



THE UNIVERSITY OF
SYDNEY

ACUR

Australasian Council
for Undergraduate
Research

10th Australasian Conference of Undergraduate Research

28-30 September, 2022

Shaping the Conversation



THE UNIVERSITY OF
SYDNEY

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*Australasian Council
for Undergraduate
Research*

Join the conversation #ACUR2022

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Foreword

Emeritus Professor Angela Brew



It is with very great pleasure that I welcome you to this 10th Anniversary Australasian Conference of Undergraduate Research. I am particularly delighted this year to be able to welcome you onto campus.

As a multi-disciplinary conference, you will have the opportunity to meet other undergraduate researchers from your own and other disciplines. I'm confident that you will find the experience of presenting your research and hearing the varied presentations given by others exciting and stimulating. I know that you will gain much from meeting each other, developing research networks, and making new friends.

For many of you this will be a first step on the path of your research career. Presenting research challenges you to communicate complex ideas succinctly. But more than that, the conference also provides an opportunity for all delegates to observe research and academia in action and learn about other undergraduate researchers and their research. It opens your eyes to potential research topics and may encourage you to go on to further study.

The team at The University of Sydney have chosen for the theme of this year's conference 'Shaping the Conversation'. In presenting your research, you help to shape conversations in your discipline. The questions you ask and the insights you share on topics that may be quite new to you, help to shape others' conversations and may lead to future new research directions.

Whether this is your first experience of an ACUR conference, or you are here for a second or third time, by presenting your research here you become a student member of ACUR for a whole year. So welcome to the conference, and welcome into the ACUR Community!

Angela Brew

Chair of Australasian Council for Undergraduate Research

Welcome

Deputy Vice-Chancellor (Education) Joanne Wright



On behalf of The University of Sydney, it is my great pleasure to welcome you to this tenth Australian Conference of Undergraduate Research. I hope you make the most of your two-day program, meet new friends and are inspired by fabulous presentations that you will hear and the discussions that they will provoke.

The theme of this year's conference, Shaping the Conversation, is entirely appropriate as we come out of the pandemic that has so shaped our lives for the past two and a half years. We have an opportunity to reset many aspects of the way our societies function from health provision to political systems to the provision of educational opportunities. The pandemic has also shown us how interconnected and fragile our world is and the urgent need to reduce inequalities and protect the planet.

The things that so fundamentally underpin the many decisions that we will have to make and solutions we come up with are evidence and research. And that is why encouraging all of you – the best and brightest of your generation – is so important.

I wish you well for the conference and I look forward to hearing some outcomes. Even though some of the problems that we are facing are complex, I am confident in your ability to come up with solutions and push forward the frontiers of knowledge.

Joanne Wright

Deputy Vice-Chancellor (Education)

Gold sponsor



UTS is the top-ranked young university in Australia, recognised for our practical and innovative research. Our world-leading research strengths span a wide range of disciplines including engineering, computer science, physical sciences, design, business and sustainability.

We are Australia's highest-performing young university (THE rankings, 2022), and our research is rated world standard or above (ERA 2018). We are dedicated to producing exciting, vibrant research that aims to reach out to the world, to be effective and relevant.

Located in the heart of Sydney's creative and digital precinct and alongside Sydney's central business district, we have invested significantly in our equipment and facilities. This includes the cutting-edge TechLab, a collaborative research facility that co-locates engineering infrastructure and specialist laboratories.

As a public purpose institution, UTS is committed to supporting positive social change within and beyond our campus. This commitment is reflected by our diverse research, student-based programs, and unique teaching and research integrated practices. It is through this approach where we find practical solutions to current national and international problems.

Program

Thursday 29 September 2022

8:00	Arrival and registration	Foyer
8:45	Acknowledgment of Country	ABS Lecture Theater 1110
9:00	Opening Ceremony	ABS Lecture Theater 1110
9:30	Keynote address - Dr Kath Bicknell	LABS Lecture Theater 1110
10:30	Tea break	Foyer
11:00	Abstract session 1 - Communities & Relationships	Clinicians & Health Info - ABS Lecture Theater 1110 Animals & the Environment - ABS Seminar Room 1140 Students & Intimacy - ABS Seminar Room 1080 Community & Wellbeing - ABS Seminar Room 1100
12:00	Abstract session 2 - What Shapes Us?	Wellbeing & Public Health - ABS Lecture Theater 1110 Space & Climate - ABS Seminar Room 1140 Seeing & Believing - ABS Seminar Room 1080 Effects of COVID-19 - ABS Seminar Room 1100
1:00	Lunch and Poster Session 1	Foyer
2:30	Workshop - Research Skills	Ethics Application Workshop - ABS Lecture Theater 1110
3:30	Afternoon tea	Foyer
4:00	Panel discussion	ABS Lecture Theater 1110
5:00	Conclusion	ABS Lecture Theater 1110
6:00	Dinner	The Women's College - Sibyl Center

Friday 30 September 2022

8:30	Breakfast with postgraduate research students	Foyer
9:15	Welcome to Day 2	ABS Lecture Theater 1110
9:30	Keynote address - Dr Karl Kruszelnicki	ABS Lecture Theater 1110
10:45	Tea break	Foyer
11:30	Abstract session 3 - Neurons & Networks	Molecules, Genes & Cells (1) - ABS Lecture Theater 1110 Chemistry & Neural Networks - ABS Seminar Room 1140 Perception & Pain - ABS Seminar Room 1080 Technology & Social Media - ABS Seminar Room 1100
12:45	Lunch	Foyer
1:00	ACUR Annual General Meeting	ABS Lecture Theatre 1110
2:00	Abstract session 4 - Inner Workings	Cancer & the Lungs - ABS Lecture Theater 1110 Molecules, Genes & Cells (2) - ABS Seminar Room 1140 Memory & Gestures - ABS Seminar Room 1080 Society & the Individual - ABS Seminar Room 1100
3:15	Workshop - Communication Skills	The Path to Publication - ABS Lecture Theater 1110 Social Media for Researchers - ABS Seminar Room 1080
4:15	Closing Ceremony	ABS Lecture Theater 1110

Shaping the Conversation...

About the theme

Knowledge is never fixed. Every day, new things are being discovered, old theories are being thrown out, and previously unimaginable concepts become reality. When students commence their undergraduate degrees, it is with the goal of learning everything already known about their field. Then comes the day they get to partake in research; in doing so, students start to shape the conversation about their chosen area. At the ACUR2022 Conference, we're asking students to explain how their research is 'Shaping the conversation'. What new frontiers are being explored? What established paradigms are being challenged? Are ideas being connected across fields, or explored in novel ways? Join the conversation this September.

A word from the conference coordinators

Welcome to the 10th conference of the Australasian Council of Undergraduate Research, proudly hosted by the University of Sydney. After two COVID-affected years, we are delighted to welcome over 100 delegates to the conference to present on a wonderfully wide array of topics. This year's theme is *Shaping the Conversation* which we take a stimulus for delegates to explore the way in which their research is actively moulding their field – at every level, research is excitingly dynamic. This is why an interdisciplinary conference like this is so special – it's an opportunity for delegates to hear where research is at across a spectrum of areas, and use this as a stimulus to the all important question 'what's next?'. In this way, we are delighted to provide delegates with the opportunity to meet with Higher Degree by Research students, as well as Junior and Senior academics from their field. We look forward to the many conversations that might eventuate, be they over coffee, in question time, or at the conference dinner.

We wish everyone a wonderful conference!

ACUR Organising Team



Dr Lilia Mantai

The University of Sydney



Dr Dan Johnstone

The University of Newcastle



Emma van der Schyff

The University of Sydney



Nicky Gluch

The University of Sydney



Olivia Urbaniak

The University of Sydney

Keynote Speakers

Dr Kath Bicknell



Dr Kath Bicknell is an expertise researcher and communications professional - joint careers that largely developed through her love of mountain biking. Her academic work investigates the relations between thinking, doing, performance and training. Kath has also worked as a freelance media professional since 2018 and is internationally recognised for her multiplatform work on cycling. Her first book, *Collaborative Embodied Performance: ecologies of skill*, was published in 2022. This transdisciplinary volume was co-edited with John Sutton.

Kath is a researcher at the School of Social Sciences and School of Psychological Sciences at Macquarie University, as well as working at SBS Sport.

Dr Karl Kruszelnicki



Dr Karl Kruszelnicki popularises science on ABC radio stations across Australia and, on the BBC, for several hours each week. Karl has written (so far) 47 books, beginning with 'Great Moments In Science' in 1984, and includes such titles as 'It Ain't Necessarily So... 'Bro' (2006), which was launched, quite literally, via rocket at Sydney's Bondi Beach (a world first). Karl has degrees in Physics and Maths, Biomedical Engineering, Medicine and Surgery and has worked as a physicist, tutor, film-maker, car mechanic, labourer, and as a medical doctor at the Kids' Hospital in Sydney.

Dr Karl is currently the Julius Sumner Miller Fellow at Sydney University, where his 'mission' is to spread the good word about science and its benefits.

Workshops

Ethics Applications Workshop

Are you interested in learning how to write succinct and successful ethics applications? We welcome you to this workshop, run by Associate Professor Helen Mitchell, Chair of Human Ethics Committee 1.



Associate Professor Helen Mitchell

Helen Mitchell has a multidisciplinary background in music, and her research focuses on the reception of music performance by sound and sight. At SCM, Helen is Honours Coordinator and Program Leader in Postgraduate Research (Performance) and supervises Honours and Postgraduate students in their research projects in music. She has been Chair of Human Research Committee 1 since 2018 and also chairs the Sydney Conservatorium Review Committee for low risk ethics applications.

The Path to Publication

Are you wondering why it is important to publish? How to write a journal article? And how and where to get it published? This talk provides tips and guidance on the process of writing and publishing in academia.



Dr Agata Mrwa-Montoya

Dr Agata Mrwa-Montoya is a lecturer in the Discipline of Media and Communications, University of Sydney. She worked for over 15 years in scholarly and educational book publishing, commissioning and project-managing a wide range of non-fiction titles. She has written articles about publishing for scholarly journals and industry publications.

Social Media for Researchers

Ever wondered how you can connect with others in your field and promote your research? Natasa Lazarevic is a PhD Candidate at the University of Sydney who has a passion for all things science communication. She has a fun and interactive workshop planned, a permutation of one she has presented to the researchers at CSIRO!



Natasa Lazarewic

Natasa is a PhD student who works on an interdisciplinary project that combines the fields of digital health, machine learning and anatomy. The project is about applying our understanding of the human body to create technological solutions to monitor our bodies and our health remotely. The ultimate goal of her research is to use the technology already built into our phones (such as cameras) and computer vision techniques to build a 'Pregnancy App' that gathers health-relevant data from the users.

Panel Discussion

Emeritus Professor Angela Brew (moderator)

Angela has pursued a longstanding program of research on the nature of research. This work has established a critical dialogue about the nature of research through an exploration of how research occupies contested space intellectually, socially, politically and psychologically. Angela is the Chair of ACUR.



Dr Dan Johnstone (moderator)

Dan Johnstone is currently the Research Project Manager within the School of Biomedical Sciences & Pharmacy. Prior to this, he was a Senior Lecturer at the University of Sydney and an NHMRC Early Career Fellow. His research focuses on the dual phenomena of neurodegeneration and neuroprotection - understanding why the brain fails with age and pioneering interventions that delay or slow this process.

Dr Alana Blackburn (Arts)

Dr Alana Blackburn is a recorder player and music pedagogue whose PhD investigated the professional identity of chamber musicians and related group processes. A lecturer at the University of New England, Armidale, since 2017, Alana is an expert in digital education and teaching performance through non-traditional methods.



Professor Melissa Baysari (Health)

Professor Melissa Baysari is a human factors researcher experienced in both quantitative and qualitative evaluations of health information technology. Her research to date has focused primarily on the design and evaluation of computerised decision support.

Dr Shelley Wickham (Science)

Dr Shelley Wickham is an ARC DECRA Fellow, Westpac Research Fellow and Senior Lecturer in the Schools of Chemistry and Physics at the University of Sydney. She received her PhD in Condensed Matter Physics from the University of Oxford, UK, working on building synthetic molecular motors out of DNA. She then moved to a postdoctoral fellow position at Harvard Medical School, USA, based in the Department of Cancer Biology, Dana-Farber Cancer Institute, and the Wyss Institute for Biologically Inspired Engineering.



Dr Sandra Alday (Business)

Sandra Seno-Alday is a Senior Lecturer in International Business, teaching units in international risk management. Prior to embarking on an academic career, Sandra was a consultant to a wide range of medium- to large-scale companies, specialising in international business development and organisation development. In the area of international business development, her consulting engagements were mainly aimed at informing clients' strategic business expansion efforts in Southeast Asia.

Closing Ceremony

Prizes

Best overall abstract and oral presentation:

Sponsored by UTS - \$1,000

Best oral presentation (Honours):

Sponsored by UNSW - \$1,000

Best oral presentation (non-Honours):

Sponsored by UNSW - \$1,000

Best poster presentation (Honours):

Sponsored by UNSW - \$500

Best poster presentation (non-Honours):

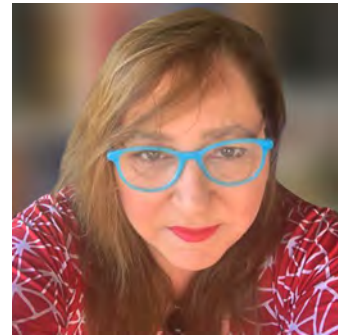
Sponsored by UNSW - \$500

Engagement award (Social Media):

Art Gallery NSW

Prize for the Best Paper in Education Research:

Sponsored by HERDSA - \$500 & one-year
HERDSA student membership



Professor Louise Sharpe

Director of Graduate Research

Prize sponsor



UNSW
SYDNEY

Dinner sponsor



MACQUARIE
University
SYDNEY · AUSTRALIA

Reviewers

Aklima Nasrin
Arash Araghi
Chim Wang
Dagny (Huitong) Song
Faysal Mehedi Hasan
Jacinta Smith
Jay Jiang
Kathleen McFadden
Kirk Chen
Khyati Dave
Linda Susilowati
Lisa Shi
Linxuan Jiang
Mohammad Ullah
Ravi Prakash Vyas
Reeja Nasir
Shuvashis Saha
Wenjie Yang
Yaoqui Huang

Judging panel

Emeritus Professor Angela Brew
Dr Craig Campbell
Dr Daniel Johnstone
Emma van der Schyff
Dr Leigh Wilson
Dr Lilia Mantai
Nicky Gluch
Olivia Urbaniak

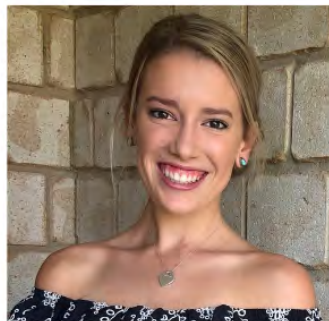
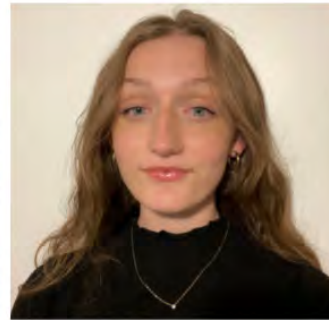
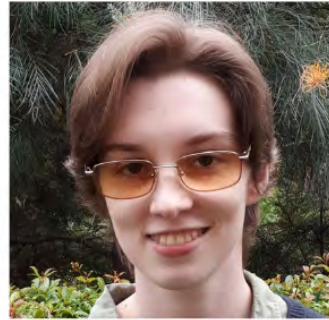
Session chairs

Dagny (Huitong) Song
Emma van der Schyff
Khyati Dave
Max Kirkby
Nicky Gluch
Olivia Urbaniak
Rahma Al Alawi
Wenjie Yang

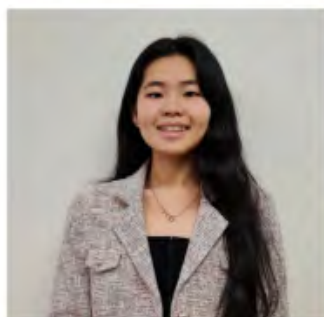
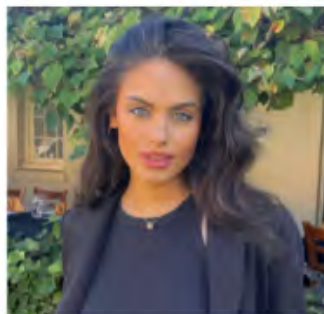
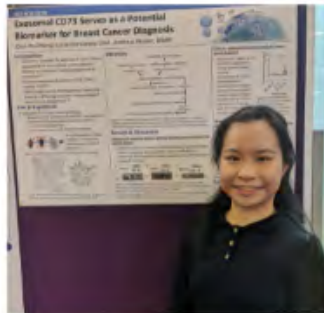
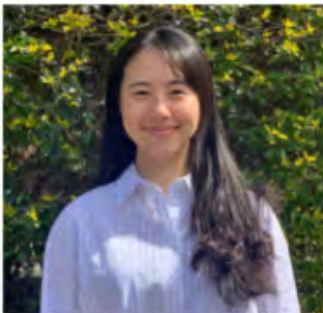
Breakfast with HDRs

Bianca Cully-Duse
Emma van der Schyff
Klementine Burrell-Sander
Nicky Gluch
Olivia Urbaniak
Rahma Al Alawi
Thomas Carraro

ACUR CONFERENCE PARTICIPANTS 2022







ACUR Conference Participants 2022

Akshaya Ramanathan

Alex He

Alexia Nastatos

Amanda Purcell

Amber Bunting

Amelie Read

Amir Hashemi Pour

Amy Cheng

Antonina Stewart

Ariel Jones

Ashish Manchanda

Ashleigh Correa

Ben Carew

Benjamin Simmonds

Breanna Tory

Camille Potier-Villette

Celine Ogg

Darshwiin Indrawathan

Dina Kazemi Beidokhti

Elsa Kohane

Emily Deschacht

Emma Brown

Emma Gardiner

Ethan Italiano

Frank Fei

Gallifrey Lawler

Georgia Acutt

Hannah Gibbs

Harley Nguyen Tran

Holly Hughes

Irina Lotsaris

Isabella Gilbert

Jack Miller

Jacob Lapin

Jamilla Smith

Jasmine Nguyen

Jasmine Sullivan

Jayden Lucas

Joanna New

John Starkey

Jubilee Sloane

Julian Walker

Karen Tran

Kate Quadrio

Kavya Thakore

Kayley Zielinski-Nicolson

Kevin Chang

Kyle McIndoe

Leon Wiesner

Leslie Tao

Leyla Meharg

Liam Sida

Linda Lin

Lukian Adams

Melissa Xie

Michael Xie

Mikaela Jacka

Mikayla Hyland-Wood

Mohamad Elzein

Naomi Fenton

Naomi Luo

Nora Holmes

Nusrat Asad

Olivia Breen

Olivia Williams

Paris Tsoukatos

Patricia Macabulos

Pavani Subramaniam

Phan Nguyen

Phoebe Schramko

Rachel Tan

Rebecca Hetherington

Robert Slater

Ryan Cheng

Samanda Mularachchi

Sarah Smith

Sarra Lorford-Mills

Shanella-Joo Kang

Sophie Chiang

Sophie Macklin

Taylor Portelli

Teegan Gardner-Harrex

Thomas Woldhuis

Victoria Lopez

Vincent Yuan

William Tanner

Yogashree Thirunvukarasu

Special Issue



We are delighted to announce a Special Issue from the acclaimed international journal Glocality!

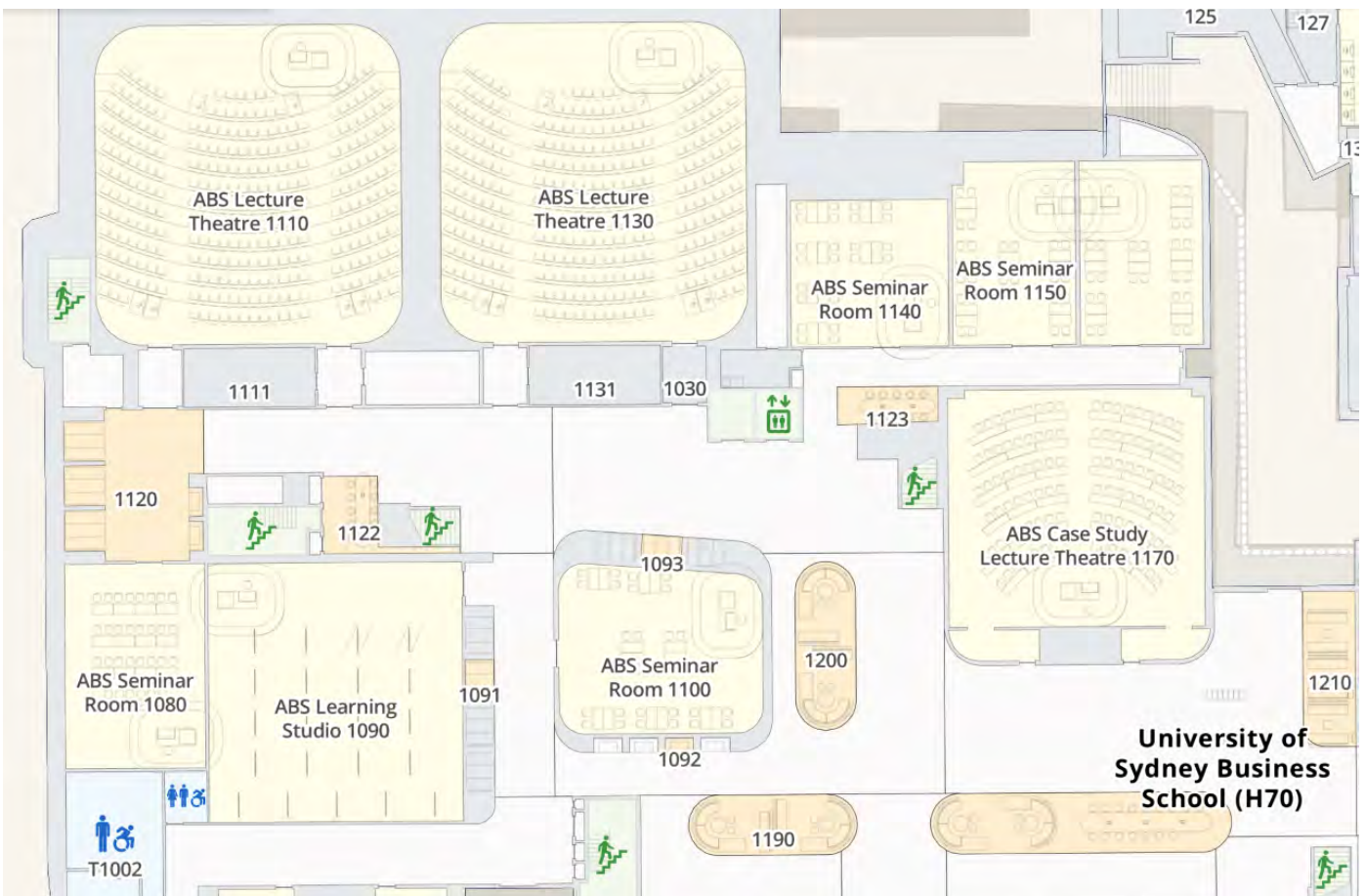
Glocality is an open access academic journal which offers a platform to undergraduate students to share their work with the scholar community and practitioners worldwide. We admit articles that explore the relationship between local and global on any of the dimensions of the Sustainable Development Goals.

Glocality aims to promote academic and scientific applied research that explores the relationship between global and local and create critical glocal thinking to deal with the challenges ahead of us. We aim to create young schools of thought and develop innovative approaches, solutions and technologies for achieving the Sustainable Development Goals (SDGs). Therefore, we welcome and acknowledge papers from undergraduate students who bring more insight to sustainable development not only for the academic community but also for practitioners.

Our goals are to:

- introduce students into research disciplines and the publishing process
- encourage undergraduates to write at an academic level
- make the results of undergraduate research accessible to everyone
- create a glocal community of scholars who contribute to the knowledge society

ABS Map



Join the conversation!
#ACUR2022