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Our alumni's influence on the world stage is profound, from their efforts advancing the common good to inspiring others to think innovatively and creatively. We are proud to celebrate and acknowledge these achievements each year through an array of alumni awards.

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