

# WOMEN IN STEM DECADAL PLAN— CHAMPION RESPONSE

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AUSTRALIAN ACADEMY OF SCIENCE  
NOVEMBER 2019



# WOMEN IN STEM DECADAL PLAN— CHAMPION RESPONSE

The Australian Academy of Science is committed to supporting excellence in science and empowering the next generation of scientists. The Academy recognises that to achieve this we must celebrate and embrace diversity and inclusion in all its forms and embed diversity and inclusion in everything we do. Achieving these objectives is integral to our strategic plan.

As a national academy we have a responsibility to model, promote and influence best practice in diversity and inclusion in the science, technology, engineering and mathematics (STEM) sector in Australia. This includes increasing the participation of women and girls in STEM careers, education and training, and addressing the barriers to participation at each point of the STEM pipeline.

This response outlines how our current activities align with the opportunities identified in the [Women in STEM Decadal Plan](#). The Academy strives for continual improvement on all our diversity and inclusion activities. As other organisations join us as Decadal Plan Champions, we aim to learn from their experiences, grow and adapt our activities, and redouble our efforts to work in partnership with others in the STEM system to progress gender equity.

We have indicated where the Academy's gender equity activities align with the strategic recommendations in the decadal plan.

## OPPORTUNITY ONE: LEADERSHIP AND COHESION

### *Diversifying our Fellowship*

Each year the Academy **elects new Fellows** who have made outstanding contributions to science and research. Our 540 Fellows represent excellence in Australian science and are leaders in their respective fields.

Since 2013, best practice measures have been introduced to our nomination and election process to ensure the outstanding contributions of women researchers are appropriately recognised and to address the biases that are evident by the gender imbalance of our Fellowship. These include the appointment of 20 Champions of Diversity as ambassadors across the scientific disciplines to identify and nominate diverse candidates; careful management of the gender composition of selection committees (for fellowship and awards); application of the Australian Research Council Research Opportunity and Performance Evidence (ARC ROPE) principles that consider opportunity to undertake research; and selection criteria that do not disadvantage candidates.

The number of women candidates and women elected fellows has increased since the introduction of these best practice measures (Fig 1).

To learn more about these best practice measures contact [fellowship@science.org.au](mailto:fellowship@science.org.au)

*From the plan:*

**Stronger cohesion and leadership across the Australian STEM ecosystem will amplify and strengthen diversity outcomes.**

*Referenced strategic recommendations*

**1.5** Develop and adopt national guidelines on best practice in all selection processes.

**1.7** Leaders across all STEM professions and organisations adopt and adapt learnings from proven measures such as those developed by MCC, CEW and the 30% Club.

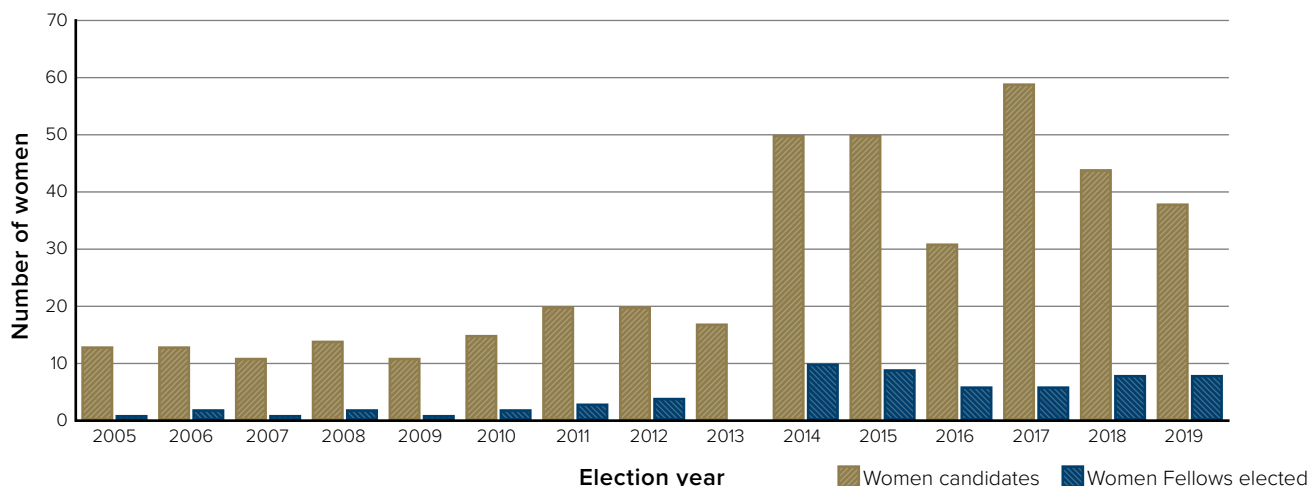


Fig 1. Changes in number of women candidates and elected Fellows to the Academy 2005–19.



## Demonstrating leadership in gender equity and excellence in science

Our [Equity and Diversity Reference Group \(EDRG\)](#) is an advisory body to the **Academy's Council**, providing recommendations to improve diversity and to uphold the principles of inclusion, equal opportunity, fairness and transparency in Academy policies and procedures. The Academy's Council is its highest-level decision-making body and includes a Diversity and Inclusion Spokesperson who also chairs the EDRG.

Progress is being made to **introduce accountability measures** across the Fellowship and encourage leadership in diversity, equity and inclusion. In 2018, a [Code of Conduct](#) was introduced across both the Fellowship and Secretariat providing consequential actions and investigation processes for bullying and harassment.

All members of the Academy Council have agreed to **take the Panel Pledge** and encourage other Fellows to do so. By taking the Pledge, a [Male Champions of Change](#) initiative, Fellows will seek to ensure equity of voice is considered in panels and conferences they are involved in, reserving the right to withdraw if an inclusive approach is not evident, and work with organisers of panels and conferences to take gender diversity into account. (1.7)

In our role providing independent, authoritative and influential scientific advice, and through the development of our policy positions, the Academy **strives for equity of voice**—in developing the evidence base, in our policy position statements, and in project panels and expert working groups.

The Academy recently supported the development of a best practice guide for **improving diversity in prizes and awards** by the Early- and Mid-Career Researcher Forum, which is available [on the Academy website](#). (1.5)

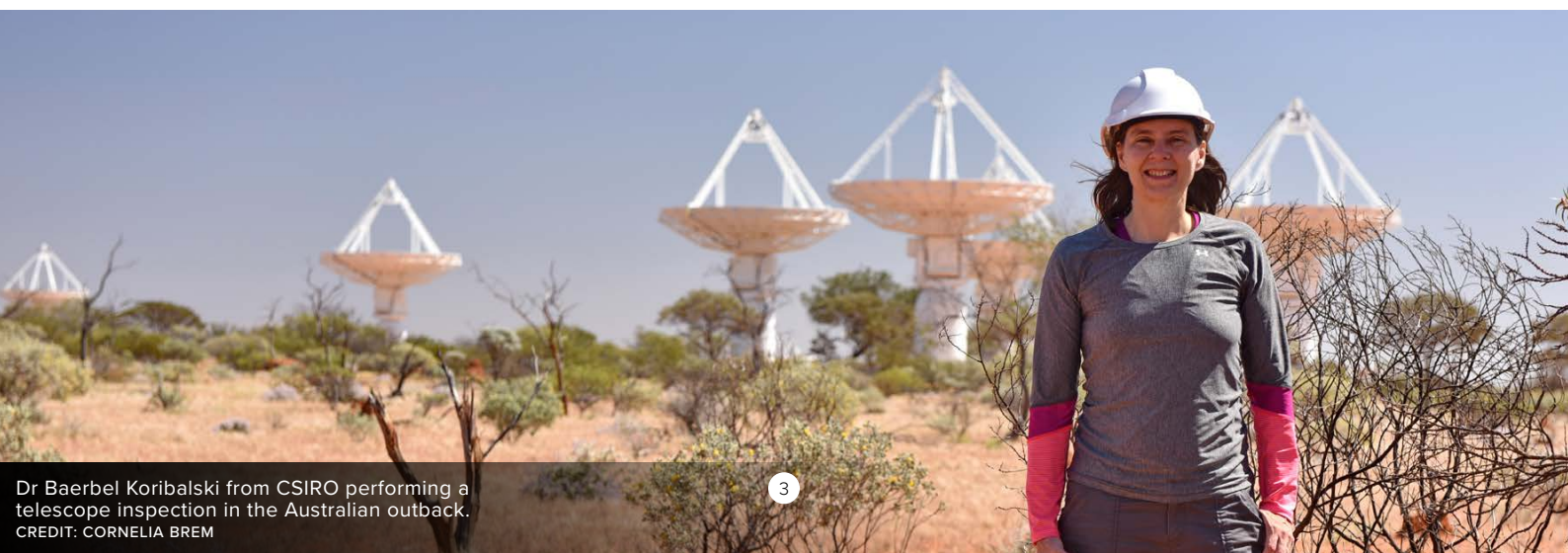
The Academy and the Australian Academy of Technology and Engineering are partnering as national leaders in diversity and equity, spearheading the development of critical **national frameworks** that provide transformative, systematic and sustained change in Australia's STEM sector including:

- authorship of the [Women in STEM Decadal Plan](#)—a 10-year strategy to lift the participation of girls and women in STEM education and careers
- development of the [Science in Australia Gender Equity \(SAGE\)](#) initiative—a transformative accreditation and gender equity improvement program for STEM higher education and research organisations based on the successful UK Athena SWAN accreditation initiative.

We are committed to seeking the implementation of the decadal plan by developing the [Decadal Plan Champions initiative](#). We will collate and share champions' responses, outlining how their gender equity activities align with the six opportunities identified in the decadal plan, providing a source of ideas and inspiration for everyone who would like to support girls and women in STEM.

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## OPPORTUNITY TWO: EVALUATION

Leadership in gender equity must be accompanied by accountability.

The Academy's President and Chief Executive annually report to Council data on the diversity of the Fellowship and staff which inform deliberations at the highest levels.

The Academy is **developing tools to measure gender equity** across the breadth of its activities. These will be presented in an internal dashboard and include:

- National Committee membership
- expert contribution on policy submissions
- project panels and expert working groups
- media representation
- events and outreach activities
- content reviewers
- award nominations
- Fellowship nominations, election and Council.

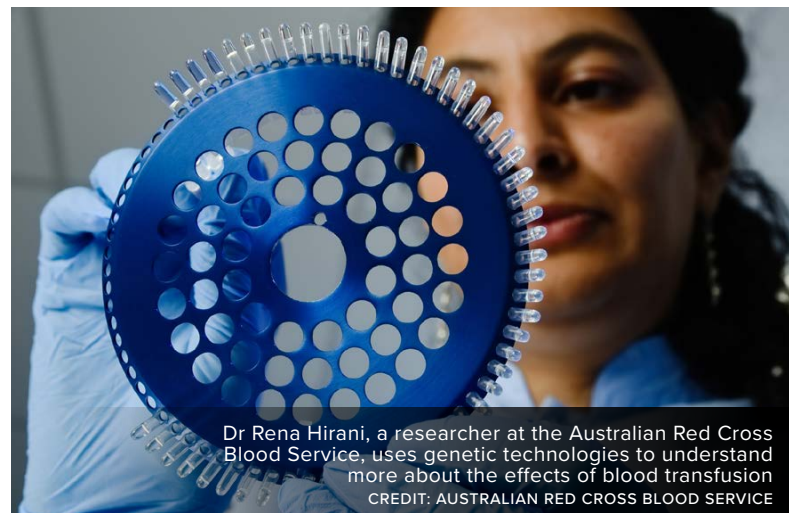
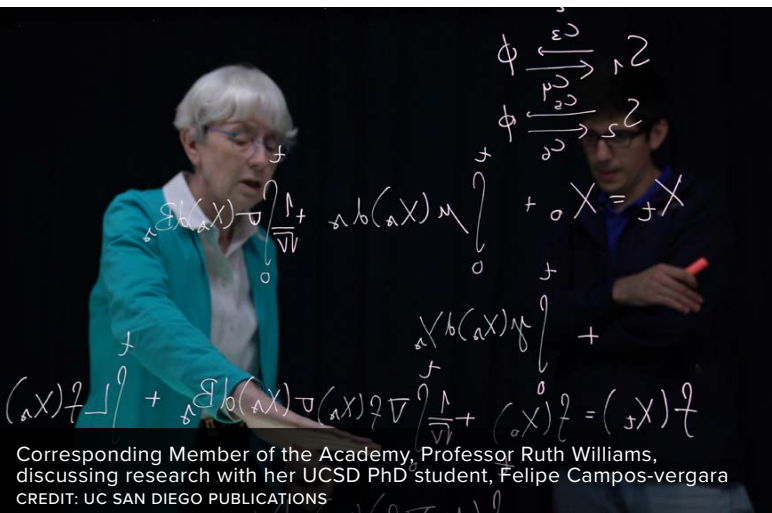
These data will be regularly analysed to identify areas of success and improvement (steps towards 2.1)

*From the plan:*

**Establishing a national evaluation framework will guide decision making and drive investment and effort into measures that work.**

*Referenced strategic recommendation*

**2.1** By 2022, establish a consistent national evaluation framework that guides evaluation efforts across all existing and future gender equity initiatives in STEM in Australia.



## OPPORTUNITY THREE: WORKPLACE CULTURE

The Academy's Secretariat is **an inclusive and respectful workplace** and we seek continual improvement to our workplace culture.

To support our work in diversity and inclusion we have adopted a [Code of Conduct](#) which clearly outlines conduct expectations, the values of the Academy and procedures for handling misconduct. The code is based on best practice and is binding for Fellows, staff and participants in all Academy activities.

Employees are entitled to up to five days paid domestic violence leave per year. All employees are encouraged to adopt flexible work arrangements. Parental leave arrangements provide for all genders equally, and meeting times are contained between 10 am and 4 pm to maximise participation by all genders. These arrangements assist our employees to balance their work with caring responsibilities, sporting commitments and business creation.

A biannual staff survey is conducted to ensure these measures meet the requirements of the Secretariat and adjust if necessary.

*From the plan:*

**A significant cultural shift in workplaces is necessary to create gender equity for women in STEM. A culture that is inclusive and respectful, challenges traditional stereotypes, is free of discrimination and bias, enables flexibility and accommodates career interruptions and changes will maximise women's participation in the workforce.**



## OPPORTUNITY FOUR: VISIBILITY

### *Building awareness of women in STEM*

The Academy aims to build public awareness and understanding of science. This occurs through multiple avenues including through our [events](#), social media and science information website, [Curious](#).

We have highly effective communications and outreach strategies that showcase the **diversity of expertise across the STEM sector** and strive for equity of voice in both the participants who deliver our content and those who review our reporting of science to ensure its accuracy. We are developing tools to measure these efforts and report to our leadership on progress.

We would like to improve the gender diversity of our audience on social media platforms, noting the cultural and accessibility barriers that exist and the role that platforms and media outlets themselves play in appealing to more diverse audiences.

We have developed targeted communication products to encourage greater diversity in our activities and in our Fellowship, including [video](#) and written [materials](#).

We strive for **gender balance in our sponsored events and outreach activities**. For example, the 2019 Canberra Speaker Series consisted of 12 speakers, of which nine were women representing a range of career stages, expertise and academic and industry engagement. (4.4)

To reduce the barriers for participation in our events, we regularly offer grants and in-house carer services to enable greater involvement for those with caring responsibilities or other challenges that may otherwise prevent their participation. (4.1)

The Academy has developed a unique tool to allow everyone to discover and benefit from the breadth of women working in STEM. [STEM Women](#) is a **national database of women in STEM** that provides a platform for expert women to be discovered and creates opportunities to progress their careers and personal capabilities. STEM Women aims to raise the profile of and provide opportunities to those who may experience barriers throughout their STEM career. The database currently has almost 2000 profiles. (4.2)

As the custodian of the [Shine Dome](#) in Canberra, the Academy is also encouraging organisations that wish to hold **events at the Dome** to ensure they have considered equity in voice in planning their event. STEM organisations offered a discounted venue hire will be asked to demonstrate efforts to address gender diversity in their event, or at the very least, acknowledge the absence of it and publicly discuss mechanisms to address it in their discipline.

### *Recognising and celebrating excellence in science*

The Academy presents over **20 awards recognising excellence in science** across all career stages.

Currently two awards, the [Dorothy Hill Medal](#) and [Nancy Millis Medal](#), are awarded to women researchers. Efforts are underway to include more women-only awards, recognise the outstanding commitment of women to science by naming an open award after a women researcher, and encourage more women to apply for all awards. (4.4)

*From the plan:*

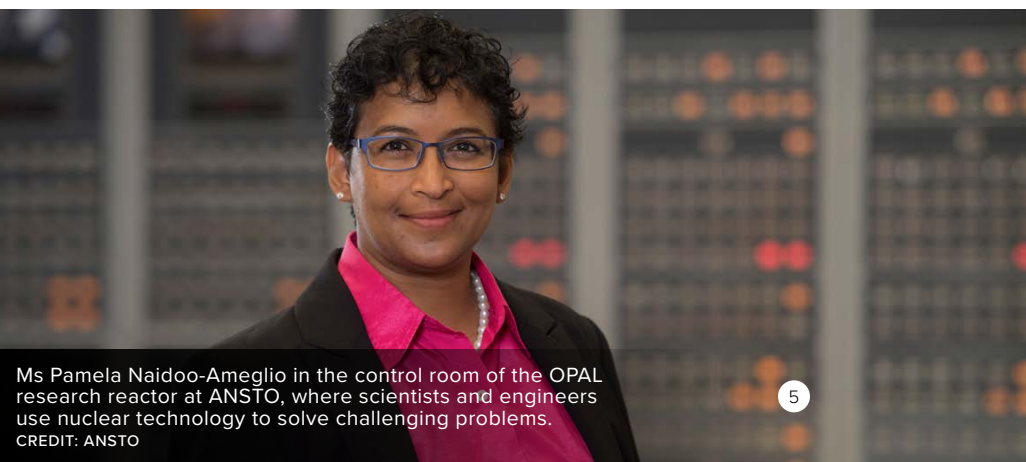
**Seeing women in diverse STEM careers, and equally represented in the media, in public events, and in other forums like boardrooms and classrooms will provide role models for girls and women and inspire a nation.**

*Referenced strategic recommendations*

**4.1** Utilise policy and other levers to facilitate participation of women in STEM conferences and events as well as require gender equity on panels and programs of STEM-related conferences and events.

**4.2** Establish mechanisms for media agencies to identify and represent diversity in reporting.

**4.4** Make concerted, coordinated and sustained efforts to celebrate the depth and breadth of STEM and the diversity within it.



A University of Melbourne student running tests  
CREDIT: PETER CASAMENTO

## OPPORTUNITY FIVE: EDUCATION

The Academy's **education initiatives**, Primary Connections, Science by Doing and reSolve: Maths by Inquiry, are comprehensively planned, grounded in research, and showcase exemplary inquiry practices. External evaluations show positive outcomes for teaching and learning across all genders. (5.2)

The Academy's programs focus on teacher audiences, recognising that teachers are a major influence in determining students' attitudes, beliefs and confidence in STEM. With support from the Australian Government and state governments, our education programs have provided face-to-face professional learning to over 25,000 science and mathematics teachers since 2005, including Primary Connections workshops for over 2000 initial teacher education students. (5.1)

This year, a [new STEM education initiative](#) by the Academy brought ten of the brightest Year 12 NSW HSC Science Extension students and their teachers to the Academy's annual showcase of science, Science at the Shine Dome. Gender equity, socioeconomic status, and geographical distribution were among the things taken into consideration in selecting the participating students.

*From the plan:*

**Strengthening the education system to support teaching and learning on a national scale will enable and encourage all girls and women at all levels to study STEM courses and equip them with the skills and knowledge to participate in diverse STEM careers.**

*Referenced strategic recommendations*

**5.1** STEM-skilled teachers teach STEM courses.

**5.2** Strengthen STEM teaching pedagogy, practices and resources to enable girls and women to engage with contemporary STEM content.

## OPPORTUNITY SIX: INDUSTRY ACTION

The Academy is **developing and supporting new and existing partnerships** with industry and business to support and underpin diversity and inclusion activities at the Academy. Through these partnerships we will seek to increase our contribution and capacity to undertake gender equity activities including outreach, forums, communication and building networks, as well as working with industry to address barriers to gender equity.

*From the plan:*

**Establishing a national framework that guides and provides tools to address gender equity amongst SMEs will impact the vast majority of businesses not reached by existing programs.**

# LOOKING AHEAD

The Academy developed the Women in STEM Decadal Plan at the request of the Australian Government to address the lack of gender equity in the STEM workforce, leadership and education and training.

We are now seeking to implement the six opportunities outlined in the plan and turn them into actions to meet the needs of our future workforce and create inclusive growth and are working with

a range of stakeholders including government, academia, industry, the education sector and the broader community to do so.

Gender equity in STEM will make significant and measurable improvements in Australia's preparedness for the future, scientific excellence, workforce participation, competitiveness and capacity to innovate.

### Cover photos

Left: Dr Suzanne Mashtoub, University of Adelaide  
IMAGE CREDIT: RANDY LARCOMBE AND SUZI TING

Middle: Ms Natalie Chapman, gemaker  
IMAGE CREDIT: SETH BUCHANAN

Top right: Professor Emeritus Doreen Thomas, University of Melbourne  
IMAGE CREDIT: EAMON GALLAGHER

Bottom right: Ms Renee Wootton, Qantas  
IMAGE CREDIT: DANIEL AARONS

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