Attachment to Women in STEMM Australia response to Diversity in STEM review:

The submission attached is a compilation of a survey from 36 respondents that are diverse women in STEMM across academia, research, government, industry, startup, media, schools/TAFE and commercial. Responses as received attached here.

1. What solutions will increase diversity and inclusion in STEM?

- Increasing opportunities for STEM education and employment of STEM-qualified women in STEM will increase the number of women in STEM
- Increased flexibility (working location, times, hybrid, part-time, 4 day weeks), and digital accessibility.
- Having more women leading teams from different demographic groups such as age, culture and region. Also having more of my male colleagues supporting me during tough times away from my family has been especially encouraging.
- Focus on more women in leadership. This ensures that more focus is put on women and women's needs from the top down.
- Being deliberate about diversity in everything we do, from recruitment to project teams and events. Ensure high profile academics visibly and vocally action the Athena swan charter.
- Dismantling some of the protocols and procedures that are "written" (and therefore apparently set in stone) that prevent change. Top-down, executive level change that allows the bottom-up efforts to succeed. Money devoted to intersectional efforts and true cultural change.
- Actively hiring women into large & small companies, and ensuring that if additional education & training is needed, the company actively supports this. I work with start-up companies - many women come to various training programs with little concept of what a business needs.
- Provide equal funding to address ongoing unconscious bias and long term structural disadvantage
- While many women start in science, they usually trickle out once they start a family. I have recently returned from maternity and I have learnt a few things that can be applied generally to help women stick around in STEMM field or workforce in general. There are several programs in my organisations that help women stick to science. A program called "Balance" enables changing work hours to suit family demands. A childcare on-site also helps. Generous carer leave provisions etc. are also crucial. What didn't work was that despite returning early from maternity, I was discouraged to apply for promotion although I had outstanding results prior to and even during my maternity leave. This is because maternity is not considered working full time and applying for promotion requires a certain FTE to be completed. This really disheartened me. It doesnot make sense. A person on three months leave is counted toward his FTE but one on three month maternity leave isn't?!
- Secondly, leadership and or business management training for women should go hand-in-hand with science/technology training/education. We had some outstanding students from a French school called Chemie Paris Tech where the students are not only taught science/tech but it is mandatory to take business and leadership courses. Australia produces a lot of PhDs and Post-docs but not enough leaders. Even in my very "equitable" organisation, ratio of women to men drops down dramatically going up the hierarchy. This shows that women have to overcome

psychological barrier and start applying to higher positions. To get there, early training of STEMM women in leadership building/business management should be encouraged -- business management skills are crucial as one goes up the hierarchy.

- Mandatory reporting of salary discrepancies for all organisations. Mandatory advertising of managerial positions to reduce nepotism.
- Improved administrative support for persons taking maternity leave, Cultural leave, appreciation for the need to use carers leave by management, teaching leaders how to be respectful and how to curb disrespect in meetings
- 1.If we champion and reward those who get this right it can help a lot. For instance, I have had some amazing male role models and mentors - acknowledging them can help change the culture where inclusion is supported. 2. For Engineering courses I believe we need to include more human focussed content as opposed to just system focussed content. When men design the courses they often focus on the system side of things, while women are often more interested in more the applications to society. This is obviously a generalisation but there is some research to support this. For some examples, at UNSW the Engineering schools with nearly 50/50 gender split are Biomedical Engineering and Chemical Engineering both of which have a more human focus to the Engineering. Similarly Psychology attracts more females as it has a strong human focus in Science. So we need to think about we design our courses and what to include in terms of the content, as well as having more gender and culturally diverse role models doing the teaching.
- Academia is a field with an ongoing issue with a lack of diversity at the higher levels. A very effective way to get universities to change is to link outcomes, like diversity, with block grant funding. Simple but always effective.
- more action to help women in STEM who have had time out (for whatever reason) to step back in and continue their career. Its crucial to tackle ageism in the workplace. Being a woman and over 50 wanting to get back into a STEM research career can be extraordinarily difficult.
- Increase the visibility of our female role models. Spotlighting, promoting & awarding female scientists, researchers and other experts.
- Being accepting and open to having a diverse team, tolerant and respecting each other's differences. Moving away from excluding diverse people from a workplace for the imagine of the company, that has been my personal experience.
- Being fair in interviews and allowing diverse people a chance, if a person doesn't have enough experience and is already facing issues around finding work and has experienced discrimination in work place and interviews and doesn't not have a job as result of the mentioned above, then when will this person ever get the opportunity to grow their experience and make a positive impact in the professional world.
- Recruitment and promotions should allow for a space to share career interruptions - these include all kinds of interruptions including moving countries, carer leave, limited job opportunities, special family circumstances which limits travel or other opportunities which might have furthered career. And of course parental leave. Implementing this in our organisation has made a significant difference to help us gauge track record better and be more fair in our assessments.
- Targeted hiring practices to fix imbalances. Interviewing from the female/diversity pool first or do a call for a female-only position. This encourages females to apply who may not have bothered. More stable employment-longer contracts would encourage women into the fields.

- Quotas for women in Engineering
- We need cultural change in senior positions in the research sector. Large established groups of men in STEM consistently exclude, patronise and infantilise women in the sector. We now have women in senior positions within our institution who do nothing to bring on talented junior women. There is no equivalent to jobs for the boys. Anointed men continue to be employed and promoted by other men. Yet this is still perceived to be a mechanism of the meritocracy. We need a thorough education in unconcious biases. The instititional culture needs to change. To promote change, funding policies need to change. All national government funding programs should only fund projects if a woman is listed as a co-investigator. Grant number limits should not be imposed on women. We have to find ways to positively discriminate in favour of women to accelerate the pursuit of parity. Until we do, women will be at a chronic disadvantage. Talented, collegiate, kind, energetic and hard working women will continue to 'leak' from the pipeline.
- Women given opportunities in management roles traditionally occupied by men.
- communications skills/empowerment training for women from on English speaking background
- Seeing diverse people at the higher levels of organisations. In my field of science, many women are researchers, even the majority in some subfields, but nearly all of the most senior positions are still held by white men.
- mentoring, learning good communication skills, and non discriminatory policies, particularly against older women
- Female leaders of industry visiting schools or providing mentorship's in their field. Not just talking to students , delivering practical advice around entering stem professions.
- Encourage more girls working in STEM. Provide good male & female role models supporting Diversity & Inclusion from a glass root.
- Quantity is not enough. Besides motherhood responsibilities, a lot of STEM women left their careers early because they were mistreated & disrespected by their male colleagues. I am one of those women and I already lost my job once. I am still going through the same issue in my current job unfortunately.
- Coaching women to aim for career progressions. Identify women who genuinely want to succeed and enable them through a common pool or network. Often when women do not get the desired progression in one organisation, they tend to look out. When looking out for a step up role, the stumbling block is often whether you have played the role before. Do many women then it becomes waiting for the right opportunity which sometimes could take a long time. Having a common pool or network that hires for potential would help.
- Accountability in organisations for both diversity and good culture to support diversity.
- Explicit acknowledgement and discussion surrounding the lack of diversity. More communication about examples of unconscious gender bias' so people are aware and can spot it. Support and mentorship from senior leadership (male and female) with directed discussions on combatting gender inequality. Mentorship for POC, POC scholarships. More communication about examples of casual racism.
- Specific calls for women only or minority groups as well as for early-mid career grants were senior scientistics could not apply. In addition, flexibility in working hours.
- I work as a visual effects producer and we are constantly hungry for physicists and technologists. Representation matters. People need to see someone like themselves to imagine the possibility.

We also forget that areas of technology and discovery are enormously fun. We now have a broadly 28% representation of women in VFX, but numbers are still low in leadership.
- Increased funding across all career stages for supporting retention.
- Decreased barriers to access
- Increased job security and flexible workplaces
- Holistic DEI training for leadership
- Initiatives which have male involvement and buy-in. It can't be us vs them when designed. Males need to be involved to champion them and help move the conversation towards equality. Boards with 40:40 male female representation are better than 1 or 2 females on a male dominant board. Advertising for different work and life experiences instead of 10 years + mgmt type of criteria, where diverse and inclusiveness is valued and respected eg. cultural, educational, work experiences are as important. Family friendly policies being taken up and encouraged for men as much as women then helps get past the stigma that women face in finding employment and getting promotions when they are discriminated against for having children. Funding grants for research to be rethought and restructured with female decisions on these and for females to be on their assessment panels. Time off to have children or care for them by males or females to not count against you.

2. **How can efforts to increase diversity and inclusion in STEM be better and have more impact in future?**
- The government should engage with more grass-root organisations to promote STEM among school children and women in STEM. In addition, there should be more policies introduced to promote gender equity eg the building equality policy and the pay gap. There should also be penalties when organisations faail to adhere to these policies. This way, the level of discrimination against women and women from marginalised communities will decrease.
- I find age to be a bigger issue in the field of STEM and there is a lot of stigma around the proportionality of seniority vs traditional intelligence. In spite of being in a developed world, people still have to fight for a space to work in which leads to lack of collaboration at times
- The systematic barriers are still here. Managers in the government dept I work in have recently received 10 hours of mandatory training for health equity, which focussed on Aboriginal and Torres Strait Islander people. It was truly excellent. A broader diversity agenda is really needed. A male counterpart of mine was promoted without question not process. For me to access the same, I have to go though months of reviews, applications, "mentoring" and interviews. I've labelled as a bossy bitch for speaking up.
- Actions need to be evidence-based, and those that are impacted need to be consulted on and included in the discussions of solutions.
- Inclusion is important, but it's also important to not exclude men - we need balance, different perspectives, acknowledgement of the differences and recognition of the need to learn from people with different perspectives.
- Hold institutions accountable for failing to achieve meaningful gender diversity targets. Make extra funding available to institutions that do achieve targets.
- in addition to those mentioned above, all government funding should encourage representation of women in projects as CIs or PIs, especially of EMCR women. EMCR stage is when women

career trajectory plateaus vis-a-vis men, because women get ostracised from work due to (mis) perceived unavailability.

- Quotas are tricky because they mean I have to prove I earned my position. I'm smarter harder working and better educated than the majority of my colleagues but they make up this crap that I got there to be a token woman. I also was abused at a former workplace for being given my own toilet as I was the only woman. Ask first! I was fine with unisex toilets. Also womens PPE is still terrible. We should just have smaller masks and gloves in general, small men exist too.
- HR being difficult during mat leave application, colleagues being derogatory regarding women of childbearing age
- More recognition of good role models and mentors. More consideration of the type of content included in STEMM education (as per above).
- Any policy or program needs to be tested with its intended receipients BEFORE it is launched to ensure that the program that has been developed is actually going to meet the needs of the intended recipient. This should be a part of the funding process, ie you submit a draft plan for a program, receive funding, test the draft with the audience, tweak the program so that it actually meets the needs and then is delivered. Grant funding should support this kind of program delivery approach.
- Demand 50/50 ratios of female/male on all teams, boards or other groups.
- I'm a Muslim women born in australia and I'm of a small percentage of women who wear the niqab.I'm also a single mum to one child, struggling to make a living because of negative experiences. I have experienced discrimination at uni and I have struggled finding work and experienced discrimination multiple time in the work place. My experience has been awful, I've been told of I'll be wearing my niqab in laboratory and that maybe a face mask is a better as I'll fit in. I've experienced a male telling me I won't get far if I don't remove my niqab, and if I remove it I'll get a job quickly and he will help me get a job. I've recently experienced being excluded from work so the company " can get on track". This was during an internship I took part in to gain more experience, they were continuously taking interns while I was away from work " so the company can get back on track". It's been almost 2 month and I have not been paid for the intern, I submitted the document required and yet to receive my travel pay. I believe this wouldn't be an issue today if companies truely adhered to their diversity and inclusive policy. I believe HR should undergo training to ensure there is fairness in the recruitment process. There has to be better reporting system for incident like what I have mentioned above so these issues are not continuous.
- Involve all genders in the conversation. Currently the burden of solving D&I issues sits more on the shoulders of women. This is a people's problem and so everyone needs to be able to do their piece. Constantly expecting women to represent and keep addressing these issues is leading to exhaustion and also attracting backlash.
- There also needs to be scope for addressing the intersectionality piece - not all women are the same - our journeys and perspectives are different and so, one size does not fit all.
- I have observed double standards for expectations of women and men. Less support for women researchers and unconscious bias is present in academia. So women tempted into the area are often disadvantaged and are not able to be as productive. Lack of numbers mean that women often get pulled onto many committees and groups to give gender balance, but this adds to the load and ends up sometimes disadvantaging them.
- Women allowed to have a voice in leadership

- The numbers of women and other minorities in STEM are consistently lower than men because men continue to exclude these groups from opportunities for ongoing employment. To increase diversity, younger generations need to see that diverse staffing is mandated. They need to see themselves in the STEM professionals they encounter. To address the lack of diversity, white men in positions of power holding meetings in corridors and behind closed doors need to be exposed and held accountable for their active exclusion of these groups. Once appointed, women and minorities also need to be protected from busy minority work - excessive outreach activities, disproportionate peer review responsibilities and activities for superficial exposure keep women and other minorities from serious research roles. This is self fulfilling - women and minorities are then patronised by the dominant white male group for doing the inclusion work, being visible and teaching well, amongst other things. They're also told they are so good at being organised, so positive, such go getters, that they continue to be forced to do the work for which they receive no recognition nor respect - for example, women in STEM publicity activities, outreach in schools, teaching administration and pastoral care. Women and minorities need to be actively protected from these types of activities and from predatory colleagues who push this work onto them.
- Mentoring by senior success women in companies
- women in leadership roles
- Many efforts I have seen work on recruiting people, but don't always open paths for people to move forward in their careers. Giving more guidance on how to make STEM your life, rather than just your start, would be useful. Representation and advocacy at higher levels would make a difference.
- Universities in particular should provide more stable employment for early career scientists Supervisors should be assessed to ensure they are not exploiting graduate students. It is important to recognise that research benefits teaching and vice versa.
- Follow up on existing programs , invest for a longer time with fewer number of students.
- Develop a new generation of STEM both in technical skills and morals from glass root.
- Demonstrate more STEM role models from both Genders. This issue requires partnership from male & female as the industry will remain male dominated for sometimes
- More importantly it requires leadership from Government & Industries and Educators
- Being ready for a career progression but waiting around for an opportunity. Shape your own opportunity is often the advice, but then there are also budgets that organisations need to cater for. Can women be supported better in this phase ? It would make a world of a difference. Career acceleration programs are helpful for gaining knowledge but it ultimately boils down to opportunity. Is there a better way for women to access those opportunities within the STEM pool
- Clear mandates for government departments to improve diversity in genuine ways. It is still done tokenisically and there is no accountability to improve workplace culture or remove barriers.
- Change to be framed as something for all to participate in, with both men and women to learn and improve e.g. a meeting for the women in an organisation, but also an optional meeting for all staff where examples of gender bias or important topics can be discussed
- More workshops and access to mentors or supportive groups could be important
- Increased funding across all career stages
- More equitable funding that accounts for reduced opportunities or barriers to career progression
- Increased job security and flexible workplaces

- When improving diversity and inclusion they cant be tokenistic or look like tokenistic measures. Education really needs to be in place to show what bias and privilege look like for some to appreciate the position they are naturally in without realising it. This needs to also be done in a respectful manner and while it seems socially normal to call out 'old white stale males'. there needs to be some sensitivity to not over use or generalise and offend those of this demographic to support us when we're asking for equality. Respect across the board and equal treatment and opportunities is what we are all after. So that message needs to keep coming through. We're not asking for special treatment we are saying hat we are all different and we all want to have the same chances.

3. **What would you like to come out of this Review?**
- New policies that promote gender equity
- I would like to know more recommendations and perhaps a little more of a humane approach rowsrds policies.
- Extend number and types of signatories to the Athena swan charter, and have a system to report non compliance. Government and academic wide mandatory training program for managers.
- I hope that changing gendered expectations at home will help change the expectations at work. I also think that diversity needs to include a lot more than just gender, but also things like family arrangements, culture, etc, that directly impact work-life balance and therefore decisions that individuals make regarding their career.
- Recognition of the contribution that women make to all types of businesses, and the acknowledgement that we do not need to "push" men out in order to bring women in.
- Hard targets, mechanisms for accountability, equal funding in all funding schemes
- Statistics of Women in STEMM now compared to historical trends. What recommendations are made through this Review.
- Mandatory reporting of salary gaps. No more fluff, actual action.
- Appreciation for the fact the men can grow their families with fewer career consequences, colleagues who feel "hard done by" those of us taking mat leave should appreciate that my kids will be looking after them and the Australian economy, young women in STEM need strong women in STEM as role models, having kids made me a better professional and leader- less selfish and more perceptive of the needs of others, while also having less time for superficial issues
- Some moves towards changing the STEMM education culture as per ideas above.
- Effective policies and programs that make real impact and change the face of the science and research industry so that it reflects Australian society.
- Success would be a set of policies and strategic action plans to implemented immediately - not in 5 or 10 years time.
- Female representation in the design and construction of future technologies.
- Program and development in diverse and inclusive policies. Companies use these term to bring attention to their business without actually adhering to the inclusive policies.
- Better education on the consequences of not adhering to these policies and the impact it has on our communities.
- Being a person from a minority and possibly one of a handle of Muslim women in niqab or possibly the only Muslim women in niqab in the STEM is disappointing. I'm a community oriented person

and what I hear most in my community, especially women who wear the niqab, they openly say they have no interest in getting an education or the STEM because finding work will not be easy. It's a shame that even until today, women can't come out of their shell and integrate into the workplace even though there are policies in place around diversity and inclusion.

- We need to aim for balanced workplaces and aim to find new hires that add diversity. This requires strong leadership and consistent effort over time.
- 30 percent women in STEM
- Success looks like a flood of women and minorities into the STEM sector. The culture in academic institutions needs to be exposed and broken down. Patriarchal hiring practices need to be eliminated by more prescriptive governance. Women and minorities in STEM need positive discrimination in employment and funding. Government funding policies favouring substantive roles for women and minorities as coinvestigators on grants need to be developed to promote these groups and give them opportunities currently denied them by the established patriarchy.
- Greater number of roles for women in traditional male roles including trades and management. More leadership courses designed for women available to a wide spectrum of women.
- scholarships/ leadership short courses
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- Visibility would make the biggest difference in the short term. Longer term, policy changes that reshape work places and institutions which encourage career progression even for people who have had to pause for childbearing years.
- Improvement of career development and opportunities for women in particular
- Concrete identification of the causes of women in STEM numbers stagnating
- An on-going strategy for the development. I am in my 40 and I am good at what I am doing. However, I don't have much expectation in advancing my career anymore after I went through this barrier all the time in my IT professions.
- I don't expect to see the results soon but hopefully in the next generation, things will be improved.
- Better access to opportunities tagged to potential of women within the STEM pool. Create opportunities to build those networks in the STEMM pool. Proper governance to enable access to these programs
- Meaningful change in the sector with more diversity in mid level and senior appointments.
- Money set aside for mentorship and dedicated advocates in each workforce
- It would be great if we could address our concerns with appropriate governmental bodies and representatives .
- We have a huge lack of Australian talent for VFX- it would be great to get more playful science of materials, physical simulation and data systems in schools as part of the curriculum - and taught in a way that allows exploration and play rather than some dull canon. Please remember that the arts & entertainment also desperately need science grounding to help prevent us from losing talent to competitors in Canada and Europe.
- Increased funding across all career stages
- Clear policies and governance for DEI
- Tangible policies and actions, educational campaigns and government departments leading by example.

4. Is there anything else you'd like to tell us?

- You can't ignore intersectionality. The only success is having all of us benefitted. When the Athena Swann programme launched it was predominantly white at the event and anyone who pointed this out got attacked by senior women in stem. You have to acknowledge shortcomings even of success otherwise you're pushing diverse people out of the space - you're no better than the patriarchy.
- Importantly, if someone tells you a solution hurts one group while helping another, the response can't be "well just wait your turn" (something I've heard about nonbinary inclusion from Australian women in stem).
- Thanks for preparing this survey. I appreciate your work. I tried for the first 10 years of my career and burnt out. I'm glad other people are still working on diversity in STEM
- I think a lot of the issues start at primary school level and we need to consider changes at this level as well..... Programs to encourage women/girls into STEMM earlier are likely to also make a big difference, such as some of the things started by the late Anita Borg.
- I hope changes are implemented soon and people in the same boat as me can flourish
- Research and academia is becoming increasingly competitive and workload are increasing. This disproportionately effects women and those earlier in their careers due to power imbalances and double standards. The system needs to be supported to help drive change through financial incentives to drive change
- You guys rock
- The conduct and culture of my male dominated STEM discipline has white-anted my confidence for decades now. I've given up all hope of an academic position and I'm now moving out of the sector. While this has happened, I have watched backroom deals done to keep on employing yet more white men. This has been done with the tacit approval of senior women colleagues. If we can't change this culture within universities, then government needs to impose diversity requirements on universities.
- I am happy to hear there is still a future for the girls after me.
- I recently left stem due to poor workplace culture.
- I would highlight the need for programs, calls and supportive groups for overseas female mid career scientists to return to Australia to continue their career.