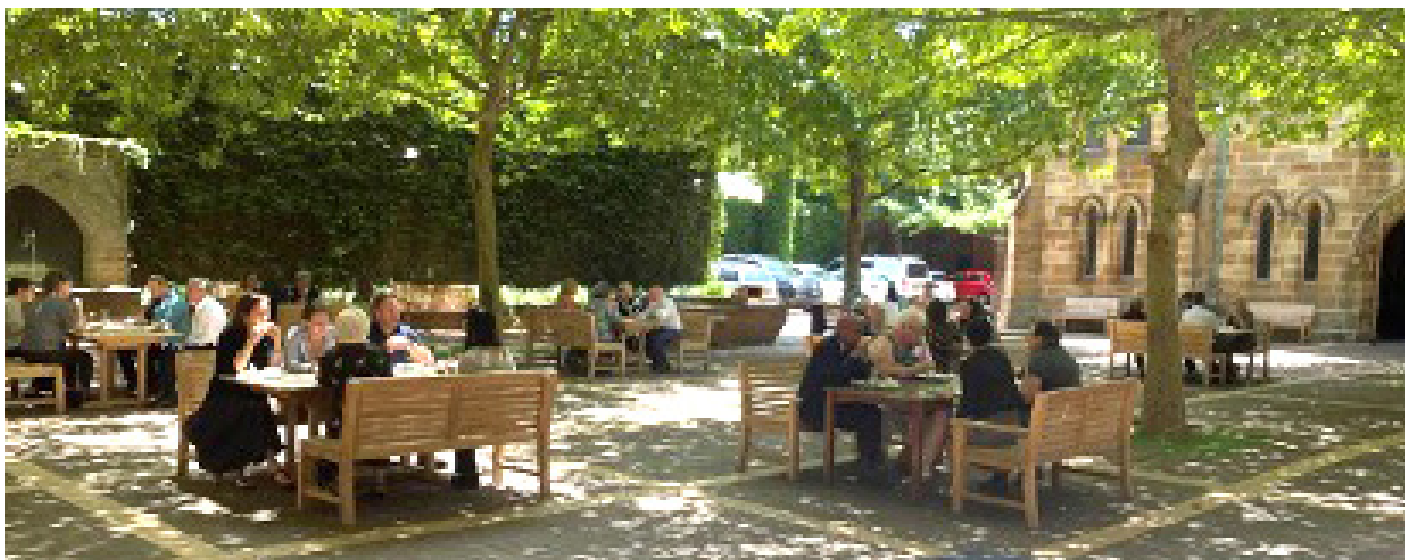


Undergraduate Research News Australasia

Australasian Council for Undergraduate Research – Issue 23 • May 2023



Lunch at the ACUR Colloquium

Editorial

Vibrancy, hope and powerful technology

As I write this editorial, the 2023 academic year in Australasia has begun, and I am relishing the vibrancy on campus. Following a tumultuous few years ridden with Lockdowns and much online learning, there have been concerns that students would not return to campus. In my sample of one – the University of Otago Dunedin campus – I am delighted to report they are here in droves! Colleagues are reporting great turnout in lectures and students who are keen to re-engage with peers and learn face-to-face. This bodes well for undergraduate research initiatives, and indeed the events that can bring the community together. I am feeling a sense of hope for a bright future!



Not only are students back but we have the rise of artificial intelligence (AI) – most

prominently for now, in the form of ChatGPT. This technological step change (which has been brewing for a while) is causing much debate amongst colleagues who are mainly concerned about students using AI to write their essays. I suspect such concerns bode well for more research-based assignments, and it may elevate the profile of undergraduate research in institutions – let's hope so!! I also see the powerful possibilities of tools such as ChatGPT and especially those designed to help researchers. They offer amazing efficiencies in trawling the web for relevant literature, can synthesise articles into a line or two and dissect the various sections, and I even heard of ChatGPT digesting a doctoral thesis and generating questions for an oral examination! Our challenge is to explore the possibilities of AI tools and ensure a critical lens is cast upon any information generated! Indeed when I asked ChatGPT about myself, while it did recognise I had been a Dean at the University of Otago, it said I was a Dean of Law – NOT true (I was Dean of our Graduate Research School for 2013-2022 and have no background in law!).

In this issue we bring you snippets of undergraduate research projects, including how politics are becoming polarised in Australia, how the circular economy can contribute to sustainable development, and the need for mind-body intervention assessments to include therapeutic sensation. We have an intriguing article 'Age is not a cage' that provides a personal account of the importance of lifelong learning and embracing opportunities – in this case opportunities presented by undergraduate research. We present two reports on the 2nd Exchange Colloquium, which brought together networks to grow undergraduate research. Also have a piece on what undergraduate researchers should know about open science, with links to some helpful resources. Alongside our usual reports from the Head of the ACUR Student Committee, and the ACUR Chair, we acknowledge the loss of Mike Neary, who was a champion for undergraduate research. We do hope you enjoy this issue!

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Polar opposites: Measuring rising political polarisation in Australia

I do not doubt that many people today feel that the political environment is growing ever more hostile and ideological. One measurable way this hostility is manifesting itself is through rising political polarisation.

There is a wealth of literature suggesting that political polarisation has negative consequences, especially for democracy. Growing polarisation is associated with the erosion of democratic institutions, societal distrust, increased legislative frictions, and increased violence.

This phenomenon has been richly documented in the USA, where The Pew Research Centre finds that political polarisation has been rising in the USA since at least the 1990s. Already, the USA is beginning to feel some of the negative consequences associated with such polarisation, including the January 6 Capital attacks, widespread distrust of democratic institutions (such as elections), and growing legislative frictions.

With the seriousness of the situation in the USA, I was surprised to find a dearth of research into the phenomenon in Australia. Australia makes an interesting case study into political polarisation given our system of compulsory voting. Perhaps this system insulates the

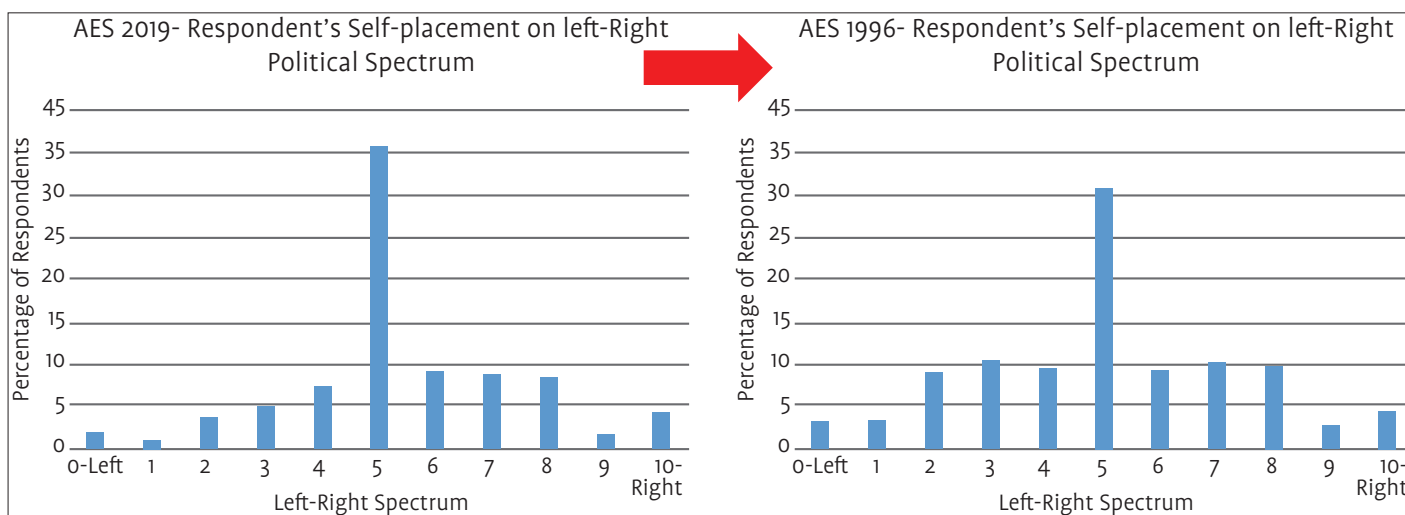
electorate from polarisation as political parties have a greater incentive to appeal to the median voter rather than whip up their ideological voter base for support. Given these research motivations, I decided to investigate the topic myself as part of my Bachelor of Political Science at the Australian National University. When I began my research mid-2021, I could only find one article directly trying to measure a rise in political polarisation in Australia. The article was from 2014 and published in the Guardian by political scientists Luke Mansillo and Nick Evershed. The authors used results from the Australian Election Study (AES) to argue that political polarisation had in fact increased in Australia from 1996 to 2013. Their primary source of evidence was a survey question in the AES asking voters to place themselves on a left-right scale, ranging from 0 (most left) to 10 (most right). According to the authors, the increasing standard deviation of responses from 1996 to 2013 was evidence of polarisation. However, an increase in variance is a necessary but insufficient condition for voters to become more politically polarised (assuming they start clustered around the centre). For example, an increase in variance may occur from voters spreading out more evenly across the political spectrum instead of organising themselves into two political poles. Additionally, the authors

did not test the statistical significance of the observed differences in standard deviation.

As such, I decided to build on Mansillo and Evershed's research. Using the same AES survey question, I showed that the standard deviation of responses had grown from 1996 to 2019, but that these results were only statistically significant (according to Levene's test) up to 2013. To show that the rising standard deviation was in fact due to rising polarisation, and not due to another kind of voter distribution, I graphed the results of each AES survey. As we can see in the image, voters are indeed becoming more polarised. That is, they are increasingly organising themselves into two distinct poles on either side of the political centre (around values 3 and 7 on the scale).

Conducting this research as an undergraduate student was eye-opening. I realised how interesting and impactful political science research at the undergraduate level can be, and gave me the confidence to continue studying political science as an honours student.

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Upcoming Events

[Metascience Conference 2023](#), 9 – 10 May 2023, hybrid conference

[Open Science Conference 2023](#), 27 – 29 June 2023, online conference

[The Central Queensland University Online Conference for Undergraduate Research OCURA 2023 will be held 30th August – 1st September.](#)

[The Australasian Conference of Undergraduate Research \(ACUR\)– details coming soon!](#)

Fourth annual conference of the Association for Interdisciplinary Metaresearch & Open Science will be held from 28-30 November 2022 at the University of Melbourne (Australia).

Registrations & proposal submissions now open: <https://www.eventcreate.com/e/aimos2022>

Age is not a cage – embracing a new adventure

I came late to academia when I started my first ever university degree just shy of my half-century. Sitting in a large lecture theatre with other student nurses who could be my children, I was filled with mild panic. What on earth had I done? How could I compete with these digital natives who were prepared for higher education since high school?

Three degrees later and halfway through my PhD, I reflect on the encouragement I received along my journey, and how peer support transcends age. Whilst finishing my Nursing Honours, I was offered the opportunity by the University of the Sunshine Coast to attend the *Australasian Conference for Undergraduate Research (ACUR)* at La Trobe University in Melbourne in 2018. Three of my younger peers and I left Queensland to present our completed or ongoing research and enjoy peer networking and support.



I was amazed at the scope and depth of the research topics presented by the delegates and loved the wonderful support we gave each other.

Presenting your work, even to a sympathetic audience, is nerve-racking and requires much preparation. Meeting new people, learning about their research passion, hearing from experienced academics and researchers, and enjoying shared meals and a quiz night added to a great experience. It was also inspiring to see the young undergraduate students step up at the inaugural Annual General Meeting of ACUR to form the Student Committee.

This ACUR experience encouraged me to continue down the research pathway. Since then, I have been privileged to present at international and national conferences and university-wide events, something I started to enjoy. Sharing knowledge and insights, answering questions I had not considered, and being challenged to go deeper all contribute to developing my research capacity. During all of these experiences, and as I continue to chip away at my PhD, I have never found age to be an issue, only when I myself start to see it as a barrier or a limitation.

Now, as a tenured academic and closer to 60 than 50, I love teaching, researching, and working in collaboration with my colleagues,

many of whom are senior in position, but younger in years. All throughout my Bachelor, Honours and Masters degrees I had mentors who shared their knowledge, expertise and insights with me, and most were younger by far.

So, what is the point of this story? As the title suggests, age is not a cage. It only becomes limiting if we lock ourselves into it. What a pleasure, when I can encourage my first-year students who are studying after having had a different career, family and other commitments and are now finally able to undertake the nursing degree they always wanted to. Sharing my story and demonstrating that embracing new adventures and opportunities can be done at any stage and at any age I hope will encourage others who are starting their journey into research and academia.

I will never graduate from 'The School of Life' because learning and growing is life itself.

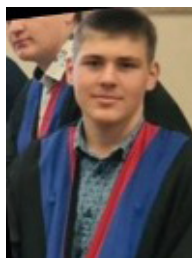
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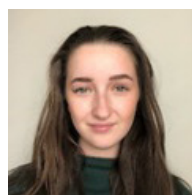
Exploring the circular economy through systematic review and a collaborative process

The Circular Economy (CE) has been suggested to revolutionise industrial approaches through integrating three key principles: elimination of waste and pollution, promoting circularity of end products and materials, and regenerating the natural environment.

Past research has shown that with numerous economic, environmental, and societal benefits, CE can advance sustainable development, globally. Given waste is identified as a key driver for CE practice implementation, understanding the application, barriers, and shortcomings of adopting CE practices by small-medium enterprises (SMEs) is essential. Thus, our research examined four sectors: agriculture, construction, textile, and tourism in Australia, Vietnam, and Finland.



Both Jemma and I are undergraduate students in our second and third year, respectively. Prior to this program, neither of us knew about the CE, nor had we undertaken a research project. The entire project was a considerable learning curve in not just the topic, but also shifting from preferring independent learning to realising the positive effect collaboration has on meeting project deliverables. Over the duration of the University of Western Sydney Summer Research Program, we became more confident when engaging with academics; especially as we were treated as equals and we presented our findings at a School of Business-wide research seminar. Undertaking a systematic literature review was overwhelming but through collaboration, we developed skills to identify if articles contained relevant information by way of its title or abstract before reading it. Additionally, we were



introduced to numerous databases useful for future assignments and career development.

We discovered that 'thinking outside the box' is essential for CE to work. We realised how slow-moving Australia is in CE practice adoption. For example, Lahti city in Finland illustrates how immersed its residents are in pursuing CE by way of its sports team, the Lahti Pelicans (first carbon-neutral team, globally), who do not fly to away games but travel via a biodiesel bus. Additionally, the players drive biodiesel vehicles. We found this interesting and unorthodox when compared to sports teams in Australia, and globally. Why is Australia delayed in being green-minded and adopting such practices in our everyday lives?

Another interesting finding was the Finnish Housing Project, which engages the construction industry to build houses and provide the homeless population with tenancy contracts, as opposed to temporary solutions

like hostels or shelters. Its success means that Finland is likely nearing zero homelessness within the next decade. Thus, Finnish adoption of CE practices is solving other real-world social problems. While governments and policies can drive CE implementation, minimal enforcement, lack of CE education, and operationalising CE transition are key barriers. However, researchers have highlighted regulatory and policy barriers as significant hindrances despite

both Vietnamese and Australian governments lending support for CE implementation. Vietnam and Australia can learn from Finland who are forerunners in CE adaptation and education.

Most of our research was undertaken collaboratively, resulting in successful completion of the program. There was no competition or rivalry between us, we had

mutual respect, making the research experience enjoyable. We recommend UG research to students wanting to experience something new.

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Reflections on the 2nd ACUR Exchange Colloquium 2023

Reflections by the Convenor

The 2nd ACUR Exchange Colloquium on 1st February was an opportunity for members and friends to come together to explore how undergraduate research dovetailed with other higher education activities and initiatives. Forty-five participants gathered in the spacious hall of the Broadway campus of the University of Notre Dame Australia. A key rationale for the colloquium was the idea that new approaches to undergraduate education could come about through cross fertilisation of ideas and networks. Many universities emphasise student engagement, participation, and inquiry, and initiatives such as students as partners, work integrated learning, and industry-based projects. These initiatives represent a range of intersecting practises with their own advocates and communities. So what is the collective contribution of these initiatives? How do the various communities of practise inhibited by these initiatives link together? And how can approaches be brought together to create a higher education that truly inspires students and prepares them for the challenges that lie ahead? Further, what is the contribution of undergraduate research to these initiatives?

Professor Dawn Bennett began her presentation by suggesting that there are three things employers want to know about a potential worker: Can you do the job? Can you do the job here? And do we want to work with you? Dawn set out the skills and capabilities that students needed to acquire to become employable (The Employability Framework), and then showed how the extra things that undergraduates get by engaging in research can easily fit into the capabilities everyone has to have. An extended example from a colleague teaching first year rhetoric showed how a simple shift to a research-based mindset could be achieved.

Dawn then asked Colloquium participants to think about a challenge or an opportunity for action that they wanted to pursue and to discuss these ideas in their groups, creating a plan for making this happen to come back to in the closing session.



The enriching conversations that occur at ACUR events

Following morning tea, which was taken outside in the shady courtyard, Professor Chris Moran gave an overview of different kinds of university-industry arrangements. He explained each type, why people do it, where the work is carried out and what the intellectual property payment and other arrangements are. He then went on to look at the opportunities that the various arrangements create for students and the kinds of learning they engage in, stressing that creating opportunities for students is not enough in itself. It's important that they are able to capitalise on them through great experiences. This depends on the relationships that are established. The kinds of relationships that students have with the company and the university are dependent upon the way the partnerships with industry are established. There needs to be a stated relationship with the company and evidence of that relationship,

including an alignment of principles and values, explicitly stated objectives, clear and effective governance, and a stated intent to provide for excellence in student experiences. There also need to be agreed indicators of good experience, a commitment to having people available to ensure success, agreements on resourcing, and processes for finding and managing problems that may arise.

The next session was a panel discussion with past ACUR conference presenters: Seak Lin Ly, Olivia Jessop, Supreet Saluja, and Chris Kilby, led by Dr Dan Johnstone (Newcastle University). Dan began by asking the panellists to introduce themselves and tell the audience what they were working on. He then asked them about their research experiences as an undergraduate. It was interesting how their varied early opportunities for research had led to further opportunities. They spoke about a range of experiences starting with whatever was available and, through a succession of projects, moving closer to their main interest. Finding money was a challenge, but they were able to learn what were the right choices for them. Through research they developed skills of judgement and problem solving and gained confidence. The experiences had enabled them to change how they saw the world.



Panel session

After lunch, Professor Franziska Trede explored the links between work - integrated learning and undergraduate research. She pointed to a number of misconceptions about the relationship between teaching, research, work-

integrated learning (WIL), and undergraduate research and asked : What are we privileging?; and What kind of knowledge are we talking about?

She said WIL is an umbrella curriculum concept. It essentially describes an educational partnership with industry and community with reciprocal benefits for organisations and students. It goes beyond a focus on employment to deepening a sense of professional responsibility, making a difference for the self and the community in a chosen profession and in society.

As a paraprofessional practise pedagogy, it embodies collaborative, relational, creative, and critical learning. It's a pedagogy of reflexivity, dialogue, action, using professional judgement and impact. It has to be scaffolded and aligned with career goals, but it involves professional identity development from day one. It offers a chance to explore themes across different subjects exposing students to real world challenges. Essentially WIL is about educating future professionals, preparing them for the multiple career changes which they are likely to go through.

Franziska went on to consider what the role of WIL is into the future. There is, she said, a need to rethink information, to rethink what matters in society. WIL and undergraduate research in this sense share the same context, purpose and context. Both initiatives are about learning to become capable practitioners. Both mean re-thinking the structures of higher education to find new ways of working. The courage to act is what we need.

The next speaker was Jennifer Campbell. She spoke about the Kungullanji research programme at Griffith University which was a summer research experience for Aboriginal and Torres Strait Islander students. She pointed out that in order to engage in research as a student you have to know about research. If you're going to decide to pursue research, and then to find a position in research, you have to know of its benefits. Indigenous students bring social capital and focus on benefits to indigenous people. They need financial support and coaching and flexibility. The need to be able to design their own project and restrictive admission processes need to be removed.

“I found the experience very useful and positive. It was rewarding to know that we were already implementing many of the processes discussed at the colloquium. I also realised that we could be doing more for our Indigenous students. We are now talking with colleagues about how we can assist our Indigenous students with undergraduate and postgraduate research opportunities” (example of anonymous feedback given on post-colloquium survey)
- A Colloquium participant

Jennifer ended by asking the audience to think about how Indigenous ways of knowing, being and doing can be incorporated into undergraduate research experiences and how we can use existing Indigenous social capital. She challenged us to recognise the strength of Indigenous people outside of academic norms and to examine structures and systems that may present barriers for students to access and participate.

Associate Professor Kelly Matthews began by saying that 'students as partners' is a metaphor. So she asked groups to think of metaphors to express the idea: what it is; what it is not; and the fuzzy middle ground, whatever that meant. So this session got off to a sometimes amusing start. Following discussions Kelly suggested that everyday interactions involve partnerships and these are dependent on building relationships. Partnerships are predicated on spending time together. Students as partners asks us to be aware of relationships between students and staff. Working in partnership with students in this way achieves changed relationships. Human relationships are sometimes hard and changing relationships can be a struggle and there may be resistance, but being in a partnership leads to learning for all. We need to think about the relationships we are cultivating within our institutions. It behoves us to create meaningful relationships with co-workers including students because

we spend most of our working lives with them. Higher education should be preparing work-ready graduates with the relational skillsets and mindsets to connect and collaborate. We expect students to engage in a community and participate with others, but we don't always model that in higher education. Higher education is designed with certain types of people in mind and some students come to it thinking this wasn't designed for them. So how can higher education become more inclusive? What if students were able to work with us to shape the university into a place where they all felt valued and part of it too.

This led to much thoughtful discussion which then morphed into the closing session. Taking the microphone in hand, Dawn asked about the challenges participants wanted to pursue in the future. Finally an opportunity was provided for participants to make overall comments and brought the Colloquium came to a close.



Convenor Professor Angela Brew (left) at the Colloquium with Olivia Urbaniak

Professor Angela Brew
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Coming Soon!! - Recordings of sessions, powerpoint slides and synopses on the ACUR website!

Featured ACUR Resource

AI Tools to Assist Researchers

ChatGPT is all the buzz but can AI tools like this support researchers? Check out this resource to find out ChatGPT's take on AI tools to assist researchers – you might be surprised to learn of the range of AI applications! Then we discuss one tool we think will be really helpful – Elicit: The research assistant. This tool currently focuses on assisting researchers with literature reviews by finding articles and summarising them in a unique and powerful way. And it's FREE – at least for now!

Contact Us

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Reflections by a participant in the 2nd ACUR Exchange Colloquium 2023

Undergraduate research experiences, work integrated learning, experiential learning and a range of other high-impact practices are often conceived of within universities as discreet, disconnected or even in competition. Worse, students may not see any connections between these diverse experiences, as if each were a separate tree and not part of a forest of learning.

The 2nd ACUR Exchange Colloquium enabled the presenters and participants to conceive of, and make connections with, the ways in which undergraduate research experiences provide students with a raft of skills that sets them up for employment. The Colloquium theme was Creating career-ready graduates: The role of undergraduate research.

Therefore, who better to lead the first two sessions than Professor Angela Brew and Professor Dawn Bennett? Angela set the theme for the day around bringing together communities of practice, especially undergraduate research and work integrated learning communities that may have different emphases and yet have much in common for preparing students for their worlds after graduation. Then Dawn provided structured time for us to think about and discuss deeply the connections of undergraduate research and career readiness for our students. For example a team of us from the University of Adelaide focused on student awareness of skills as they developed a CV in



capstone courses in the Biomedical Sciences, the progressions of learning and explication of skills across the 5 years of Integrated Learning Activities in Dentistry and the intersection between Australian Professional Standards for Teachers and research-based learning in the Bachelor of Teaching.

After some fantastic conversations over morning tea, Professor Chris Moran, had us thinking about Industry-University Partnerships and the Student Experience, providing examples from CSIRO, The University of Queensland and Curtin University. This led to the highlight of the day, the panel of graduates who were all able to reflect on the ways their undergraduate research experiences prepared them for their current employment. The panel comprised Olivia Jessop, Seak Lin Ly, Chris Kilby and Supreet Saluja, and their levels of insight into the skills they developed through their undergraduate research experiences profoundly illuminated how they became career-ready graduates.

After lunch Professor Franziska Trede brought us to the explicit intersection of Work-Integrated Learning and Undergraduate Research in educating future professionals. Franziska enabled us to see how undergraduate research can be, at times, a form of work integrated learning, useful for developing professional practice capabilities including communication, problem solving and teamwork. As an example, Jennifer Campbell told us about Community-based research at Griffith University's Kungullanji Summer Research Program for Aboriginal and Torres Strait Islander students.

Jennifer explained that Kungullanji, meaning 'to think', challenges students to think about research careers, have a voice in research communities, and privilege Indigenous knowledges, voices and ways of doing research. The program has influenced the trajectory of more than 100 Aboriginal and Torres Strait Islander students, enabling an increased number of students to progress to Higher Degree Research programs and employment in research positions.

Associate Professor Kelly Matthews, explored the link between engaging students as partners and career-ready graduates. Kelly explained how the collaborative elements of partnerships are career-preparing and undergraduate research may be structured in a way to enhance the partnership elements. A vital consideration of equity drew attention to the unequal access to partnerships at university. Unfortunately Dr Tai Peseta was unwell on the day so we missed her examples of students as partners! Hope you are OK Tai!

There was a great vibe all day at the colloquium and the 55 participants, six presenters, and panel of graduates left stimulated to bring undergraduate research and its connections to employability to the fore at their institutions.

The symposium program is available:

<https://info.acur.org.au/resource/2023%20Colloquium%20Program%2020230113.pdf>

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Looking at traditional Qigong in the light of modern scientific method

I am a fourth-year Traditional Chinese Medicine student at Western University, Sydney. Towards the end of my autumn semester last year, I received an encouraging message from the head of our department, Professor Xiaoshu Zhu, to apply for Undergraduate Research. I was hesitant initially as I had just finished my autumn exam and was desperately looking for a summer break. In hindsight, it was one of my best decisions to apply for an undergraduate summer research project. It equipped me

with the tools that create knowledge in our discipline.

The best part of this project was that it enabled me to create a one-on-one connection with the most distinguished faculty member, Dr Sean Walsh. I got his personal attention and time, which helped me grasp the nuances and subtleties of the field of knowledge that usually falls outside the scope of classroom teaching, which otherwise would take many years of self-reading and acquired experience.

My work focused on standardising the research protocol on the randomised controlled trials (RCTs) of mind-body interventions, particularly on Qigong. The aim was to create an evidence-based minimum set of items required for reporting RCTs in Qigong. Randomised controlled trials are the gold standard evidence for any intervention. Thousands of RCTs are conducted globally to assess the validity of the Qigong as a therapeutic intervention, but the quality of reporting needs to be standardised.

Mind-body interventions (MBIs), including Qigong, have certain peculiar features that distinguish them from the prevalent modern-day scientific intervention. Therefore, it is essential to modify the RCT framework to accommodate the vital elements of MBIs.



mind-body intervention are active agents in the healing process. The sum effect of expectancy, self-efficacy and the actual benefit of MBI leads to the outcome.

A distinctive feature of MBIs is their focus on vitalism instead of pure materialism. Qigong is a systematic body of knowledge that treats various health conditions by manipulating Qi in the different meridians and organs.

Clinical studies of mind-body intervention are inherently more challenging than drug intervention due to various factors. For instance, the blinding of participants is extremely difficult in mind-body controlled trials; therefore, expectancy effect or placebo cannot be eliminated. Moreover, the participants in the

This process requires a synergetic relationship between the teacher and participants and leads to the systematic enhancement of self-perception (awareness) in the participant. This explains why the role of a teacher is so crucial in Qigong. The enhancement of self-perception is typically registered as some form of therapeutic

sensation by the participants, traditionally called the Ba chu or Qi sensation in Qigong. This sensation is believed to be essential for the effectiveness of the therapy. During my research, I analysed more than 150 clinical trials but did not find a single paper that included therapeutic sensation to assess the validity of the Qigong intervention. Hopefully, my work will highlight this crucial aspect of Qigong therapy! Additionally, it aroused my curiosity to explore deeper in this area and gave me a flavour of applied research. I am looking for further research opportunities in my area of interest!

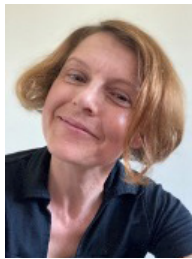
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Why undergraduate researchers should know about Open Science

Imagine failing to replicate results presented in a published study. Is this just you not doing research properly, bad luck, or is something else going on?

Replication failures

Young researchers tend to blame themselves for failures to replicate results of earlier research. But when you have mastered the necessary techniques, done any necessary troubleshooting, repeated the experiment again and again, and still could not get the expected result – it is time to look critically at the academic literature. And, unfortunately, it is not as solid and trustworthy as it should be.



outcome, using inappropriate study designs and statistical tests, and not checking robustness of the procedures used. Several surveys of scientists revealed that many admit to engaging in QRPs in their own work or witnessed others doing so.

How meta-research and Open Science can address the replication crisis?

Meta-research focuses on investigating biases in academic literature, causes of scientific malpractices and potential remedies to replication crisis and research biases. Key recommendations from meta-research are that we need both structural and cultural changes in the scientific community, making science more open.

Why you need to know about Open Science?

Open Science (also called Open Research, Open Scholarship) is a broad concept related to greater transparency of the scientific process and accessibility of the scientific knowledge (e.g., sharing data, code, research materials). It is also a global movement of researchers and organisations working towards better science. As a result, more and more scientific funders and academic journals require scientific data to be shared alongside scientific findings to allow reuse and error-checking. You need to be aware of these trends when planning and conducting your own research. You will benefit from having not only skills in data management, coding, and using digital collaboration platforms, but also in

how to spot suboptimal research practices and how to avoid them in your work.

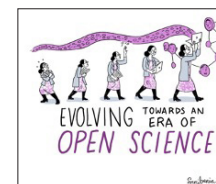
How to learn more?

You can join one of the many Open Communities of researchers: [Association for Interdisciplinary Meta-research and Open Science \(AIMOS\)](#), [Society for Open Robust and Transparent Ecology and Evolution \(SORTEE\)](#), [Society for the Improvement of Psychological Science \(SIPS\)](#), [Framework for Open and Reproducible Research Training \(FORRT\)](#), [Center for Open Science \(COS\)](#), [The Turing Way](#), [Reproducibility](#), and others. These communities organise accessible (often free or discounted) workshops and conferences and collate many useful and free resources. For example, check out impressive [FORRT's Glossary of Open Science Terms](#), FORRT's curated list of resources, and [The Open Scholarship Knowledge Base](#) by COS.

Finally, by learning about Open Science you will understand that the scientific replication crisis is an opportunity – an opportunity to improve your own research practice and to contribute to better science.

Is science in crisis?

Many pivotal findings from medicine and psychology have failed to replicate in large-scale replication attempts led by international expert teams. The authors of these replication attempts concluded that large portions of published research are unreliable, leading to a notion that science is in a “replication crisis”. Similarly, other studies suggest that much of the published literature has resulted from questionable research practices (QRPs) such as leaving out parts of the data or analyses that are not in agreement with the desired research



This image was created by Scriberia for The Turing Way community and is used under a CC-BY licence.

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ACUR Student Committee: Embracing Change and Advancing Undergraduate Research

In the aftermath of the successful ACUR Conference 2022, the ACUR Student Committee has been making strides in advancing undergraduate research, fostering collaboration, and ensuring a smooth transition between committees. As I assume the role of Ascending Head of the ACUR Student Committee 2023, we reflect on the progress made over the past few months and the exciting initiatives in store for the coming year.



Transitioning between student committees has been a priority, with Max Kirkby, the descending head, playing an instrumental role in guiding the new members and sharing responsibilities. The Student Committee 2023 is diverse, with representation from The Australian National University, The University of Sydney, The University of Queensland, Western Sydney University, and the University of Melbourne. These members bring a wide array of research interests, including digital

health, deep phenotyping for Multiple Sclerosis, AI climate risk management, and the relationship between immunology and exercise. One of the committee's notable initiatives is the brainstorming of a workshop for ACUR members in mid-2023. The workshop aims to build on previous ACUR formats, focusing on connecting undergraduate students with supervisors. Collaboration with the ANU PhD program and guest speakers is being explored, as well as networking sessions for students and potential supervisors from various universities.

The recent student meeting led to further discussions on multiple initiatives. For instance, the ACUR Student Committee has been hard at work developing a unique platform to connect undergraduate researchers and foster collaboration: the ACUR Research Database Discord server. This innovative platform aims to bridge the gap between undergraduates, experienced students, and academic researchers, providing a space for networking, discussion, and the sharing of resources. The Discord server features separate channels for various universities, as well as general channels for

interdisciplinary communication. This virtual hub is designed to facilitate the exchange of ideas and promote a thriving research community across Australasia. As the server's launch approaches, the ACUR Student Committee welcomes feedback and suggestions on its structure and potential features, reflecting their commitment to creating a valuable resource tailored to the needs of the undergraduate research community.

In conclusion, the ACUR Student Committee has made significant progress in recent months, with several promising initiatives in the pipeline. The entire committee and I are dedicated to enhancing the undergraduate research experience and fostering collaboration within the ACUR network. As we look forward to the coming year, we are confident that the ACUR Student Committee will continue to break new ground in advancing undergraduate research across Australasia.

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Letter from the Chair

It was such a pleasure to meet with members and friends at the recent ACUR Colloquium. As the review article in this Issue shows, this face-to-face event has given new impetus to undergraduate research developments. The ACUR Executive is now working towards the biennial review of its activities, and what we have learnt in our Colloquium about integrating undergraduate research with other university pedagogical initiatives will be very helpful in our discussions.



particular developments, but we have a role in ensuring that undergraduate research doesn't get swamped by other agendas seen to be more pressing. Undergraduate research must always be seen as part of a bigger picture of pedagogical innovation and, as our Colloquium has taught us, we must work with, and not against, other initiatives.

In recent weeks I've also been delighted to be able to sit down face to face with some members and potential members to talk about ACUR and how we can work to progress the undergraduate research agenda in their institutions. It's as if we're emerging from a long dark pandemic tunnel. Online meetings will continue to have their place, but informal conversations in a shared space over coffee or lunch are much more generative of the partnerships that were talked about so much in the Colloquium. Educational systems can facilitate or limit

The next big event on the ACUR calendar will be the annual student conference in the (Southern) Spring. We have started negotiating with potential conference hosts for 2023 and will make an announcement in due course. We would also welcome opportunities to begin discussions about the hosting of future ACUR conferences. If you have in mind that you would like to do this at some point, please do get in touch. The procedure from expressing an interest to gaining sign-off by a senior person, and including feedback from the ACUR community, usually takes longer than is initially supposed. So we would like to hear from you. More information is on our website.

Professor Angela Brew
chair@acur.org.au

Vale Mike Neary

Professor Mike Neary was one of the team of experts who established Angela Brew's ALTC Fellowship (2009) which was the foundation for the establishment of the Australasian Council for Undergraduate Research (ACUR). At the University of Warwick, he established one of the first Centres for Excellence (CETLs) in developing undergraduate research in the UK. A highlight of a subsequent Australian Government Grant in 2013, that was designed to make undergraduate research conferences sustainable, was Angela's visit to the University of Lincoln where she was able to explore with Mike new classrooms that he had developed there to encourage a 'student as producer' model of teaching and learning. These events and Mike's ideas and scholarly writing were seminal in establishing the underlying framework and ethos of ACUR which is now a vibrant community of academics and students working together to promote and advance undergraduate research in Australasia (<https://www.acur.org.au>). Mike remained a member of the ACUR Steering Committee until his untimely sad death in February 2023.

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