



p2 Barley program changes

p5 Recent graduations, awards and honours

p4 SA Food Innovation Centre announced

p7 Waite Building and Urrbrae House facelifts

From the Dean's office...



It is important to celebrate and reward our successes. Successful people and projects are role models that allow us to see how excellence can be achieved. Two of our scientists were recently elected to the Australian Academy of Science. Emeritus Professor Geoff Fincher was recognised for his outstanding research on plant cell walls and scientific leadership. Affiliate Professor Anna Kultonow was recognised for her outstanding research on mechanisms of fruit and seed production in plants.

Our graduates in Agricultural Science have been very successful in securing jobs that support agricultural industries and in following on to further studies in teaching and research. Rochelle Wheaton is just

one of our recent graduates who have secured rewarding positions in agricultural industries after graduation (see article). Job prospects for graduates in the area of agricultural sciences remain very good.

The University has decided to exit from commercial barley breeding now that it has become fully commercial in Australia. Scientists in the School of Agriculture, Food and Wine will continue to conduct research on barley in support of external companies and the wider farming community. This strategic change will allow us to work more closely with companies that breed superior varieties. We are now working to make our extensive germplasm collection available to those companies so it can continue to deliver advanced genetics to Australian farmers.

Professor Mike Keller

'Waite in the Spotlight' event to showcase our research

Arising from a Waite leadership retreat in 2015, the idea of running a shared annual event to showcase our research to the world via talks in the TEDx format and style, to be filmed and uploaded to YouTube, is coming to fruition with the inaugural 'Waite in the Spotlight' event now being planned for Friday 29 July.

To be held in the Charles Hawker Centre, the program will feature Professor Göran Roos, speaking on the role of research and innovation in the economy (particularly in relation to the food and agricultural sector), along with a handful of other speakers from different disciplines across the campus. They will have only 15 minutes each to communicate their message, research outcome or concept, pitched at an informed but non-scientific audience. The brief for our speakers will be to deliver clear and compelling presentations that inform the general public and our various stakeholders about what we do at the Waite and why it matters.

Further details about this event will be out in due course.

Barley program changes



Barley breeding at the Waite started in 1933 when Ivan Phipps made the first crosses to develop a smooth-awned feed barley. Since then, the University focussed on barley breeding during a time of market failure, but there are now significant commercial competitors in the field. Independent commercial plant breeding companies have capabilities that will soon enable

them to out-compete public breeding programs like ours. Over the years, our breeders have developed many leading varieties including Clipper, Schooner, Galleon, Sloop, Keel, Flagship, Fleet and Commander – a lineage of which we can all be proud.

A recent independent review of the School of Agriculture, Food and Wine's grains breeding programs considered the School's academic and technical capabilities and strengths, business models, and the external environment including clients and competitors. Other factors taken into account included alignment with The University of Adelaide's research strategy, relationships with key stakeholders and the financial viability and sustainability of breeding operations.

A key recommendation of the review was that the School should no longer

engage in commercial crop breeding if it competes with the private sector. As the School's barley breeding program is now in direct competition with the private sector, the School has made the difficult decision to cease commercial barley breeding effective from 30 June 2016, and instead focus on research and teaching.

In recent years, the School provided industry with a significant boost when it released jointly-owned germplasm to the private sector. This was a condition of our charter with funding bodies when our barley breeding was commercialised.

The University of Adelaide has a strong commitment to ongoing barley research, which will now focus on the "pre-breeding" research, rather than the development of commercial varieties, as a way of assisting the whole industry.

Innovation in Agriculture: Ag Institute Australia State Conference

The Government's National Innovation and Science Agenda and its implications for agriculture were the focus of the Ag Institute Australia's South Australian State Conference held at the Waite Campus last week.

Australia's Chief Scientist, Dr Alan Finkel was joined by Mr Rowan Ramsey MP, Federal Member for Grey and the Chair of the recent Inquiry into Agricultural Innovation, Professor Mike Keller, Head of the University's School of Agriculture, Food and Wine and Ms Liza Noonan, Executive Manager Innovation at CSIRO as guest speakers in the morning session.

The audience were provided with an overview of some of the opportunities, benefits and barriers to adoption of innovation and technology in Agriculture. Mr Ramsey stressed that agriculture is a 'sunrise industry' – one that is growing fast and expected to be an engine of future economic growth in Australia.

"Farmers need to recognise the value of technology and innovation in Agriculture

and be encouraged to invest in their own future," he said. The need to encourage student recruitment and retention in Agriculture and Ag Science degrees was acknowledged.

Dr Finkel said that although there are limits to the amount of land suitable for agricultural production in Australia, the application of innovative technologies provides "boundless plains" of potential for growth through better yield efficiencies, boosting the economic return on investment and "selling what we know as well as what we grow".

The need for research organisations to collaborate with industry in order to achieve transformational innovation that has a commercial impact was also emphasised.

Professor Keller outlined how the School of Agriculture, Food and Wine is already working with Industry to bring innovative technologies to agricultural research. This is evident from work-integrated learning and industry placements for students in the School, through to the success of research

funding frameworks such as ARC Linkage grants, the CRC Program and other programs to connect researchers with business. The co-location of research and industry partners at the Waite Research Precinct provides an ideal environment for collaborative research that can translate to real-world impact.

Australia's Chief Scientist, Dr Alan Finkel



Shandong Academy of Sciences visit

Further building the sister state relationship between South Australia and China's Shandong Province, a delegation from the Shandong Academy of Sciences visited the Waite on 9 March as part of a wider program. The group of 10 scientists, including the Academy's

President Wang Yinglong, is touring the State's top research facilities and conducting workshops with local scientists to establish collaborations in areas of complementary technologies and expertise, including lasers, energy, new materials and biology.

Several AFW, SARDI and CSIRO staff were involved in hosting and speaking with the group, which toured The Plant Accelerator, Plant Pathology, Soil Biology and Molecular Plant Breeding labs.



Chinese Student Exchange Builds Partnership

The second group of students from North West Agriculture & Forestry University (NWAUFU) in China's Shaanxi province completed an extended visit to

The University of Adelaide in February. Comprising a week of contextual English language study and three weeks hosted by the School of AFW, the month in

Adelaide saw the students engage in study, cultural activities and field trips, culminating in a visit to Kangaroo Island.

Their lectures and practicals exposed them to a wide range of disciplines and some of the challenges inherent in South Australian agriculture. The group learned about cool-climate viticulture, dryland farming/broadacre crops and visited an apple orchard on KI.

The students (pictured making dumplings for Chinese New Year) are third year undergraduates from viticulture, oenology and horticulture courses, so brought a broad range of interests to the program. The School of AFW has already sent three groups of students to NWAUFU and will continue to build the educational partnership between the two Universities.



SA Food Innovation Centre announced

The Waite Campus is set to host the newly-announced South Australian Food Innovation Centre, a collaborative partnership between several food industry groups and R&D organisations to develop the state's food sector and create new markets, products and opportunities by working together.

With the support of the State Government through PIRSA/SARDI under its 'clean, green, premium food and wine' economic priority, the Royal Agricultural & Horticultural Society of SA, Food SA, The Australian Wine Research Institute, Uni SA and Food Innovation Australia Ltd,

the new Centre will enable the growth of the SA food industry, build employment and upscale what it produces. Exploring how food delivers nutritional benefits and building on SA's luxury and functional food exports are likely foci, as these will generate the greatest economic benefits for the State. The University of Adelaide's School of AFW will have a key role to play in both research and capacity building for the sector.

The Centre will initially be housed with SARDI's Food Innovation group and will eventually involve at least 100 food industry researchers and experts. One of

the Centre's key aims will be to facilitate innovation, commercialisation and delivery of research outcomes to market by enabling interaction between researchers, food producers and manufacturers. All members of FoodSA, also located at the Waite, will have direct access to the Centre and its expertise.

The establishment of the SA Food Innovation Centre will add significantly to the Waite's critical mass in agricultural, food and wine science, ensuring it remains Australia's leading site for research, teaching and commercialisation activity in this important economic area.

Japanese Business Delegation Tours Waite

A delegation of representatives of Japan's largest business institutions toured South Australia in January to investigate future investment and collaboration opportunities. Hosted by the State Government's Investment Attraction Agency, the group visited various sites around Adelaide in a range of industry sectors. Their itinerary included SAHMRI, the Tonsley innovation precinct and SARDI's Aquatic Sciences facility at West Beach as well as the Waite Campus.

Japan's strength in state-of-the-art technology and South Australia's growing emphasis on innovation and entrepreneurship are seen as providing good potential for partnerships that create jobs and drive economic growth. International partnerships such as these can also help local businesses develop new export opportunities.

The group of 14 delegates was accompanied by staff from the Department of State Development and visited The Plant Accelerator, the winery, AWRI and SARDI. Their tour was punctuated by an intense thunderstorm and finished with an impromptu koala sighting!



Delegates during the visit to Waite

MSc Plant Biotech Research Seminars



This year's second-year cohort of MSc Plant Biotechnology students (pictured) presented their Research Proposals on Wednesday 30 March at the Plant Research Centre auditorium. This event featured high quality presentations from the eleven students, showcasing really exciting research projects which also provided a good cross-section of the research undertaken here at the Waite. These included: soil biology, wine quality,

plant cell wall biochemistry, molecular breeding, GM biosafety assessment and flowering time regulation in Australian ornamental species.

Congratulations to all participants and their supervisors and thanks to all the attendees that enrich these regular student seminar sessions with their questions and suggestions.

Recent Graduations, Awards and Honours

Dr Sue Bastian's paper "A fine wine instrument – an alternative for segmenting the Australian wine market", published in the *International Journal of Wine Business Research 2015* Vol 27 3 E, has been selected by the journal's editorial team as a Highly Commended Paper in the 2016 Emerald Literati Network Awards for Excellence.

Congratulations to this year's graduates from all AFW/Waite programs, who received their degrees at a ceremony on Friday 29 April at Bonython Hall on the University's North Terrace campus. All of the 2016 graduates have jobs and are already doing great stuff out there in a wide range of settings – they are a credit to themselves and to the Waite. The 53 graduates (including Rochelle Wheaton, profiled below) across the three undergraduate degrees were joined by the following higher degree recipients:

Masters in Viticulture & Oenology

Andrey Zolotarev

Masters in Oenology

Jill Bauer
Caitlin Davies
Nicholas Foskett
Shaochen Tang
Jiadi Zhang
Danchen Zhu

Masters in Plant Biotechnology

Hadush Hagos
Yingyu Huang
Yiming Jin
Li Jun
Haoyu Lou
Saba Meles
Kiflu Tesfamicael

Doctor of Philosophy

Luciano Bayer
Cong Cheng
Kendall Corbin
Kerry DeGaris
Casey Doolette
Anthea Fudge
Bradleigh Hocking
Qinyong Mao
Yagnesh Nagarajan
Courtney Peirce
Jiaen Qiu
Wen Zhengyu
Jing Zhou

The AFW Prize Winners for 2016 were also recently presented with their awards at a ceremony in Lirra Lirra. Congratulations to all of the following students ...

Australian Institute of Food Science and Technology Prize	Kum Ang
Daniel Livingston Prize	Angus Butler
Daniel Livingston Prize	Brody Lock
Daniel Livingston Prize	Hannah Mikajlo
E.J. and E.I. Graham Prize	Hannah Mikajlo
C.M. Donald Prize	Rudi McEwin
D.B. Adam Memorial Prize	Hannah Mikajlo
Mark Paul Bowker Memorial Prize	Rudi McEwin
Royal Agricultural & Horticultural Society of SA Gold Medal	Brody Lock
Peter Waite Medal	Hannah Mikajlo
Brokenwood Wines Prize	Christopher Plummer
David Bradley Memorial Prize	Jessica Schrapel
Treasury Wine Estates Prize for Excellence in Winemaking (formerly Wolf Blass Wines Prize)	Shauna Bastow
Kenneth T Hardy Memorial Scholarship	Ziyu Ding
South Australian Wine Industry Association Silver Medal	Jessica Schrapel
Gramp Hardy Smith Memorial Prize	Bryan Jones
St Hallett's Viticulture & Oenology Prize	Bryan Jones
Australian Centre for Plant Functional Genomics Prize	Lorretha Emenyeonu
Soroptimist International Prize	Josephine Amedu
Dorothy Wearing Drew Traveling Prize in Agriculture	Rhys Muller
MCC Long Room Food & Wine Society Bursary	Ziyu Ding
Jacobs Creek Viticulture & Winemaking Scholarship	Anna Jorgensen
Jacobs Creek Viticulture & Winemaking Scholarship	Sarah Lyons
Lois Harris Scholarship	Jana Dixon
Playford Trust Regional Science and Engineering Scholarship	Jana Dixon
Coopers Brewery Ltd/Playford Trust Honours Scholarship	Daniel Osborne

Pictures: From left – Professor Eileen Scott and Dr Cassandra Collins at the AFW Awards night; PhD graduates at the North Terrace ceremony



Graduate Profile - Rochelle Wheaton, B Ag Sci

I'm originally from Streaky Bay, where I grew up on my family's farm of around 4,000 hectares of which half is for crops - mainly wheat, barley and oats for export hay - and the other half is used for grazing 1,200 Dohne sheep. After I finished school I didn't really have much idea what I wanted to do but I moved to Adelaide and worked in hospitality, then enrolled in a bachelor of design studies before deciding after a semester that it wasn't for me. I loved the country lifestyle I'd had growing up and during periods at home during the holidays to help out on the farm, I realised I never complained about having to work. I know it's a bit of a cliché when they say 'find work doing something you love and you'll never work another day in your life', but I think this was my logic behind enrolling in the Bachelor of Agricultural Science degree in 2013. Although I never did much science at high school, I managed to get through my first year at university. From then on the subjects started to become more agriculturally focussed and it all began to make a lot more sense.

During my final year, I still didn't really have a plan as to what I wanted to do when I finished my degree. However I was lucky enough to land a job working one day a

week for Peracto SA (a private agricultural research company) and enjoyed what I was doing there. I also completed some of my placement at the Minnipa Agricultural Centre, which was great. Through working at these places my passion for agricultural research grew and definitely sparked an interest in working within that sector. During a visit to the Hart Field-Site as part of a University field trip in my last year, a job opportunity arose. They mentioned their new 12-month internship program to run the following year working alongside their research and extension manager, Dr Sarah Noack, with a focus on applied grains research and based in Clare. I was fortunate enough to get the job and moved to Clare in the first week of March. I'm really enjoying being out in the field, meeting new people within the industry and I've already learnt a lot.

As for what's next, after this internship finishes I'm not entirely sure. I have thought about going back to University to do honours but I think ideally I'd like to end up working as a research agronomist or research officer based in a regional area. I've always had an interest in research, development and extension (RD&E) within agriculture and I'd like to be involved in collaborating with growers to



ensure their issues are being addressed in future research projects. I really value the activities, training and information that RD&E programs provide for growers and would like to pursue this interest as part of my career. For now though I'm happy where I am and I'm really enjoying life post University but I'm excited to see what comes next.

Waite Node of New ARC Research Hub

On 6 May, the University was awarded \$2.6 million in federal funding to establish the **Australian Research Council (ARC) Research Hub for Graphene Enabled Industry Transformation**.

The School of Agriculture Food and Wine is involved through Professor Mike McLaughlin, who will lead a research node on the environmental health and safety considerations in the use of graphene, and will also examine the use of graphene to remediate contaminated soils. The hub strengthens the developing collaboration between the Soils Group on the Waite Campus and the School of Chemical Engineering on the North Terrace Campus

on the use of advanced materials for soil fertility and soil remediation.

In simple terms, graphene is a single layer of carbon that holds unrivalled material properties. The thinnest, strongest (100 times stronger than the strongest steel) and lightest material known, graphene also has the highest surface area – one gram can cover the size of a football oval – and the best conductive and thermal properties than any other material, which makes it particularly attractive for use in electronics and energy storage. It is also stretchable, flexible and so far appears non-toxic for medical use.

The University of Adelaide will lead the new ARC Research Hub for Graphene Enabled Industry Transformation, with the University of Melbourne, Monash University and the University of South Australia all participating as collaborative partners in the program.

Other national and international collaborators include industry and research leaders from Australia, China, the US, UK, France and Spain, spanning mining and minerals, steel manufacturing, defence, and nanotechnology.

Waite Building and Urrbrae House facelifts

In the past few years a number of significant projects have been undertaken in and around the Waite Building, including repainting, major structural repairs in the northern and eastern wings, refurbishment of shared facilities and rewiring.

However, the recent re-vegetation of the building's surrounds is probably the change that will have the greatest visual impact on the precinct. Four locations were identified as requiring attention, namely the northern and southern courtyards, the section along Waite Road at the eastern entrance plus a large area at the northwest corner of the building.

The rehabilitation process has included the installation of new irrigation lines throughout the affected areas, the planting of hardy local plant species to provide low maintenance garden beds, and mulching. New paved footpaths were also installed to allow access through to nearby facilities.



trees and new plantings, these areas will, in time, become cool and pleasant outdoor spaces that work in well with the nearby student hub and refectory to provide relaxed locations for the campus community to enjoy.

Meanwhile, Urrbrae House, Peter Waite's former family home, has also had recent structural and restoration work to repair and prevent rain damage. Heritage architects and a team of specialist trades people performed exacting work to restore the building and enhance its appearance.

Second-hand roof tiles were purchased from a demolition site in Western Australia so that they would exactly match the ones on the roof, and sheeting was laid underneath to prevent leaks. Chimneys were also repaired to increase their stability. Window shutters, timber fascias and trims were repaired as some had become damaged, and original metal

fittings were duplicated so that damaged ones could be replaced.

Once repairs were completed the exterior of the building was painted. Most of the metal work on the building had been painted dark green, with neutral colours on wood work and window frames. The new paint colours were chosen to be similar to those originally used on the building. Scraping away layers of paint revealed original colours of some elements, and archival photos of the building were also used as a reference. The new colour scheme more closely resembles the original, and the shades used complement the colour of the brick and bluestone walls.

The house is open to the public on Monday, Tuesday & Thursday from 10 to 4, and tours are available. More information about Urrbrae House is at the Waite Historic Precinct Web site:

<http://www.adelaide.edu.au/waite-historic/>



The design brief for the two courtyards was to provide not only fresh looking and modern outdoor areas to enhance the visual appeal of the heritage-listed Waite Building, but also allow staff and students access to quiet areas for small informal gatherings or to study. With the existing

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The [Waite Campus Blog](#) has now been launched and will run in parallel with this newsletter. If you would like to receive more regular Waite news updates via e-mail, subscribe now at <http://blogs.adelaide.edu.au/waite/subscribe/>.



Recent Waite Visitors

As well as the group visits already covered elsewhere in this newsletter, the Waite has hosted the following visitors:

- A group of Eynesbury College Chinese Agents
- The Indonesian Consul-General
- Andrew Sharpley, President of the Soil Science Society of America
- The Federal Liberal, Labor and Xenophon Team candidates for Boothby
- A Canadian/North-Western US Rotary Group
- The Governor of SA, His Excellency Hieu Van Le and our Vice Chancellor, Professor Warren Bebbington (pictured below with Dr Ian Dry from CSIRO and Professor Mike Keller)



Peter Waite Day 2016

Perfect autumn weather on Friday 6 May ensured a successful cross-institutional bocce tournament at the annual Peter Waite Day event, held on the Urrbrae House lawns this year for the first time. With the Australian Wine Research Institute entering a team for the first time and hot competition from CSIRO and ACPFG, the tournament was enjoyed by

all. The coveted Peter Waite Bocce Trophy was eventually won by the 'Fertiliser Mafia' team from the School of AFW Soils group, beating ACPFG in the final.

Around 110 staff from across the campus enjoyed the balmy weather, the picture-perfect rose garden setting and the wine and food provided at this WRI-sponsored event.



The Who's Who of AFW ...

Ben Pike



After graduating from the BSc (Viticulture) program at Waite in 2005, Ben worked as a vineyard contractor in McLaren Vale and the Adelaide Hills. In 2007, he was approached by the soon-to-retire Peter Dry to return to Waite to take on the management of the Campus vineyards and orchards. In this role he collaborated with the Viticulture and Oenology lecturers to find opportunities to improve management processes, grape quality, and student and research engagement where possible.

At the end of 2014, Ben was seconded into the position of Senior Technical and Facilities Officer, taking over the role after the retirement of Terry Mackenzie, and was made permanent from early 2015. Recently Ben has been working closely with the Technical Services team to improve response times to technical assistance requests and delivery of services - most likely a hangover from his 15 years of customer service in the hospitality sector, a career path he enjoyed immensely before joining the wine industry.

Ben and his wife Helen live in Plympton Park and have four children; he has an almost pathological obsession with watching his sons play cricket.