

SCIENCE & TECHNOLOGY AUSTRALIA

POLICY SUBMISSION

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EMPLOYMENT WHITE PAPER

Science & Technology Australia is the peak body for the nation's science and technology sectors, representing 118 member organisations and more than 105,000 scientists and technologists. We connect science and technology with governments, business and the community to advance science's role in solving some of humanity's greatest challenges.

Science & Technology Australia thanks the Treasury for this opportunity to contribute to the development of the [Employment White Paper](#) – 'the roadmap for Australia to build a bigger, better-trained and more productive workforce'.

To thrive, our nation requires a strong economy, driven by innovation and advancements in science and technology that push the boundaries of knowledge and advance our nation's productivity, wellbeing and prosperity. Indicators like the global [Economic Complexity Index](#), the [Harvard Atlas of Economic Complexity](#) and the [Global Innovation Index](#) show strong connections between robust R&D funding and economic complexity and innovation.

Investment in R&D is money well spent.

Australia needs a science and technology workforce that is stable yet agile. We need deep expertise alongside an adaptable and properly supported research system to keep making the bold breakthroughs we need to drive our economy and productivity.

This submission will focus on selected specific themes within the terms of reference:

- TOR 3. Job security, fair pay and conditions, including the role of workplace relations.
- TOR 4. Pay equity, including the gender pay gap, equal opportunities for women and the benefits of a more inclusive workforce.
- TOR 5.4 Migration settings as a complement to the domestic workforce.

JOB SECURITY

A deep capacity for science and technology research and innovation depends on more than funding – our people are our greatest asset. To do great science, scientists need job security. Repeated cycles of short-term funding contracts – especially during the early years of a science research career – undermine the conditions for Australia's scientists to make truly ground-breaking discoveries and apply them to benefit the nation.



Right now, too many of Australia's scientists are stuck in morale-sapping ongoing cycles of short-term research contracts. Chronic job insecurity in science is driving great Australian scientists and technologists overseas – or out of research altogether. This is a major factor driving the loss of women from the STEM research workforce in their early to mid careers.

This broken system is also stopping Australian science and technology stars now living overseas from coming home. Compared to the long-term funding many of these Australian expats can secure from granting agencies in other countries, the prospect of returning home to cycles of short-term contracts is not competitive. The Minister for Industry and Science, Ed Husic has consistently decried the 'brain drain' and promised: ['We're going to stop the brain drain... we are bloody going to fix it.'](#)

One way to start fixing this, and stem the loss of great talent from Australia's science and technology research sector, is for Australia's major research granting agencies to shift research funding grants to longer-cycles of five, seven or 10 years. Employers of researchers should be required to issue employment contracts that span the full grant length as a condition of Australian Government research grant funding.

Secure conditions and support for scientists working in research – and research commercialisation – will help attract more great Australian science and technology talent home and entice the world's best and brightest minds here. This will strengthen our STEM workforce, boost Australian science and technology and secure our economy.

Science & Technology Recommendations:

Australia's major research funding agencies should shift most grants to longer term cycles – aiming for five, seven or ten years.

Employing institutions of grant-funded scientists and researchers should be required to issue employment contracts for the duration of the grant length or a minimum of three years as a condition of Australian Government research grant funding.

BENEFITS OF A MORE INCLUSIVE WORKFORCE

A strong STEM talent pipeline that draws on Australia's full talent pool is key to scientific excellence.

The best science and engineering happens when teams draw on a diverse range of ideas, perspectives and knowledge. Women currently make up just 28 per cent of our total STEM workforce – we are clearly not harnessing the entirety of our potential talent pool.

Advancing equity and inclusion will not only nurture our existing STEM workforce, but help meet skills shortages and recruitment gaps, and grow the talent pipeline.

Science & Technology Australia's game-changing Superstars of STEM program tackles the challenge that 'it's hard to be what you can't see'. The program promotes diverse women and non-binary people role models in STEM by turbo-charging their media and public profiles as experts. This helps to address the lack of visible role models of women and girls in STEM. It showcases to girls (and everyone else) that women can be successful scientists – and encourages girls to consider a STEM career with schools outreach to tens of thousands of students.

Through a government-supported pilot in 2017 followed by a four-year funding program, the program has supercharged the careers of 150 women in STEM. There is vast unmet demand for the program: in 2020, there were 360 applicants for the 60 places available. The program has had extraordinary reach, with Superstars achieving more than 6100 media mentions, 237 school visits, and reaching 33,000 school children.



STA thanks the Australian Government for supporting this proven program with a further funding commitment over four years. This shrewd investment will deliver returns many times over.

Diversity in the Australian STEM workforce extends beyond gender equity. There is deep STEM expertise in the Aboriginal and Torres Strait Islander knowledge systems of this continent. Australia hasn't yet drawn on this expertise deeply, particularly in our policy approaches and methodologies in fire, land, water, and ecology.

Despite this expertise, Aboriginal and Torres Strait Islander people remain seriously under-represented in formal STEM study and STEM professional careers. As a nation, we would benefit strongly from deepening Indigenous participation in STEM and drawing more deeply on Indigenous knowledge.

The past two years has seen concerted efforts across the sector to establish the [National Indigenous STEM Professionals Network](#). This Indigenous-led and Indigenous-run network will provide invaluable support and peer mentorship to Indigenous STEM researchers and should be supported to reach its ambitions – secure funding is required to support the network.

Diversity also encompasses the vast migrant workforce, drawn from countries all over the world. There are currently barriers that make entering the research workforce challenging – Australia's skilled migrant population need to have the opportunity to fully use their expertise and skills as a valued part of Australia's workforce. Science & Technology Australia welcomes the Government's [Pathway to Diversity in STEM](#) review as an opportunity to explore the challenges migrants face and develop solutions to address them.

Science & Technology Australia recommendations:

To tackle women's chronic under-representation in STEM, the Australian Government should continue to fund game-changing programs like Science & Technology Australia's proven Superstars of STEM.

To boost Aboriginal and Torres Strait Islander people's participation in STEM, the National Indigenous STEM Professionals Network should be funded to support its ongoing operations.

The Australian Government's Pathway to Diversity in STEM review should explore the challenges skilled migrants face in entering Australia's STEM workforce and recommend actions to fix them.

MIGRATION SETTINGS AS A COMPLEMENT TO THE DOMESTIC WORKFORCE

Diversity of ideas and expertise in the STEM workforce also depends on global collaboration and our ability to attract the best talent from countries all over the world to come and study, work and build Australia's science and technology capabilities.

Australia's migration system and visa settings must not act as a barrier to the world's best and brightest talent coming to Australia. Visa processing delays - which are currently very long in some cases - risks Australia missing out on top researchers or postgraduate students – with our competitor nations seizing this talent. This is 'an innovation own goal' for Australia.

This is not a new challenge but it is an acute and urgent one. Research projects often work on fixed and tight timelines. Slow visa processing can make hiring from overseas untenable.

This is an especially acute challenge when Australia is trying to recruit talented early career scientists who would supervise 4-6 PhD students. The loss of those people who can get a visa fast-track in other countries becomes a double whammy for Australia.



Visa settings that require STEM professionals that have studied or worked in Australia to leave the country to apply for a new visa also establish a significant barrier to hiring the best and most suitable talent. If Australia has invested in students to complete a postgraduate degree here, it simply makes sense to make visa processes and pathways to permanent residency as easy as possible for these talented researchers who have already committed to living in and contributing to our country.

Science & Technology Australia recommendations:

To ensure Australia can attract and retain the world's best and brightest STEM talent, the Australian Government should ensure:

- **visa processing is smooth and streamlined, ending delays that cause Australia to miss out on attracting talented students and researchers.**
- **visa settings must help attract and keep the best global talent to build Australia's STEM workforce and capabilities – especially in key areas of strategic priority.**

Once again, we thank the Treasury for this opportunity to contribute to the Employment White Paper process.

Yours faithfully,

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