



Aiming to gain insight into the experiences of people working in STEM and the actions that are being taken to address gender equality, the Tapping All Our Talents Review would welcome responses from any interested individual or organisation to the questions below.

Questions

Section 1: In brief

Q1 Do you believe progress has been made towards achieving gender equality in the STEM workplace in Scotland since 2012?

Yes.

Q2 If yes, what action(s) do you believe have had the greatest impact on improving gender equality in STEM in Scotland? (List maximum of 3).

- i. Improved role modelling and outreach through schemes like STEM Ambassadors, Girls Who Code, Athena SWAN, and Glasgow Science Festival.
- ii. Increased focus on the issues of gender equality in STEM, including the gender pay gap, linked to legislative drivers and requirements.
- iii. Increased support for women returning to work following maternity leave (e.g. The Academic Returners Research Support Scheme within the University of Glasgow).

Q3 Where you do not believe progress has been made, or could be improved upon, what do you believe have been the key limiting factors? (List maximum of 3).

i. Lack of implementation of enhanced Shared Parental Leave payments and schemes has prohibited the uptake of parental leave that can truly be shared flexibly between partners.

ii. More should be done to encourage and support the use of counter-stereotypical approaches amongst parents and other key influencers (e.g. teachers, careers advisers) to have an impact on early years and primary school-aged children's self-identity, career aspirations and subject choices. A more joined-up approach to this is envisaged between FE and HE sectors, Early Years, Primary and Secondary education etc. within the Scottish Funding Council's Gender Action Plan but more could be done by the Scottish Government to structure a cohesive approach.

iii. We need to retain a focus on ensuring and supporting genuine culture change and encouraging more use of part-time and job sharing, particularly among academics.

Q4 Which of the recommendations made in the 2012 Tapping All Our Talents report do you believe should be prioritised going forward? (List maximum of 3).

91 Childcare: The Scottish Government should ensure the availability of affordable high quality childcare both for pre-school children, to encourage and allow parents to return to work after the birth of their children, and for school-age children, to allow parents to balance work and parenting.

103 Part-time Employment: Organisations should introduce quality part-time employment for men and women at all levels. There should be a greater presumption in favour of creating part-time posts and more flexible working arrangements.

120 Ensuring future progression of career researchers: As part of promotion and development reviews, individual staff should be obliged to report on the training, advice and opportunities for career progression they have provided to postgraduate research students and staff under their personal line management.

Q5 What further recommendations (if any) would you make to policy-makers, educators or employers to tackle gender inequality in STEM in Scotland? (List maximum of 3).

i. Employers:

Do not solely focus on earlier career staff who may take maternity leave now or who have done in the last couple of years. Undertake to review the career trajectories and impact of past maternity on current positions and future plans. Support should be provided for those who took periods of maternity leave when the awareness of gender equality initiatives and impact of parenting responsibilities was low and where there were no returners' schemes, support or general recognition in place.

ii. Employers:

Adopt a more creative and innovative approach to job design to create more job-share opportunities for senior roles.

iii. Educators:

Ensure all early career educators are trained in unconscious bias and the damaging effects of reinforcing gender stereotypes with young children and from birth. They should be equipped with skills in addressing language, behaviours and attitudes that can promulgate stereotypical gendered norms.

Section 2: In detail

Women in STEM in Scotland 2018

Q6 What lessons do you believe have been learned from initiatives undertaken since 2012 to tackle gender inequality in the STEM workforce across the public, academic and/or industry sectors? Examples of good practice would be useful.

Within the University, lessons that have been learned and examples of good practice undertaken to address these include¹:

Lesson Learned:	Good Practice:
<p>Greater understanding of the impact of maternity leave upon resumption of research upon return to work.</p>	<p>Introduction of Academic Returners' Research Support Scheme:</p> <p>The scheme is designed to help those who have taken an extended period of maternity, adoption or shared parental leave to resume a high level of impactful research activity more quickly than they would if they returned to a full teaching load after such a period of absence from their research and their field of study.</p> <p>Since its launch, the scheme has funded in excess of £200k to more than 25 individuals. The aim of this funding is, primarily, to support female academics returning from maternity leave, however partners are eligible if they have been on extended Shared Parental Leave of 4 months or more.</p> <p>Amongst other things, applicants have used the funds to support: teaching buy-out and/or research assistance to provide time for intense research activities; the completion of a publications; scaling up of project bids; travel to work with potential co-PIs and support international collaboration; dissemination of work and chairing of panels at international conferences; maximising outputs from large-scale grant-funded projects (which would have lost momentum during the period of maternity leave).</p>

¹ Other examples of good practice across the HE sector can be found at: [ECU Resource Bank Link](#)

Lesson Learned:	Good Practice:
Career breaks and the effects on CV and output.	Introduction of mechanism within the academic promotion application where exceptional circumstances can be outlined so that these can be taken into account during the evaluation of promotion case.
Support for Leadership Development	<p>Commit to providing leadership training for all staff, ensuring that women are equitably represented.</p> <p>The University has supported 62 women over the last 4 years to attend the Aurora Leadership Programme, organised and delivered by the Leadership Foundation in Higher Education (now part of Advance HE).</p>
The importance of ensuring equitable career development support.	<p>The University introduced the Early Career Development Programme in 2015/16.</p> <p>The Programme provides learning and development opportunities in all aspects of the academic role; allocating a mentor to provide support and advice; and setting annual objectives which enable academics to develop their abilities and achievements with a view to meeting the criteria for promotion to Grade 9 within a defined timescale.</p> <p>This approach ensures equitable support to all participants. Early analysis shows equal promotion and progression rates between men and women.</p>

Q7 In 2018's economic, political and social context, what do you consider to be the key influencers (positive and negative) on gender equality in STEM in Scotland?

- In the current context, growing recognition of Gender Based Violence (GBV), a crisis in masculinity and the holistic approach required to address these issues that connects to all aspects of gender equality serves as a positive influencer with capacity to drive change that will impact gender equality in STEM in Scotland.
- The competitive funding environment for research and teaching in Scotland creates both opportunities and risks to gender equality. The focus on targets and plans in e.g. SFC GAP creates extremely important conversations and drivers but the increasing need for year-on-year impact creates an environment that could give rise to a box-ticking approach to equality across the sector.
- Brexit has the potential to have a hugely detrimental impact on diversity in STEM in Scotland, including gender diversity.



Q8 To what extent do you believe that the issue of gender inequality in STEM is being recognised as a priority and to what extent do you believe that rhetoric is being met with action?

There is a clear commitment to address the issue of gender inequality in STEM. Work to address it often tackles the main outcomes and takes a reparative approach. Radical actions to address the root causes of gender inequality in STEM and the structures and processes that perpetuate it is significantly more difficult and requires a joined-up approach. At the University of Glasgow we are beginning to engage in such an approach through our Gender Action Plan. We are mindful that the drive to meet externally set targets must not be prioritised over the longer-term and embedded work that is needed to create real and lasting change.

Education

Q9 What do you believe should be done to encourage more girls and young women to engage with STEM subjects in early years, primary and secondary education?

We outline work to address this in our [Gender Action Plan](#). This was informed by the HEA Scotland report, *Whose Job is it Anyway?*, and related literature.

Q10 What innovative or impactful practice do you know of or believe should be taking place in universities and colleges to tackle issues of gender disparities in STEM subjects? What do you think can be done to embed STEM gender equality thinking across universities and colleges?

We outline work to address this in our [Gender Action Plan](#).

Engagement with Athena SWAN Charter is an important tool in embedding gender equality thinking across Universities. However, the imposition of a level of required success (e.g. to all achieve Silver) can create the conditions for which the focus becomes about attaining a certain level of accreditation quickly as opposed to working on a sustainable culture change project.

Cultural Change

Q11 In what ways do you believe industry can lead by example to tackle inequality within workplace culture?

Industry has the opportunity to drive forward innovative workplace practices and standards. The use of new technologies to enable truly flexible working and collaboration could be used to address some of the barriers to women in STEM.

VISnet: Proposed research at the University of Glasgow (EPSRC Inclusion Matters bid currently under review by funder) aims to train and support women in the advanced use of virtual and augmented reality technologies to facilitate *in situ* international networking and collaborations to reduce gender differences in academia. This could greatly enhance the career development prospects for academic women who provide the majority of childcare and eldercare that can often serve as a barrier to international travel.

The wide networks of potential mentors and sponsors could be harnessed and used in conjunction with existing returner schemes for women who had previously left STEM, e.g. that of Equate Scotland – this could be supported more broadly.

Q12 What do you believe are the most effective ways to challenge and change deep-rooted attitudes and institutional culture in order to improve gender equality in STEM?

Better education about, and awareness raising of, the issues contributing to gender inequality in STEM. Engagement with the literature on the multifarious factors that contribute to a gendered discourse in organisational cultures and an assessment of the ways that these manifest within organisations will enable more effective actions to address it.

There is often a conflation between positive action and positive discrimination. Misunderstandings about that rationale or motivations for the introduction of specific gender equality initiatives can lead to alienation and a ‘backlash’ effect.

Employees and stakeholders need to understand the issues, how they apply in the distinct organisation and why actions are to be taken to address them in order to support their implementation towards true culture change.

Additionally, a strong stance on the lack of tolerance for inappropriate language or behaviours should be clearly communicated in organisational culture and values.

Q13 How do you suggest culture change can be measured in a meaningful way?

Through the University’s experience of engaging with Athena SWAN Charter, we have found that culture surveys can be useful in measuring attitudinal change and perceptions of the working environment. Baseline data and comparators about the recruitment, development and retention of women in STEM may also point towards better workplace culture, where improvements can be evidenced.