

11 April 2023

The Regional Universities Network (RUN) welcomes the opportunity to comment on the Diversity in STEM Review Panel's paper: *Pathway to Diversity in STEM Review – Dialogue Starter*.

RUN is a national collaborative group of seven regional Australian universities: Charles Sturt University, CQUniversity Australia, Federation University Australia, Southern Cross University, University of New England, University of Southern Queensland, and University of the Sunshine Coast.

This submission reflects the positions of RUN institutions, and in doing so, also aims to represent the views of the communities which RUN universities serve; the one-third of Australians who live outside of metropolitan centres in regional, rural, and remote locations.

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### **Overview**

RUN universities play a unique role in supporting regional Australians with diverse backgrounds to study, research, and working in science, technology, engineering, and mathematics (STEM). The following responses share a range of perspectives for consideration by the Review Panel. RUN welcomes this opportunity to identify barriers encountered in the STEM system and contributing to changes increasing diversity in STEM. RUN universities are committed to increasing diversity in STEM.

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### **What does STEM mean?**

RUN understands that STEM is broadly known as study, research, employment, and/or participation in the fields of science, technology, engineering, and mathematics.

RUN universities recognise and support initiatives to improve diversity and inclusion in STEM, however further work is needed to achieve increased diversity at a broad level, but also within each STEM discipline. Enabling the full participation of Australia's diverse talent pool in STEM would bring significant economic and social gains to the nation. Diversity in STEM will result in improved innovation and research performance and productivity, which ultimately benefits all Australians. However, despite increased attention and numerous initiatives to improve diversity and inclusion, comparatively little is known about how to translate these initiatives into meaningful and sustained cultural, social and structural improvements in the Australian STEM ecosystem. There is a need for increased longitudinal research to identify evidence-based best practice in how to support and enhance diversity and inclusion in Australian STEM organisations (and beyond).

Every part of Australian society is impacted by STEM and STEM communications. To increase the effectiveness of STEM, Australia needs to ensure that STEM clinicians and practitioners are reflective of the broader Australian community. By not embracing diversity in STEM, Australia may not be harnessing full talents and capabilities of our citizens. Diversity, however, cannot be siloed based but needs to be intersectional to address the systemic and structural issues that overcome barriers to inclusion. This is essential both at a national and sub national level. Diversity in STEM cannot, and must not, be limited to just metropolitan Australia nor just to diversity on a gender basis.

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### **Stories or Perspectives of Accessing and Belonging (or not) in STEM?**

One example from a regional university is below.

*Careers in science are particularly difficult for women, or at least primary carers if not women, once they have begun a family. In this example, a woman completed her PhD at 25 and begun a family within 12 months. While she was able to continue to work part-time, it was impossible to agree to fieldwork that took her away from home overnight, or even to work opportunities at significant distance during the day. This is because, especially in regional contexts, even if childcare is accessible, one still has to be within easy reach when one gets the phone call to say the little one has a temperature.*

*Networking and conference activity is a must for STEM academics (as it is for most fields of study). If this academic wished to attend a conference, she paid for her daughter and her mother to accompany her. While she was financially able to do this, many are not able to meet this increased expense.*

*Having only just graduated with a doctorate qualification in science, the difficulties in conducting research, networking and conferencing she decided to cease a science-active career and decided instead to move into university management.*

Like most things, this problem of diversity in STEM is exacerbated when in regional Australia. As a further example, to attend key stakeholder meetings in Brisbane from the CQUniversity campus in Rockhampton, academics are required to leave Rockhampton on 06:50 flights in order to get into Brisbane for the workday and in most cases cannot return until around 18:30 requiring significant family support to ensure children are dropped off and picked up from all levels of schooling.

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### **Addressing unacknowledged assumptions, including unconscious biases, of our STEM system?**

One could say that the questions about what a 'typical' STEM worker is, what they look like, and what is their background is problematic as this is applying an unconscious bias upon what a STEM person is. RUN believes that the focus should be on broader systemic and structural barriers rather than simply asking what a STEM person looks like. Simply looking at what a STEM person is or is not risks creating more silos and barriers rather than increasing true diversity in STEM.

At various times in the past suggestions have been made about bursaries for women to help them travel more easily however RUN believes that this would be a retroactive step and it would be more inclusive to encourage all parties to engage with virtual options rather than expect that people will travel.

There is a need for additional diversity educational to address and consider intersectionality and assisting in understanding the lived experience within STEM careers. This will ensure systems and structure within organisations, and those who create them, are based upon a strong evidence base. While it is known that diversity issues are more prevalent in STEM e.g., more awards/grants going to male STEM practitioners for example but actions like unconscious bias training is not intersectional and does little to translate change in practice. The lack of evaluation of existing gender and diversity strategies is problematic and therefore Australia is not effectively drawing insight into what does and does not work across the STEM sector.

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### **Existing measures or programs (government funded or not) aimed at improving the diversity of Australia's STEM System?**

Athena Swan is a program that is aimed at improving diversity in STEM and has also highlighted a range of gender related issues such as the impact of career breaks on research outputs as well as gender equity issues in non-STEM related fields.

Government funded initiatives, such as The STEM Equity Monitor are equally important in reporting on and being a national data repository on gender equity in STEM. This is of particular use to advocacy bodies, education providers, policy makers and politicians. While this is an important initiative and raises consciousness of the issue, what continues to be lacking is concrete actions that drive behavioural shifts such as dedicated quota bases approaches to grants.

Within the higher education sector, one RUN university offers a diversity PhD scholarship, which has previously been called the Women's Equal Opportunity Award and more recently, Women's Career Re-Entry Award. This year the scholarship is likely to be renamed again, removing women from the title and will now be available for anyone who has had career interruption due to family caring duties (including looking after children or after elderly parents). Findings from this universities are that career interruptions are increasingly less likely to be solely due to children and that the scholarship is making a considerable impact in improving STEM educational attainment.