



SAGE
SCIENCE IN AUSTRALIA
GENDER EQUITY

CATALYSING GENDER EQUITY 2020

BE PART OF THE SOLUTION

20-21 FEBRUARY
ADELAIDE CONVENTION CENTRE

SUMMARY REPORT



Australian Government
Department of Defence



UniBank

CATALYSING GENDER EQUITY 2020

BE PART OF THE SOLUTION

On 20 and 21 February 2020, 400 representatives from across the research, industry, academic, education and government sectors came together in Adelaide to progress gender equity in Australia’s science, technology, engineering and mathematics (STEM) system.

Catalysing Gender Equity 2020 was hosted by the Australian Academy of Science (the Academy) in collaboration with Science in Australia Gender Equity (SAGE), almost one year on from the launch of the Women in STEM Decadal Plan (the decadal plan). The event focused on practical ways to achieve the plan’s vision to establish a thriving STEM-skilled workforce that is fit for the future, powered by a diverse pipeline and supported by inclusive workplaces.

Over the two days, participants took part in inspiring plenaries, 12 workshops, a gallery of equity action posters and networking opportunities. With the input of delegates and the contribution of key experts and facilitators, the landmark event focused on highlighting key action areas, devising practical solutions with impact and growth potential and celebrating success. Areas requiring more focus were also considered.

Catalysing Gender Equity 2020 was a unique moment to connect and unite leaders and actors from the Australian STEM community in the shared goal of increasing and enhancing the participation of girls and women in STEM. Together with highlighting key outcomes and actions, it also strengthened and built new networks and collaborations and shared evidence-based best practice.

Catalysing Gender Equity 2020 was made possible with the generous support of partners: UniBank, Australian Government Department of Defence, Edith Cowan University, Flamingo Ai and QUT. The event was a key milestone in the delivery of the plan, supported by the Australian Government.

Furthermore, thanks to the generous donation by Professor Michelle Coote of her Georgina Sweet Fellowship, 12 exceptional and diverse ‘Changemakers’ in the STEM Women community were also able to attend Catalysing Gender Equity 2020.

Conference attendees were invited to join SAGE in celebrating recipients of the Athena SWAN Institutional Bronze Awards at the SAGE Awards Dinner on 20 February 2020.



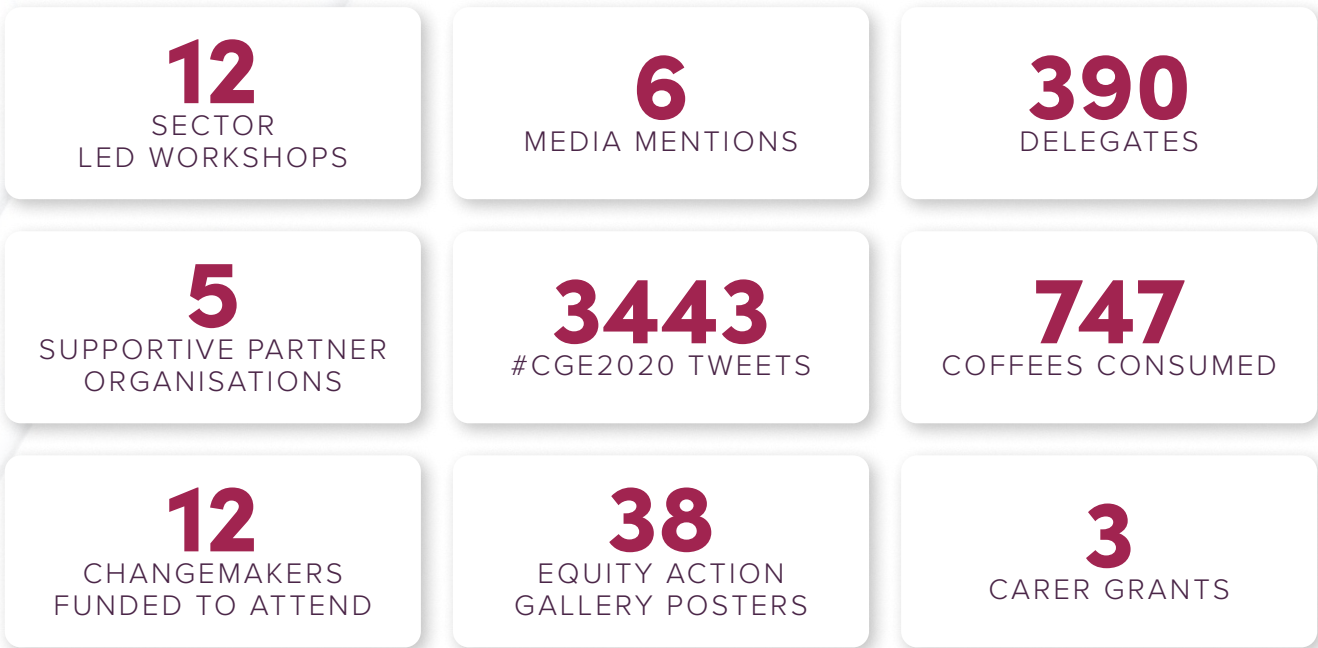
Dr Merryn McKinnon presents her research on gender diversity in science media



STEM Women Changemakers meet the Academy's Chief Executive Anna-Maria Arabia (middle row, second from right)

Catalysing Gender Equity in numbers

Catalysing Gender Equity 2020 would not have been possible without the incredible support from the STEM community



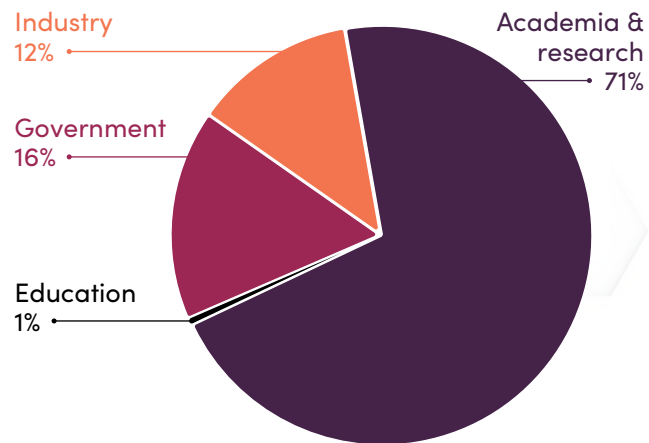
What was the highlight of CGE2020?

- “ Gaining more information on high-profile women scientists to include in my curriculum.
- “ Having the opportunity to network and hear from others, particularly strategies that worked and could be adopted in our workplace.
- “ The collective energy of all the people who are committed to working towards gender equity.
- “ Sitting amongst so many others who can articulately speak about their organisation’s data and current status with regards to gender equity.

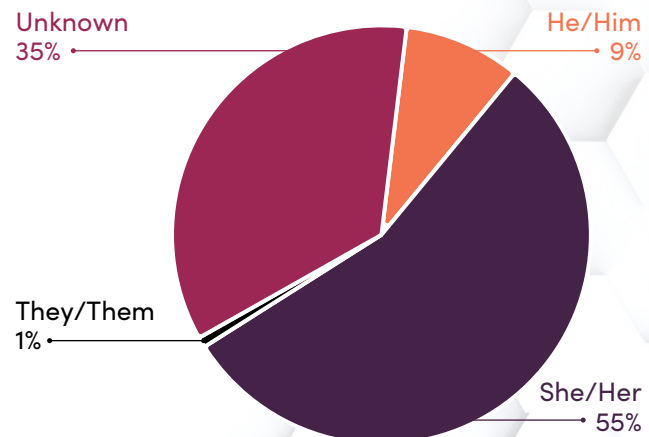


Delegate demographics

Employment sector of CGE2020 delegates. Data inferred from registration organisation.



Preferred pronoun of CGE2020 delegates. Data collected upon registration



Key learnings and actions—a snapshot

Catalysing Gender Equity 2020 deepened our collective understanding of the key roadblocks and brought forward actions to progress gender equity in STEM. Here is a snapshot of key learnings and next steps.

Welcome to Country

“ I wish I had the opportunity to learn how to be a scientist. But I did not have access... I was denied my right to an education.

– *Aunty Georgina Williams, Kurna Senior Clan Elder*

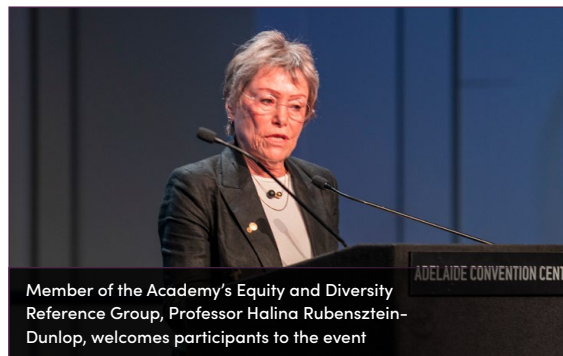


Aunty Georgina Williams, Kurna Senior Clan Elder, provides a Welcome to Country

Welcome from the Academy

“ There are many barriers to overcome—they can be cultural and historical, grounded in bias and stereotype. They can be caused by lack of resources and human agency. Addressing them will require bold reforms of some practices.

– *Professor Halina Rubensztein-Dunlop AO FAA*



Member of the Academy's Equity and Diversity Reference Group, Professor Halina Rubensztein-Dunlop, welcomes participants to the event

Change is a verb

“ It's also important...to hold ourselves to account...we can do this both by sharing and by evaluating the work that we do...planning an intervention should be done with a specific problem and a goal in mind, with measurable steps and outcomes.

– *Professor Lisa Harvey-Smith, Women in STEM Ambassador*



Australian Government Women in STEM Ambassador, Professor Lisa Harvey-Smith, delivers the plenary session, Change is a verb

Stepping up as leaders—Male Champions of Change panel

“ How can we be seeing a backlash against gender equality in 2020? We need to be the nation that bucks the trend.

– *Elizabeth Broderick, Male Champions of Change*

“ If you don't have a measurement system to see your progress, then nothing in your leadership will make a difference.

– *Dr Adi Patterson, ANSTO*

“ Stereotypes, biases and lack of role models are key barriers for women progressing in STEM.

– *Professor Tanya Monro FAA FTSE, Chief Defence Scientist*

ACTIONS

The Office of the Women in STEM Ambassador is developing an evaluation guide for STEM inclusion programs, to be tested through the Australian Government Women in STEM and Entrepreneurship grants program. The aim is to provide a clear evaluation framework for gender equity. [Learn more here.](#)

In mid-2020, the Ambassador will launch a national awareness campaign to help young people (and the adults who influence them) to understand the social context of STEM jobs and help them to imagine a future for themselves in STEM.



Leaders from across the STEM sector outline how they are stepping up to create change in their organisation

Achieving diversity in STEM focused media workshop

“ In Australia, women are quoted as sources in 26% of science and technology related news stories. Yet diversity of talent makes media content more relevant and engaging to audiences.

– *Claire McKay, ABC*

ACTIONS

ABC News is building a central database of women experts with all kinds of subject matter expertise. Email talentdiversity@abc.net.au for more details.

Dr Merryn McKinnon has published a 5-step plan to help improve gender diversity in science media. [Read more here.](#)



Claire McKay, ABC Adelaide News Editor, outlines the ABC 50:50 initiative

Exploring departmental awards for SAGE workshop

“ Women rated holding an Athena SWAN Award as the top equality item to consider when deciding to take a position.

– Alison Johns, Advance HE

ACTION

The SAGE Athena SWAN Bronze to Silver Awards pathway will be published by mid-2020.

Alison Johns, Chief Executive, Advance HE, delivers insight from the UK Athena SWAN journey



Professor Lisa Kewley describes her modelling of higher education research data

Inclusive and respectful workplaces workshop

“ Modelling of higher education research data identified that an implicit bias of just 3% can significantly impact women’s careers paths while gender equity in academia could be reached in 15 years with mix of strategies.

– Professor Lisa Kewley FAA, ASTRO 3D

ACTION

Both the Academy and SAGE will create and publish an online webinar of Professor Lisa Kewley’s presentation on Closing the Gender Gap and her modelling of higher education research data.

“ Implementing a default ‘yes’ system for flexible work has created a more inclusive workplace.

– Kerry Elliot, CSIRO

“ Use of ROPE (Research Opportunity and Performance Evidence) statements to accurately reflect career history has not disadvantaged applicants for ARC grants.

– Kylie Emery, ARC



Kylie Emery, ARC, presents findings from the Gender and the Research Workforce report

Gender equity tools for conferences workshop

“ In 2018, 69% of event speakers were male. This lack of diversity means perspectives and experiences discussed are limited.

– Professor Billie Bonevski, University of Newcastle

ACTION

The Academy has compiled publicly available resources and tools to assist media, conference and event organisers in achieving gender equity. [Discover on STEM Women](#)

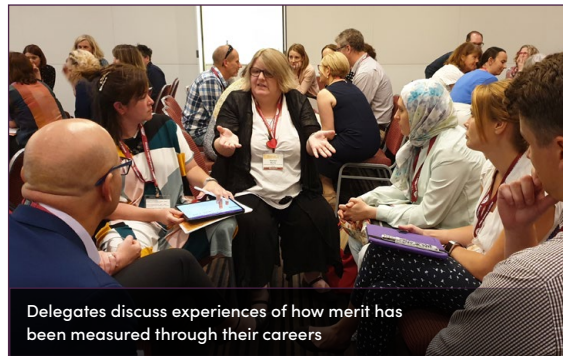
Fair play in competitive selection and defining merit workshop

“ Measures of merit should not be the same for everyone—the way track record is used for merit impacts everyone, but women can be more heavily disadvantaged by this measure.

– EMCR Forum

ACTION

The EMCR Forum will host a follow-up, virtual workshop in mid-2020 on the issue of fair play in competitive selection and defining merit to further explore solutions discussed.



Delegates discuss experiences of how merit has been measured through their careers

The importance of mentoring to career developments workshop

“ Lack of time is the biggest barrier to accessing a mentor—fear, location and accessibility are also significant barriers.

– Dr Marguerite Evans-Galea, IMNIS

ACTION

The Academy will continue to collect information about publicly available mentoring programs on STEM Women and use this data to explore the possibility of best practice guidance on mentoring programs or frameworks.



Delegates completing the intersectionality work activity

Walking in the shoes of others workshop

“ Lack of data on intersectional identities makes it difficult to set targets for marginalised groups. People are being asked for the data and how many are impacted but people are reluctant to give data or be identified.

– workshop participant

ACTION

SAGE ACT Regional Network has made their intersectionality tool and other relevant workshop materials publicly available on the SAGE website. They will also explore further research options to progress deeper understanding of intersectionality within STEM organisations, in collaboration with the Academy.

Implementation actions: practical advice for impact and success workshop

“ One factor key to success in the role of an equity practitioner is having actions embedded into KPIs and operational plans, as well as having broad support at the university.

– Ashley Vidulich, Griffith University



Representatives from Innovative Research Universities discuss their approaches to gender equity

STEM Women Changemakers Panel

“ Women in academia tend to be marginalised. Especially when they don't conform to the norm.

– Dr Emma Camp, University of Technology Sydney

ACTION

The Academy will explore opportunities for STEM Women to support more early-career women at future events.



STEM Women Changemaker, Dr Emma Camp, highlights her experience as an early-career researcher

Closing remarks day one

“ Catalysts are not consumed by reactions they catalyse. The same should be so for changemakers that catalyse change for inclusion and diversity.

– Professor Caroline McMillen, Chief Scientist for South Australia



Diversity and inclusion in the augmented age

“ Less than 3% of investment goes to women-led AI. We are missing diversity at the table, and diversity in the data.

– Dr Catriona Wallace, Flamingo Ai, is advocating for ethical framework for the development of AI.



Eminent women in STEM Plenary panel

“ Science used to be the ‘nice-to-have’. No longer. We have now moved from it being at the periphery of our visions, politically, to it being at the centre.

– Professor Caroline McMillen, Chief Scientist for South Australia

Shifting the spectrum of male engagement with gender equity workshop

“ Lack of time and knowledge of how to support it is a barrier for male engagement in gender diversity initiatives.

– SAGE WA Regional Network

ACTION

The SAGE Western Australia Regional Network will develop an ‘If this, then that ...?’ resource to assist organisation in engaging resistant individuals in equity and inclusion activities.

Connecting girls and STEM careers workshop

“ 32% of girls in years 9 and 10 are electing a STEM subject, compared to 70% of boys.

– Leanne Robertson, Education Services Australia

ACTION

The Academy will work in collaboration with The Girls in STEM Toolkit (The GiST), an initiative of Education Services Australia, to create women in STEM career profiles.

Achieving gender equity targets through systemic change workshop

“ There needs to be intent and action behind data gathering, else there is a reluctance to self-report.

– workshop participant

Diversity and inclusion framework in Australian SMEs workshop

“ It is a common belief that employers are hiring the right person for the role and they just happen to be male. Reality is this may be a sign that you need to change the role.

– Dave Haley, Myriota

ACTION

The Australian Academy of Technology and Engineering (ATSE) will continue consultations informing the development of an equity toolkit for SMEs.

Partner lightning talks

“ We will know that we have real progress on gender equity when taxi drivers don't assume a professor is a man.

– Professor Cobie Rudd, Edith Cowan University



Professor Cobie Rudd from conference partner Edith Cowan University tells her personal experience of gender equality

Closing

“ We cannot afford to underutilise our collective talents. Girls, women and other underrepresented groups must be made welcome.

– Anna-Maria Arabia, Australian Academy of Science

ACTIONS

The Academy will continue its [Women in STEM Decadal Plan Champions](#) initiative by encouraging STEM organisations to align their gender equity activities with the decadal plan.

The Academy will continue to publish data on gender equity activities and progress against the decadal plan opportunities on the [STEM Women website](#).



Anna-Maria Arabia provides a summary of CGE2020

Catalysing Gender Equity— in more detail

Inspiring plenaries

Over the two days, participants heard a wide range of inspiring and thoughtful perspectives from leaders and changemakers during plenary sessions that brought everyone together.

Change is a verb

Professor Lisa Harvey-Smith

Professor Lisa Harvey-Smith highlighted a range of actions currently underway to address gender equity in STEM across Australia. The importance of evaluating actions and understanding impact was amplified. Specific activities of the Ambassador and her team were outlined, see actions above.

Stepping up as leaders to drive system-wide change in STEM

Elizabeth Broderick, Dr Bronwyn Evans, Dr James Johnson, Dr Adi Paterson, Professor Tanya Monro and Professor Brian Schmidt

Chaired by Elizabeth Broderick, leaders from across the STEM sector discussed how they are working to accelerate system-wide change to create a gender-equal system in STEM. Professor Brian Schmidt challenged fathers to match their partner's parental leave package. Dr Adi Paterson emphasised the importance of goals and evaluation in pursuing equity; without measurement you may not know that past efforts have failed. Dr James Johnson described how accountability of his organisation was the biggest driver for change. Dr Bronwyn Evans proposed a radical idea of compulsory mathematics in secondary schools to improve numeracy, and Professor Tanya Monro reflected on her experience being perceived as aggressive in a male-dominated workplace, concluding that “we need to be relentless in challenging complacency”.

STEM Women Changemakers

Alison Johns, Dr Emma Camp, Professor Tanya Smith, Ruwangi Fernando and Jerusha Mather

Chaired by Alison Johns, this session provided an opportunity to put early-career women in STEM in the spotlight and share their professional experiences and their own gender equity efforts. Jerusha Mather expressed the need for medical science to be more inclusive. As a woman of colour with a disability, she has chosen to be a role model for minorities. Professor Tanya Smith expressed the importance of supporting each other in our career goals. Dr Emma Camp reflected on her observations that women in academia need to fit a ‘norm’ in order to not be marginalised. Finally, Ruwangi Fernando described how her experience of minimal support as an international student prompted her to create STEM Sisters.

Diversity and inclusion in the augmented age: invisible women no more

Dr Catriona Wallace

Dr Catriona Wallace provided an overview of her expansive career from police officer, club owner and academic to businesswoman. Her talk focused on the biases that exist in the digital world, encouraging professors in the audience to stand up and compare themselves to the image search results of ‘professor style’, predominantly men in tweed coats. Dr Wallace expressed concern for the future of artificial intelligence with these inbuilt biases and presented eight AI Ethics principles. Dr Wallace encouraged the audience to demand data without bias, that has explainable algorithms and is transparent.

Catalysing change—a conversation with eminent women in STEM

Professor Veena Sahajwalla, Professor Jenny Graves, Professor Caroline McMillen and Dr Catriona Wallace

Panellists reflected on their own STEM journey and identified specific opportunities that enabled them to contribute to the STEM sector. Professor Jenny Graves reflected on her experience as the only women elected to the Australian Academy of Science in 1999. Professor Veena Sahajwalla highlighted the role commercialisation played in strengthening her career. Professor Caroline McMillen expressed her concerns with the insecurity of the academic pipeline and training young girls to enter an unstable system. When asked to reflect on how the education system prepares girls for STEM industries, Dr Catriona Wallace responded that compared to her experiences in the US, Australia was behind and needed to work on embedding new technologies into its teaching.

Equity Action Gallery

The Equity Action Gallery provided a space for organisations and individuals to share the knowledge and experience gained from the abundance of equity projects in Australia. The gallery was primarily comprised of projects funded by the Australian Government's Women in STEM and Entrepreneurship (WISE) grants or developed as a part of SAGE members Athena SWAN action plans. [Access posters here.](#)

Outcome-focused workshops

Twelve sector-driven workshops were the key focus of Catalysing Gender Equity 2020. A number of strategic recommendations from the decadal plan were covered, providing the opportunity for STEM-sector leaders to share their experiences and for the community to contribute to the next steps needed to create gender equity across the STEM sector. Summaries of each workshop session are available in the Appendix.

Next steps for the Academy

In closing the conference, Academy Chief Executive Anna-Maria Arabia reminded the audience that scientific and technological advancements are the opportunities of today and tomorrow. Australia's capacity to transition, evolve and adapt in a deeply connected and technologically enabled world is key. Just weeks after the conference was held, we now confront our emergence in a post-COVID-19 landscape.

As the Women in STEM Decadal Plan states, a STEM-skilled workforce is essential if we are to realise our nation's innovation and productivity potential.

We cannot afford to underutilise our collective talents and must create environments where girls and women, and indeed all groups, can readily participate in STEM education and careers. This will require wholesale changes to processes and practices, challenging bias and culture, and providing more resources to individuals to equip them with the skills they need.

Catalysing Gender Equity 2020 brought many parts of the science community together to advance the vision of the decadal plan. Beyond the conference, the Academy will continue to advocate for the vision of the decadal plan, working with the science community to realise the plan's opportunities. This includes continuing to work in collaboration with SAGE to progress gender equity in the higher education and research sector.

All STEM organisations are encouraged to consider joining the 29 Women in STEM Decadal Plan Champion organisations—the Champion initiative was launched by the Academy in 2019 to capture data on gender equity actions

across organisations and build momentum. Responses are [shared online](#) and provide a platform to celebrate progress, identify gaps and build a community of practice.

The page also hosts initiatives across the STEM sector that are progressing the vision of the decadal plan. Additionally, in 2019 the Academy wrote to over 40 peak organisations who are important to achieving the vision of the plan, and will continue engaging with these groups in 2020 to explore what role they can play in advancing the plan's vision through their networks.

The Academy also continues to grow and support the network of STEM Women through the [STEM Women directory](#), and will provide resources for individuals and organisations seeking to address gender equity in STEM.

The Academy acknowledges and supports the [Advancing Women in STEM 2020 Action Plan](#) released by the Australian Government on 8 March 2020 to further underpin efforts to increase gender equity in STEM.

The Academy recognises that the Women in STEM Decadal Plan does not belong to one organisation and that the progress of inclusion belongs to all people within the STEM community.

The Academy will continue to work with all STEM organisations and individuals represented at Catalysing Gender Equity 2020 and beyond, to advance the key actions arising from the event and reflect on the findings from the post-conference survey.

Next steps for SAGE

As has been the custom throughout the SAGE Pilot phase, SAGE will maintain its commitment to engage with subscribers and stakeholders to continuously improve processes through reducing complexity, increasing flexibility, and providing greater guidance and support for institutions on their journey beyond the Bronze Award. This will include a range of actions, for example:

- providing enhanced support for SAGE regional networks, including travel support and opportunities to engage and collaborate with fellow SAGE members and network participants, mainly to enable members to share their experiences and learnings with other regional networks
- using working groups of experts drawn from participating institutions and elsewhere to inform the development and delivery of guidance materials and specific resources, such as those contributed through the CGE2020 event
- supporting expert guests (including international experts) to participate in regional networks fora
- enhancing the flexibility of Bronze to Silver Award pathway, by tailoring the approach to the needs of the Australian Higher Education Research (HER) sector.