Playford Trust



# Playford Trust Awards Scholars' Biographies 2020





## Playford Trust Regional Science & Engineering Scholarships

#### Ani Baker

Bachelor of Science (Advanced) (Honours) The University of Adelaide

Despite growing up in the small, relatively isolated rural town of Rockleigh in the Adelaide Hills, Ani successfully completed Year 12 in 2019 with an ATAR of 99.3 – and as Dux of Oakbank Area School. A highly dedicated and hard-working student, in Year 10 she completed both Stage 1 Chemistry and Biology, then Stage 2 Chemistry and Biology in Year 11, earning an A+ with merit for Chemistry. She also received a merit for English and an A+ for her research project – a scientific article discussing dream theories and comparing Freudian hypotheses to recent neuroscientific studies.

Ani has earned eight subject awards, a medal of merit from the Royal Australian Chemical Institute in 2018, her school's 2019 Leadership and Academic Excellence Award, and the 2019 Caltex Best All-Rounder Medal.

Recognised as mentor and positive female role model among her peers, she led the Oakbank Area School Student Leadership Council in 2019, frequently speaking at meetings and assemblies, organising fundraising events and collecting student feedback for school improvements. Since late 2018, she has volunteered at the Red Cross retail store in Mount Barker.

Ani has been passionate about science since Year 7 and aspires to becoming a laboratory researcher and/or seek solutions for sustainability and environmental preservation. She eventually wants to complete both a Masters and a PhD and, as a 'proud woman in STEM' says she feels empowered to contribute to the scientific community.

## Holly Baldock

Bachelor of Science (Advanced) (Honours) The University of Adelaide

Holly is relocating from Mil Lel, just outside of Mount Gambier, to study at university. Her interest in subjects such as genetics, vaccinations, antibiotics, cancer and stem cell research have led her to pursue a career in scientific research. During her fouryear degree she plans to major in biochemistry, alongside either microbiology or bioinformatics.

Holly was 2019 Dux of Grant High School and received awards for high achievement in Research Project B, Chemistry, Literary Studies, Mathematical Methods and Specialist Mathematics. She also received sponsored awards, including the OneFortyOne Wood Products/Emily Redding Memorial Award for Academic Achievement and the University of South Australia John Petkov Excellence in Specialist Mathematics Award.

For her Year 12 research project Holly studied the risks and benefits of vaccinations, addressing key factors from both sides of the debate and presenting them in a discussion format. She also involved herself in extra-curricular activities at Grant High, including debating eisteddfods, sports, the Pedal Prix and playing in the band for the school musical productions 'Spectrum' and 'Futurepunk'.

The senior teacher who recommended that Holly apply for this scholarship – and was her referee – described her as an honest and forthright young individual.

## Jessie Grundy

Bachelor of Engineering (Biomedical) (Honours), Bachelor of Medical Science Flinders University

Jessie grew up on her family's cattle and sheep station, Mundoo Island Station, in the heart of the Coorong. She left the support of family life in 2015 to begin Year 8 as a boarder at Scotch College. This huge step was a significant turning point for her in both the academic and social aspects of her life.

Throughout her schooling, Jessie earned numerous academic, service and leadership Principal's Awards, as well as College Colours for the highest achieving scholars. She finished Year 12 with an ATAR of 98.35, having studied Specialist Mathematics, Mathematical Methods, Biology, Chemistry, and Stage 2 Chinese. Her referee described her as reliable, motivated, selfless and a great asset to any community.

Jessie considers the experiences and opportunities she has been afforded, as a result of winning a scholarship to attend a private school in the city, as catalysts for determining her aspirations for the future. In particular, she points to her selection for the Scotch College STEM trip to Europe in 2018, which exposed her to the field of biomedical engineering on an international level. She says this motivated her to take full advantage of the many opportunities coming her way at university.

Jessie hopes to be selected for an overseas exchange during her tertiary studies, to gain international knowledge and learn about world's best practice. She dreams of being able to use her knowledge to enhance South Australia's footing within the world's biomedical engineering landscape.

## **Curtis Kleinig**

Bachelor of Engineering (Honours) (Electrical and Electronic), Bachelor of Business University of South Australia

Curtis attended Kadina Memorial School, where he set himself exceptionally high academic standards. His commitment paid off, as he received one of the highest ATARs on the Yorke Peninsula and achieved awards for Chemistry and Physics. He also earned the highly prestigious Dr Sutton Prize for Scientific Excellence, awarded for exceptional achievement across science and mathematical subjects.

Curtis has demonstrated leadership as a Senior School Council Representative and he was a member of the Governing Council, representing the student body in school decision-making and speaking on behalf of senior students at ANZAC Day and Remembrance Day services.

He has taught swimming at his local pool and recently finished teaching both the 'Vacswim Surf and Survive' and 'Surf Education' programs run by Surf Life Saving SA. He was required to teach classes of up to 12 students and says this improved his communication, leadership and teamwork skills.

Curtis is keen to participate in industry programs through work experience and internships and hopes to work in the renewable energy or defence sectors. He is undertaking a business degree so that he can take on management positions once he has obtained sufficient experience.

## **Paris Pauling**

Bachelor of Science (Honours) (Enhanced Program for High Achievers) Flinders University

Coming from Whyalla – and having the Onesteel Steelworks at the cornerstone of her community – Paris has always been enthusiastic about pursuing tertiary education in science. She has grown up with an insatiable curiosity for her surroundings and an innate desire to learn. She has always approached her education with determination and, as a result, in 2018, gained an early conditional offer to join the Bachelor of Science (Honours) Enhanced Program for High Achievers through the Flinders University Assessment Centre Admissions Program.

In 2017, she received the Yapp, Bradford & Associates Award for Excellence in Business Education, the 2017 Gupta Family Group Alliance Maths and Science Award, and came first in the Illuminate: NextGen Business Challenge. Last year, she was named Dux of Samaritan College and received a merit for her Research Project B, the 2019 Pepe Award and the 2019 Eddie Hughes Literary Analysis and Appreciation Award.

Paris prides herself on her extensive involvement in the local community and, while studying, has volunteered her time and support to The LifeLine Shop Whyalla (2018-2020), The Smith Family's Student2Student Peer Support Reading Program (2018) and to fellow students in her MacKillop House Caregroup at Samaritan College.

Her goal is to pursue a career in academia and she hopes to specialise in chemical sciences.

## **Caitlyn Poel**

Bachelor of Science, Master of Teaching (Secondary) Flinders University

Caitlyn attended Tenison Woods College in Mount Gambier, where she achieved high academic standards in Biology (completed as a Year 11 student), Chemistry, Physics, Mathematical Methods and English, resulting in an ATAR of 97.7 and a SACE Merit Award for English. She has been inspired by teachers she describes as 'fantastic' and would love the opportunity, in turn, to nurture, support and engage the next generation of science and maths students, and to support them in their goals and aspirations.

Caitlyn's Year 12 Research Project focused on treatments, other than medication, that could be used to control epilepsy. She not only scored an A+ but was one of only 14 students from around the State invited to join a masterclass hosted by the South Australian Health and Medical Research Institute (SAHMRI).

As a member of the Student Council, Caitlyn has been active in her school community and helped coordinate many events. Her achievements have been recognised with a number of school accolades, including the YMCA Award for displaying character and leadership qualities. Off campus, she has been inspired by the notfor-profit Days for Girls organisation and volunteered with the local group for the past three years.

Caitlyn has been described as a dependable, honest, conscientious and hard-working student with the kind of skills and attributes that should enable her to become an outstanding teacher.

## AusIMM/Playford Trust Minerals Industry Scholarships

## Adam Freeling

Bachelor of Engineering (Honours) (Chemical) The University of Adelaide

Adam is fascinated by the resources industry, as he enjoys tough engineering challenges and values the industry's importance to society. He works hard, and this is evident in his academic success. He graduated high school as Dux of Cardijn College with an ATAR of 99.95, the highest possible score. He has continued this success through university, twice being awarded the Executive Dean's Merit Certificate of Academic Excellence.

He recently arrived home from Brisbane after three months' working for Santos, with the team responsible for developing the coal seam gas reservoir at Fairview. Adam's role was to develop a new method of estimating the total amount of natural gas a given well would produce, helping the company allocate resources more effectively. During another break from university, he managed a test centre for learning company, Pearson Australia.

Adam loves to volunteer, and works with the Children's University Australasia, Engineers without Borders and Talking with Aussies. He is also a student outreach ambassador at his university. He says these volunteer roles exemplify what he enjoys – helping others learn and develop new skills.

Adam has further developed his leadership skills as the social media manager in the AusIMM Adelaide Student Chapter; the fourth-year student representative to the Adelaide University Chemical Engineering Society; and as a student representative to the South Australian Joint Chemical Engineering Committee. After graduating, he plans to work as a process engineer in the mining industry.

## **Kevin Grant**

Bachelor of Engineering (Honours) (Chemical) The University of Adelaide

During his school years, Kevin spent time travelling Australia with his family and this sparked his love for the Outback and his interest in the procurement and processing of natural resources. He is described as a natural leader and has always been a role model for his peers. He made the most of these qualities throughout high school and in his extra-curricular activities, and held college, soccer and cricket captaincies. In acknowledgment of his leadership skills, he was awarded an Australian Defence Force Long Tan Leadership and Teamwork Award.

At the University of Adelaide, Kevin is known as a respectful and team-focused individual who has developed and nourished his leadership skills through volunteering, committees and clubs. He believes in building a strong relationship between the industry and university students and is an enthusiastic and passionate committee member of both the AusIMM Adelaide Student Chapter and the Chemical Engineering Society.

Kevin is a proactive student and has received various scholarships, including one which funded research into the detection and quantification of Ruthenium via laser-induced breakdown spectroscopy. During the 2019/20 summer, he completed an internship with Santos in Adelaide and was praised for his ambitious mindset, team focused approach and integrity. After graduating as a chemical engineer, Kevin hopes to make a meaningful impact as a leader within the mining industry.

# GSA/Playford Trust Honours Scholarship in Earth Sciences

#### Kelly Macdonald

Bachelor of Science (Honours) (Mineral Geoscience) The University of Adelaide

#### Metamorphic Geology

Kelly's current area of study is metamorphic geology and she is keen to find work in the mining industry by the end of the year. She has received several awards during her study, including The Reg Sprigg Prize for first year geology, as well as university awards for outstanding academic achievement. But it was during high school that she was presented with her favourite award so far, the GSA Prize for Stage 2 Geology. Apart from a certificate, her prize included a geological hammer, which she avoided using for a year in fear that she might damage it!

In 2018, Kelly was lucky enough to travel to Oman, with a small group, to study some unique geology – and she had a similar trip to New Zealand earlier this year. She completed summer vacation work with Newcrest Mining Ltd, and this expanded her knowledge of the mining industry.

Kelly is a member of the Society of Economic Geologists and chairs the South Australian student chapter. Outside of university, she works parttime and is heavily involved in her local netball club.

Kelly's Honours research is looking at the potential for mineral deposits within the Kanmantoo Group Sediments of the Mount Lofty Ranges. She is working closely with staff from The University of Adelaide and University of South Australia, and hopes her study will prove useful to the South Australian resources sector.

## OZ Minerals/Playford Trust Minerals Industry Honours Scholarships

#### Samantha March

Bachelor of Science (Honours) (Advanced) (Geology) The University of Adelaide

After completing her Bachelor of Science (Advanced), majoring in Geology, Samantha has begun her Honours. It was her regional background, in combination with the 'mystery' associated with geology, that initially drew her to the field. She has a passion for the challenges associated with decoding Earth's history, specifically in the context of metamorphic and economic geology.

Her love of geology is evident, not just from her academic achievements but also through her involvement with organisations such as AusIMM, the Adelaide University Geological Society, and the South Australian Society of Economic Geologists, for which she serves as Secretary. In 2019, she was awarded the AusIMM Adelaide Women's Auxiliary Book Prize, the AusIMM Award for Academic Achievement, the Glenn Leigh Scotford Memorial Prize, The University of Adelaide Outstanding Academic Achievement Award, the Rali Foundation Scholarship and the AusIMM Education Endowment Fund Scholarship.

Samantha was employed as a research assistant for the Continental Evolution Research Group at The University of Adelaide throughout 2019 and recently completed vacation work with Evolution Mining. She has also proved herself a leader in research, retail, hospitality, veterinary nursing and volunteering. Most recently, she led a mapping project during a vacation program.

Samantha's Honours project is looking at how minerals record physical conditions experienced within Earth, specifically how metamorphic fine grained rocks record subduction (where one plate moves under another) in the Western Gneiss Complex, in Norway. She hopes to continue developing strong, transferable skills in geology that will allow her to contribute to South Australia's mineral industry in the future.

## **Brooke North**

Bachelor of Science (Honours) (Mineral Geoscience)

#### The University of Adelaide

Since the age of 13, Brooke has wanted to become a geologist. She moved from Port Pirie to study at The University of Adelaide and has just completed her Bachelor of Science in Mineral Geoscience. She is now working on her Honours project, which is focused on the distribution of rare earth elements and their relationship to mineralisation at Carrapateena in the Far North of SA.

Brooke's dedication to her studies was recognised when she won the J. T. Woodcock Book Prize, which is awarded to the student with the highest grades in their degree. Her final GPA was 6.85. She also received the Rali Foundation Mineral Geoscience Scholarship, the AusIMM EEF Premium Scholarship, the Robin Oliver and Pat James Memorial Prize, the AIG Third Year Student Bursary – and has to her credit numerous other academic achievement awards from both the University and AusIMM.

Brooke was selected to study at the University of British Columbia in Canada for a semester exchange program. Following this, she completed vacation work with BHP as an exploration geologist in the Pilbara. She has been a science peer mentor and a volunteer orientation host for commencing students and has demonstrated her leadership ability through serving on the executive committee of several organisations, including the AusIMM Adelaide Student Chapter and WIMnetSA.

For more than a year now, Brooke been working as a student geologist at OZ Minerals and is hoping to gain a graduate position within the South Australian minerals industry.

## Aurecon/Playford Trust Women in Engineering Scholarship

#### Wendy Beeston

Bachelor of Engineering (Honours) (Electrical and Mechatronic) University of South Australia

Wendy has worked as an industrial electrician for many years now, and it was her passion to continuously improve that led to her current studies – and a goal to continue to work in industrial automation and control. She began her career in the UK, working for companies including Mars Chocolate and Heathrow Airport. In 2012, she obtained a skilled migrant visa sponsored by South Australia and has been living here since her arrival in 2013.

Wendy has continued to work full-time while studying fulltime. She has been described as being a pleasure to teach because of her proactive engagement, warm personality, openmindedness, diligence and good time management. She has achieved and maintained a high GPA and received a University Merit Award in her first year of study. Her work has earned her many High Distinctions and her material is being used in some classes as examples of what can be achieved. Her employers have recognised her commitment to safety in the workplace, and her drive for improvements in automation and control.

Wendy has a deep passion for automation and robotics and was invited to undertake her Honours project in this area. She will be working on a company-driven project to adapt an existing machine to use automated collation and unloading of parts. Currently, this work is labour intensive and involves repeated manual intervention by machine operators who work in isolation. The project aims to improve operator safety, while maintaining overall equipment performance.

## Nyrstar/Playford Trust Scholarships

#### Joshua Davis

Bachelor of Engineering (Honours) (Mechatronic) University of South Australia

Joshua's final three years of secondary education saw him competing and mentoring in the Australian Information Industry Association's iAwards, in which he, along with his team, won the secondary award at a state level in each year. As a result of his efforts, Josh received the Mayor's Service Award twice for supporting the growth of STEM subjects within his school.

He is now doing well in his third year of tertiary education. In 2019, he received a University Merit Award for academic achievement, and this led to his invitation – and acceptance – into the Golden Key International Honour Society. With support provided through a University of South Australia Rural Reconnect Scholarship, Josh has been able to travel back to his home town of Murray Bridge to mentor former peers and future students on transitioning to university life. He has also been involved in the UniMentor program, supporting multinational students in their first semester of tertiary education.

Josh's goal, post-university, is to gain an industry role involving advanced manufacturing techniques. He eventually hopes to gain a PhD in mechatronics, focusing on research and teaching. Josh is described as a well-rounded and articulate young man with a great wit who, as a student, probes deeper into the subjects taught and, as a leader, demonstrates maturity in challenging settings.

#### Amelia Johnson

Bachelor of Engineering (Honours) (Chemical), Bachelor of Mathematical and Computer Sciences The University of Adelaide

Amelia is a diligent student who strives to perform to the best of her abilities in her academic studies and professional pursuits. At the end of her schooling, she received a University of Adelaide Principals' Scholarship, which is awarded to students who have displayed exceptional academic achievement and leadership in their Year 12 studies.

Amelia is now actively involved in university life. She is a student representative with the Chemical Engineering Society, a member of the AusIMM Adelaide student chapter, and on the Staff-Student Liaison Committee for the School of Chemical Engineering. She values these opportunities to further develop her leadership skills and connect with industry professionals.

Over the summer break, Amelia completed a 10-week internship with Nyrstar at the Port Pirie smelter. She enjoyed applying, in a practical way, the theoretical knowledge gained from the first two years of her course and is excited about working with Nyrstar again at the end of the year.

Amelia is striving for an intellectually stimulating and satisfying career in the resources industry, through which she can make a valuable contribution to society through the application of science and maths to technical problems.

## Thomas de la Perrelle

Bachelor of Engineering (Honours) (Mechanical), Bachelor of Science The University of Adelaide

Thomas is entering the third year of his double degree, majoring in Experimental and Theoretical Physics. He lives at St Ann's College, where he works in pastoral care and student support as a residential tutor. He has accepted the position of 2020 Senior Tutor at St Ann's, a role akin to that of Vice Principal. This role will enable him to support his fellow students as they transition from school leavers to young professionals – and this is something he greatly enjoys.

During 2019, Thomas finished his pure mathematics subjects and learned about specific design criteria for common mechanical components. He also studied relativity and quantum mechanics, which he found an insightful contrast to his engineering classes. Over the summer, he worked in the Mechanical Reliability Team at the Nyrstar Smelter in Port Pirie.

After finishing his degrees in 2022, Thomas plans to seek employment in the space industry, in either a private company or government agency. He says that without support of the Playford Trust, the experience he has been offered by Nyrstar, and the soft-skills and professionalism he has developed at St Ann's, he would not be nearly as competitive as he will be when he is ready to apply for jobs.

## Jack Walsh

Bachelor of Engineering (Honours) (Chemical), Bachelor of Finance The University of Adelaide

Jack is studying a double degree in Chemical Engineering and Finance, after which he plans to work in the minerals industry. With a current GPA of 6.3, he takes his study seriously. In recognition of his high grades and experience tutoring high school students, Jack was invited to tutor an introductory process engineering subject. He found that it profoundly improved his abilities to answer questions and explain concepts in different ways.

Despite his commitment to study, Jack acknowledges that university life is much broader than grades, and he participates wholeheartedly in the chemical engineering community. As the current Vice-President of the Adelaide University Chemical Engineering Student's Society (CHEMS), he enjoys organising and participating in social and industry events. He also arranges and hosts meetings, liaises with industry and academic partners, and communicates with students and committee members to ensure that events are enjoyed by a broad variety of students.

In her letter of recommendation for this scholarship, Jack's lecturer wrote that he had 'impressed [her] with his determination and focus' and that 'his dedication to his work will make him a talented engineer'. His fellow CHEMS members and students agree that he is passionate, amiable, and ensures that the work that he or his team produce is of a high quality.

## Adelaide Hills Council/ Playford Trust Scholarship

#### Charlotte Mackenzie

Bachelor of Medicine, Bachelor of Surgery The University of Adelaide

Charlotte strives to extend and challenge herself in every aspect of her life. Her academic dedication and perseverance were recognised with academic excellence awards, a Year 12 Freda Gibson Award for an ATAR over 95, and Year 12 merit awards in Biology, Specialist Maths and Mathematical Methods.

Beyond the classroom, Charlotte has participated in the South Australian Debating Association, UN Youth SA, and sport, music and drama clubs. In 2019, she was a Prefect, Oratory Captain and attended the 2019 Alliance of Girls' Schools Australasia Leadership Conference in Sydney. Volunteering has also been a key part of Charlotte's life. She has participated in the Smith Family's Student2Student program, the Spire Community's homework club for refugee students, the Gilles St Primary School's English as a second language program, and she has supported the Mary Magdalene Centre by assembling birthing kits.

Throughout her secondary schooling, Charlotte demonstrated her passion for STEM and its applications. She was selected to appear on the television program Scope and took part in the 2019 Royal Australian Chemistry Institute's national Titration competition, in which her team came fourth. She was also honoured with an invitation to give a keynote speech at a recent South Australian Committee for the Economic Development of Australia (CEDA) event, Celebrating 100 years of Innovation with Andy Thomas AO, in which she talked about the next 100 years of science in South Australia, from a youth perspective. This combination of experiences has enabled Charlotte to pursue her career choice of medicine, in which she will apply science to benefit individuals, the community and society more broadly.

## Chartwells/St Ann's College/ Playford Trust Residential Scholarships

## Ben Havelberg

(Commencing student) Bachelor of Mathematical and Computer Sciences The University of Adelaide

Ben grew up in Whyalla and attended Edward John Eyre High School. In Year 12, he received awards for Mathematical Methods, Specialist Maths, Physics and Chemistry – and won the Gupta Family Group (GFG) Alliance Award for outstanding academic achievement. His adjusted ATAR was 99.65.

Throughout his school years, Ben was actively involved in clubs and sports, including football, cricket, tennis, basketball and waterskiing. While still at high school, he was chosen to participate in Questacon's National Invention Convention in Canberra, and the experience enabled him to meet and work with academics and likeminded students from all over Australia. He also thoroughly enjoyed a period of work experience at the Defence, Science and Technology Group where he learned from mathematicians and physicists who were researching ways to improve over the horizon radar technology.

These experiences have inspired Ben to further his knowledge in the STEM area and study a Mathematical and Computer Science degree. He sees his future as working in industries such as the expanding defence and technology sectors here in South Australia.

Ben's academic referee said of his strong leadership skills: 'When there is a problem to be solved, or a job to be done, Ben often takes charge of the group.' He is looking forward to making the most of his time at university and broadening his industry networks and experiences.

## Joshua Mason

#### (Continuing student) Bachelor of Engineering (Honours) (Mechanical)| Bachelor of Finance The University of Adelaide

Joshua completed his schooling at Renmark High School, where he was named Dux – not only of the school but of the entire Riverland. He was awarded Renmark High's 'Footprints in the Sands of Time' award, the school's top honour, and also achieved a merit in Mathematical Methods.

He is now in his third year of a Bachelor of Mechanical Engineering (Honours), with a Bachelor of Finance, and has a GPA of 6.5. Joshua plans to do a summer internship at the end of this year and says he will see where this takes him. However, he is hoping it will lead to work while he continues his studies.

Since moving to Adelaide, Joshua has been heavily involved in the St Ann's College community. He was General Representative for the College Club last year and is currently its Treasurer. He has also served on several sub-committees.

Joshua has been described as an extremely dedicated student who gives his all to his studies. He is also willing to go out of his way to help others with their studies, or anything else they may need help with.

## Fay Fuller Foundation/ Playford Trust Honours Scholarship in Health Sciences

#### **Abbey Wehrmann**

Bachelor of Clinical Exercise Physiology (Honours) University of South Australia

Abbey's home is Jamestown in the Mid North and she has relocated to Adelaide to pursue her dream of becoming an exercise physiologist. At the end of her senior year at Jamestown Community School she was honoured to receive the Caltex Best All-Rounder Award, in recognition of her excellence in academic, leadership, sporting and community service activities.

Abbey has overcome many obstacles in her life, and it is those challenges that have led her to pursue a career in exercise physiology. She understands the disadvantages that often come with living in a small country town and has witnessed the devastating effects poor mental health has on both individuals and a close-knit community. Primarily, she observes, these stem from the limited opportunities and services in rural South Australia.

Abbey's career choice will give her the ability to provide services to rural communities – services including health education, exercise counselling and physical rehabilitation for clinical populations. She wants to have a positive impact on people and hopes to be someone who is looked up to as a leader who can change lives for the better.

Abbey's academic mentor described her as a person who makes a conscious choice to have a positive perspective, places high value on wellbeing and peer support, and leaves a legacy by displaying resilience in the face of adversity.

## **Coopers Brewery/Playford Trust Honours Scholarships**

#### Ryan Edwards

School of Agriculture, Food and Wine The University of Adelaide

Ryan has achieved outstanding grades during his undergraduate years – his success exemplified by three Faculty of Sciences Outstanding Academic Achievement Awards, as well as several scholarships and travel opportunities based on academic merit.

The thought of a prosperous career in plant biotechnology research and its application in industry and society is what motivates him. At the end of his second year, he was awarded a summer research scholarship at the Waite campus, where he carried out a project in barley breeding. The aim was to increase the disease resistance of barley genotypes as a tool for research, and for Australian growers. In his third year, he travelled to South Korea on a university short study program. The trip centred on the idea of using biotechnology to solve problems of the future and involved visits to universities and companies operating in the field of biotech.

Ryan is looking forward to a successful Honours year at The University of Adelaide's Waite campus. He will be investigating the significance of the barley aleurone in grain development and germination and hopes his research will bring about a greater understanding of the aleurone and provide an opportunity to link his results to industry applications.

Ryan's Honours supervisor described him as 'an outstanding undergraduate student who shows excellent problem-solving skills and a clear thirst for knowledge regarding plant science and biotechnology'.

## Jack Kelly

School of Agriculture, Food and Wine The University of Adelaide

Jack completed his Bachelor of Applied Biology at The University of Adelaide, majoring in Plant Product Innovation. Throughout his studies he has maintained a high academic standard with a focus on fundamental plant physiology.

In his final year of study, he completed a research placement investigating hormonal influences on root systems. This led to an opportunity to pursue his findings as a casual research assistant with the Centre of Excellence in Plant Energy Biology, and this gave him a valuable insight into what life is like in the research environment. During this period, he had the opportunity to inspect the facilities at Australian Grain Technologies, which sparked his interest in undertaking applied research within the agricultural sector.

Jack completed an internship with the Waite Arboretum last year, where he was part of a project aimed at promoting biodiversity in South Australia's ecosystems. He remains part of the Arboretum Volunteers Program and also contributes his time to the junior development program at his golf club.

In his Honours project, he will investigate the influence of key hormonal signalling pathways on grain development and dormancy in barley. He aims to use this year to continue building his network within the research community and is thankful for the opportunity to establish an industry connection with Coopers. His aim is to build a career in the South Australian agricultural sector, contributing to the improvement of our staple crop varieties.

## Codan/Playford Trust Scholarship

#### Mark Duffield

Bachelor of Engineering (Honours) (Electrical and Mechatronic) University of South Australia

Mark is a mature age student who will graduate at the end of 2020. His goal is to then find work in an innovative company that will allow him to apply the skills he has learnt throughout his degree. He is particularly interested in future technology and renewable energy.

Mark has achieved consistently high academic grades throughout his study and has received the Chancellor's Letter of Commendation in each year he has been eligible. In 2018, he received a UniSA High Achiever Vacation Research Scholarship and, in 2019, he was awarded the BAE Systems Australia Joint Open Innovation Network scholarship. He also recently completed a 12-week internship at BAE Systems.

The goal of his Honours project is to use existing artificial intelligence techniques to create a system capable of autonomously annotating datasets to facilitate machine learning for object identification in the infrared spectrum.

When he is not studying, Mark spends much of his time volunteering at the Glengowrie Uniting Netball Club where he coaches his daughter and is also a committee member.

## SA Power Networks/ Playford Trust Scholarship

#### Adam Cameron

Bachelor of Engineering (Honours) (Electrical and Electronic), Bachelor of Mathematical and Computer Sciences The University of Adelaide

Adam is a highly driven young man who is particularly interested in the fields of renewable energy, electric vehicles, and innovative businesses in general. He is currently working through his final year of a five-year double degree program at The University of Adelaide, while also working as an academic tutor and an undergraduate engineer at SA Power Networks, where he recently completed a full-time work experience placement.

While at school, Adam developed interests in many areas, most notably instrumental music and team sports, as well as maths and science subjects. His hard work throughout school earned him a scholarship to attend Pulteney Grammar School, where he graduated with an ATAR of 99.50 in 2015.

At university, Adam has been constantly looking for new opportunities to grow and learn. He has been a long-term committee member of the University's Engineering Society and has contributed to the building of an electric race car through the Adelaide University Motorsport Team. He co-founded a new uni club for car enthusiasts and he is a student representative on his Faculty's executive board.

Adam's achievements have recently been recognised by career opportunities website GradConnection, which included him in its list of Top 100 Future Leaders of Australia. He is interested in developing a career in future-focused energy businesses, because he recognises this field as one that will have the most positive impact on the world as a whole.

## Ultra Electronics/ Playford Trust Scholarship

#### **Harrison Bagley**

Bachelor of Engineering (Mechatronics), Bachelor of Mathematical and Computer Sciences The University of Adelaide

Harrison has a high level of interest in robotics and is excited about being able to work with Ultra Electronics this year, thanks to the company and the Playford Trust. He wants to gain experience in various fields and work towards a career in engineering-related research, particularly involving robotics, space science and artificial intelligence. He would love the opportunity to undertake a PhD.

Harrison is a high achieving student. He won a SACE Board Commendation at the end of his schooling and then won Executive Dean's Recognition of Academic Excellence awards in both 2018 and 2019. He is currently entering his third year of five at university and looks forward to the challenges ahead. He recently completed a summer internship with the Australian Government's Defence Science and Technology Group, involving the investigation of strategic vehicle protection in a counter-Unmanned Aerial System context.

Harrison involves himself in tutoring programs for school-aged students, voluntary service as a committee member for the Adelaide Mechanical Engineering Student Society and he has management roles in the community-based Vacswim program. He likes to spend his spare time training and competing as a cross-country and middle-distance track runner and working as a pool lifeguard and swimming instructor.

## WSP/Playford Trust Scholarship

#### Anna Ragg

Bachelor of Engineering (Honours) (Electrical and Electronic), Bachelor of Mathematical and Computer Sciences The University of Adelaide

Anna is passionate about sustainability in engineering, and plans to begin her career in a role in which she can solve a diverse range of problems to directly improve the world we live in.

In 2017, she was awarded the Marta Sved Scholarship for Women in Mathematics and received Executive Dean's Recognition of Academic Excellence awards in both 2017 and 2018. In 2018, she was offered a summer research project with the Australian Centre for Robotic Vision. Her team implemented pick-and-place functionality on a robot arm trained on a neural network, to demonstrate robotic vision.

Last summer, Anna worked for eight weeks at EDL, an Australian power company specialising in renewable and remote energy. She focused on the upgrade of a low-voltage system for an off-grid power station at the Sunrise Dam gold mine in central WA.

As 2018-2019 president of Robogals Adelaide, Anna led a team of 11 volunteer committee members and spent more than 100 hours presenting robotics workshops to school groups to inspire girls in STEM. She recently led an outreach trip to Woomera and Roxby Downs to reach rural students with less access to technology education.

For the past five years, Anna has also been independently tutoring school students in a range of subjects.

## Playford Trust Honours Scholarships – Flinders University

#### **Matthew Hill**

#### Bachelor of Engineering (Honours) (Electrical)

Matthew is a dedicated Honours student who has pursued his passion for, and interest in, the electrical industry by undertaking a Bachelor of Electrical Engineering at Flinders University. He has applied himself diligently throughout his degree and, as a result, has been awarded three Chancellor's Letters of Commendation.

After graduating from Year 12, Matthew began his career in the electrical industry by completing an apprenticeship. Once he was qualified, he launched his own contracting business, MJ Hill Electrical, which still operates. In 2018, he was accepted into the SA Power Networks Summer Vacation Program and subsequently offered ongoing employment with its Supervisory Control and Data Acquisition design team. These diverse, yet interrelated experiences have provided Matthew with a unique skillset from which he will launch his electrical engineering career.

Matthew will complete his Honours project with SA Power Networks. The aim will be to increase the company's low voltage network visibility capabilities and assist with the opportunities and challenges encountered through the uptake of distributed energy resources (DER). This will be achieved by developing and investigating possible-use cases for smart meter power consumption data, such as DES identification and low voltage network load modelling.

## April Van Der Kamp

Bachelor of Science (Honours) (Biological Sciences)

April grew up and went to school at Goolwa on the Fleurieu Peninsula and has always been interested in science. She began a degree in Biotechnology at Flinders in 2017 and has since become heavily involved in the university. Serving as a student representative in four topics, April has ensured her fellow students' voices have been heard and she has gained the support of the Dean of Education to drive significant positive changes in certain topics.

Taking on these roles has made her more confident and she has realised she has a passion for supporting others. She is a founding member of the Flinders University Toastmaster's club, and currently the club's Vice President of Public Relations. In this role she is ideally placed to support people who share her fear of public speaking.

April is the first in her family to complete a university degree, and she is determined to continue her studies to advance the fields of synthetic biology and green technology. In 2019, she participated in a key pilot study researching the use of bacteria to break down recalcitrant chemicals. In her Honours research, April will study the potential for microbial electrolysis cells to breakdown antibiotics. She hopes to develop a new strategy to degrade antibiotics from wastewater to decrease the prevalence of antibiotic resistance in natural bacterial communities.

After completing her Honours, April aspires to move on to a PhD, again focusing on green technology. She is also interested in completing a Master of Teaching to help and encourage other students to also be the first in their families to complete a university degree.

## Imogen Marshall

#### Bachelor of Science (Honours) (Biodiversity and Conservation)

Imogen's Honours project, 'Restoration genomics of Southern Pygmy Perch (Nannoperca australis) in the Lower Murray River', lies in the field of conservation and restoration genomics. She wants to use the knowledge she is gaining from her degree – and her passion for Australia's unique biodiversity – to forge a career that promotes a sustainable future and informs conservation initiatives from a genomics perspective.

While studying at Flinders, Imogen has maintained a GPA of 7.0 and received two awards for academic excellence. She has also had the opportunity to work on research projects in both South Africa and Fiji.

Alongside her studies she has been a tutor and mentor, and this has enabled her to work with students from all demographics and helped enhance her academic communication skills. Importantly, she has been able to support and encourage inspiring students who will be part of the future workforce.

Imogen's Honours project is focused on Southern Pygmy Perch, a threatened small-bodied fish that survived in the Lower Murray River during the Millennium Drought because of ex-situ conservation breeding and reintroduction. Her work will increase understanding of changes in genomic diversity underpinning population persistence following reintroductions. The knowledge gained will directly inform conservation initiatives for the Southern Pygmy Perch, both locally and across the Murray-Darling Basin.

## **Bradley Martin**

## Bachelor of Science (Honours) (Enhanced Program for High Achievers)

Brad is passionate about ecological science and hopes to use his experience in community engagement to pursue a career in science communication. He wants to educate the general public and support sustainable resource management.

Originally from Naracoorte, Brad has maintained a strong academic record at Flinders University and received several Chancellor's Letters of Commendation and multiple awards. As an undergraduate, he was awarded a New Colombo Plan Scholarship to support sea turtle and clownfish conservation efforts in the Maldives. He also won an Adelaide City Council Leftfield Scholarship which enabled him to undertake the Adventure Dorm Accelerator Program at the New Venture Institute. After finishing his undergraduate studies, Brad accepted a summer scholarship at the South Australian Research and Development Institute (SARDI), investigating the early life cycle of the Murray Cod. His efforts to supplement his study by taking opportunities for personal improvement recently culminated in him achieving the platinum level of the Horizon Professional Development Program.

Brad has had an active role in the university community, participating in numerous student committees, including the Flinders University Student Council. In his current role as the South Australian State Director for 'Out for Australia', he leads a team of volunteers in supporting and mentoring aspiring LGBTQI+ professionals.

Brad's Honours research investigates changes to species assemblages through space and time, with a focus on estuarine fish and macroinvertebrates. He aims to assess the use of functional traits to explain ecological patterns in the Coffin Bay estuary system. The project has implications for predicting ecosystem response and the management of South Australia's marine resources.

## Jasper Willoughby

Bachelor of Science (Honours) (Marine Biology)

Jasper is a highly motivated student with a particular passion for research on coastal marine ecosystems and the responses of these ecosystems to climate change. He performed exceptionally well throughout his undergraduate studies and received Chancellor's Letters of Commendation in 2017 and 2018.

He has shown initiative by volunteering in the Ecosystem Ecology Lab at Flinders University, assisting on a project assessing the baselines of biota in Coffin Bay. He has also assisted Honours students with their projects on the ecological responses to groundwater discharges in the Coorong and Coffin Bay, and the contaminant uptake by macrophytes in the Oaklands Wetland. All this is in addition to completing self-guided research projects while studying for his degree.

Jasper's Honours project is investigating the distribution of the Southern Blue-Ringed Octopus along the metropolitan coast of Adelaide. Despite this species being well known, only limited studies have been completed. Specifically, Jasper is looking at the distribution and habitat preference of the species, over a 12-month period, as well as its reproductive events. His project will provide insight into how the octopus responds to temperature throughout the year, and whether extreme temperatures are detrimental to the survival of this iconic Australian species.

According to his supervisor, Jasper is always willing to go the extra step, shows great leadership skills, copes with challenges extremely well and has achieved a great deal given the current stage of his scientific career.

## Playford Trust Honours Scholarships – The University of Adelaide

#### **Jackie Arends**

Bachelor of Engineering (Honours) (Mechanical), Bachelor of Finance

Jackie has had a passion for sustainability from a young age and this has been at the heart of the decisions she has made around her study and career. Choosing to study mechanical engineering has put her in a strong position to pursue a career within the renewable energy field.

During her degree, Jackie has undertaken internships in the Building Services and Building Sciences teams at management, engineering and development consultancy Mott MacDonald, as well as in the Murray Region Technical Team at Snowy Hydro. These experiences have given her an understanding of what it truly means to be a professional engineer. The knowledge she has learned from her Bachelor of Finance studies was put to the test when she travelled to New York to work on a case study with Ernst and Young.

Jackie has made it a priority to involve herself in a variety of extracurricular activities. This includes serving as the President of the Engineers Without Borders University of Adelaide Chapter, through which she developed an appreciation for humanitarian engineering and human-centred design. More recently, she has been one of a group of students who have formed a new student society, 'Engineers for the Earth', which aims to form networks within engineering circles focused on climate change and sustainability.

In her Honours year she will undertake a research project based around how hot and low-oxygen flames can be used to improve the emissions produced by gas turbine engine combustors.

#### **Rhona Hamilton**

Bachelor of Science (Advanced) (Honours) (Physics)

Throughout Rhona's undergraduate degree she achieved outstanding academic results – receiving the Australian Institute of Physics Claire Corani Memorial Prize as the female student with highest marks in second year physics courses, and the Fred Jacka Memorial Prize for the highest marks in third year experimental physics courses. It is her passion for experimental physics that is inspiring her to pursue a career in research in applied physics or material science so she can study both the broad engineering and technological applications of these fields and the fundamental physics underpinning them.

In 2019, Rhona was awarded a New Colombo Plan scholarship and undertook a two-month research internship with an engineering laboratory at the University of Tokyo. The lab was working on the design and applications of ultrashort pulse fibre lasers and Rhona will pursue research in this field in her Honours project. Specifically, she will be characterising the optical properties of graphene and other materials with the aim of generating these ultrashort laser pulses at infrared wavelengths.

In the wider community, Rhona has held leadership roles in several programs for young people run by her local council. She has been involved in the council's Youth Action Committee and been a volunteer tutor at an after-school drop-in program for primary and high school students. At the university, she has volunteered as a teaching assistant with third-year Japanese classes and has served as club secretary and vice president. She is also an active member of the University Fencing Club.

#### **Thomas Lawler**

Bachelor of Engineering (Honours) (Civil and Structural), Bachelor of Finance

Thomas is a passionate and driven engineering and finance student, with a strong record of academic achievement and recognition at university. He is currently in the fifth year of his degree, working on an Honours project of particular relevance to South Australia – developing a risk management framework to assess the impact of heatwaves on infrastructure. The final framework seeks to guide policy makers in their decisions to prepare the State and the community for the future impact of heatwaves.

Thomas has been actively involved both in his university and the broader community – as a committee member of The University of Adelaide Engineering Society, with the University's Civil Engineering Society, and as a tenor saxophonist in the Tea Tree Gully Redbacks concert band.

He has had the opportunity to undertake internships in both areas of his degree. He interned with the Defence, Science and Technology Group in a research group exploring problems of radar propagation in the tropospheric marine environment. He also worked with the Macquarie Group as a risk management intern within the internal audit function, actively participating in their ongoing audits and stakeholder meetings. On top of all this, he completed a semester exchange program at the University of Hong Kong.

Thomas has been described as a leader who represents the School of Civil, Environmental and Mining Engineering and Adelaide University with the greatest of professionalism. He hopes eventually to work within the private or public sector on the implementation of large infrastructure projects.

#### Sean McGowan

Bachelor of Engineering (Honours) (Mechanical), Bachelor of Mathematical and Computer Sciences

Sean is a dedicated student who is passionate about new technologies, sustainability and progressive research. His love for mathematics and physics developed through high school and led him to apply to do a double degree in Mechanical Engineering and Mathematics. Throughout his undergraduate studies, Sean received several Executive Dean's Academic Excellence awards and undertook two research scholarships. The first of these concerned investigating the levitation of superconductors in magnetic fields and focused on the optimisation and modelling of this phenomenon. In the second research project, Sean explored methods of deriving accurate mathematical models from data using machine learning. This developed his desire for further academic study.

Sean hopes to continue his studies and begin an academic career focusing on the modelling and optimisation of dynamic systems to help introduce enabling technologies for sustainable development. He hopes to combine his interests in mathematics, machine learning and sustainable engineering to create smart and versatile solutions to important problems.

Sean's proposed Honour's project involves using magnetostrictive materials to harvest energy from ambient vibrations. This year, he and his team hope to simulate, develop and optimise this technique, resulting in a proof-of-concept device. One of the potential applications of this research is in creating a self-sufficient, large-scale ocean monitoring system to better understand climate change. Sean hopes innovative technologies like these will be a part of the necessary move to renewable energy.

#### **Douglas Radford**

Bachelor of Engineering (Honours) (Civil and Environmental), Bachelor of Finance

Douglas enters the final year of his double degree passionate about the subjects he has studied. A keen interest in the interface between the built and natural environments, and the communities that lie within them, has made his Civil and Environmental degree highly rewarding.

His drive to act in the service of his community and improve his teamwork skills has seen Douglas take on several leadership roles. He led the Adelaide University Engineering Society in fostering a strong sense of community for the club's 500 members. Abroad, Douglas has contributed to, and led, multidisciplinary teams in developing waste management services.

Douglas has thoroughly enjoyed his tertiary studies, maintained a grade point average of above 6.9 and twice received the Executive Dean's Award for Academic Excellence. A large portion of his final year will be spent studying the impacts of heatwaves on infrastructure. His Honours project, carried out with a group of three fellow students, will develop a quantitative framework approach for modelling the risk posed by natural hazards. This research becomes increasingly important for South Australian communities dealing with the effects of climate change, which will see longer, hotter and drier heat waves hit the State.

Douglas aims to work in the water and environmental engineering fields, where he wants to solve complex, interdisciplinary problems as a part of a high-performing and tight-knit team. He says practical experience he has been fortunate enough to receive at engineering firm WSP and the South Australian Department of Planning, Transport and Infrastructure have been incredibly beneficial for his development.

#### Ragas Sachdeva

#### Bachelor of Computer Science (Honours)

Ragav moved to Australia more than four years ago and since then he has been an active part of the South Australian community. He is the founder of The University of Adelaide Competitive Programming Club – a club for students with a keen interest in problem solving using computer programs. Since its launch, the club's membership has grown to about 200 and has received industry sponsorship from multi-billion-dollar companies, including Microsoft, Jane Street and Canva.

Ragav has a track record of outstanding academic excellence and has received several awards and prizes throughout his high school and undergraduate studies. He has also undertaken numerous internships at multi-national companies, including Google and Microsoft. He likes to say he didn't take a full-time job at one of these companies because he 'doesn't want to be a real adult just yet' but, in reality, it's because he has a stronger affinity for research in artificial intelligence.

In light of this, he is currently pursuing a year-long Honours project in machine learning and hopes to pursue a PhD next.

## Playford Trust Honours Scholarships – University of South Australia

#### **Brent Hennekam**

Bachelor of Engineering (Honours) (Civil)

Brent is a mature age student, studying for a career change to better support his family. He chose engineering so he could work in the water industry – not understanding why two-thirds of the planet is water, yet here we seem to be running out. He hopes to help reduce the current stress on freshwater supplies, allowing humanity to continue enjoying the precious resource that we so often take for granted.

Since returning to study, Brent has received three scholarships (including this Playford Trust Honours Scholarship) and an award from Murdoch University for one of his prerequisite subjects. He has achieved straight High Distinctions and is currently undertaking an internship for major international engineering firm WSP.

In December 2018, Brent began a summer vacation research project which produced significant data that has been submitted for journal publication. Following on from this experience, he is thoroughly looking forward to his Honours project and using that opportunity to begin his path towards increasing water availability.

Brent has held leadership roles in various capacities and businesses in the hospitality industry for almost 15 years, and he set up and operated his own Australian style café in Mendoza, Argentina. He is a firm believer that leadership is more important than management, and as well as achieving his own goals, he enjoys teaching others and helping them accomplish theirs.

## **Brandon Turner**

#### Bachelor of Science (Honours)

Brandon has always had a passion for animals and the environment, especially frogs. He realised late in his undergraduate studies in Environmental Science that he also had a passion for research. He now plans to pursue a career in furthering our understanding of human impacts on the environment – in particular, the impacts on wildlife within the boundaries of our cities.

Brandon has grown up in the suburbs of Adelaide and Gawler and developed an avid interest in how 'concrete jungles' can become home to a wide variety of animal species. In the final semester of his undergraduate studies, he completed a capstone project that involved the environmental assessment of the proposed Rail to Trail project in Coonawarra and Penola in the South East. He and his team received one of only a few High Distinctions and this mark was testament to Brandon's talents in research and leadership, as he led the team through the research and data analysis phase of the project.

For his Honours project, Brandon will be looking at frog populations in Adelaide, and the correlation between water quality (salinity) and the prevalence of chytrid fungus, a fungus that is extremely harmful to global frog populations.

## **Playford Trust PhD Scholarships**

#### **Alison Gill**

School of Agriculture, Food and Wine The University of Adelaide

Alison has always been highly motivated to achieve her best results. She completed her Bachelor of Science (Advanced) with a GPA of 6.9 and first-class honours. She was an Agrifutures Horizon Scholar and, for her Honours year, received the AW Howard and Aileen and Bert Kollosche Scholarships.

Alison's Honours project investigated the role of roots in the salinity tolerance of Australian saltbush. She developed techniques for histological and chromatographic analyses to characterise root morphology and exudate composition. Prior to undertaking her Honours, she gained extensive research experience through placements with the South Australian Research and Development Institute (SARDI), the Australian Research Council Centre of Excellence in Plant Cell Walls, the Australian Bioactive Compounds Centre, Advanta Seeds in Toowoomba and the CSIRO in Canberra.

Alison's PhD research focuses on optimising soil carbon capture by industrial hemp crops, using recycled carbon methods to grow the crops sustainably. As hemp is a relatively new crop with huge potential for use as food and fibre, she aims to determine the best growth conditions for it in South Australia, and this will provide important information to primary producers.

Alison has travelled extensively, mentors undergraduate students, and is on her local soccer club committee. Her supervisor says she is an outstanding student who will have much to offer as she develops her scientific career. Her maturity and exceptional planning ability will complement her motivation to produce research that benefits society through climate change mitigation and agricultural sustainability.

## Bradley Kirk

College of Science and Engineering Flinders University

Since moving from Tarpeena to pursue a Bachelor of Science at Flinders University, Bradley has been passionate about the research development of renewable energy sources – specifically, thirdgeneration solar cells. This has led him to pursue a PhD in the development of printed polymer solar cells.

He has received numerous scholarships throughout his years at university, including a Facility of Science & Engineering Summer Scholarship, a New Colombo Plan Scholarship, a CSIRO Summer Vacation Scholarship and a Playford Trust Honours Scholarship. He will also benefit from an Australian Government Research Training Program Scholarship for the duration of his PhD.

After achieving first-class Honours and being awarded The Flinders University Medal for outstanding achievement, Bradley was employed by Professor Mats Andersson as a Solar Cell Fabrication Specialist. He has also been working as a demonstrator for a number of physics and chemistry undergraduate topics. While working in the laboratory, he has supervised several undergraduates working on research projects, helping them to gain valuable research skills.

For Bradley's PhD project, he aims to gain an enhanced understanding of the transferability of fabrication methods between small-scale and large-scale processes used for producing polymer solar cells. This knowledge will help improve the methods of developing solar cell devices with higher performance output and greater stability. Once he has completed his PhD, Bradley plans to pursue a career that focuses on the improvement of photovoltaic devices, allowing for the optimising of future solar cell technology, and ensuring more affordable and reliable renewable energy distribution.

## Jai Meyers

College of Medicine and Public Health Flinders University

Jai completed his Bachelor of Science (Biotechnology) Enhanced Program for High Achievers degree with first-class Honours in 2019. He has a passion for molecular biology research and his ultimate goal is to contribute to the current understanding of the molecular mechanisms underpinning cancer growth. In recognition of his dedication to his studies, he has received a number of awards, including both Playford Trust Honours and Regional Science and Engineering scholarships.

In his Honours research, Jai studied the role of particular drug metabolising enzymes in breast cancer. The use of cell models provided the first evidence that these enzymes may both promote and terminate lipid signalling and, in effect, may maintain tight homeostatic control of lipid signalling.

Following on from this Honours work, Jai's PhD project will focus on identifying and characterising the molecular pathway through which these enzymes regulate lipid signalling in breast cancer. The elucidation of this molecular pathway may ultimately lead to the development of these enzymes as biomarkers, or drug targets, for the diagnosis or treatment of breast cancer. As the dysregulation of lipid biosynthesis is crucial to the survival of many cancers, this research may be significant to cancer research as a whole.

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