

President's report

The current pandemic has changed significant aspects of our life and work, which will have profound impacts for years to come. Despite Victoria's second wave and the associated setbacks, Australia has fared well compared to other countries around the world. A major reason for this is that the Government has sought expert advice and implemented evidence-based policies with bipartisan support, providing an excellent model for how governments can operate effectively to reduce the spread of the virus and protect the economy. Our collective success is also based on the substantial contribution from our world-class health and medical research workforce that has been mobilised to develop novel coronavirus vaccines, find treatment options for COVID-19 patients and accelerate our testing capabilities.

We have welcomed the Government's substantial efforts to steer the economy through these difficult times to ensure Australia emerges ready for a strong recovery. However, we have also noted that other countries have suffered much larger outbreaks and economic downturns, such as France, Spain, Germany, Ireland, Sweden, Italy and Canada (just to name a few). They are now investing billions of dollars in science and technology, especially

boosting funding for fundamental medical discovery research. Similar announcements in Australia have been absent, while overseas governments have already realised that such measures will not only help enormously in combating this pandemic but also future health emergencies, thereby leading to a faster and more sustainable knowledge-based economic recovery compared to a fossil fuel led one.

Early in the pandemic we called for urgent bipartisan support of further investment into health and medical research. The sector cannot deliver future health and economic prosperity without appropriate funding and we need to maintain both ends of the research pipeline, from basic discovery to translation and commercialisation. Australia's medical research has a proven and enviable track record. The ASMR commissioned Deloitte Access Economics Report has determined that for every \$1 invested there is a return of \$3.20 into health and economic benefits. A fundamental task of any Australian Government is ensuring its citizens enjoy the best possible health/healthcare while being fiscally responsible to current and future generations. At no time has this aspect of governance become more crucial than it has in the wake of this global pandemic.



Associate Professor Christoph Hagemeyer

Since the last newsletter, we have continued to advocate on behalf of the sector to increase funding to the National Health and Medical Research Council (NHMRC) and address the issues with the Medical Research Future Fund (MRFF).

We had meetings with Chris Bowen (Shadow Minister for Health), Janet Rice (Greens Spokesperson for Science, Research and Innovation), received a call and written response letter from the Health Minister Greg Hunt in response to our MRFF media release (see MRFF section) and had constructive discussions with Kylie Wright, Senior Advisor for Greg Hunt, and Anne-Marie Elias, Senior Advisor for Karen Andrews (Minister for Industry, Science and Technology).

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We also had very productive meetings with Alan Finkel (Australia's Chief Scientist), Jane Halton (Spokesperson Health, National COVID-19 Commission) and Trent Zimmerman (Chair of Standing Committee on Health, Aged Care and Sport).

I also spoke to Jaala Pulford, the new Victorian Minister for Innovation, Medical Research and the Digital Economy. I emphasised to her that in the absence of extra federal support, the states need to consider filling this void by helping specifically early and mid-career researchers and providing funding for the struggling discovery science parts of the sector

Recently, the ASMR executive made a submission to the senate enquiry into the Government's proposed major restructure of funding for tertiary education. We believe that the new fee structure will provide a disincentive for universities to offer degrees in the sciences, particularly medical science, thereby possibly compromising the sector's workforce succession planning into the future.

NHMRC

The current pandemic with associated lockdowns, laboratory shutdowns, as well as a requirement for physical distancing and working from home, has resulted in the deceleration or interruption of most lab-based and clinical research projects that are not directly COVID-19 related. There are concerns within the sector that many projects currently funded by the NHMRC will be forced to wind down before being completed, compromising future health impacts and returns on investment. The NHMRC has estimated that a six-month extension to all currently funded research grants will cost around \$400M and we have called on the government to provide this as a one-off crisis intervention investment.

This will help to retain the current workforce and provide sufficient opportunities for the very best research (as determined previously by peer review) to deliver the intended optimal outcomes for the nation. So far there is no indication that any extra support will be provided, and we need to wait for the October budget announcement to have clarity around this issue.

The number of full-time equivalent health researchers supported by the major NHMRC funding schemes has dropped dramatically in the last three years. ASMR's 2019 workforce survey revealed that a quarter of participants had uncertain job security and prospects in the following year. The delay in the Ideas Grants round is adding further uncertainty moving into 2021 with the outcome predicted to be unknown until very late in 2020, leaving little time for contract renewals. The one-off crisis intervention investment for current grants would also have a substantial positive impact in helping to keep researchers in their jobs.

We are in regular contact with the NHMRC CEO, Professor Anne Kelso, and her team to work through these issues and provide optimal support for the sector despite the lack of extra federal support so far. A strong NHMRC funded workforce will be critically important in the economic recovery phase of this pandemic, not only by creating new knowledge and technologies but also through one of the highest returns on investment across all industries. Australia needs a well-supported, world-class health and medical sector now more than ever.

MRFF

The MRFF is intended to be an integral part of the Australian health and medical research landscape, primarily supporting clinical and translational research. Since its inception in 2014, it has been

apparent that its disbursement processes are flawed. Australian researchers and clinicians have expressed concerns about the lack of transparency for funding calls, how funding is allocated and how the peer review process is applied. Earlier this year, we had a productive meeting with Professor Ian Frazer, the Chair of the Australian Medical Research Advisory Board. He sees the MRFF as being on a good path with more schemes being peer-reviewed and more transparency across the fund. This is welcome news as we have been advocating for greater transparency and improved governance since contributing to the Senate Inquiry into the Medical Research Future Fund Bill 2015, where we recommended that all MRFF investment should be peer-reviewed. Recently the Joint Committee of Public Accounts and Audit has asked the Australian National Audit Office (ANAO) to consider auditing the administration of the MRFF. It is understood that the audit will assess the effectiveness of the administration of the MRFF up to now and examine the funding principles, strategy and priorities used to guide the selection of research initiatives to fund governance structures and the mechanisms for monitoring and measuring the achievement of goals.

Based on this information, we submitted a letter to the ANAO in support of the proposed audit. This was accompanied by a media campaign to raise awareness, build momentum and urge the sector to get behind the audit. The response from the sector via social media and other channels was overwhelming and many researchers and clinicians have contacted us to report their stories. We also had interest from several media outlets and investigative journalists offering to work with us on the topic. We believe that with sufficient public pressure the audit will go ahead, and the transparency and governance mechanisms can be improved for the benefit of the health and medical research sector, and the health of the nation.



To keep up with all the latest information and updates on ASMR events, awards and activities join us on social media.

We are currently in the process of reviewing all material and have asked the Department of Health for clarification on specific examples presented to us. So far, we have received a written response from the Health Minister Greg Hunt addressing some of our queries and we will continue to work with all stakeholders to improve the MRFF processes. For us, the best research, health and economic outcomes are underpinned by independent, transparent and expert review, rather than disbursements motivated by reasons other than scientific excellence. We will continue advocating for clear guidelines of competitive peer-review and full transparency of funding decisions until such rules are included in the legislation. Moving into economically challenging times, Australia cannot afford to leave the MRFF to professional lobbyists and their well-funded organisations.

ASMR Medical Research Week®

Earlier this year the ASMR board made the difficult decision to postpone ASMR MRW® and to cancel the ASMR Medallist Tour. We were hopeful that it might be possible to run face-to-face events later in the year, however, this was not the case. The decision was made to run the 2020 ASMR MRW® fully virtual in early November. Planning is progressing well and ASMR MRW® will include virtual scientific meetings, professional development days, STEM career seminars, Zoom-posia and a trivia night. Given the virtual nature and the different time zones, all events will run successively and registration in one state will allow participants to attend all events across Australia. We hope that this will widely encourage interstate communication and collaboration and might be a blueprint for future hybrid virtual/face-to-face events. One highlight of the week will be a central presentation by Professor Anne Kelso, CEO of the NHMRC, with the opportunity to ask questions about the future of the sector.

59th ASMR National Scientific Conference

The 2020 National Scientific Conference (NSC) was initially planned as a face-to-face event and we had secured the stunning RMIT Capitol in Melbourne as the venue for the conference. This year's theme is "2020 vision: the future of medical research". The conference will shine a light on the importance of basic, fundamental science in driving clinical translation and implementation. Unfortunately, Victoria's second wave also prevented this from happening so the decision was made to run the NSC as a fully virtual event and directly after ASMR MRW® from 18–19 November.

Preparations are progressing well, and we are developing a program that will excite, inspire, and generate new and innovative exchanges and collaboration between researchers from all areas of health and medical research. We will have insightful and challenging professional development workshops and several awards (Peter Doherty Leading Lights Award, Champion-Ma-Playoust Memorial Award, Social Media Engagement Award) and prizes (best oral presentation and best rapid-fire talk) are on offer.

We are delighted to have secured Dr James Muecke AM, Ophthalmologist, Australian of the Year 2020 and founder of Sight for All, to deliver the prestigious Edwards Oration as well Professor Kanta Subbarao from the WHO Collaborating Centre for Reference and Research on Influenza at the Doherty Institute, as the 2020 Firkin Orator. Furthermore, we have Professor Euan Wallace AM from the Department of Obstetrics & Gynaecology at Monash Health as an invited speaker. Please save the date and join the ASMR NSC, which will be a highlight of the year.

This year, registration for ASMR MRW® and the NSC is free for ASMR members, which will hopefully

give extra incentive to sign up or renew lapsed memberships, so please encourage your colleagues at every level to join the ASMR. Our voice is only as powerful as our membership base and I urge you all to communicate back to your colleagues and networks about the value of becoming an ASMR member.

Finally, I would like to make two announcements for 2021.

ASMR's long time administrative assistant, Priscilla Diment, will retire at the end of 2020 after 14 years of exceptional service for the society. Priscilla has worked tirelessly in the background and has always gone above and beyond to make sure everything was in place and ran like clockwork. The society is forever grateful for her services and we wish her well in retirement. Katriona Christiansen has been appointed as the new administrative assistant and we welcome her to the ASMR.

I am delighted to announce that Dr Ryan Davis has accepted the appointment of ASMR President-elect, taking on the Presidency for 2021. Ryan has a long history with ASMR; initially as NSW Committee Convenor, then Board Member and more recently also as a member of the Executive. He has done an excellent job in each role and demonstrated a strong commitment to the society. Please join me in congratulating Ryan on his appointment and I look forward to seeing the society evolve under his leadership in 2021.

I hope to "see" you all during the virtual ASMR MRW® and the NSC in November. Stay safe.

**Associate Professor Christoph Hagemeyer,
President, Australian Society for Medical
Research; NHMRC Senior Research Fellow;
Head, NanoBiotechnology Laboratory,
Australian Centre for Blood Diseases,
Monash University.**

ASMR Research Awards

The awards support a postgraduate student member of the ASMR nearing completion of their studies, or a recently graduated (three years maximum) postdoctoral member to undertake a short period of research in a laboratory outside of Australia (\$5,000) or in a distal laboratory (\$2,000) within Australia. Applicants for these awards must have maintained ASMR membership for more than 12 months prior to applying.

For more information, see: <https://asmr.org.au/research-awards/>

One thing we'll need post-COVID: an MRFF JobMaker Program

Professor Merlin Crossley

What will the world be like after COVID? Will everything just snap back, will we face the doom and gloom of looming debt, or will we look at what we've learned and set a new vision for a better future.

My bet is that things will get better but not in the short term — unless we take action now.

I'm worried about the short term. It is predicted that thousands of jobs in education and research will be lost and that debt and a prolonged recession will reduce hiring for several years at least. Now is the time to set a plan that creates jobs and re-invigorates the economy.

Money will be very tight while the economy is reviving, and the international students and their fees, that contributed so much to the university sector, won't come back overnight. But fortunately, the Government and the electorate do appreciate the importance of medical research and the Medical Research Future Fund (MRFF) has been established.

The big question is — are there any ways of getting even better value out of the MRFF?

To me, our biggest challenge is keeping early and mid-career researchers in jobs. We need an MRFF JobMaker program.

Let's first be very clear about why the need is so great. It's because universities have fewer students, so lower revenues, so they won't be hiring at the same rate. The problem will last for years because the 'pipeline' of students has dipped. Fewer students

started in 2020 and since their degrees will take several years, there will be fewer students in 2021 and 2022, even if there are good enrolments next year. If international enrolments don't bounce back the problem will last for longer.

Other big employers of researchers are the independent medical research institutes that are usually affiliated with universities and local hospitals. Australia has some of the finest medical research institutes in the world. They establish a critical mass of expertise, they attract top scientists and clinicians. Their research sets a culture that informs evidence based medicine, and their professional dedication has helped lift the standard of health care in Australia to what it now is — among the very best in the world. But our medical research institutes will have fewer resources because they rely on philanthropy and that tends to dip when the economy trends down.

Another employer of medical researchers is the health system itself and our hospitals. I'm not an expert on State and Federal health funding, nor on the revenues, but two problems come to mind. The costs may have gone up due to all the activity, equipment, and reconfigurations needed to prepare for and manage the pandemic (purchasing personal protective equipment, setting up isolation wards, ordering ventilators, managing testing and tracing, reconfiguring rosters, managing chronic after effects of COVID). Revenues may have gone down as elective surgeries have been put on hold. I'm sure there are many more factors to be considered but again I worry hospitals may be offering fewer research jobs in the next few years.

So how would an MRFF JobMaker scheme work?

Well, that is the easiest question of all. One would simply run a system along the lines of the existing National Health and Medical Research Council's Investigator grants. The easiest thing would be just to tip funds into the existing schemes but one could establish a new scheme, just as the Australian Research Council established first the Federation Fellowships, then the Laureate and Future Fellowships to replace their existing people support grants. Establishing a new scheme can be very important for branding and recognition, across Australia and globally.

But why am I so keen on fellowships?

The obvious answer is that they keep good people in work. And research fellows do great work, creating new knowledge that improves health and drives the economy forward.

Secondly, fellowships help maintain our human capital and expertise, so that Australia can adopt research created elsewhere. As competition related to acquiring or producing a vaccine mounts we will become increasingly pleased that we have a system where our own researchers, especially at the University of Queensland and at CSL, but elsewhere as well, know all about vaccines and how to make them. We have already benefited from the fact that we have world class people, knowledge and infrastructure in public health,



Professor Merlin Crossley

and that has enabled Australia to stay on top of the pandemic much more effectively than some other countries.

Thirdly, I love fellowships because they provide an opportunity for researchers to do basic as well as applied research. I am a fan of translational research but one needs balance. Once a researcher wins a fellowship they can follow their own intellectual instincts and that is where the real paradigm shifts will come from. With basic research one can cry 'eureka'. With applied research one announces 'I've finished'. That is good but we need both. The arguments for fundamental research have been rehearsed — to death, literally — they aren't working. To me fellowships are the simplest way to restore the balance.

Translational research will always have more champions than fundamental research as cures can never come fast enough. But there is also a perception that we need more translation because the knowledge is there at the bench and it just needs a nudge to get it to the bedside.

Too often what is at the bench is hype and its premature translation can be a serious waste of public funds. Researchers my age can reflect on the early gene therapy trials, the early anti-sense technologies, and the many stem cell therapies, and question whether rushing to the clinic is always good value. My bet is that very few if any people reading this will have benefited from any of those early therapies, so there's your answer — premature translation isn't worth it.

I also ask current researchers to examine the many clinical trials both here and around the world that are assessing the effectiveness of hydroxychloroquine against COVID, and other therapies, vaccinations against other agents that are supposed to boost general immunity, and many other COVID focused grants. Remember this and in the future make your own assessments about whether all these funds have been well spent.

I also love fellowships because I believe it is easier to allocate funding to the most deserving, most dedicated, most driven, most capable people, who

will deliver the most for society, than it is to identify the best ideas or projects. Put simply, knowing which projects will work is impossible but it is easier to tell which researchers will work!

What's more you can target fellowships to equity groups to ensure the much needed diversity that creates a stronger system. It is harder and more controversial to target ideas or strategic funds in this way.

Our Health Minister Greg Hunt declared on ABC's *Insiders* in June this year that "we have a golden opportunity to be a global leader" in medical research. I think this is true but it won't happen without a plan and investment, or without investing in the right things. The right things are people. It's time for an MRFF JobMaker program.

Professor Merlin Crossley is Deputy Vice-Chancellor (Academic) at UNSW and Professor of Molecular Biology. He has also worked or studied at the Universities of Melbourne, Oxford, Harvard and Sydney.

Diversity and inclusion in health and medical research: Why does visibility and allyship matter?

Dr Erin McGillick

Our diverse backgrounds and life experiences shape the way we see the world, engage with it and approach complex and challenging situations. Because of this, each of us is truly unique, and hence contributes uniquely to the rich tapestry of the health

and medical research community. Our uniqueness enables us to work together to answer some of the greatest challenges faced by humanity.

Diversity comes in many forms. For some of us, there is even an intersectionality between multiple and diverse minority identities, whether that be based on cultural background, ethnicity, sex, gender,

sexuality, neurodiversity, ability or religion. Some find comfort in identifying with a label, while others acknowledge their being as just part of the rich human experience. There is a myriad of unconscious bias, stereotypes, stress, and challenges that marginalised communities experience. For those with multiple diverse backgrounds, there is a

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Dr Erin McGillick

significant burden of cumulative barriers and fear of harassment and discrimination.

The health and medical research sector benefits greatly from diversity of people, ideas, and problem-solving skills. However, the expertise that marginalised and intersectional groups bring to the table to achieve these outcomes has traditionally not been valued for its rich contribution to the workplace. Aside from our own personal identities, it is also crucial to ensure that both research and clinical practice is focused on addressing outcomes in a diverse and inclusive way.

Examples include:

- Gender¹ and ethnic biases² in clinical trials and experiences focused on cisgender or the gender binary,^{3,4} which discount experiences of gender diverse people.
- A lack of ethnic diversity in genetic research, which focuses largely on European ancestry populations,⁵ has large implications for understanding disease mechanisms and pharmacogenomics.
- A focus on pregnancy outcomes derived from Caucasian populations traditionally led to an under-represented understanding of poor outcomes, such as stillbirth in ethnically diverse populations due to the mother's ethnic background or country of origin.⁶

Such biases are not reflective of our diverse world and have significant implications for the way that we understand, treat and discuss both health and disease.

COVID-19 has brought about an expansion in the accessibility to the world, to a level not seen to date. It has taken a pandemic to radically adjust aspects of life in ways that many marginalised communities (including people with disabilities and other health

conditions) have been asking to consider for years, including greater online communication and more flexible working arrangements. These adaptations highlight that we are all capable of rapid change when required, but should not have to wait for the majority to be affected before changes can be considered and adopted. In the post-COVID-19 world there is great need to acknowledge the accessibility gains that we have made and to question the parts of our old practices that we return to, or whether we choose to use this opportunity to continue working towards improving inclusivity and accessibility for all.

There is disparity in diversity representation within different areas of STEM but ensuring that everyone feels welcome and included is critical. I have personally benefited from hearing journeys from successful scientists and understand how important it is to see role models with diverse backgrounds. Being surrounded by wonderful mentors and allies who value you, leads to support for sharing your authentic self. Our identity as researchers and as people are not mutually exclusive and leading authentically is the true key to success. Raising awareness of diversity and inclusion is important to ensure that people in the STEM sector, no matter how junior or senior, never have to choose between hiding aspects of who they are and doing the job that they love.

In recent years, the support of diversity and inclusion initiatives has gained huge visibility both online and in workplaces. While this is encouraging, some 'celebrations' of days of significance are held independent of a dedicated commitment to embed diversity and inclusion within the workplace culture. Such tokenistic displays do not benefit the marginalised communities that these awareness campaigns aim to help. A culture of diversity and inclusion can only be truly achieved when there is:

- i) an active commitment to building a visibly welcoming community (both within organisations and publicly);
- ii) ensuring that policies embed inclusivity; and
- iii) training is provided at all levels within the workplace.⁷

Both organisations and individuals within them must actively embrace diversity, equity, and inclusion on a daily basis.

The rise of science communication and online platforms to share personal experiences of people in STEM has diversified visible representation. Life can be complicated, but there is a power in sharing our diverse stories underlying successes alongside the rich interaction between our professional and personal experiences. The way that we choose to move forward in recognising diversity and inclusion now will help the next generation celebrate their differences, and leverage them for even greater success.

While we have made huge gains towards acknowledging and supporting aspects of equity and diversity in recent years, there is still fear, discrimination and harassment that prevents many people being and/or sharing their authentic selves professionally.

The most recent Pride in Diversity 'Australian workplace equality index survey'⁸ reported that only one in two LGBT+ workers were 'fully out' at work. Hiding an aspect of yourself is exhausting and is often associated with self-editing to avoid questions or actively trying to not give too much away, which overall has an immense burden on personal well-being. LGBT+ employees who are out to everyone at work are 50% more innovative, 35% more likely to work highly effectively in their team and have 28% more consumer engagement.⁹

We as a sector are not immune, with a survey of attendees at the first ever Queers in Science LGBT STEM Day Symposium in 2018 reporting that only 36% of respondents were comfortable being out at work and one in three respondents had experienced harassment based on sexuality or gender identity in the workplace.¹⁰ Queers in Science is a national network that aims to build community and improve support of LGBT+ people working in STEM in Australia through visibility, advocacy, networking and education.¹¹

Visibility and support for successful 'out' role models at all levels of the workplace is vital. Indeed, the Pride in Diversity workplace survey showed an increase to 86% of LGBT+ workers reporting being out if they worked at organisations actively promoting inclusion and reported feeling much more comfortable.⁸ This shows that the more effort an organisation can make in enabling LGBT+ respondents to be their authentic self at work, the more likely they are to



come out, hence spending less energy hiding this aspect of themselves.

In my role as an ASMR director, I am proud to be taking the lead on continuing the Society's support for diversity and inclusion. We have been working to highlight the diversity of both our researchers and their research and I look forward to these important visibility and professional development opportunities continuing.

This year the ASMR's National Scientific Conference is being held on 18–19th November and coincides with the international LGBT+ STEM Day (18th November), which provides an opportunity to showcase and celebrate the work and lives of LGBT+ people in STEM. We are very excited to feature an LGBT+ STEM Day session in the program to celebrate in partnership with Queers in Science.

The role of allies cannot be overstated in supporting equity and diversity. Being an ally means being willing to act with and for others in marginalised communities in pursuit of ending oppression and achieving equality. In a recent survey,¹² 73% of LGBT+ allies considered themselves silent supporters because they:

- i) have questions about their support;
- ii) are not sure what is helpful;
- iii) are afraid they will say something to offend someone; or
- iv) are not sure it is their place to speak up.

These worries are likely similar for allies of all marginalised communities. Being an ally doesn't mean that you have all the answers, it means that you are:

- i) willing to listen to experiences of others to better understand and amplify the voices of marginalised communities;

- ii) not afraid to ask questions to understand experiences and privilege more deeply;
- iii) playing an active role in modelling inclusive behaviours; and
- iv) using inclusive language and calling out discrimination and harassment in all forms.

The most powerful role that an ally can play is to invest in meaningful connections with people of diverse backgrounds whether that be in personal communication, teams or at the organisational level. Never underestimate the power your simple conversation or accumulation of small acts of visibility and support has in making someone feel safe, seen and heard.

There is no one time or place to be an ally, we all have the ability to effect change through education, teaching, research, workplace teams and in our personal lives more broadly. Never underestimate your ability to inspire others by being yourself (whatever that means for you!) and reaching out to share your story. Your story might comfort or inspire someone that is struggling, more than you will ever know. As the Dalai Lama said, 'It is not enough to be compassionate, you must act'. If you consider yourself an ally and want to grow your support further, there are many different ways to achieve this. Educate yourself online, join Ally networks within your workplace, or create one if they do not already exist. Our experience is richer and our possibilities greater when we work together to create diverse and inclusive environments where everyone feels welcome and valued as their authentic self, both personally and professionally.

Dr Erin McGillick,
ASMR Director and NHMRC Early Career
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References

1. Gemmati, D., et al 2020. *International Journal of Molecular Sciences*, 21(1).
2. Knepper, T.C. and McLeod, H.L., 2018. *Nature*, 557(7704):157-159
3. Moseson, H., et al. *Obstetrics and Gynecology*, 135(5):1059.
4. Chan, P.S., 2019. Invisible Gender in Medical Research, *Circulation: Cardiovascular Quality Outcomes*, 12(4):e005694.
5. Sirugo, G., Williams, S.M. and Tishkoff, S.A., 2019. *Cell*, 177(1):26-31.
6. Davies-Tuck, M.L., Davey, M.A. and Wallace, E.M., 2017. *PLoS One*, 12(6): e0178727.
7. Unsay, J.D., 2020. *Chemistry—A European Journal*, 26(40): 8670-8675.
8. Australian Workplace Equality Index (AWEI) National Benchmarking Publication (2018) ACON's Pride Inclusion Programs. http://www.pid-aweil.com.au/content/uploads/2018/08/AWEI_Survey_2018-1.pdf
9. Diversity Council Australia (Brown, C., O'Leary, J., Trau, R., Legg, A.) *Out At Work: From Prejudice to Pride*, Sydney, Diversity Council Australia, 2018. <https://www.dca.org.au/research/project/out-work-prejudice-pride>
10. 2018 Queers in Science LGBT+ STEMM Day Symposium Survey <https://bit.ly/3hSfzG4>
11. <https://www.queersinscience.org.au>
12. *The Make Love Louder report*, with Dr Shirleene Robinson for the Absolut Love Letters Project, January 2020 https://www.absolut.com/globalassets/documents/abolut_mll_report_fa.pdf

Diversity in academia is not just “nice to have”, it is an evidence of true merit.

Associate Professor Duygu Yengin,
Director of Gender Equity,
Diversity and Inclusion,
University of Adelaide

Did you know that about 65% of associate professor and professor positions in Australian universities are held by women even though they constitute about 42% of academics at or above lecturer level? Would you be surprised to read this? Would you find this a fair outcome?

Now, try replacing “women” with “men”. Most likely than not, you would not be surprised to hear that only 35% of level D and E positions are held by women even though they make up 58% of academics above lecturer level.¹ After all, many people argue that if women are not at senior levels in academia, it must be either because they’re not very interested in research or not very productive. If child caring responsibilities hinder productive research for instance, than having children is a personal choice and women should bear the consequences, right?

Wrong. On so many levels.

First, having children and climbing the academic career ladder simultaneously, shouldn’t be a right exclusive to only one part of the gender.

Second, lack of diversity and inclusion is not just a problem for women (or any other minority in general), it is a collective problem for academia and society.

Various research highlighted the importance of having a diverse academic staff for teaching. For instance, academic staff of color employ a broader range of pedagogical techniques and interact more frequently with students than their white counterparts.²

Diversity and inclusion in research teams is crucial to discover the most innovative and effective solutions to the global problems we face as humanity. Diverse teams are six times more likely to be innovative.³ A diverse academic staff would come up with better solutions in research, because they examine various aspects of a problem. Even though the models and methods researchers use are gender-neutral (at times inappropriately so), the types of questions academics choose to analyse are not. Greater diversity will lead to a greater diversity in the topics being examined. For instance, male and female economists differ significantly in their approach to the fields of health, labour markets, taxation, environment, government spending on welfare or military.⁴

Third, blaming the leaky pipeline on women’s personal choices such as having a family is a simplistic view that ignores the various factors outside a person’s control but influence measures of productivity or “merit”.

Women are more likely than men to volunteer or be assigned teaching, outreach, mentoring, and un-promotable administrative duties at the cost of research time.⁵

Women find it harder than men to find co-authors to write academic papers.⁶

Female solo-authored papers are held to higher standards than those written by men, delaying publication by as much as six months, and resulting in fewer successful publications.⁷

Women’s and other minorities’ work is often undervalued: co-authorship for a man has the same impact on tenure as writing a paper a solo, but not for a woman.⁸

A study of postdoctoral fellowships awarded by the Medical Research Council of Sweden found that women candidates needed substantially more publications to achieve the same rating as men, unless they personally knew someone on the selection panel.⁹

A study of over 300 recommendation letters for medical faculty hired by a large American medical school found that letters for female applicants differed systematically from those for males. Letters written for women were shorter, provided “minimal assurance” rather than solid recommendations, raised more doubts, and included fewer superlative adjectives.¹⁰

Even student evaluations also suffer from unconscious bias. Students rate online teachers more highly when



Associate Professor Duygu Yengin

they use male names than female names, regardless of the actual gender.¹¹

When asked to assess the contribution of skill versus luck to successful performance of a task, evaluators more frequently attributed success to skill for males and to luck for females, even though males and females performed the task identically.¹²

All these factors, on their own may seem small. But cumulatively they create real barriers for women (and minorities in general) to advance in their academic careers. Such factors also disguise true merit.

There are many institutional solutions that can help overcome the barriers women and minorities face in academia, ranging from truly family-friendly work conditions to mentorship and development opportunities etc. However, the biggest and main barrier lies in each of us, in our minds! It is

the unconscious bias that leads us to give lower importance to achievements if the achiever is a woman or from a minority.

We need to face the fact that no one is immune to unconscious bias. Actually, even people who have egalitarian values act in discriminatory ways.¹³ Once a person is very confident that their decision is objective, they do not critically examine any potential unconscious bias that may have influenced their decision. This confidence in their own decision making ability leads to biased decisions.

Hence, each of us can actively work to support diversity and inclusion if we always question our judgments to check whether unintentional bias may have an effect. One way to do so is to perform a thought experiment: ask yourself if your opinions or conclusions would change if the person was of a different race, sex, or religion, etc.

References

1. *Selected Higher Education Statistics – 2019 Staff data*. Department of Education, Skills and Employment. <https://www.education.gov.au/selected-higher-education-statistics-2019-staff-data>
2. Umbach, Paul. (2006). The Contribution of Faculty of Color to Undergraduate Education. *Research in Higher Education*, 47(3), 317-345.
3. *Diversity and Inclusion Revolution* (2018). https://www2.deloitte.com/content/dam/insights/us/articles/4209_Diversity-and-inclusion-revolution/DL_Diversity-and-inclusion-revolution.pdf
4. Ann Mari May & Mary G. Mcgarvey & Robert Whaples, 2014. "Are Disagreements Among Male And Female Economists Marginal At Best?: A Survey Of Aea Members And Their Views On Economics And Economic Policy," *Contemporary Economic Policy, Western Economic Association International*, vol. 32(1), pages 111–132, January.
5. Babcock, Linda, Recalde, Maria P., Vesterlund, Lise, and Weingart, Laurie (2017). Gender Differences in Accepting and Receiving Requests for Tasks with Low Promotability. *American Economic Review*, 107 (3),714–47.
6. Boschini, A., & Sjögren, A. (2007). Is Team Formation Gender Neutral? Evidence from Coauthorship Patterns. *Journal of Labor Economics*, 25(2), 325-365. doi:10.1086/510764
7. Hegel E. (2020) Publishing while female *Are women held to higher standards? Evidence from peer review*. Retrieved from http://www.erinhengel.com/research/publishing_female.pdf
8. Sarsons, Heather. (2017). Recognition for Group Work: Gender Differences in Academia. *American Economic Review*. 107. 141-145. 10.1257/aer.p20171126.
9. Wenneras C, Wold A. Nepotism and sexism in peer-review. *Nature* 1997; 387.
10. Trix F, Psenka C. (2003) Exploring the Color of Glass: Letters of Recommendation for Female and Male Medical Faculty. *Discourse & Society*. 4(2):191–220. doi:10.1177/0957926503014002277
11. MacNell, L., Driscoll, A., & Hunt, A.N. What's in a Name: Exposing Gender Bias in Student Ratings of Teaching. *Innov High Educ* 40, 291–303 (2015). <https://doi.org/10.1007/s10755-014-9313-4>
12. Deaux, K., & Emmswiler, T. (1974). Explanations of successful performance on sex-linked tasks: What is skill for the male is luck for the female. *Journal of Personality and Social Psychology*, 29(1), 80–85. <https://doi.org/10.1037/h0035733>
13. Dovidio, J. F., Kawakami, K., & Gaertner, S. L. (2000). Reducing contemporary prejudice: Combating explicit and implicit bias at the individual and intergroup level. In S. Oskamp (Ed.), "The Claremont Symposium on Applied Social Psychology" *Reducing prejudice and discrimination* (p. 137–163). Lawrence Erlbaum Associates Publishers.

Are we really the clever country? Creating a culturally supportive workplace where everyone can innovate

Associate Professor Misty Jenkins

When we look back at some of the greatest scientific discoveries, they have often come from large and diverse teams with a mix of expertise and backgrounds. I work in the field of Immunology where the fundamental questions are complex and require a multifaceted approach, working with biologists, computational programmers, geneticists, engineers and clinicians. Without this diversity of expertise, from understanding the basic building blocks and the fundamental science, through to the clinical

application, there would be no new drugs and treatments to take into the clinic. The continuum of working from the bedside to the bench (and then back to the bedside) relies on large collaborative teams of people approaching key scientific questions that span the spectrum of understanding from a public health and patient experience point of view through to understanding detailed biological mechanisms of action of a particular drug. So, if diversity in expertise is essential for scientific discovery, why is diversity in the backgrounds of our medical research workforce so often overlooked?

It has long been established that diversity drives innovation. In fact, a "strengths-based approach" to diversity is essential if we want to create a truly engaging workforce. Individuals bring specific skills and strengths and resilience that is influenced by their backgrounds and no two people are alike. There are tangible benefits to increasing diversity and, equally, alarming examples of how a lack of ethnic and gender diversity in researchers cause inequitable research outcomes. As a much cited, recent example, women are 47% more likely to be seriously injured in a car crash, because adult car



Associate Professor Misty Jenkins

crash dummies are traditionally male. Even more strikingly, the artificial intelligence used in driverless cars are currently less able to recognise dark-skinned pedestrians, surely one of the most marked examples of racism within advancing technology.¹ Highlighting examples of sexism in medical research is a long list, and includes many recent examples of poorly designed clinical trials that specifically exclude women as hormones can confound results, a design approach that arguably would have been avoided from inclusion of diverse research teams in the first instance.

It has been demonstrated that demographic groups that are traditionally underrepresented in science often contribute ideas and concepts that have previously been overlooked or ignored.² In a fascinating study published last year, the diversity-innovation paradox was found to be alive and well in the sciences — underrepresented groups produce higher rates of novelty, but their contributions are devalued and discounted,³ partly explaining the lack of promotion of minority groups.

So, there is an inherent problem in our sector. A distinct lack of diversity in our homogenous workforce, including gender, ethnicity, nationality, sexuality and minority cultural backgrounds, is preventing us from taking the next step and having a competitive edge. There have been long held barriers for women to flourish into leadership positions, including stereotyping and undervaluing women, bias in decision making and recruitment, as well as significant career penalties for part-time work. The consequence of career disruption has typically been dire and contributes to the high levels of attrition of women from medical research careers. Women of colour are subjected to particularly high levels of harassment bias and other institutional bias that further impacts their continued participation in STEM. The cost of failing to address this bias

is high. In the past decade, our medical research institutes and Universities have made great strides in prioritizing promotion of diversity and equality in the sector, with the implementation of the Athena SWAN charter, establishment of the Science in Australia gender equity (SAGE) initiative in 2015, foundation of the Male Champions of Change (MCC) by then Sex Discrimination Commissioner Elizabeth Broderick in 2010 AND the appointment of Australia's first Women in STEM ambassador Professor Lisa Harvey-Smith... but we have a long way to go.

The economic impact of these lessons has been well documented in the private sector, with gender diverse companies 15% more likely to outperform their competitors and with ethnically diverse companies 30% more likely to have financial returns above industry medians.⁴ So, there is clear and striking evidence that when organisations commit to a diverse leadership, it drives success. And what does the research tell us about the medical research workforce? Well, only 12% of academics at the Professorial level are women and in 2018 fewer than one in three applications for NHMRC project grants were led by women.^{5,6} And let's not even mention the 16% gender pay gap!

But of course, increasing diversity isn't just about gender.

This year, we have seen the link of the Black lives matter movement and a pandemic that disproportionately kills black and brown people,⁷ further highlighting the need to end systemic racism. Surely in STEM we should be leading the way in decolonizing our sector and structurally changing our workplaces to allow the prioritization of recruiting, supporting, and championing more diversity. For Indigenous people, 'translation' of ideas into health benefit is in our DNA and the community is always at the heart of what we do. The enhanced benefits of scientific

competence across two-ways of knowing and by increasing diversity in STEM will only benefit all. Yet, we still have a dearth of Indigenous scientists working in medical research. Increasing participation of Indigenous scientists will result in better health outcomes for Indigenous people. The realization of importance of Indigenous capacity building is well established in public health but seems absent in fundamental scientific research. This is more important than ever, as we are having sophisticated national conversations about Indigenous data sovereignty and 'closing the gap'. Despite the large gap in disease burden, Indigenous patients are not proportionately represented in clinical trials and underrepresented on transplant waiting lists — a fact largely due to inherent institutional racism and bias. This must change. The gap in discriminatory clinical practices is only improved by drawing on Indigenous knowledge and ways of working and enhancing Indigenous participation in the medical research and clinical workforce. Only then can we bring a unique strength, resilience, and different ways of thinking to our workplaces.

It's impossible to write about intersectionality without addressing the deeply confounding current experience of the COVID-19 global pandemic that has dramatically changed the way we live and work.

In fact, the COVID-19 crisis has disproportionately negatively impacted women and has been called the 'pink recession'. Particularly for those of us in hard lockdown in Melbourne, who are subject to stay-at-home orders and have been homeschooling our children for the past six months, this year has been even more challenging. Recent alarming evidence, which is estimating the COVID pandemic will result in even greater disadvantages for women in STEM, was recently highlighted in the Rapid Research Information Forum report, commissioned by the Australian government.⁸ Male academics are

FOUR times more likely to have a partner engaged in full time domestic care, compared to their female colleagues,⁸ so it's no surprise that female scholars are overwhelmingly bearing more of the domestic responsibilities during COVID-19. The recent data analysis on the gender gap during COVID-19 is quite shocking. Journal editors have reported a rapid decline in the numbers of publication submissions with female lead authors since the beginning of the pandemic and male authors submitting to preprint repositories such as arXiv and bioRxiv has increased at an accelerated rate.⁹ Women are also starting fewer new research projects.¹⁰ It should be noted that the pandemic has also affected junior scientists with many science students unable to participate in laboratory work due to the requirements for social distancing, sadly making it almost impossible to train young and enthusiastic trainees. So, the intersectionality gaps are widening and COVID-19 has only exacerbated the gender equity gap in medical research and will have long-term consequences.

Despite many of our organisations implementing gender neutral work from home policies, and embracing flexible ways of working, it has taken

a global pandemic to truly start to see the cultural change to embrace flexible ways of working. In the past, scientists wanting to work more flexibly have been harshly penalised for it when a part-time role in medical research didn't fit the stringent goal posts for how we measure success. The pandemic has also given men the opportunity to work more flexibly, which has been embraced. Let's hope this continues beyond the pandemic as we return to our COVID-normal lives as there are some real gains to be made and lessons to be learned about how we work to build strong, inclusive and innovative medical research workplaces. Let's use this crisis to shift the dial towards creating a more even playing field, in our homes and our workplaces. We have been taking tiny steps. Now is the time to leap.

The work we need to do to enhance diversity and inclusion in our workplaces is not discretionary and should not be put on hold because there is a global pandemic. Now is the best time for us to lean in. To truly capitalise on our clever country we need to recruit scientists with diverse backgrounds and enact careful policies and structures in our organisations, with dedicated leadership, to create a culturally supportive workplace where everyone can innovate.

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References

1. B. Wilson JHaJM. (2019) arXiv:190211097v1.
2. Nielsen MW, et al. *Proc Natl Acad Sci U S A*. 114(8):1740–1742.
3. Hofstra B, et al *Proc Natl Acad Sci U S A*. 117(17):9284–9291.
4. McKinsey Analysis. VH, D. Layton and S. Prince. (2015).
5. Australia's Chief Scientist AFCatRRIF. (2020). Rapid Research Information Forum.
6. monitor. AGNdsftSe. (2018) <https://www.education.gov.au/selected-higher-education-statistics-2018-staff-data>. Department of Industry, Science, Energy and Resources.
7. Bibbins-Domingo K. (2020) Pandemic. *Ann Intern Med*. 173(3):233–234.
8. L. Schiebinger ADH, S. K. Gilmartin. (2008) *Dual-Career Academic Couples, What Universities need to know*. Michelle Clayman Institute for Gender Research, Stanford University.
9. Kitchener C. (2020). *The Lily*.
10. Viglione G. (2020). *Nature*. 581(28 May):365–366.

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