

The Crawford Fund Annual Conference 2022

Scholar Reflections



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Scholars supported by the Australasian Agricultural & Resource Economics Society were Tshering Samdrup from the University of Western Australia (left) and Sarah Smith (right) from the University of California, Davis.

Tshering Samdrup, University of Western Australia

Mentor: Mike Taylor

The conference was themed 'Celebrating Agriculture for Development – Outcomes, Impacts and the Way Ahead' to celebrate the 35th founding year of Crawford Fund and the 40th anniversary of Australian Centre for International Agricultural Research (ACIAR). Both these renowned institutions have contributed immensely to mankind especially in developing country agriculture for decades and they continue to foster international research and development partnerships aimed at addressing the challenges facing agricultural sector in the Indo-Pacific region and in developing countries across the globe.

It couldn't have been better timed given the three Cs: COVID-19, climate change, and conflicts, continue to cripple global economies. The conference was lively, reinvigorating, and fruitful with seasoned experts, diplomats, scientists, and development practitioners taking stock of what worked and didn't work on the ground, how to reposition efforts, and take-off again with full throttle to fight hunger and food insecurity situations induced by natural calamities and man-made disasters.

Unlike other conferences which are often overwhelming and at times tiring, the Crawford Fund conference was a unique experience. This was because the program was blended with exciting networking, mentoring sessions, and separate sessions for young researchers. I thoroughly enjoyed being amongst those highly motivated professionals, emerging researchers, and those who aspire to pursue their careers in development- particularly in agriculture and the natural resource sector. I would love to come back to the Crawford Fund conference several times in the future!

There are three most important benefits I derived from this conference. First is networking. The size of the conference encouraged effective networking among those industry experts, decision makers, and academics. I opened up to many people, talked about common research interests, highlighted my passion to work in the development sector, and connected with over a dozen people and still counting. Second is networking among RAIDers. The experience sharing of some former Crawford scholars and RAID members from their field work was so enticing. The simple reason is all of us shared a common passion to work in agriculture in developing countries. Third is the mentoring program. I cannot elaborate enough of how important mentoring is. Having a mentor, as a "sounding board" in the words of my mentor, makes a lot of difference and this is a very recent realization. I never had access to such facilities before. I am glad that I have been paired with a wonderful mentor whom I will continue to bother hereafter!

The conference highlighted several interesting issues. One was the suggestions to take an inclusive approach right from the project design phase to (i) engage policy officers so field research translates into appropriate policy changes at the institution level, and (ii) engage farmers and other stakeholders so an effective collaboration entails long term sustainability and fosters a sense of ownership when the project is phased out. The other highlight was to focus on delivering nutritious and diversified food by placing sustainable ecosystem at the centre. The need for more, better, and sustained investment was a recurring theme among the speakers and experts. This has also stood out as a key message from the conference. The call-to-action for an increased investment in agricultural R&D was justified given that there was consistent return on investment over many years to the tune of US\$10 in social benefit for every dollar invested.

I would like to offer my sincere thanks to the Crawford Fund organisers, the Australian Agricultural and Resource Economics Society (AARES) for providing the financial support to attend this wonderful event and all others associated in making this event a success.

Sarah Smith, University of California, Davis

Mentor: Mike Taylor

I really enjoyed attending the 2022 Crawford Fund Conference as a Conference Scholar. I felt very fortunate to attend a gathering of many passionate researchers dedicated to improving agriculture.

The biggest takeaway for me was seeing the value of collaboration in practice. As an agricultural economist, I will benefit greatly from working more with scientists and researchers in other disciplines. Moreover, the presenters crystallised the value of early and frequent discussions with the beneficiaries of our research to avoid writing research destined to sit unused on a dusty shelf. I am inspired to pursue greater collaboration in my future research.

One perk of being a Conference Scholar was being matched with a mentor. My mentor showed a genuine interest in my research, and I really appreciated his advice on my career aspirations. I also enjoyed hearing about his interesting career, including working with one of my dissertation committee members back in the 70s!

Finally, I'd like to thank the speakers, event organisers, and mentors for giving their time to such a great conference, as well as AARES for sponsoring my attendance.

AUSTRALIAN CAPITAL TERRITORY



Scholars from the ACT (L to R) Michael Norman, Tanya Skinner, Angus Dunne, Michael Wellington, Pinhui Wang and Salome Wilson pictured with the Crawford Fund ACT's Chair Margaret Reid and Coordinator Tony Fischer.

Angus Dunne, Australian National University/Mulloon Consulting

Mentor: Glen Weir

The 2022 Crawford conference set itself an ambitious challenge to celebrate international agriculture and the Fund's 35th birthday. As an early career agro ecologist beginning my journey into research, the scholar program has provided me with a wider perspective, valuable networks and aspirations to volunteer. Throughout the three days of scholar activities I was guided, supported, and challenged by my mentor Glen Weir. Glen was generous in his time and his honesty while challenging me to question the societal context of our food systems. Three themes through the conference consistently struck home with me.

- The focus and discussions on international agricultural development largely revolved around the capacity to grow food. I found this jarring as the challenge in Australia is growing food, while building the ecological capacity of the landscape. It was confronting to face the urgency that inadequate food creates. This was extended by the acknowledgement that many of the barriers to food are social, governance, policy and unequal power distributions. It is understandably difficult for presenters to condense at time 15 years of research into ten minutes. I found myself wondering how these social challenges are being addressed.
- With every conversation and presentation throughout the program I was consistently reminded of the breadth of the agricultural industry and the ever-blurring boundaries as to where agriculture starts and stops. The conference drew a diverse cohort which reinforces the 2021 conference's message of one health. I have no doubt that facing the opportunities of our future needs a diversity of thinking, perspectives, and passions. The head of ACIAR Andrew Campbell jokingly summarised this as "we need to be making new mistakes" this needs collaboration with all stakeholders and an awareness of the mistakes of our past.
- The Honourable John Anderson, subtly weaved into his opening address that collaboration and progress on the three CCC's (Covid, climate change and conflict) would only be made harder if the current global governance structures eroded. While there is no way of knowing if he is right, I do know we all have a role in being active participants in our country and food systems. Many of the Crawford Fund staff, mentors and speakers embodied the consistent choices to put themselves at issue with our food systems and choosing to do something about it; exemplifying the Crawford Fund's motto of "Doing well by doing good".

I am a reflective thinker and if you are anything like me, after a few intense days of people, ideas and discussions, it can take a while for everything to settle. I know many of the ideas from the conference have planted themselves in my mind and with nurturing will continue to grow. The highlight for me will always be the people. I hope that many of the relationships will continue to grow over time. The feeling of being a part of a community working to cultivate and nurture a better food system, provides inspiration and hope.

Michael Norman, CSIRO

Mentor: Tony Fischer

When you begin a PhD, you easily develop a tunnel-vision, focusing closely on your subject and research area. It makes it quite challenging to connect with the broader context of where agricultural research can have an influence and impact. The Crawford Fund conference addressed this issue and highlighted existing and potential future problems for where we should direct our focus.

I was especially challenged by the keynote speakers and session chairs that raised the importance of a robust policy framework and the significant effect that political instability has on the provision, or more appropriately, access to food, made evident with the Russian invasion of Ukraine and the impact on the global wheat trade. I'll be the first to admit that I've always held much-unjustified cynicism toward anything political, but I am convinced of the importance of a robust 'rule-based system' as touched on by the Hon. John Anderson and the continued role good policy plays in agricultural research.

I thoroughly enjoyed the breakdown of the change in global funding trends in agriculture by Dr Philip Pardey. Interestingly, funding in agriculture decreases as a nation's wealth increases, with a significant shift towards growth in private investments. This fuelled many discussions I had with other scholars and attendees, theorising whether agriculture forms at least a solid/main foundation for a society's growth—certainly a question to ponder. The presentation by Dr Philip Pardey also appeared to set the tone for questions and points about the lack of long-term funding throughout the conference, also raised by speakers such as Dr Alison Bentley.

Regina Nukundj mentioned one of the best points I had heard during the scholar's activities. She said that we need to actively work with and learn from the farmers, growers, and users of our research; they're not just learning from us; we are learning from them. This insight was touched on in almost every talk I heard, an intense need to connect and collaborate with the end-user. And from this, we can develop real and impactful outcomes from research.

The RAID network should be commended for helping break down the pre-conference nerves. I have never been to a conference where I have looked forward to talking to so many people, but I wished for even more time by the end. It's a rare opportunity to speak so easily with many involved in agricultural research from diverse backgrounds and careers. So, a big thank you to everyone involved in the networking events and a big thank you to my mentor Dr Tony Fischer for happily guiding and encouraging me.

Tanya Skinner, Australian National University

Mentor: Julianna Biddle

The 2022 Crawford Conference, titled Celebrating agriculture for development – outcomes, impacts and the way ahead, brought together researchers, politicians, ambassadors, directors, and people from across the country and beyond. The whole day conference saw a high calibre line-up of speakers and endless opportunity for networking, with the room buzzing with colourful and insightful conversation at every corner. After an extended period of COVID-related disruptions to social events, this day certainly made up for lost time.

Given my background in plant molecular biology, my prior exposure to broader concepts in agriculture had been very limited. This event was an excellent introduction to agriculture for development and allowed me to contextualise the implications of my research which focuses on improving crop yields by improving photosynthetic CO₂ uptake. The event introduced me to the importance of understanding how culture and social systems can shape agricultural research and highlighted the need for direct communication between community members, researchers, and policy advisors.

The major highlight of the conference for me was hearing about current examples of agricultural research for development. Of particular interest to me was the presentation given by Prof. Neena Mitter, Director of QAAFI Centre for Horticultural Science and the ARC Industrial Transformational Research HUB for Sustainable Crop Protection, on her team's work in sustainable crop protection using BioClay. This real-life example of lab to field research encouraged me to think about how my current research can be taken to the field, and the implications this could have in agriculture for development.

This idea of how research can then be applied to solve real world problems was contextualised in another highlight of the event, which was the open discussion, titled From outside agriculture – looking to the future, which reflected on how international agriculture is perceived outside of the industry and highlighted major considerations and challenges faced by policy advisors and researchers in eliciting change.

Overall, the conference was organised such that the ideas from the speakers and sessions flowed and key messages were clear. Perhaps one of the most important stand-out messages was about the delicate interplay between agricultural research and culture and society, and how this drives development. While agricultural R&D has the power to shape communities, it must be implemented with careful consideration of societal systems such as family structures, gender roles and community practices. For example, distinct gender roles in the Pacific may influence how farming practices are implemented. The surrounding policies must therefore consider both tradition and science and how they must work together to meet the needs of developing communities. Similarly, researchers and policy advisors should not work in developing countries, but rather with developing countries to achieve this balance between policy and tradition. While Australia has great potential to provide impactful research, the developing communities we work with can equally offer a wealth of knowledge on their land and traditions, and this should guide our research targets so that our output is relevant to specific communities in the context of their culture and economy.

Finally, perhaps the most important key message, was that we (the scholars) are the future of international agriculture research for development. We are the individuals who will drive research, policy, and ultimately the change needed to provide impact for developing countries. We must start getting involved now, connecting our new ideas and research with the existing system, to make long term change.

Pinhui Wang, Australian National University

Mentor: Chris Dale

The 2022 Crawford Fund scholar program was a great opportunity for early career researchers to network with each other as well as the public and private sectors that are involved in domestic and international agriculture. This year's conference was centered on the theme of "celebrating agriculture for development- outcomes, impacts and the way ahead" as well as celebrating the 35th anniversary for the Crawford Fund and the 40th anniversary for ACIAR.

The scholar's day first speaker The Hon John Anderson AC, Chair of the Crawford Fund, farmer and former Deputy Prime Minister gave a talk on the topic "Why international agriculture research?" His speech was thought-provoking and gave me a lot to think about in the importance of international agriculture research and the future of agriculture in Australia. It is clear from the speech that the topic of agriculture research and the impact of the changing climate to Australia is something he is very passionate about.

The rest of the speakers that gave a talk at the scholar's day were all inspiring and gave me, a PhD student in plant biology many ideas about my career development should I wish to work in agriculture after my PhD program completes. I highly enjoyed the ice-breaking activities at the end of the first scholar program which gave me many opportunities to meet the other scholars and their mentors who are also doing this program.

The speakers involved in the conference itself were all excellent and I learnt a lot from their talks. I particularly enjoyed the Ministerial address by Senator, The Hon Murray Watt, Minister for Agriculture, Fisheries and Forestry and the talks given by Dr Alison Bentley, Australian Director of CIMMYT Wheat Program and Prof Neena Mitter, Director of QAFFI Centre for Horticultural Science and the Australian Research Council Industrial Transformational Research HUB for Sustainable Crop Protection at The University of Queensland.

The last scholar day featured invited speakers who told us about the ACIAR, RAID and overseas volunteering opportunities. However, the highlight of this day for me was the creative way of giving us a fact about an unknown country which we had to identify to split into our discussion groups. I also highly enjoyed the discussion that our group had about each other's experiences with the scholar's days and the conference.

I would like to give my thanks for the Crawford Fund for choosing me as a scholar for the Scholar program, as well as my mentor who gave me great career advice. I am grateful for this opportunity, and I have learned a lot and met many interesting and like-minded people from this experience.

Michael Wellington, Australian National University

Mentor: Bob Clements

Much is expected from agricultural research which sits in the hands of few, talented researchers, who are increasingly doing more with less. Resource use efficiency is the topic of my PhD research. I estimate and measure how agricultural systems can produce 'more crop per drop'; a phrase which was used several times at the Crawford Fund Conference. I am familiar with the way farmers have incrementally produced more outputs with less land, water, and other inputs thanks to all kinds of agricultural research and development.

The Conference made me realise that I also need to apply this kind of thinking to my own research output and that of my colleagues.

The declining investment in agricultural research and development, despite considerable payoffs, was detailed by numerous speakers. This is despite the acute need for food system research given the global food shocks we are experiencing via the three Cs: COVID, climate change, and conflict. Comparisons were made between agricultural research and medical research undertaken for the first C, COVID, by several delegates. What could we learn from the rapid production and distribution of the COVID vaccine? Are there similar efficiencies to be gained in, for example, the breeding of better crop genotypes? It struck me that this was an interesting and worthwhile, yet possibly nonsensical, comparison due to the great structural differences in research administration.

While there was great public and private spending on medical research at the onset of the COVID pandemic, agricultural research has been battling declining research budgets, yet still improving outputs. While there were expedited regulatory hurdles during the pandemic, agricultural researchers have been dealing with increasing regulatory burdens, yet still producing more research. While there was great public demand for vaccine development during the pandemic, agricultural researchers have been facing increasing public scrutiny (though the anti-vaccine movement tell us this may be a constant). Do we need a global food shock, as we had a global COVID shock, to justify research investment? Or can we continue 'flying under the radar' and delivering 'more with less'?

This is not to say that we should embrace our success and accept the status quo, the conference revealed numerous necessary transitions the agricultural research community must make. The importance of local and indigenous knowledge was emphasised by numerous speakers, including in the address delivered by Dr Audrey Aumua. Dr Beth Woods rightly noted that this is an issue we are still grappling with in Australia in her vote of thanks for Dr Aumua.

We are also faced with changing paradigms of production, consumption, and recognition of less tangible social and environmental costs and benefits. It was evident in numerous presentations, but more notable in the Q & A sessions, that our global research institutions are navigating through changing community expectations of agriculture. There were clearly divergent views on the allocation of research resources between productivity and sustainability focused research, and on technological versus social and policy interventions. Some tension is inevitable and likely to be healthy; and the Crawford Fund Conference provides a worthy forum for the contestation of such grand ideas.

Regardless of which research fields and endeavours win the support of investors, it is clear that we will be expected to do more with less. Fortunately, as young researchers, we are blessed with a supportive network of experienced agricultural practitioners and scientists. We can look back on the legacies left by international projects delivered by great institutions and their people. The presence and encouragement of these 'wise-heads' made the Crawford Fund conference a celebration of the past and a salute to the future.

Salome Wilson, Australian National University

Mentor: Bosibori Bett

Being part of the 2022 Crawford Fund Conference Scholars Program was a great experience. Starting my PhD in 2022 I had become all too used to cancelled conferences, so I was very excited to be part of the Crawford Fund Conference and in-person scholar activities this year.

The scholar activities before and after the conference were an excellent chance to meet other students and researchers. I learnt so much just from discussing their research and projects during the course of a few days. I also enjoyed talking with the many mentors who were so generous with their time and advice. RAID members who helped facilitate did a great job and were also very encouraging, sharing their experience in international agriculture and how they got started in their careers.

From the conference, my highlight was Session 5 with presentations from Dr Alison Bentley, Prof Neena Mitter and Dr David McGill. These three presenters showed us how change grows over time, supported by a clarity of vision and long-term engagement.

Dr Alison Bentley shared a global perspective on wheat for the future, where a critical crop in our food system can also drive social and economic changes. Current supply shocks and crises show us how important it is to be globally connected, but increase resilience and capacity throughout the entire network. As we continue to feel the impact of the climate crisis, this work only becomes more important to ensuring global food security.

Prof Neena Mitter showed us how RNA-based Biopesticides can be used to sustainably manage pests in a remarkably diverse range of crops. Prof Mitter shared how the seed of an idea had grown into an entire team of researchers and supporting organisations. Despite the challenges along the way, innovative technologies such as BioClay drive the adoption of sustainable practices in agriculture and along the entire agribusiness value chain.

Dr David McGill shared the experiences from a long-term extension program in Pakistan. It's clear from his talk how important extension is, but I was impressed by how the programs and ideas changed over time and in response to both the data and needs of farmers and communities. As a researcher in molecular biology, the cycle of design, test, build and learn is very familiar, so it was great to see it applied in such a thoughtful way to extension at every level of organisation within the farming network.

What tied these three talks together for me was how building change takes time, involves challenges, and requires patience and perseverance from a dedicated group of people. This was the most important and motivating message I took from the conference.

I would like to thank my mentor, Dr Bosibori Bett, ACT Crawford Fund Coordinator Tony Fischer, RAID network organisers and Crawford Fund Conference organisers for all their work to facilitate this experience.

NEW SOUTH WALES



Scholars from NSW (L to R) Amy Bates, Anneliese Austin, Ali Bajwa, Thi Ha Lien Le, Tabita Tan, Eleanor Armati and Mikali Anagnostis pictured with the Crawford Fund NSW's Coordinator Helen Scott-Orr.

Mikali Anagnostis, University of Sydney

Mentor: Anna Mackintosh

Returning from the 2022 Crawford Fund Conference, my head is spinning with all of the opportunities that exist in international agriculture and with the faces of the kind and inspiring people I've met over the past three days. The Crawford Fund's annual conference, "Celebrating Agriculture for Development: Outcomes, Impacts and the Way Ahead", captured the legacy of Australia's investment in international agriculture over 40 years. We heard stories of partnerships that have lasted through decades and of the way these relationships have created a more equitable and food secure future. We were also confronted with the impacts of COVID-19 and the war in Ukraine, which are compounding insecurities in the global food supply. I heard how deeply needed agricultural research for development is and felt the mantle of invitation extended from a welcoming and industrious body of researchers.

As a third-year undergraduate, the pathways into a career in international agriculture have often seemed elusive. The incredible work of researchers and policy makers has deeply inspired me but felt somewhat out of reach.

Through the scholars' program, researchers whose work is making a profound impact in the world took the time to tell their stories and chart their own courses from undergrad to where they are today. As the trajectory was demystified, I was amazed by how diverse and non-linear their pathways have been. I'm so grateful for the generosity of the speakers and mentors involved in the scholars' program, who were invariably warm and patient, willing to answer my questions and chat about how they have arrived where they are. I'm particularly grateful to my mentor, Anna Mackintosh. My conversations with Anna were invaluable in helping me piece together Australia's acronym-dense, international agriculture landscape. I also deeply benefited from her zooming around the conference with me, connecting me with people whose careers align with my passions.

Through conversations and the conference proceedings, I began to understand the current movement towards systems thinking, and towards agricultural development that centres the needs and perspective of communities, rather than just yield. We were frequently reminded that development projects exist within complex social and environmental systems, which require us to nurture a dialogue with research participants, as well as with policy makers, the media and whoever else will listen! As an agriculture and sociology student, it was immeasurably affirming to hear the social sciences valued as an integral part of agriculture for development.

I have often felt torn between passions in horticulture and sociology, so I was deeply encouraged by Dr Alison Bentley's advice to find the value you personally bring to international agricultural. This certainly rang true in the diverse career stories of the presenters at our scholars' days. I felt hope and a great deal of excitement learning that as people followed their passions and built diverse relationships, they found a career in international agriculture that fitted them, even if it didn't look how they were expecting it to.

Eleanor Armati, University of Sydney

Mentor: Harry Campbell-Ross

Attending the Crawford Fund conference was a wonderful experience to be surrounded by like-minded people in different stages of their career, with a range of agricultural backgrounds. As a current PhD student, the exposure to these people allowed me to see various opportunities available in the agricultural industry. Additionally, it gave me an increased understanding on how to become involved with international agricultural development and highlighted career paths I had not considered or even knew existed.

The Crawford conference provided me with many insights into the challenges that surround improving agriculture and food security. This was displayed by Professor Andrew Campbell who highlighted that agriculture is currently facing the challenges of the 3 C's: climate, covid and conflict. The importance of reducing the impact of these three C's was evident as it was illustrated that currently 30% of the global population currently suffers food insecurity. This was further supported by the alarming statistic that around 3 billion people cannot afford a healthy diet, with approximately 25% of people living on less than US\$3.20/ day. Dr Philip Pardey illustrated that these challenges will be harder to override with the current decrease in agricultural funding for research and development, with the total overall Global Research and Development budget for agriculture shifting from 7.4% in 1980 to 4.4% in 2016. This displayed how integral it is to place more resources into agricultural research to assist in alleviating the challenges that currently restrict achieving global food security.

Another key takeaway from attending the conference was that agricultural research needs to be conducted with a holistic approach. We cannot just work in our silos of research but must collaborate to have an inter-disciplinary approach from the planning stage such as involving engineers, policy makers and scientists. This was also echoed by Jessica Raneri stating that we need to include nutritionists in studies. This is vital, as Jessica Raneria showed the importance of considering agriculture and nutrition, as 1 in 5 deaths are associated with diet. A collaborative and holistic approach to research was further emphasised by Dr Robert Glasser who gave an example of needing to simultaneously research different climate disasters at the same time. A bushfire often occurs at the same time as a drought and heat wave. Thus, there are often many issues occurring simultaneously within a country. Therefore, people in their respective areas of research, need to work collaboratively as climate impacts do not happen independently. This has encouraged me to adopt more of an interdisciplinary approach with my own research in the future.

I am very grateful for the opportunity to be involved with the Crawford Fund conference and scholar program. I would like to thank the NSW Crawford Fund Committee for allowing me to attend this event and have this experience which has equipped me with enthusiasm to contribute to achieving global food security.

Anneliese Austin, Bees for Sustainable Livelihoods, Southern Cross University

Mentor: Regina Bi Nukundj

The Sir John Crawford Memorial Address, presented by Dr Audrey Aumua, could not have been a better introduction to the theme of the 2022 Crawford Fund conference; 'Celebrating Agriculture for Development: Outcomes, Impacts and The way ahead.' Dr Aumua highlighted the importance of harnessing indigenous skills and knowledge to bring forth community-driven, gender equitable, inclusive solutions that recognise and respect Pacific peoples' interconnectedness to the land and the sea. It was a thought-provoking address, and as I reflect upon her words now, I could not think of a better way to begin the conference.

I couldn't have prepared myself for the breadth of information, knowledge and insights raised throughout the conference program. From the economics of aid allocation funding to the fiscal and social benefits of investment in agricultural research for development. From the benefits to individuals and communities through to the capacity to influence the development of national and international policies and standards that impact people's lives worldwide.

New technologies and solutions were presented, from climate-resistant wheat strains to RNA pest management technologies that could potentially reduce the use of harmful pesticides in agriculture. We heard of adaptive participatory social science methodologies being integrated with technical programs to understand the individuals and communities who are intrinsically connected to our food production systems.

In particular, I note Dr Jean Balié's presentation, which reminded us of both the fragility and interconnectedness of the world's food systems and the critical importance of transforming these systems to improve livelihood outcomes. Dr Balié spoke of the need to address gender inequalities and ensure the inclusion of youth and other marginalised minorities. He passionately spoke of women entrepreneurs as future agents of change to lead communities into a more resilient, sustainable, and productive future. These words resonate so strongly against the words of many of the speakers at this year's conference, who highlighted the critical contributions of women to global nutrition and food security, particularly in low/middle-income nations.

Since attending the conference, I have gained a deeper understanding of how agricultural research for development can change lives and a profound appreciation for all the researchers who have committed their lives to helping others. I also can see how important it is that researchers need to be able to communicate new knowledge and inject a robust, real-world research perspective into the development of policies to drive change at a structural level.

Thank you to the NSW Crawford Fund Committee for sponsoring me to participate in the 2022 Crawford Fund Conference Scholar Program. I was blown away by the extent of work being conducted by many passionate people and their dedication to supporting the Crawford Fund and, in turn, early career researchers like myself. Thank you also to my fellow scholars, all the mentors, the RAID volunteers, Cathy Reade and Larissa Mulloot and my supervisor Dr Cooper Schouten for encouraging me to engage with the Crawford Fund.

Ali Bajwa, NSW Department of Primary Industries

Mentor: Deirdre Lemerle

The 2022 Crawford conference was an outstanding event, covering a wide range of contemporary topics in the international agriculture and development space. For me, personally, this was the first major scientific conference in three years, coming out of the COVID-19 restrictions, so it was quite refreshing and rewarding. As an early career scientist, it was a great opportunity for me to meet many people from various sectors of Ag and discuss potential research & development ideas as well as some innovative ways to communicate my research. I really enjoyed all the talks, activities and sessions on the scholar days, especially listening to the perspectives of the experienced and accomplished researchers on day-one as well as those of young (NextGen) stars on the last day.

The conference dinner was a great networking opportunity, and the Crawford Memorial lecture was impressive and motivational. At the conference day, I thoroughly enjoyed listening to all the high-impact scientists from national and international organisations. The take-home for me was that international Ag & development is such a dynamic field that excels with multi-disciplinary collaborations and a lot of passion to 'do well by doing good'. It was thought provoking to learn about many development projects relevant to sustainable agriculture and biosecurity in the Asia-Pacific region. This conference was unique in that it not only delivered general educational and networking benefits but also provided me several opportunities for two-way knowledge exchange, discussions for collaborations and exposure to innovative, practical research directly benefiting the primary industries in many developing countries.

I was lucky to have one of the best weed scientists around, Prof Deirdre Lemerle, as my mentor who I always benefit from learning from. I intend to continue my involvement with Crawford fund and the RAID network as well as keep many of the professional connections I made at this prestigious event.

Amy Bates, Charles Sturt University

Mentor: Lindsay Falvey

The seamlessness of the three-day event is a sentiment to all parties involved in planning, organising and executing the Scholars' program and conference, congratulations once again!

The pairing of scholars with mentors was an excellent method of ensuring scholars were able to extrude as much from the program as possible. Meeting our mentors was also a lovely way to settle into what was to be an incredibly inclusive space. The scholars' days were studded with talks from Dr Alison Bentley and Dr Deirdre Lemerle, leaving scholars in awe of the possibilities. This was heightened by an in-country perspective from Ms Regina Bi Nukundj a Livestock Officer from PNG, and Dr Anika Molesworth. Prof Andrew Campbell introduced us to ACIAR and encouraged us to get involved. Christine Munzer and Cathy Reade endowed their wisdom surrounding volunteering and capacity building, and the perspectives from RAID network were the cherry on top of a fantastic scholar program, filling us with motivation and a sense of heading in the right direction (comforted to know this looks different for everyone!). The inclusion of personal tales alongside professional was a refreshing highlight.

The audience at the conference were at the mercy of a star-studded program. The highlights that sung through almost every session were those of sustainability, environment, policy and economy, access and collaboration and to ensure all relevant parties are at the table when discussing potential projects. An undertone of the conference was the concept of time. As in almost everything we do, time rules the roost, and the conference was not immune. A lot of questions around time; "what can we do now?", "what can we do in the future?", were raised. Session panellists often succumbed to the pressures of time and we possibly didn't hear all they had to offer, but were able to catch up while sharing a bite to eat and drink. Encouraged by the Hon John Anderson to think critically, I found myself asking in the race against so many obstacles, how can I best contribute and use time to my advantage in the face of a changing climate, political unrest, and the food crisis that is currently gripping the world. These questions will remain with me as motivation as I work through the final phase of my PhD and into the future.

The three-day experience was incredibly beneficial, stimulating and motivating. It offered world-class networking, a broad scope of international research, firsthand experiences, what to expect and the personal and professional benefits of being involved in the international space. My mentor, Lindsay, asked stimulating and engaging questions and introduced me to peers and former colleagues and highlighted the importance of self-promotion as an essential component of professional development. An experience, all scholars will agree, was irreplaceable and will remain with us as we move forward in the world of international research and development.

Tabita Tan, Charles Sturt University

Mentor: Peter Wynn

Following two years of COVID related travel restrictions, state lockdowns and endless online meetings, it was wonderfully refreshing to finally attend the Crawford Fund Conference in person and interact face-to-face with mentors and peers.

The backgrounds of the conference speakers were diverse and included science, sociology, economics, and policy. Agriculture for development is multi-faceted, and it was reiterated by speakers that a holistic approach encompassing several disciplines was necessary for success. Elements of high impact projects include quality collaboration between researchers and local people as well as ownership of the work by the beneficiaries. Policy, technical implementation, and the capacity to scale up should be considered at the design phase of the project so that many in the community may benefit from the research rather than a few individuals. Another point that stood out for me was the excellent economic value of continued investment in agriculture but that there are difficulties in securing long term funding and the risks have become greater. Peppered throughout the presentations were examples of the positive changes that real-life projects were able to achieve. Altogether the conference has inspired in me that agriculture for development is a worthwhile pursuit and that problems should be approached with a broad perspective.

I very much enjoyed the scholars' activities which facilitated networking with mentors and peers in smaller groups and provided sessions targeted towards helping scholars into international work. The speakers discussed their own career pathways, the motivation and challenges for international work and the importance of having a work life balance. A central theme at the conference was the encouragement of emerging scientists to step up and participate in agriculture for development. This bolstered my confidence in approaching those already established in the field for ideas and opportunities.

I am particularly grateful to my mentor Dr Peter Wynn who took the time to get to know my scientific interests and personal situation, providing suggestions on who to connect with and avenues to explore prospects. Peter also tasked me to ask questions of conference speakers, offering to buy me a cup of coffee if I asked at least three questions. I took on that challenge and now appreciate the wisdom of his advice. It has taught me to be attentive and inquisitive during the sessions and helped me overcome my shyness. Having already made myself known it was then easier to talk with the speakers during the breaks.

I have been immersed in my own domestic concerns since starting maternity leave last year, so it was exciting to be at the Crawford Fund conference engaging with global issues such as food security and climate change. I am feeling motivated to get back to work and being involved with the wider world!

EXTERNALLY SUPPORTED SCHOLARS

- THE UNIVERSITY OF NEW ENGLAND

Thi Ha Lien Le

Mentor: Anika Molesworth

After two years of restrictions due to COVID-19, the Crawford Fund conference was the first in-person event that I have had the pleasure to join. It was such a great opportunity for us all to gather, network and celebrate Agriculture for Development – Outcomes, Impacts and the Way Ahead with a focus on food and nutrition security. It was particularly inspiring for me - a third-year PhD student at the regional University of New England, who comes from an agriculture-based economy in Vietnam and is transitioning to early-career researcher in agriculture economics and social science. Leaving the conference and scholar events, I brought back a number of highlights and key messages.

Firstly, there was compelling evidence on the high rewards of agricultural research and development (R&D) from the presentation by Dr Philip Pardey. With a Benefit-Cost Ratio of 10:1, agricultural R&D was pro-poor and more profitable than many other government investments. This message encouraged me a lot to be more determined to pursue a future career as an agricultural researcher. However, the decreasing trend of investment in agricultural R&D was disappointing, which was the situation in many countries including Vietnam. This made me more aware of the important role of government policies and private sector in promoting diverse investment schemes in "Slow Magic" agricultural R&D.

Secondly, it was interesting that agriculture was seen from multi-disciplined perspectives in the keynote address by Professor Andrew Campbell and from the panellists in the conversation: From outside agriculture – Looking to the future. The agricultural innovation system in the future would be the integration of research, technology development, private sector value chains, finance, extension, education and governance. It would be also the combination between technical and social science, and between research and policy that goes beyond production-focused and farm-based scale. This confirmed what I am doing and strive to follow in the future in my research career.

Thirdly, the RAID network with the idea of international agriculture presented during the scholar activities inspired me with out-of-the-box thinking. I am used to working mainly within Vietnam's agricultural system, however, in the future, I am thinking of leaving my comfort zone to share and contribute more to international agriculture. I may start from the Lower Mekong Basin, which is home to a number of developing countries with a lot of commonalities with Vietnam. The speakers and volunteers also shared the challenges that we should be aware of and get prepared for, which was highly appreciated.

To sum up, the Crawford Fund conference provided me with updates on current and future agricultural development, and with inspiring messages for my future career. As importantly, I can take away a broader network of scholars, mentors and other actors who share the same interest in agricultural R&D. For future conferences, I would like to hear more from the farmers as key beneficiaries and join discussion from social perspectives on inclusive and just agricultural transformation in developing countries.

NORTHERN TERRITORY



Our inaugural international scholars, Theresa Wambon-Kambuy (left) and Merie Dada Unagi (right) from the Department of Agriculture & Livestock, Papua New Guinea pictured with Maddison Clonan and Helen Garner (Chair) from the NT Committee, and NT scholar Jane Ray (second from right).

Jane Ray, NT Department of Industry, Tourism and Trade

Mentor: Soytavanh Mienmany

The student award to attend the Crawford conference 2022 provided a terrific opportunity to learn about Australia's overseas agricultural aid programmes and the Crawford fund's role in agricultural development through collaboration and training. The topics covered at the conference were broad. They provided great insight into how agricultural aid programs fit within governmental policy, how programs are prioritised and the importance of soft diplomacy in the region. It was fantastic to attend a face-to-face event following the COVID years of zoom meetings, and the networking sessions were a highlight. Networking sessions were well structured and provided the opportunity to connect with a wide range of people in the overseas agricultural development community.

The Parliamentary conference program 2022 provided an excellent overview of the drivers and importance of aid in the region. The keynote address 'Science for nourishing the world, sustainably' given by Prof. Andrew Campbell, CEO of ACIAR, set the scene. The address noted that ACIAR has been delivering agricultural science to solve food security problems in developing countries through partnerships for 40 years. ACIAR's research programmes have certainly made a positive difference to people's livelihoods in many developing countries. Andrew also highlighted that we currently face three significant challenges to global food security, climate, COVID and conflict.

The conference session 'Building agricultural and food innovation for the future', chaired by Dr. Gabrielle Vivian-Smith, was particularly interesting. Dr Alison Bentley highlighted that wheat is pivotal to alleviating world hunger and that a multi-faceted and multi-layered response is required to stabilise the global wheat supply. Prof. Neena Mitter discussed the importance of research in developing sustainable agricultural solutions such as RNA-based biopesticides and BioClay technology.

Attending the Sir John Crawford Memorial Address and networking dinner was a great privilege. This special event was held at the Great Hall, Parliament house. Dr Audrey Aumua's speech was inspirational and provided great insight into the issues surrounding food and nutrition security in the Pacific islands. She pointed out that 'it takes a village' and that solutions must be about inclusive and comprehensive action.

The scholars' program was in addition to the Crawford conference and included a mentoring program. The RAID team did an excellent job running the additional events and networking sessions. The talks provided in the sessions were very informative. One of the take-home messages was the importance of developing personal relationships and learning to network effectively at such events. In addition, it was inspiring to hear from Australian volunteers about the program, their experience, what they got out of it, and where they are now.

Being paired with a mentor provided the opportunity to develop a professional relationship enabling knowledge transfer and enhanced networking opportunities. My mentor, Soy from Laos, is experienced working within ACIAR programs. She provided me with great insight into some of the agricultural challenges in Laos. In the future, we aim to develop a project working on banana diseases in the region, an area of mutual interest.

EXTERNALLY SUPPORTED SCHOLARS

- DEPARTMENT OF FOREIGN AFFAIRS AND TRADE

Merie Dada Unagi, Department of Agriculture & Livestock, Papua New Guinea

Mentor: Maddison Clonan

The Crawford Fund 2022 Annual Conference was an incredible experience and I feel so privileged to have attended as one of the first two scholars from Papua New Guinea. The conference had phenomenal speakers from various backgrounds presenting pressing challenges and way forward in agriculture particularly on food security, climate change, Covid 19's impact on the food system and sharing experiences on work done in developing countries.

When I received the invite from the Crawford team to attend the Crawford Fund 2022 Annual Conference, I listed few goals that I would want to achieve from the conference. The goals I listed would, I believe, help me in my job as a policy officer in the agriculture sector. Networking and connect with like-minded professionals and fellow scholars, enhancing presentation and negotiating skills is a core area that my department needed to build capacity on.

To my satisfaction, I achieved some of those goals I set out to achieve and I am delighted to have connected with scholars and professionals from as far as New Zealand! My proposal to have presentation and negotiation skills included in an upcoming Crawford Fund Master Class was taken onboard by my Northern Territory team to raise in the board meeting. I am looking forward to a favorable outcome on that and hope that other PNG scholars especially in the agriculture sector can participate in the up-coming Master Class on the proposed topic as there is great need in that area.

Overall, the Crawford Fund 2022 Annual Conference gave me an insight into the bigger picture of the world's food systems. It was a great learning experience for me, and I have captured some of the information that was presented at the conference into the current corporate plan that my department is working on.

I wish to thank Crawford Fund and the Australian Department of Foreign Affairs and Trade for sponsoring my participation and hope that more scholars from PNG Agriculture Sector attend its programs in the future to enhance our understanding and share ideas to continue to advance Agriculture in the Pacific.

Finally, my mentor was very supportive throughout the 3-day program and I am grateful!

Theresa Wambon-Kambuy, Department of Agriculture & Livestock, Papua New Guinea

Mentor: Maddison Clonan

I was nominated by my country mentor, Mrs Regina Nukundj as the nextgen women in agriculture to attend The Crawford Fund Annual Conference for 2022. I at first did not have any idea about the event and its activities, all I thought was this would be a great opportunity to connect with people who may share the same experiences which I may learn from to better facilitate and coordinate current rural farm programs and also find opportunities to expand my work interest in research extension.

My focus coming here was to bring back with me all the necessary information from the Crawford Fund speakers, mentors and other scholars to improve my area of work. To my surprise even before leaving Papua New Guinea, I received an email from another scholar in the area of Biogas which is currently a program in the section I am also in, yet has not developed due to less research and extension done. I believe that's when, I realized the importance of the conference "Networking".

As I shared my work and experiences and learned from other scholars in the group activities organised by the RAID team, I noticed the keen interest and supportive comments from facilitators and mentors would give as encouragement and ideas to enhance individual capacity and work in research and extension. I was very impressed at all the quest speakers, panel speakers and moderators in all the sessions attended. The one thing that amazed me is that I was given that great opportunity to connect with very senior, high level experienced speakers and invitees who shared and networked together humbly at their lowest to get their key messages across to scholars like myself who only have a degree.

I have been currently assisting rural farmers adopt new methods of planting of our local food crops from simple seed multiplication and nursery to adapting climate smart agriculture practices for sustainable climate resilience agriculture and this conference has intensely strengthened and motivated me to continue my journey to change the mindset of rural people and make a paradigm shift in agriculture whilst still applying traditional and local concepts where applicable.

I thank my mentor Ms Maddison Clonan for her high instincts in recognizing my areas of interest and assisting to introduce valuable speakers to me. I also have been inspired by the Chair, Hon John Anderson as a farmer yet having a very high profound background work experience; Dr Madaline Healey, Dr Anika Molesworth and Dr Alison Bentley for sharing such useful experiences from their research and extension work; and also Dr David McGill for sharing those very impressive yet useful graphs and diagrams on how community extension work was done on the ground for impact and continuity of the project.

I look forward to sharing my work with other institutions connected to the Crawford Fund and hope my work in the area of extension will enable me through the fund to also further my studies in the area of sustainable agriculture. Thank you, Crawford Fund and RAID team for giving me this opportunity and I look forward to other opportunities also available in the Master Classes. Awesome stuff!!



Scholars from QLD (L to R) Rafaela Barbosa de Andrade Aragao, Joel Johnson, Ziwei Zhou, William Ramsay, Yichen Kang, Peter Harris, Trinh Huynh, Elena Hoyos, Sam Wakefield, Sabrina Morrison and Silas Atworekire pictured with the Crawford Fund QLD's Coordinator Bob Lawn.

Rafaela Barbosa de Andrade Aragao, Griffith University

Mentor: Lyn Hinds

The 2022 Crawford Fund Conference, titled “Celebrating Agriculture for Development – Outcomes, Impacts, and the Way Ahead”, was an enriching experience, where I got to listen to exciting outcomes on international agriculture. We heard valuable experiences and advice from experts in the area and had a taste of what is coming next. I could reflect on the ways forward and the challenges for sustainable and innovative agriculture.

The conference location was already a big win – in Parliament House. It was my first time there, and I got really excited about all the history behind it and got to know more about Australia’s political context. The former deputy prime minister of Australia, John Anderson, opened the conference and welcomed the scholars who attended this year. We had a long day at the conference, filled with presentations, panels and Q&As. The subjects were all exciting, and I learned a lot from the speakers and the other people attending the conference.

I really liked to see innovations such as the BioClay that Professor Neena Mitter from the University of Queensland presented. The application of science into practice is so important, this is the kind of research that motivates me to pursue a career in the international agricultural field. We also heard Jessica Raneri talk about nutrition-sensitive food systems. She highlighted the importance of nutrition in rural development, and how different seeds can contribute to better nutrition. Her presentation made me reflect on the significance of healthy food to having healthy people. Finally, Dr. Philip Pardey from the University of Minnesota talked about how Australia is positioned in the world agricultural market, the investments that we are making, what we have done and what we have found so far. As a foreign student in Australia, it really helped me to understand the agricultural context we have here.

In addition to the great conference presentations, all the scholars were matched with mentors. The mentors talked with us about their careers and stayed with us during the entire conference. I am grateful to my mentor who shared with me tips for my career pathways and introduced me to people within organisations where I would like to work in the future. It was an invaluable opportunity, I gained different perspectives on the many different paths that I can follow after finishing my PhD.

Furthermore, it was a great opportunity to hear about the exciting projects in international agriculture that the other scholars are working with. I met scholars from different states in Australia and could share experiences with them. Finally, another positive point was that some organisations such as the ACIAR had a stall at the conference. Having the stalls there gave me the opportunity to talk with people working for the organisations and understand more about the organisation’s culture and employment opportunities.

I really appreciated the entire experience at the Crawford Fund Conference and would definitely like to attend again. For the next conferences, I would like to see some participation from farmers. They are important stakeholders in the international agriculture context and seeing how they are using the technologies or policies that we created would add a very nice perspective to scientists. We can always learn from them about their necessities and how we can contribute more to that.

Trinh Huynh, University of the Sunshine Coast

Mentor: Madaline Healey

#1. A fresh perspective - Why do we focus on agriculture? Why international agricultural research? And why do you want to work in a developing country? What these questions mean here is that we if want to make a difference in Agriculture we should focus on “Why” and ask ourselves what we want to contribute? Where do you want to be? The presentations of Dr Alison Bentley and Dr Deirdre Lemerle provided the best opportunities for this. Also, the lessons presented by Anna Mackintosh were quite impressive to me, particularly reflection on what you want to do using the Ikigai Japanese concept. I realise that I have a passion for pursuing agriculture research, but it is not always clear why until I hear these shares. I think the Ikigai diagram would be useful for answering the 5W’s + H questions and linking back to what Alison and Deirdre said.

Inspirational stories and tips help me want to jump out of my comfort zone for continuous learning, improvement, and renewal. Key lessons and useful personal skills mentioned in the conference allow me to see things from new and different perspectives.

#2. Learning - As a forestry researcher, I was particularly interested in the discussion around climate change, environmental health and biodiversity loss, biosecurity and food system challenges. Many speakers (I cannot name all speakers here) presented throughout the seven sessions helped me see the big picture of sustainable agriculture. With diverse topics and multiple formats to learn and engage in on the second day of the conference, I have gained so many new ideas to address these challenges in agriculture. How can different management strategies and innovations be balanced with economics, the environment, and social benefits in the future? That is the big question that still exists in my mind, and I think learning invaluable knowledge from the conference will be useful to me to answer some small questions before addressing the big question I mentioned above.

#3 Networking, mentoring and volunteering - One of my favourite things about conferences is meeting my mentor and new people - colleagues. First, I'm lucky for having informal mentoring sessions from Madaline at my university and she has continued to support me to expand my network with new colleagues at the conference. Second, the conference designed a networking dinner on the first day, this was a great opportunity to connect and expand my professional networks (national and international expertise) and help me stay better informed.

In addition, on the second night, I enjoyed the Networking event with RAID. I had a large group of all scholars, we shared experiences in studying, internship and working in different fields. Interestingly, all scholars also had an incredible network day on the third day of the conference.

I was quite interested in listening to Cathy Reade and Prof Andrew Campbell about the work and opportunities for scholars to work with ACIAR and Crawford Fund. I have known a bit about ACIAR via my mentor (Madaline Healey) but having more explanation of the work of ACIAR from Andrew will help me in finding future opportunities to work in agriculture/forestry.

Finally, I can't say how good invaluable the experience from RAID's members was! I really enjoyed inspirational presentations from Anna Mackintosh, Maddison Clonan and Madaline Healey very much. Some useful tips to be a volunteer, a project leader and work with ACIAR are very important to me and all scholars to be more open minded. Learning a new language, a new culture, adapting to difficult conditions, and understanding local issues or farmer issues are key messages I have learned so far.

Thank you to the Crawford Fund Scholar Program for giving us such a great opportunity.

Yichen Kang, University of Queensland

Mentor: Tony Fischer

It took a long time for this Crawford Fund conference to take place in person since COVID-19 hit. I was so pleased to meet participants from such diverse agricultural sectors at this conference, including research, industries and government. This enhanced the whole experience as it provided me with profound insights of the global and Australian agri-food landscape. Coming from a crop breeding background, I am particularly interested in food security, which has greatly intensified in recent years due to the rising concerns over climate change, pandemic related matters and regional instabilities (i.e. Russia-Ukraine tension).

Personally, I enjoyed the talk given by Dr Alison Bentley, which highlighted the importance of accelerating wheat improvement to enhance future resilience of food systems. This is so relevant to my research and inspires me to better think of how to translate my scientific findings into policy and practice that would make an impact on our communities. It was also encouraging to see efforts across all disciplines being made to deliver innovations that empower agricultural research and development forward. At the end of the day, our goal is to build sustainable agri-food systems that are capable of feeding the world. And this will only be achieved if we apply quality science and revolutionary technologies (e.g. 'BioClay' spray for crop protection as mentioned by Prof. Neena Mitter), more importantly, we need to support partner countries across the globe. Furthermore, I had a strong impression of the growing community of the younger generations and women being more and more involved in tackling agri-food challenges. Improving these peoples' access to financing, agricultural training and education would represent a dramatic contribution to ending hunger in the future.

The conference mapped out the broad outlines of how our agri-food systems need to move forward, strategically and systematically. This has strengthened my commitment to agricultural for development, as I can tell that us youth have great opportunities to lift the impact of our research and collaborations on transforming agri-food systems for a better future. Agriculture is a complex physical-biological-human system, but coming from a pure science background, it has been hard for me to connect what I am doing with other system dimensions.

Attending the Crawford 2022 conference gave me a rare opportunity to start conversations with other Australian scholars, representatives of different sectors and mentors. This experience absolutely expanded my horizons in agricultural development from a socio-economic perspective and provided additional input for my PhD research. Lastly, the conference strengthened my passion for being engaged in international agriculture. I am glad that my research expertise can play a key role in addressing food security and agricultural economies, as continuously improving varieties through plant breeding is the most viable option for smallholders around the globe who feed the largest populations.

Sabrina Morrison, University of Queensland

Mentor: TJ Higgins

This year's Crawford Fund Conference coincided with the 35th anniversary of the Crawford Fund, as well as the 40th anniversary of the Australian Centre for International Agricultural Research (ACIAR). Being involved in this conference as a Crawford Fund Scholar was probably one of the most interesting conference experiences I have ever had.

One of the biggest highlights for me was seeing so many people – not just academics but professionals from all areas – working towards the common goal of global food security.

My conference experience commenced nice and early with a 6am flight from Brisbane to Canberra. I arrived on the day before the conference to attend the Conference scholars' activities, where I was able to connect with my fellow scholars, my conference mentor, TJ Higgins, as well as many of the amazing members of RAID (Researchers in Agriculture for International Development) who were involved in organising the day. Talking to TJ about his work in cowpea and his international experiences was a highlight and really gave me an insight into a career in this area.

One of my favourite talks from the whole event was the speech from Dr Audrey Aumua during the memorial address and networking dinner later that night. After the dinner I talked to Dr Aumua about her career and was fascinated to hear about her background in public health and involvements with ACIAR. This conversation really helped me to understand the multifaceted nature of food security challenges and the diversity of skills needed to address them.

The Crawford Fund Conference day was jam-packed with talks and panels from speakers in all areas of international agricultural research. It was amazing to see the breadth of specialists working towards international food security and sustainability. One of the talks that stuck with me was Dr Jean Balié's presentation on the agricultural research of CGIAR. I found it interesting to learn about the social and environmental projects that CGIAR supports in addition to those directly related to agriculture, as well as the interplay between socioeconomic challenges and food security.

It was wonderful to not only hear from, but also engage with so many inspirational professionals. It was so interesting to learn about their personal career trajectories, and how their interests have changed as their journeys have progressed.

The key message I took away from the conference was the value of collaboration between disciplines, organisations, and countries in the field of international agriculture. Food security is a multifaceted challenge that requires a dynamic range of contributors. Increasing cross-disciplinary and cross-cultural collaborations has led to leaps in international agriculture in recent years and will likely be important as we address climate-related challenges in the future.

William Ramsay, University of the Sunshine Coast

Mentor: Sarah Paradice

The theme of the 2022 Crawford Fund Conference was "Celebrating Agriculture for Development – Outcomes, Impacts, and the Way Ahead" and given my key interest in agroforestry, the conference left a profound impact on my curiosity and desire to learn, practice, and implement more holistic approaches to food security.

The conference offered an array of speakers from a multitude of scientific, cultural, and practical backgrounds. This key attribute highlighted to me the profound importance of integrating many different disciplines and approaches to solving food security problems in any, and all, project designs and implementations. The speakers were also hugely valuable not only through their academic and professional lessons but through sharing their personal journeys and experiences working in development. One story I will always remember and draw from was by Madaline Healy, it struck a chord with me that she came from a similar cohort and slowly volunteered, worked, and gave of herself to the development space to the point of being a mentor and presenter at the conference. Her story provided me with hope and confidence that I too am on the correct path.

The format of the conference created an incredibly welcoming and inviting space for young scholars such as myself to approach, learn and network with more experienced and learned academics. The conference held friendly and fun energy throughout its program that kept me engaged, curious, and eager to learn more. Furthermore, the connections I made with my fellow scholars were invaluable as they gave me the chance to bounce ideas, laugh, and learn what the future generation of agricultural development can be.

The more profound taking point from the conference for me was delivered by Dr David McGill, his presentation introduced me to the notion of 'Extention', little did I know that my interest, studies, and Crawford project were securely cemented within this approach. After returning from the conference, his presentation gave me a scope in which I have focused my career trajectory.

Ziwei Zhou, Griffith University

Mentor: TJ Higgins

The Crawford Fund 2022 Annual Conference titled "Celebrating Agriculture for Development – Outcomes, Impacts and the Way Ahead" was certainly impressive and invigorating. As a third-year PhD student approaching graduation, it was a great opportunity for me to gain the most updated knowledge of agricultural research for international development and, also to find out more possibilities in my career path.

The highlights and key messages of the conference for me are the agriculture challenges during the pandemic, as well as the importance of food sustainability in future. Based on my own opinion, the first eye-catching talk came from Professor Andrew Campbell, who commenced the day as the first keynote speaker and presented the topic of "Science for nourishing the world, sustainably". He summarised the 40 years of science for development partnerships in just 20 minutes but gave me a deep and comprehensive understanding of the contemporary food security crisis, the converging insecurities, and the imperatives. To date, still around 30% of the world's population suffers from moderate-severe food insecurity, which indicates that the current agriculture research and innovations are still not enough. While the strategies developed by ACIAR to enhance the collaborations and partnerships between Australia and developing countries sound very inspiring for creating a beneficial impact on the planet.

As I'm coming from a plant genetic biotechnology background, I was moved by the presentation given by Professor Neena Mitter. She showed the research carried out on RNA-based biopesticides for sustainable agriculture using BioClay technology. With the increasing usage of chemicals as crop disease control agents, it was heartbreaking to see that children die from eating legumes contaminated by chemical pesticides. Therefore, it is essential and urgent for developing clean technologies for agriculture. From Professor Mitter's presentation, BioClay is an environmentally sustainable platform for crop protection, which is a ground-breaking technology to influence agricultural production

and the socio-economic dynamics of the farming community. The tomato leaves look so gorgeous when treated with BioClay! I wish our future research in biotechnologies could more focus on environmental sustainability like Professor Mitter's study and assist in delivering real-world outcomes.

I have deeply appreciated The Crawford Fund for selecting me as a scholar and arranging such fantastic scholarly activities. It is a valuable chance to talk to so many scholars and share our experiences with each other.

Also, it is wonderful to have international agriculture research experts as mentors. I am especially grateful for Dr TJ Higgins; he is an experienced scientist in the gene modification biotechnology area and has remarkable achievements in developing biotechnological approaches to replace pesticides for insect-resistant cowpea. As my mentor, he gave me a bunch of positive feedback on my research project, which really encouraged me. He was also active in introducing me to his colleagues, which inspired me a lot for future career decisions.

I would like to extend my gratitude to the Queensland committee which offered me this opportunity to attend this wonderful event. Moreover, sincerely thank Cathy Reade and Larissa Mullet for arranging the whole three days activities and taking care of us very well. Overall, it was an unforgettable experience and broadened my focus on the future development of the agricultural revolution.

EXTERNALLY SUPPORTED SCHOLARS

- CENTRAL QUEENSLAND UNIVERSITY

Silas Atworekire

Mentor: Jessica Fearnley

Where can I start from? The 2022 Crawford Fund Scholar conference was my very first conference as a young and inexperienced researcher. Though the conference gave me a huge opportunity to interact with researchers from all walks of life. The program discussed issues which affect agriculture in a broader context. The 2022 Crawford Fund Conference major theme was celebrating agriculture for development, outcomes, impacts and way forward.

The conference was officially opened by the address of the Hon John Anderson, current chair of the Crawford Fund. I loved the charisma of the Hon John Anderson as he emphasised the points that agriculture development faces enormous challenges, however, he gave hope to deal with the current agricultural problems of food insecurity, climate change among others. Mr Anderson is a farmer so he understands the challenges Australian farmers face and his speech was rather seasoned and full of experience as one of the affected. He called upon young researchers to tackle issues which affect farmers in Australia and globally, to be part of solutions and changes in the industry. His opening remarks could easily relate with my previous studies in environmental science and the conference was so appealing to me.

The conference gave me a bigger perspective regarding the different challenges impacting on international agriculture research development, the impacts of the 3 Cs- climate change, covid and conflict were mind blowing particularly how prices of wheat have skyrocketed due to conflict between Russia and Ukraine.

Dinner at the Australian Parliament House was great for networking and RAID networking after the dinner was great. Many mentors in the conference shared their experiences and the scholars benefited interacting with their mentors. Personally, my mentor was supportive all the way during the process of the conference, and it was the starting point to connect with my state RAID network.

The second day of the conference had a series of presentations by different speakers, the day started with the keynote address from Professor Andrew Campbell with a message on science for nourishing the world. Professor Campbell demonstrated great research which has been done by ACIAR mostly in Asian developing countries and Africa, highlighting the great strides ACIAR has made in combating the impacts of climate change and covid. Professor Campbell made it clear that international agricultural research will move forward through great partnerships among different researchers. There is a need to commit resources to agriculture research by different development organisations, innovations are needed to deal with the current problems and use of sophisticated methodology and technology.

My take home was the discussion by different speakers about the opportunities available in agricultural international research. It was such an honour to hear and learn from the experiences of experts in the field. I am forever grateful and privileged to have been part of the conference as it shaped my thoughts on the way forward regarding volunteering opportunities and the process of funding available in agriculture.

I would like to take the opportunity to thank the Crawford Fund conference committee, Cathy and team for the amazing work done at the Fund and their great care for the young scholars. Great thanks to all the conference speakers and organisers. I thank the Queensland state committee and Central Queensland University for giving me such an opportunity to be part of this conference.

Elena Hoyos

Mentor: Tony Gregson

The Crawford Fund Conference was a great opportunity in 2022 as it ignited a huge desire within me to keep pursuing a career in agriculture with the exciting combination of analytical chemistry. Most of the oral presentations and particularly the one presented by Jessica E. Raneri, left me with a sense of positivity about the future of agriculture, nutrition, and much-needed innovative developments, which motivated me to impact positively in research worldwide.

I am currently enrolled as a full-time candidate Master of Research in Chemistry in Rockhampton at Central Queensland University and an active member of the Bioactive Group, at the School of Health, Medical & Applied Sciences, North Rockhampton, QLD, since early 2021. My major research project aims to estimate the typical levels of the major nutritional compounds of the black sesame seed cultivated in northern and central Queensland. This project also aims to compare this nutritional content between several different sesame varieties grown in two different irrigation conditions, which

simulates one of the most prominent topics like climate change affecting numerous crops across the world.

As an engineer, passionate about food chemistry I have become more interested in the practical use of diverse expensive equipment in combination with the basic principles of analytical chemistry, which are highly needed to overcome potential challenges in developing nutritionally superior cultivars.

I have loved working in a collaborative environment, where several fields and multicultural expertise have enriched my experience of studying overseas by becoming enthusiastic about emerging technologies in close collaboration with industry, growers and government, to boost innovation, productivity and economic growth. For example, the remarkable work performed by Neena Mitter, collaborators and associate PhD and master students has inspired me to seek and ultimately engage with current industry challenges in which creativity, science and innovation may lead to the development of pesticides, an eco-friendly by-product commercially available like BioClay.

Additionally, the volunteering experience continuously promoted by Madeline Healey and Anika Molesworth during the event reminded me how to fulfil a spiritual human need to contribute and leave a legacy for future generations. Moreover, the chance to discuss amongst scholars, attendees, mentors, and different speakers through the wide range of planned activities kept me intrigued and motivated to network daily.

Furthermore, I was moved by the current challenges carried out in agriculture mentioned by Professor Andrew Campbell who commented that “the 21st century’s innovation system structure requires a combination of different field of knowledge such as research, cutting-edge technology development, private sector value chains, financial investment, extension, education and governance”. Rather than being a critical reflection of the current status quo, I saw this as an emerging opportunity in which agricultural development should be focused on sustainability and the current side effects of climate change, something I had lost sight of in the task at hand. As professionals in different fields, it is our responsibility to provide the best of our knowledge, by ensuring to do things well by doing good.

Finally, I am so grateful and blessed to have had the opportunity to attend the Crawford Conference as a 2022 scholar, and I am encouraged to pass this important message to others who may benefit in the future.

Joel Johnson

Mentor: Tony Gregson

I was very fortunate to attend the 2022 Crawford Fund Conference and scholars’ days. It was a great experience and included a range of topics and speakers which are rarely found at any other forum. It also opened my eyes to the diversity of research which is being conducted in the international agriculture sector.

Prior to this conference, I had quite a limited view of Australia’s role in international agriculture. Although I knew that Australia is a world leader in agricultural innovation, I also learned that we are also punching above our weight and leading the way in international agriculture education and development. It was also emphasised that this is not just a one-way street, as Australian producers can also benefit from the research done overseas. This is increasingly important, given that we anticipate having an additional 2 billion people to feed by 2050.

One of my favourite parts of the conference was hearing from Prof Andrew Campbell and others about concrete examples of what ACIAR and other institutes have done in developing nations such as Vietnam, Sri Lanka and Pacific nations. I was also interested to hear Dr Alison Bentley talk about ongoing research at the CIMMYT wheat centre. As my main area of research is in food science, I was encouraged to learn how current breeding programs are increasing genetic diversity and disease resistance without compromising on yield or protein content.

However, as was highlighted throughout the conference, having enough calories or protein alone is not sufficient. There are some countries where sufficient calories are available, but the types of food available are not sufficiently diverse to provide adequate nutrition. I hope that as I progress through my career, I am able to contribute to the breeding or production of more nutritious crop varieties, using my background in food composition analysis.

Another highlight of this experience was the scholar sessions, where we were provided with advice and expertise about working in international agriculture. All of the speakers and people from the RAID network were very friendly and approachable. Having Tony Gregson as my mentor was also a great opportunity, as he was able to provide an abundance of advice and introduce me to other researchers working in my area.

The Crawford Fund conference highlighted the significant challenges that we face in the coming years. However, it also showed the way forward: through innovation and collaboration. I would highly recommend attending to any other students who are involved in the agricultural sector.

EXTERNALLY SUPPORTED SCHOLARS

- UNIVERSITY OF QUEENSLAND

Sam Wakefield

Mentor: Madeline Healey

I was delighted when I heard that I was the recipient of The University of Queensland’s School of Agriculture and Food Sciences 2022 Crawford Fund Scholarship Program, especially so, given that my original application for the 2021 conference was deferred, thanks to COVID-19. Nevertheless, the wait was well and truly worth it, with The Crawford Fund Conference 2022 “Celebrating Agriculture for Development – Outcomes, Impacts and the Way Ahead” and Scholar Program activities brimming with networking opportunities, cutting edge scientific learnings and new perspectives, while driving home the importance of food security for ongoing world peace and prosperity.

The grouping of scholars into shared accommodation aided in the development of interactions amongst scholars and fostered a cooperative mindset that is required to address some of the challenges, and realise opportunities, in research for agricultural aid and development. I made some great connections during the three days; we all shared a few laughs and I hope to stay in touch.

My mentor, Madaline Healey, was a wealth of knowledge and shared her experiences of her foray into agricultural research for aid through her involvement with The Crawford Fund and the Researchers in Agriculture for International Development (RAID) network. Her advice of just doing it, not overthinking the obstacles that could hinder your path to success, is poignant to myself as I rapidly approach graduation.

As far as content was concerned, there was no shortage of interesting sessions. I gained valuable insight into the current trajectory we are on in relation to research funding cuts, increasing world hunger and education required to reduce nutritional deficiencies associated with the increased consumption of processed food once incomes improve. However, it wasn't all doom and gloom, various speakers demonstrated the value of agricultural research for development, both in terms of economic payback, and in contributing to achieving the United Nation's sustainable development goals. In addition to this, I had the opportunity to converse with researchers and industry heads over topical issues. I had conversations with Fiona Simson from the National Farmers Federation, about the complexities of the Murray Darling Basin Plan, the former Deputy Prime Minister John Anderson, about the nexus of energy and world peace, the aspirational Dr Anika Molesworth, discussing agricultural sustainability, and Professor Neena Mitter, with her team's incredible work on the development of BioClay, a sustainable alternative to conventional chemical pesticides.

The dinner at Parliament House was an excellent experience. The setting, and delegates, demonstrate the importance of agriculture for development to Australia at a federal level. And particularly, its objectives in strengthening ties with our neighbours in the Indo-Pacific region, in response to the increasingly unstable geopolitical climate.

Overall, the conference was a great experience, and I would like to thank The University of Queensland, The Crawford Fund and the great people at RAID for allowing me the opportunity to participate in such an awesome program.

EXTERNALLY SUPPORTED SCHOLARS

- UNIVERSITY OF SOUTHERN QUEENSLAND

Peter Harris

Mentor: David Shearer

The 2022 Crawford Fund Scholar Conference was an incredible opportunity to engage with experienced researchers and program managers working in agriculture in developing nations. This year celebrated the 35th anniversary of the Crawford Fund and 40th anniversary of the Australian Centre for International Agricultural Research (ACIAR) with theme of celebrating the outcomes, impacts and the way ahead for agriculture in developing nations.

The first day was opened by the Hon. John Anderson AC who reminded us that advances in agriculture are required to decrease global poverty, but agriculture is a hard-to-abate sector that is still reliant on a linear economy and fossil fuel consumption. As a researcher in the bioenergy and biofertiliser space, this address gave me great confidence that my work has a big role to play in overcoming these challenges. Subsequent speakers outlined pathways to get involved in agricultural research in developing nations. These pathways were highly focused on volunteering and student projects that provide excellent opportunities for young researchers, though one should be prepared to go with the flow when managing these projects feels like chaos.

Researchers shared the benefits that volunteering in developing nations has provided for them in inspiring presentations. Finally, meeting the mentors that the Crawford Fund had provided was super valuable and facilitated the start of a mentoring relationship that will continue well beyond the conference.

Day two; conference day. While the conference had an official theme of celebrating outcomes and impacts, to me the focus could be summed up as nutrient security, food security, fertiliser availability, and capacity building. My take-home messages included:

1. don't assume how people will use their money. As Jessica Raneri documented, increased production may lead to increased income, but that income does not necessarily get spent on improving household nutrition, and that education on this topic is critical;
2. soft skills and diplomacy are king – all the technical knowledge in the world can't help if no one wants to work with you, and;
3. developing capacity in-country is critical to the adoption and continued performance of introduced skills and technology.

Beyond this, the conference was another invaluable opportunity for networking with people experienced in agricultural research and development both domestically and internationally.

Finally, day three provided further insight into how to get involved. Opportunities such as NextGen offered by the Crawford Fund, and the graduate program offered by ACIAR represent excellent pathways to engage in international agricultural research.

The Scholars Program offered by the Crawford Fund was an invaluable opportunity and I encourage anyone with an interest in agricultural research to get involved. This program has expanded my knowledge and given me the confidence and the network to progress my ambitions to contribute to the global story in fighting climate change while providing life-changing solutions and opportunities to rural communities in developing nations.

I'd like to thank the University of Southern Queensland and the Centre for Agricultural Engineering in supporting my attendance at this year's conference and scholars program.



Our four SA Conference Scholars (L to R) Troy Miller, Isabelle Oude-Egberink, Hayley Pfeifer and Isabelle Thomas pictured with SA Committee Members (L to R) Glen Weir and Jane Greenslade and SA Coordinator Roger Wickes.

Troy Miller, Flinders University

Mentor: Daniel Tan

As a molecular biologist, I came into the Crawford Fund conference with an outside perspective on international agriculture and I left with a new appreciation for agricultural development. I was particularly interested in this year's focus on the benefits, impact and future challenges for food and nutrition security, as I have a keen interest in food security. The conference and scholar activities were an incredible experience, where I was able to engage with many like-minded scholars and agricultural experts. It was also uniquely exciting to hear about international agricultural development from the international speakers.

It is difficult to deservedly acknowledge all the insightful speakers who presented at the conference and scholar days within this short reflection, so I will briefly recap my two highlight keynote speakers. Dr Philip Pardey, who spoke about the global economics of R&D and the associated outcomes in his talk (AGRI-FOOD R&D: Re-examining the rewards and the risks), provided several thought provoking and hopeful key messages for the way ahead in agricultural research. I have always been curious in learning more about economics of global agricultural R&D and the accompanying benefits, so Dr Pardey's talk was of particular interest to me. Dr Pardey presented insightful statistics around the global decrease in government and increase in private spending towards agricultural research, with a follow up remark about whether all the easy gains have already been made in R&D. Dr Pardey went on to explain his key message that agricultural research requires far-sighted investment policies to reap the impressive return on investment which has already been seen around the world.

Prof Neena Mitter was also a standout speaker, presenting her RNA-based pesticide alternative, BioClay. As someone involved in molecular biology research, it was exciting to hear about Prof Mitter's work around the development of an 'environmentally sustainable' alternative to pesticides for crop protection. She spoke very passionately about her team's work, yet humbly stated that theirs is only part of the solution towards a more sustainable future and the avoidance of toxic pesticide overuse. It was relieving to hear this perspective from a distinguished researcher, who also emphasised the fundamental importance of collaboration among scientists to solve important issues.

This experience was particularly useful for me, having indirect involvement with international agriculture. I hope I can inspire others like me to apply for the Crawford Fund scholarship. The parliamentary conference provided me with a heightened appreciation for the many facets of plant science and agriculture, which keep the world moving forward. The wide range of speakers across many disciplines here in Australia and overseas made for a fascinating and educational experience that I will forever remember fondly.

I am truly humbled to have been involved in the 2022 Crawford Fund Scholars Program and would like to thank the SA committee for sponsoring my attendance, as well as Larissa and Cathy and the RAID volunteers for their efforts in organising the conference and scholar days.

Isabelle Oude-Egberink, Department of Primary Industries and Regions

Mentor: Helen Scott-Orr

The Crawford Fund experience in Canberra will be on my mind for some time - I have never been to anything like it before! The conference and scholar day activities were lifting and thought-provoking experiences and left me highly encouraged to pursue a future career in the field of international agricultural research for development. The focus on capacity building and encouraging future generations of people into international agricultural development was felt well and truly from the beginning of the conference.

The Crawford fund successfully creates a nurturing and motivational atmosphere through providing the opportunity for scholars to have one-one mentoring with paired professionals that are specialists in their field. The ability to connect with my mentor, other scholars and other older and more wiser professionals in my field enabled me to see the various paths that work in international agricultural development can lead to. This offered me great food for thought and a realistic outlook on future pathways.

It was easy to become overwhelmed at this conference by the multitude of challenges facing global food production (climate change, conflict, biodiversity loss, increasing biosecurity threats). This conference made it clear that food is an overwhelmingly complex issue and career to be involved in and that it can be at the centre of helping the world solve these massive complex challenges!

From the conference speakers I gathered that in order to solve these complex challenges we need to start recognising that all issues we face are often connected and that calls for now transforming how we think about food in order to create more equitable, sustainable and resilient food systems. Session 3 of the conference was one of my highlights, where it was recognised that we need a paradigm shift from 'agricultural production' to 'food production' in order to work towards a 'food systems approach' to understanding food outcomes and food system policy (to encourage diverse, nutritious and ecological food systems) more broadly rather than narrow agricultural policies. From hearing this I have begun to realise how important it is that we increasingly think holistically, understand the connections between the diverse challenges that the world faces and the connections to food security. For this we need policies geared to tackle more than one issue we face and people who have cool, calm and collected minds.

Another key takeaway for me from my time in Canberra was that we must not lose sight that the impacts of work in this field still need better translation into policy. I learned that for this to happen we need ownership and direction by the beneficiaries of the research we do right from the start until the end of projects. We need to adapt our research to ensure impacts are felt by the beneficiaries, that impacts are shared well with decision-makers and that results are accessible. Coming from a sociological background, encouraging more Participatory Research design seems to be one answer to encouraging equitable research collaboration and local capacity building.

I won't forget my experience in freezing cold Canberra and the connections and refreshed interest in international agricultural development I have gained.

Hayley Pfeifer, University of Adelaide

Mentor: Roger Wickes

Hope among other things, is what I can positively say that I have returned home from the Crawford Fund conference with. The conference allowed an excellent opportunity for professionals in food, nutrition and agriculture development come together with a diverse set of skills to work towards a common goal. This diversity was highlighted as an important point moving forward by many of the speakers throughout the conference to ensure that suggested projects were targeted, robust and applicable to target populations. The theme of this year's conference was 'Outcomes, impacts and the way ahead', providing an exciting discussion and 'food for thought' to take away.

The changing climate, economic and geopolitical landscape was stressed to us with the world facing unique challenges. The importance of relationships between countries and investing in these relationships to ensure longevity and alliances is an interesting part of agricultural development strategy that can be an easy oversight. Communication between countries is not only important when directly solving a problem but also in being there in the long run after the problem is solved to maintain the relationship. For many reasons including biosecurity and politically it is important to ensure that our neighbours are succeeding and controlling risks that may impact us in the future.

The looming threat of biosecurity also highlights the importance of a collaborative approach in moving forward with research, ensuring that skills from multiple disciplines are shared to obtain a transferable result. Further, the changing climate has shown us that not only is our evolving world unpredictable but also that our counterparts around the world could very well have experienced a similar climate and have feedback or data that we could learn from.

Climate change is very much a topic on everyone's minds at the moment. Agriculture is in a unique position to absorb carbon rather than adding to carbon in the atmosphere unlike many other industries. Furthermore, it is important that while our neighbouring countries are developing that we assist where we can, to ensure that any new technologies that they adopt are sustainable moving forward and do not expose them to penalty that may impact their development moving forward.

An important quote from Cate Rogers, Department of Foreign Affairs and Trade, was 'The world doesn't have a food supply issue but rather an issue in getting food to where it needs to go'. This is an important concept as it addresses that our population is increasing with more countries demanding high quality protein sources, however we are also still experiencing significant food waste and research needs to be directed at reducing food waste in our production cycle.

Funding structures for research and work in agricultural development was also mentioned by multiple presenters and highlighted the instability that is involved in developmental work and how this be restrictive in providing stable employment and income for projects that are required to run over multiple years.

There is so much more I write about from this conference as I thoroughly enjoyed and took in every part of what was presented. I am extremely grateful to the Crawford Fund and the SA committee for the opportunity to attend such a worthwhile event and I am especially grateful to have connected with so many likeminded people. I am looking forward to working with my new connections in the future to create a better world.

Isabelle Thomas, University of Adelaide

Mentor: Tristan Armstrong

I am utterly grateful for being given the opportunity to attend the Crawford Fund Annual Conference as a conference scholar. The engagement through the scholar programs and access to an instrumental mentor was unique. The conference's concept was 'Celebrating Agriculture for Development - Outcomes, Impacts and the Way Ahead'. Through my current studies of a Masters of Global Food and Agricultural Business, I have learnt and focused on international development through policy, business and trade opportunities, so the conference complimented my education.

The discussions and presentations helped me gain a further understanding of areas of the world that need additional assistance and comprehend agricultural impacts globally, especially the role Australia plays. One of the biggest takings I got from the conference was the discussion Jessica Raneri brought up about nutrition-sensitive agriculture. Essentially

the need to consider nutrition as a whole when implementing agricultural extension programs. I personally had not thoroughly considered its importance. Through my undergraduate studies where nutrition is a part of my bachelor's qualification, it sparked a key interest for me to play, my part in international development to help educate and address this significance.

I learnt about an array of new agricultural technologies and techniques that have been trialled and implemented globally to assist in agricultural production. A standout was a presentation made by Professor Neena Mitter where she educated us on an environmentally sustainable crop protector named 'Bio Clay'. It was great to hear and learn about new products and techniques that are being used or are close to being used.

Through the organised scholarly activities especially the networking and presentations given and the conference, I gained invaluable skills, learnings and inspiration that is not easily accessed if it was not for the Crawford Fund and RAID. I have gained an array of contacts from networking with other scholars, prestigious scientists, researchers, representatives from Australian and international agencies and other stakeholders. I must make a special mention to my mentor Dr. Tristan Armstrong, who has given me invaluable guidance, advice and inspiration to pursue a career in international development. Likewise, he was open to answering any questions I had and still have. Thank you to the Crawford Fund and RAID, I am excited to complete my Masters and repay the Crawford Fund's aims of improving food and nutrition security.

TASMANIA



Scholars from Tasmania (L to R) Faruq Shahriar Isu, Waleed Khan, Phillip Kay and Raj Kishore Rajan Babu Sheela, pictured with the Crawford Fund Tasmania's Coordinator Neville Mendham and Chair Richard Warner (right).

Faruq Shahriar Isu, Pinion Advisory

Mentor: Richard Warner

As a second time attendee at the Crawford Conference, I had very high expectations. In 2019, I attended as a student and this year as a consultant. Exactly as the previous conference, it was beyond my expectations. My focus this time was to reacquaint with agricultural research updates and explore potential opportunities for private sector involvement in agricultural research for development. I also knew the opportunity for networking would be immense, which is great for professional development.

The conference and scholar activities were very well organised, which must be appreciated as it is no small feat to achieve. The day one scholar activities were pivotal in getting the networking started and I was pleasantly surprised to find a good mix of professionals from various industries attending as scholars, in addition to students and researchers. The memorial address later in the day set the scene for the main conference while the dinner was yet another opportunity to continue networking.

The main event covered various aspects of agricultural research, their importance, outcomes and the road ahead by very knowledgeable and passionate speakers. Learning about the tenfold return on investment in agricultural research was a key point, in my opinion, which highlights the importance and continuation of research funding. With ongoing biosecurity threats, new zoonotic viruses expected every five to ten years and the ever-present battle against climate change, the road ahead is not without bumps. One question that stuck with me was "How do we sustainably intensify agriculture while maximising conservation of the natural environment?" With innovation, technological advances and solid research, there is light at the end of the tunnel. Products such as "BioClay" has the potential to be revolutionary and it is my feeling that this where extension and private industry collaboration can play a crucial role. The RAID event at the end of the conference was a good way to unwind and process a plethora of information, while catching up with friends and making some new ones.

The last day of scholar activities was a good way to share our thoughts about the conference with some lively discussions and perspectives.

I was honoured to have Mr. Richard Warner, the chair of the TAS Committee, as my mentor and would like to thank him for volunteering his time, sharing his knowledge and providing guidance and encouragement.

Finally, I would like to thank the Crawford Fund TAS Committee for nominating me for a second time and the Crawford Fund for creating this wonderful platform and for their ongoing support to students, researchers and the agriculture sector through various programs.

Phillip Kay, University of Tasmania

Mentor: Holger Meinke

Firstly, I would like to thank The Crawford Fund for the opportunity to attend this year's annual conference in Canberra with the theme being, 'Celebrating Agriculture for Development – Outcomes, Impacts and the Way Ahead'.

As a PhD candidate that has not yet had the opportunity/experience to work in agriculture in a 'Global South' (GS) country, you could say that I have a limited understanding/appreciation of certain issues, dynamics and challenges that could be presented on a daily basis. However, as I am interested in working and living in a GS country, I have been actively engaging with those that work and conduct research in GS countries to help gain an understanding of what it would be like to live and work there myself. From this engagement I believed that I had a 'rough idea' what it would be like (I still do) however, I found the conference really opened my eyes to a lot of issues that I had not previously considered (at least not in the depth that was presented).

I really enjoyed the scholar days as they gave us all an opportunity to meet other like-minded early-career researchers from a variety of fields and disciplines as well as from all around the country.

That being said, I believe that the greatest benefit I will take from the conference and the scholarship in particular, will be the mentorship that is being provided. Not only does my mentor have a myriad of contacts that they have garnered throughout their distinguished career that could potentially help me in acquiring a suitable position, but the guidance that they have already shown to me as well as what I perceive will be provided in the future has and will be invaluable on my journey as a researcher in a GS country. I feel that the mentoring program is not only about 'networking' but my mentor getting to know and understand me personally which can only help me into finding a research position that will be beneficial to both me and the research organisation that I will be working with.

Waleed Khan, University of Tasmania

Mentor: Neville Mendham

I thought I was very lucky that I got an opportunity to attend the Crawford Conference 2022 as a scholar. It was a wonderful experience for me listening to many amazing speakers from Australia and other parts of the globe. This has helped me to broaden my knowledge and thinking ability and I also learnt lots of new things about International Agricultural Development.

This year's conference topic, "Celebrating Agriculture For Development – Outcomes, Impacts and the Way Ahead" which was an incredibly interesting topic to me as I am highly interested in contributing for international agricultural development particularly in improving global food security and public health. Through a series of conference, training, and networking activities, I have gained a valuable knowledge, skills, and experience and a chance to meet and chat with other great young scholars, senior scientists and researchers working in Australia and other parts of the world.

Reiterating the fact mentioned by Dr Alison Bentley that peace in the world, food security and climate change are issues of global concern. The world, and its environmental and human (food, economic, social, etc) systems are all connected. The impacts of Covid-19, geopolitical instability and extreme climates recently have created a surge in global food demands and increase global hunger significantly. Therefore, these issues need to be tackled at national and international government levels through effective, strategic and consistent policy. The Q&A part for almost all the sessions was also very interesting.

The RAID networking event provided a fun and relaxed environment to further get to know the other scholars and people involved in RAID. The quiz accompanied by drinks and snacks also made for a good time.

I am highly grateful to my mentor Dr. Neville Mendham who listened to my talks and shared pieces of his advice that would be really help me to make decisions and moving further into my professional career. I also wanted to convey my immense gratitude to my PhD supervisor, Dr. Beth Penrose, who encouraged and supported me to take part in this outstanding event.

Through this piece of my personal reflection, I strongly encourage other young fellows to think of the Crawford Fund Conference as an important event that they should attend at least once. I am sure that there are many other benefits of the conference that I have not mentioned yet, and hopefully you, the future reader of my reflection, will find out by yourself.

Overall, the Conference and Scholar Program were exciting and it exceeded my expectations. I would like to thank the Crawford Fund Tasmania Committee for allowing me to be able to participate in such an exceptional event. Without their financial support, it has not been possible to experience such an inspiring event.

Raj Kishore Rajan Babu Sheela, University of Tasmania

Mentor: Suzi Gaynor

I was very excited to attend the conference ever since it was announced, it would be the first conference I would be attending and as a naturally curious person I wanted to experience how a conference would function. After attending the conference, I can say for sure that my high expectations have been exceeded.

First of all, working in a mushroom farm in remote Victoria, it was a great opportunity and a welcome change for me to connect to people, and more importantly people with common interests. It reminded me of University life but more enriched with the higher number of experts.

My mentor, Suzie Gaynor and I had a video chat a week prior and we were talking about the conference, she was absolutely delightful and made me comfortable so that I wasn't at all anxious that I am talking to someone in a top position in a research organisation. We had discussed what I wanted out of the conference, potential obstacles like shyness and among others. She helped me meet the people I wanted to connect with at the conference and did that so well! I managed to connect with a lot of scientists, industry professionals and scholars and we discussed different aspects of research, agriculture, academia and life in general.

Everybody, especially the people we as scholars look up to were so warm and willing to talk and give us their insights and that had filled me with hope and inspiration to pursue my own career aspirations and dreams. I feel its effect even right now and I see myself to be more proactive because of it. The speeches and Q and A sessions were great and I took away points that I keep in my mind now. I also really enjoyed the RAID activity where we have to guess the name of the country from a random fact that was given in a piece of paper to everybody, I thought it was an ingenious way to help foster interaction with the task at hand acting as a focal point and an icebreaker! As a whole, it was a very memorable, extremely worthwhile and fun conference to be part of and I am looking forward for the next one!

VICTORIA



Scholars from VIC (L to R) Hannah Ebert, Billy Chudleigh, Scarlett Cuthbertson, Holly Hone and Alexander Russell, pictured with the Crawford Fund Victoria's Coordinator Bill Lewis and Chair Tony Gregson.

Billy Chudleigh, The University of Melbourne

Mentor: John Dalton

Attending the 2022 Crawford Fund Conference was an extremely rewarding experience, not only as a person with a deep interest in international agricultural research and development, but as a young student who is looking to progress their knowledge in the field and gain a foot in the door.

It can be a daunting prospect as a third year undergraduate student to be surrounded by many experts and scientists who are already held in such a regard, But each and every one of the 'experts' made a clear effort to lend what information or guidance they may have.

The opportunity to see all the incredible work that people are doing within the field inspired me and shone a light on the infinite opportunities that the field of agriculture provides.

Scarlett Cuthbertson, The University of Melbourne

Mentor: Bill Lewis

Being able to attend the 2022 Crawford Fund Conference 'Celebrating Agriculture for Development- Outcomes, Impacts and the Way Ahead' as a Victorian Committee Conference Scholar was something I won't forget quickly. As a second-year undergraduate student studying my Bachelor of Agriculture, the sheer number of scholars and experts I met over my 3 days in Canberra was priceless, and the connections I have made will be beyond useful as I progress in my studies and career.

It was an honour to listen to Dr Audrey Aumua on Monday night as she delivered the Sir John Crawford Memorial Address. Her perspective on international research in the Pacific, including the heightened effects of climate change in such areas, was enlightening. My main take away from her address was the requirement for collaboration in future research projects, and that "welcoming and supporting all is the only way to succeed".

As many speakers touched on during the conference, the effect the 3 Cs (covid, climate change and conflict) are having on our global agricultural production and supply chains is unprecedented. Being able to hear about the same issues affecting many different areas of agriculture and the intersectionality of the 3 Cs highlighted it's an area for renewed research going forward.

The Conference was also a great opportunity to celebrate and commend the success and achievements of both the Crawford Fund for their 35 years and to ACIAR for their 40 years! Both organisations have been able to make tremendous progress and change in the field of agricultural research for development, and as depicted at the conference there is still a lot of work left to be done in the sector.

The scholar day activities were the perfect introduction to all things Crawford Fund and RAID, and also a great steppingstone for networking with people in the agriculture industry on Tuesday. Learning from past Crawford Fund scholars now in various positions both domestically and overseas also helped to inspire and illustrate the vast experiences possible in this field of work.

I would like to thank my mentor during the event Bill Lewis. Thanks to Bill I was able to meet and mingle with many of the distinguished guests that attended the Crawford Conference on Tuesday. It was great to hear his experiences in the Australian Agriculture industry and dairy sector, and even of his time at Dookie College!

The conference on the whole has given me a lot of food for thought regarding which path in my career I want to take. From here I hope to get some experience overseas, either via the Australian Volunteers Program or an ACIAR project, which will help me narrow down the specific area I want to focus on and do future study in. I can't thank all of the organisers, the Crawford Fund Committees, RAID and speakers at the conference enough for the amazing 3 days and all that I learnt during my time!

Hannah Ebert, The University of Melbourne

Mentor: Bosibori Bett

The 2022 Crawford Fund Scholar program provided an immersive environment to help me see the many pathways available in agriculture and international development. Any trepidations holding me back have been pushed aside to make way for newfound confidence to get out there and actively seek out opportunities. As a student who has only just begun post-graduate studies, I came in eager to learn about the different careers within this space and was well rewarded by the multitude of different people in varying professions that I was able to speak with.

The pre-conference scholar events were a thought-provoking experience and a welcome warm-up to the main events. I was met with warmth and enthusiasm from my mentor Dr. Bosibori Bett who gave me the energy I needed to get out there and network. Hearing from Dr. Alison Bentley and her journey from student to now being the Director of the Global Wheat Program for CIMMYT was truly inspiring and helpful. Hearing the highlights of how different people got to their current careers was beneficial as a student wondering "where do I begin?". The chance to discuss with other scholars their journey was also greatly beneficial. It was helpful to hear from those who are further in their careers but achieving milestones that I will be heading towards in the near future. It gave a sense of community and was overall a truly positive experience to be surrounded by so many like-minded people.

Presentations given at the conference were enlightening, particularly those where I learned about the bigger picture of issues in agriculture from perspectives I had not been exposed to before. Dr. Philip Pardey's presentation was especially influential for someone who had not been exposed to the economic side of agriculture R&D in such a clear way before. I particularly benefited to hear about the gaps within the space of international development in agriculture. Hearing about the vital roles of translating research and making sure that it plays a real role in society rather than being completed and moved on from was an important take-home message and is one I hope to be able to take with me and vocalize in the future careers I have. Ms. Jessica Raneri's presentation had a similar element as she vocalized the disconnection of agriculture research programs from involving nutritionists and public health experts. Having an element of "this is what we need to do better" made the event feel so much more important.

Overall, I am very thankful that I had the opportunity to attend Crawford Fund Conference as a Scholar. It was truly an enlightening experience and one that will be influential in my future career planning. I take with me valuable insights, connections, and passion to pursue future work in the agriculture development space.

EXTERNALLY SUPPORTED SCHOLARS - THE GARDINER FOUNDATION

Holly Hone, Agriculture Victoria

Mentor: Deirdre Lemerle

When I applied for the Crawford Fund Scholar program in 2021, I was considering future directions for my career in agriculture. I was ready to begin my PhD in seed microbiomes and biofertilizer microbes and I knew I was passionate about being part of the effort to secure international food systems, but I was unsure about how my research would fit into the broader agricultural research context and what shape my post-graduate career would take. Opportunities such as the scholar program, offer the space in which early career researchers can expand their understanding of the agricultural sector as a whole and envision potential pathways with peers and mentors. This conference offered an invaluable opportunity to meet with like-minded individuals from a range of backgrounds, research foci and career stages within the agricultural research space.

The conference centred around the pivotal role of agriculture in advancing international development and covered broad ideas of celebrating agriculture for development touching particularly on outcomes, impacts and the way ahead. This year's conference took place during a combined food, fuel and fertiliser crisis. As such, speakers such as Professor Andrew Campbell spoke to the impact this will have on global food security, particularly in combination with climate change, the invasion of Ukraine and a global financial crisis. Several key speakers, such as Dr. Audrey Aumua and Dr. Jenny Gordon, touched on the importance of ensuring that research done in the lab is not divorced from the social context in which it will be applied. In Jessica Raneri's presentation, it was made clear that nuances that gender dynamics can add to the application of agricultural development in certain cultural contexts, must be considered and incorporated in every aspect a project from foundation to delivery. Further to this, the importance of agriculture being seen as a good investment in the future was a key take away from the symposium.

While the reality of the scope of problems that are being tackled by the international agricultural community was perhaps sobering. As an early career researcher, I certainly feel that my understanding of the social context in which we, as agricultural scientists, operate in has been broadened and developed by the nuanced and energizing perspectives tabled by the researchers I was able to observe and meet with over the three days. Also deeply motivating and moving was the passion of other researchers which has further enhanced my sense of passion for my PhD project as a broader myriad of pathways is clearer since meeting with so many skilled and impassioned individuals.

It was a privilege to be a part of the Crawford Fund Conference in 2022. I am grateful for to the Victorian Crawford Committee and the Gardiner Foundation for sponsoring my attendance as well as to my mentor, Dr. Deidre Lemerle, and the RAID committee for giving their time thoughtfully and generously to make my first conference experience a delight.

Alexander Russell, The University of Melbourne

Mentor: David McGill

The Crawford Conference is the centrepiece of the Australian agricultural for development (A4D) calendar and the opportunity to attend with the support of the Crawford Scholar Program a privilege for any budding early- to mid-career researcher. The Crawford Conference 2022 Annual Conference: Celebrating Agriculture for Development – Outcomes, Impacts and the Way Ahead provided a comprehensive perspective of A4D over the 40 years ACIAR has operated.

The presentations provided attendees with an understanding of the breadth of disciplines involved in A4D, and the sociopolitical context in which A4D operates. For me four items stood out, one from the Scholar Day and three from the Conference, broadening my understanding of the work and impact of A4D. Regina Bi Nukundj provided a valuable insight into the impact of livestock programs in Papua New Guinea. Similarly, Logotonu Meleisea Waqainabete provided an insight into work in genetic resources in Fiji. Jessica Raneri presented the intersection of gender and nutrition, which highlighted the important work that occurs outside of my own field of view. Finally, David McGill provided an insight into his journey into social research from the perspective of a livestock veterinarian, and while I believe this was noteworthy in and of itself, it was great to see my mentor (and masters project supervisor) talk with the passion for A4D in Pakistan, that I have been witness to.

In addition to the presentations, the conference provided the opportunity to interact with professionals from A4D, a community of practice I endeavour to be part of, and it was an intimidating prospect. The benefit of meeting David and having his support provided me with confidence to interact more than I otherwise would have. I know that having the opportunity to practice this skill in that environment will improve my ability to do it throughout my future career.

I would like to thank the Gardiner Foundation, the Victorian Crawford Committee, RAID and the Crawford Fund for the opportunity to participate in the Scholar Program. My only regret is not having pursued this opportunity sooner.

WESTERN AUSTRALIA



Scholars from WA (L to R) Daniel Kierath, Shell Xiao, Niamh Walsh and Alice Butler pictured with the Crawford Fund WA's Chair Mark Sweetingham and Coordinator Lyn Abbott.

Alice Butler, DPIRD

Mentor: Lyn Abbott

Attending the 2022 Crawford Conference “Celebrating Agriculture for Development – Outcomes, Impacts and the Way Ahead” has given me a better understanding of the importance of the agricultural research done in Australia and by Australians overseas. Increasing food production capacity within Australia and translating our research to increased food and nutritional security abroad is critically important and this will only increase as we navigate through conflict, climate change and high input prices, which add further stress to our global food production system.

When Jessica Raneri, Senior Nutrition Sensitive Agriculture Advisory to the Australian Centre for International Agriculture Research (ACIAR) and Australian Department of Foreign Affairs and Trade (DFAT), used the term nutrition security rather than food security to better reflect the effects of lack of diversity within the diet it really highlighted how feeding the world is just the tip of the iceberg.

Two sentences in her presentation really stuck with me were “more than three billion people cannot afford a healthy diet” and “twenty-five (25%) of the world's population lives on less than US \$3.20 per day”. These numbers really reinforce how privileged we are to live in Australia. One of my fellow West Australian scholars made the point that in Australia we are trying to increase food production, but also increase the sustainability of that food production system. Whereas in the developing countries they are primarily just trying to feed themselves. As much as I want our food production system to have less reliance on inputs, such as herbicides and pesticides, I think we need to continue to be mindful that this cannot be at the detriment of alleviating hunger, but as an additional bonus.

Dr Alison Bentley's presentation was also a standout for me. Alison is the Director of CIMMYT, the International Maize and Wheat Improvement Centre, based in Mexico. Her team develops improved wheat germplasm by screening for traits to increase productivity, resilience, and broad adaptation, with trait selection for climate change a major focus. A key point from her presentation was “greater than 50 per cent of wheat is grown in the Global South, where instability disproportionately impacts production and/or supply”. Currently, 2.5 billion people rely on wheat globally to alleviate hunger and as we move towards 2030 the cereal net trade to the continents of Africa and Asia is projected at around 125 million tonnes and 175 million tonnes, respectively. With the conflict in Ukraine and Russia, there is disruption in supply to Africa, a continent reliant on affordable (cheap) wheat. How we support that market when price is a considerable restriction will be challenging.

The half day conference scholar program either side of the Crawford Conference added another layer of networking that was a huge point of difference from any previous conference I had attended. My mentor, Dr Lyn Abbott, was incredible and really gave me the basis to develop stronger networks through introductions to key people nationally. However, it also felt like we were both looking to develop a local network that would provide collaboration and thought sharing into the future. And this was reinforced by the connections I made with the other WA scholars.

Overall, the conference was amazing, but what really made an impact on me were the people involved in the Crawford Fund/RAID network, and their passion on improving nutritional security and building resilience in agriculture within developing countries.

Daniel Kierath, University of Western Australia

Mentor: Roger Wickes

I had the privilege to be selected as a West Australian scholar to attend the 2022 Crawford Fund Conference. Having recently made a career change with the ultimate aim to make a contribution to global food security and I found the experience to be valuable, exposing me to a wide range of sector participants and different ideas. Beyond the subject matter of the presentations the conference was an invaluable opportunity to meet like-minded people along all career stages. Being able to meet in person was a welcome relief after years of virus induced restrictions and, without question, improved the quality and value of the discussions I had.

I found the conference to be very well structured and was able to weave the presentations from specialists in varying fields into an impactful and coherent narrative, set within a well-defined context. The conference began and ended with a discussion of the geopolitical realities that solidified in the second half of the 20th century and the role this played on the green revolution and a global agricultural system, which although is far from perfect, has supported an increased global population. For me this was effective in articulating the high-level justification of the moral and strategic imperative for Australian investment in food security in developing nations.

Of the presentations made there were a number that I found particularly interesting. Dr Pardey's presentation regarding global investment into agricultural research was thought provoking, highlighting a number of trends of which I was previously unaware. These included the increased proportion of research that was being funded by private enterprise and the decreased footprint in of Australia's investment when compared to other countries over the past 40 years. As someone considering a research career this was particularly important, as due to the financial realities of funding, they are trends that must be considered.

A theme that was touched on by a number of speakers was the importance of long-term relationships in the management of impactful projects. To me, this highlights something that has importance that extends far beyond the realm of international agricultural development. It speaks to the importance of people and relationships, not just the technical factors in influencing positive change. It can be so easy to focus on the science or a specific technology, which can be quantified and, when compared to complex social interactions, more easily understood.

I was fortunate to be able to attend another two days of activities ran specifically for conference scholars by the RAID Network. Much like the conference proper, these days were structured in way that would maximise their value for participants. They ran the day prior, and immediately post the conference, which meant that we were primed to both make the most of the conference and we were provided with an opportunity to reflect on the experience.

I would not hesitate to recommend anyone interested in international agricultural development application to apply for future conference scholarships.

Niamh Walsh, Curtin University

Mentor: Lyn Abbott

The “Celebrating Agriculture for Development” 2022 Crawford Fund Conference was an incredible learning opportunity for me and allowed me to view the challenges faced in agriculture from an advanced perspective. As a second-year bachelor student this conference was a first for me and going into it with little knowledge of how conferences worked opened me up to an opportunity to learn about the industry and its functions.

I was lucky enough to be paired with a mentor who I shared interests with and was able to draw lots of information and advice from her which I am sure will assist me in my career going forward. I met my mentor at the first day of scholar activities, where we chatted with many industry personnel and fellow scholars. The day surrounded early career advice for people looking to get involved in international agriculture research from many industry leaders.

There was lots of information to take in and many presenters you could not help but be impressed and inspired by. Their work sounded both riveting and impactful, and put many thoughts into my mind about how I want to advance my career upon graduation. The day ended with some networking which was new to me, but luckily the scholars were guided through this and encouraged to talk with many people with the same interests.

The official conference consisted of a dinner and full conference day at the Great Hall in Parliament House, which in itself was very exciting. The dinner allowed networking opportunities and the chance to listen to the Memorial Address. Dr Audrey Aumua presented this address and listed key issues going forward in international agriculture.

The next morning was the main conference day, which began with an address from the Crawford Fund chair. Throughout the day, we listened to many impressive presenters, including many female industry leaders which was both inspiring and intriguing. My idea of careers in agriculture was broadened and my excitement for beginning my career in the sector grew with every presenter. I had not considered many paths that were discussed, and with every presenter came more inspiration. My interest largely surrounds innovation and sustainability, and there were many presentations throughout the day which focused on these topics. I was specifically interested by Professor Neena Mitter's presentation on BioClay, an environmentally sustainable alternative to many chemicals including fungicides. The work she has been doing is similar to what I have gained interest in throughout my studies and research. I also enjoyed the opportunity to listen to the Minister for Agriculture, Murray Watt, who presented current threats and difficulties facing Australian agriculture. I appreciated his willingness to present the honest and real situation of Australia agriculture to a room of industry personnel who are involved in solving the problems.

The final scholar day consisted of many presentations from people in their early careers. They discussed their career paths and opportunities that arose for them, including volunteering and working overseas on fascinating projects. Many of the presenters had amazing stories which were both inspirational and thought-provoking. I finished the conference with many thoughts and ideas about how I want to move forward in my career after my degree concludes. The conference inspired and educated me on many aspects of the industry and allowed me to broaden my idea of what it means to be a part of the agriculture sector.

Shell Xiao, University of Western Australia/Syngenta

Mentor: Bob Clements

I was fortunate enough to attend the Crawford Fund's Annual Conference where I had the opportunity to meet a unique pool of influential individuals in agriculture development. I used every opportunity to network with scholars and mentors from diverse backgrounds, and I was amazed that people with such different skill sets are all working for one common goal in agriculture for development.

The Conference had a very different atmosphere to conferences I had attended in the past for work and study – this must be because Aggies are by far the most interesting group of people. There are some things I found particularly interesting/ good about this conference:

- Shared accommodation with others from WA – we were able to create deeper connection than just having a general chat during the conference. And most importantly, have someone we knew to walk into the 100+ crowd at the conference.
- Mentor – My mentor Bob Clements has an extensive amount of experience across sectors in international agriculture research. He was able to have in-depth conversations with me on my path in agriculture research.
- Scholar activities – chatting with peers in different sector of the ag industry allowed me to gain new insight that I may not have otherwise thought of.

The presentation from Prof Neena Mitter on RNA based biopesticides for sustainable agriculture provided me with insight into how we could control pests and diseases with a product that is efficient and safe for the environment. Working in the pesticide industry, I have always had an interest to be part of the development of environmentally friendly pesticides and biological products.

I also enjoyed, A Conversation from Outside Agriculture – Looking to the Future and understanding what the future of research and development could look like helps me to position myself and choose the right path for my career. The application of remote sensing technology particularly interests me.

I have always had an inner drive to do volunteering at some stage of my career. Listening to people that have developed a career in the space through different paths certainly inspired me. I came back home and started research on the volunteering opportunities that I was exposed to in the conference days and found out that many of them match my qualifications and areas of interest. I have already started a plan to make myself available for in-country volunteering in the next one or two years.

Overall, it was a wonderful experience, I did enjoy myself, meeting nice people and developing some productive relationships. Most importantly, it was a challenging, thought-provoking opportunity to see how I could best improve myself and develop career in international ag research. I am already looking forward to next year's conference!