

- . **Do you believe progress has been made towards achieving gender equality in the STEM workplace in Scotland since 2012? (Yes/no).**

This question is difficult to answer in a yes/no manner. In the University sector progress has been made on raising the profile of gender equality across all levels – undergraduates, postgraduates and staff. Coupled with that there has been some progress to equality in certain aspects. Since 2012 the proportion of female academics in STEM, at non-professorial level, at the University of Edinburgh has seen a small increase, from 43% to 44%, with an increase in female professors from 17% to 20%. This progress is slow. Women are still underrepresented in senior posts, with little progress on this.

- . **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).**

- . **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).**

The increase in the proportion of female staff has been very slow, just 1% in non-professorial academic posts and 3% in the professoriate. We should be concerned about this given the efforts that are being made. In particular we should be concerned about the representation gap of females in senior management roles. This requires urgent, structural attention. We should focus some of our efforts on accelerating the pace at which we increase the numbers of women across the sector and the number of senior women. There are many limiting factors but here are 3:

1. A system of promotion that relies on metrics that are shown to have gender bias (e.g. citations, grant income and, in some cases, student evaluations of teaching) coupled with bias related to periods of leave/part-time working.
2. Precarious short-term contracts have become normalized, resulting in many women (and men), rejecting academic careers.
3. Negative gender stereotyping and bias at all stages – teaching evaluations, recruitment, appraisal and promotion.

- . **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).**

- . Of those from the 2012 list for higher education specifically:
  1. The gender pay gap: This is particularly important for those in Professorial posts.
  2. Redressing the gender balance in senior management
  3. Promotion – including identifying the impact of part-time, parental leave and the bias of metrics used. Specifically exploring how the entire promotion process could be overhauled.

. **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).** <sup>[1]</sup><sub>[SEP]</sub>

- . 1. The Representation on Public Boards Act 2018 is an important piece of legislation. All management boards should aim to follow this. Furthermore Universities should lead and aim to ensure that all management boards, at every level (departments, faculties and college) strive to have a more balanced representation of staff.
- . 2. The funding councils, and universities, must address the bias that exists in funding decisions. Securing funding is a highly competitive process with only approximately 25 - 30% of applications successful (lower again in some disciplines). Many believe that such success rates are meritocratic and reflect objective evaluations of research and ideas. Evidence however exists to suggest that the system suffers from both gender bias and nepotism. This discrimination could contribute to the leaky pipe for women applying, and not securing, fellowships and/or grants and thus leaving both academia and STEM.
- . 3. Greater transparency in decision-making, particularly hiring decisions, but also in funding decisions, committees and the promotion process. Employees should have trust in their employer's actions. Such trust and transparency will create a more inclusive environment.

**Section 2: In detail <sup>[1]</sup><sub>[SEP]</sub> 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.**

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The Athena Swan (AS) Charter is both good practice and a significant stumbling block. The charter has ensured that conversations around gender equality are being had across the University Sector. This is a positive. Athena Swan has helped us to implement lots of good initiatives, for example an end to single sex interview panels, unconscious bias training and increased coaching opportunities. In saying that, there is a danger that Athena Swan is fast becoming a tick box exercise and as a result attention is not being paid to the importance of mainstreaming equality issues (including those beyond, and intersecting with, gender). Any link to funding may see departments simply striving for the AS badge, without a firm commitment to embedding gender equality. Furthermore, it could be argued that many of the initiatives under AS (such as coaching and mentoring) are more of a 'fix the women' approach and less of a 'fix the system' approach. With the glacial change that we are witnessing it is now time to be more radical in our initiatives and turn our attention to the system.

**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?**

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We are witnessing a unique time for gender equality. The #metoo and #timesup movements, alongside recent publication of the gender pay gap, mean that gender equality has become headline news. There appears to be a seismic shift and we need to embrace this in STEM (and beyond)

**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?** [ ]  
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It is clear that gender inequality is being recognised across the university sector. It is however not clear that this is being matched with concrete action. As mentioned above we are seeing actions such as increased mentoring, coaching and leadership training, but we are not seeing structural change. Changing the structures and the systems against which people are assessed, hired and promoted may overturn the inequality that exists at a faster rate than we are currently achieving.

## *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?** <sup>[L]</sup><sub>[SEP]</sub>

The gender gap in young women who enter universities differs by subjects in STEM, it may be unhelpful therefore to talk about STEM generally. For example there are differences in the proportion of female undergraduates in Biosciences and Engineering. Nevertheless, we need to tackle the stereotypes around women in science. This includes training teachers at all levels, not just those currently in, or about to enter, teacher training, but going to schools and training those who have been in their jobs for a period of time. We need to ensure that these teachers understand the consequence of bias when referring to various subjects and jobs. In addition to this we need to be more creative in how we talk about the career opportunities that may arise from science focused degrees. Finally, we also need to consider intersectionality here and explore how we can promote science within all social groups, in all schools, regardless of background or geographical location.

- . **Q10 What innovative or impactful practice do you know of or believe should be taking place <sup>[L]</sup><sub>[SEP]</sub> in universities and colleges to tackle issues of gender disparities in STEM subjects? <sup>[L]</sup><sub>[SEP]</sub> What do you think can be done to embed STEM gender equality thinking across universities and colleges?** <sup>[L]</sup><sub>[SEP]</sub>

We need to address Athena Swan. As mentioned above it is recognized that Athena Swan was implemented with good intentions. It has however become a huge burden for those involved in the process, which can lead to a tick box exercise rather than a process that should truly address and embed gender equality in higher education. Leaving gender equality initiatives to Athena Swan related activities and action plans may be detrimental to our progress.

## *Cultural Change*

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

There is an urgent need to tackle the gender pay gap. The recent reporting

structures have exposed the extent of it, now we need to ensure that action is taken.<sup>[1]</sup><sub>SEP</sub>

. **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?** <sup>[1]</sup><sub>SEP</sub>

. Our organizational culture needs to ensure that we are creating an environment where all staff and students can thrive and reach their full potential. To do this we should make steps towards:

Ensuring that we are changing the balance of power within the University to reflect a more diverse decision making process (using the Representation on Public Boards Act as a template).

Implementing targets that aim to have at least 40% of the professoriate female and action change in promotions and hiring processes to achieve this.

