

Science Foundation Ireland's Gender Strategy 2016-2020: A Critique

*Pat O'Connor¹, Professor Emeritus Sociology and Social Policy, University of Limerick
and Visiting Professor, Geary Institute, UCD*

Introduction

Under *Innovation 2020* (ICSTI, 2020) the Irish government committed to almost doubling the science budget from €2.9 billion to €5 billion over a five-year period. In 2020, public expenditure on research and innovation in Ireland was under a billion euro, with just over a billion by Irish higher educational institutions in 2020 (DFHERIS, 2022a). Science Foundation Ireland (SFI) is the largest competitive funder of research in Science, Technology, Engineering and Maths (STEM) and the most highly funded. Its importance is to increase further given the decision (DFHERIS, 2022a) to combine it with the more modestly funded Irish Research Council (IRC), the largest competitive funder of research in Arts, Humanities and Social Sciences. The merger is depicted as facilitating multi-disciplinary research and increasing the number of female researchers (DFHERIS, 2022a, b).

Gender equality is depicted by the United Nations (UN, 2021) as a fundamental human right. It has often been presented as treating everyone the same so as to ensure that they will have equal resources such as position, power, money, time and cultural value to shape their own lives and the world they live in. However, to create gender equality in societal and institutional structures (such as higher education) which have been effectively created by men for men, it is necessary to challenge taken for granted arrangements and practices and the underlying structure and culture. Hence the importance of a gender strategy.

SFI's (2016) *Gender Strategy 2016-2020* is currently being evaluated. A brief critique of this Strategy is presented here in the context of the future development of a Gender Strategy for the proposed new structure. Such a strategy will require a much wider disciplinary focus and will need to challenge the overweening importance attached to (male staff dominated) STEM areas/disciplines. Since the SFI Gender Strategy (2016-2020) has effectively lapsed for two years, its prioritization can be seen as problematic. The emergence of a new structure offers the possibility of revitalising that strategy: one that is particularly important for women; for the more female dominated Arts, Humanities and Social Sciences, as well as providing a blueprint for international best practice for new national research funding organisations.

Wider context of gender equality policies and strategies

Gender equality has been included in the United Nations 17 Sustainable Development Goals (UN, 2021). *Horizon Europe 2021-2027*, the EU's key funding programme for research and innovation with a budget of €95.5 billion, has reaffirmed and strengthened its commitment to

gender equality by requiring all organisations applying for research funds to have a gender equality plan in place.

Gender equality has been a particular focus of state policy for higher educational institutions (HEIs) in Ireland since 2014 in the wake of the Micheline Sheehy Skeffington's successful case at NUI Galway (Equality Tribunal, 2014)ⁱⁱ. The *HEA National Review of Gender Equality in Higher Education Institutions* (HEA, 2016) recommended linking state funding to the gender profile of senior positions, a recommendation re-iterated by the *Gender Action Plan 2018-2020* (HEA, 2018). HEA (2016) also recommended that research funding agencies require HEIs to attain an Athena SWAN gender equality institutional award to be eligible to apply for research fundingⁱⁱⁱ. Both SFI and the IRC immediately implemented that recommendation. The Senior Leadership initiative, involving the creation of 45 senior academic posts, was introduced to increase the proportion of women in senior leadership positions; with initiatives also around consent and gender-based violence in HEIs (O'Connor and Irvine, 2020).

Description and critique of SFIs Gender Strategy 2016-2020 (2016)

The SFI Gender Strategy identifies three strands as key to tackling gender equality in STEM. Strand 1 aims to increase girls' participation and interest in STEM; Strand 2 focuses on female representation in SFI awards and review panels and Strand 3 on the integration of gender into the content of SFI funded research programmes. These are discussed below.

Strand 1: Gender in Education and Public Engagement

This strand focuses mainly on second level and first year undergraduates and on those attitudes, unconscious biases and stereotypes endorsed by the public which discourage girls from choosing STEM subjects and careers. Across the EU the attractiveness of STEM for girls is increasing with roughly half of doctoral graduates in STEM now being women, as are those in a first academic post (EC, 2019). In Ireland, 41% of doctoral graduates in Science, Mathematics and Computing are women, as are 35% of STEM academics (HEA, 2019). The problems around women's recruitment and promotion to academic positions in STEM in Irish HEIs are recognised in the preamble (SFI, 2016: 3) but subsequently ignored

The Strategy preamble (SFI, 2016: 3) also recognises the issue of unsupportive working environments for women in HEIs. Research shows that these include gendered organisational procedures and criteria (van Den Brink and Benschop, 2012a, b; Nielsen, 2016) as well as micropolitical practices that privilege men (e.g., sponsorship) and/or devalue or marginalise women (e.g., gender-based violence and sexual harassment) which are heightened in male dominated, hierarchical neoliberal contexts such as STEM (O'Connor et al, 2019; 2021; Naezer et al. 2019).

The identified actions in this strand focus mainly on increasing general public awareness. The *Growing up in Ireland* data (Mc Coy et al, 2021a and b) found that even nine-year-old girls who were excellent at maths (as assessed by standardised tests), were less likely than their male counterparts to be perceived as excellent/above average by their own (mainly female) teachers

and mothers. Both rated boys more highly than girls, at all levels of achievement, with disparities being particularly pronounced among high achieving girls. This research underlines the importance of specific interventions targeted at mothers' and female teachers' attitudes to girls' maths' achievement at first level, rather than unfocussed public awareness exercises.

Strand 2: Gender Balance in Research Teams

The proportion of SFIs total annual funding dedicated to creating gender equality is not discussed. It would also be useful to identify the impact of Athena SWAN accreditation.

SFI (Fritch et al., 2019) has focussed on increasing women's applications i.e., a "fix the women" approach, with the main focus in this strand on increasing the proportion of women on SFI funded grants to 30% of all female award holders by 2020 and increasing the number of female reviewers. However, that 30% is an average across a number of programmes which vary considerably in funding; with some evidence up to 2017/18, that women were likely to ask for less funding than men even in the same scheme. Although two SFI Dashboards exist (a Gender Dashboard and a Funding Dashboard), in summary reports the gender profile of the highly funded centre awards are combined with more limited funding for public awareness campaigns.

Identified actions include setting and monitoring targets as regards 40% gender balance in teams and among PIs; designing and implementing policies around maternity/adoptive leave; considering including gender as a ranking criterion at review stage and developing targeted gender initiatives. In the case of gender balance among reviewers, the main focus is on the goal of achieving 40% female representation on both face-to face and remote panels by 2020, with identified actions related to IT improvements and individual unconscious bias training (the latter has been shown to have limited effects: Wynn 2020; O'Connor, 2020).

Strand 3: Integrating gender in research and innovation

This strand focuses on integrating gender into the content of proposals as reflected in the research questions identified and/or the theoretical approaches and methods used. Proposed actions include giving guidance and considering making 'gender in research' training for researchers an eligible programme cost (there is no evidence to suggest that these might be effective). In any case, differentiating between the integration of gender into applications/marketing schemas for centre funding and much more modest individual applications would be useful.

Other issues/omissions from the SFI Gender Strategy, 2016-2020

Building on academic research over a number of years, five thematic areas have been identified in *Horizon Europe 2021-2027* for possible inclusion in gender equality plans (i.e., work-life balance and organisational culture; gender balance in leadership and decision making; gender equality in recruitment and career progression; integration of the gender dimension into research and teaching and measures against gender-based violence including sexual

harassment). Several of these have been omitted from SFIs Gender Strategy, particularly those around organisational culture, gender balance in decision making and gender-based violence. These and other issues are outlined below.

1. The definition of science

A definition of science which focuses on narrowly defined STEM areas makes gender equality much more difficult to achieve than if a broader construction such as ‘wissenschaft’ (i.e., knowledge, learning and scholarship) were used (O’Connor, 2014). The proposed new entity might consider revisiting this definition. In that context it is worth noting that of the eight highly prestigious European Research Council awards won in Ireland in 2021, half were in humanities and social science- areas where women are more likely to be found.

2. The funding models used

There has been a tendency in SFI (and indeed more widely in STEM) to use an entrepreneurial model (Goastellec et al., 2021) involving the allocation of competitive project funding to a Principal Investigator (PI-frequently a permanent academic at full professorial level) to enable him/her to recruit his/her own research team, typically employing them on fixed term contracts: with the PI deciding who will be recruited and at what level (and with no SFI oversight as regards their gender profile). Recruitment by the predominantly male STEM professoriate may be less than transparent: with consequences as regards (gendered) inbreeding and homosociability (OECD, 2021; O’Connor and Fauve Chamoux, 2016). The economic and social dependence, particularly of early career researchers on the PI is extensive in this model and facilitates the existence and obscuring of gender- based violence and harassment (O’Connor et al., 2021; Wellcome, 2020; OECD, 2021).

3. The lack of focus on leadership and its role in perpetuating/transforming culture

Leaders of SFI funded centres and other PIs play a key role in perpetuating or challenging gendered patterns of recruitment and gender-based violence and harassment. Although it is suggested that one of the objectives of the strategy is: ‘to increase the proportion of women leading major STEM research initiatives in Ireland’ (SFI, 2016:4), apart from a glancing reference to 40% targets for PIs, the overwhelmingly male leadership of its centres (where most of its funding is directed) is ignored and quotas not considered. This raises questions about SFIs understanding of the systemic nature of gender inequality, of the importance of leadership and of its commitment to change. There is also no reference to the gender implications of SFI’s two-stage centre assessment processes (involving a potentially gender balanced international peer review, followed by an internal, potentially male dominated executive decision).

4. Absence of a discussion of indicators of research excellence

Although the objectives of the Strategy include increasing excellence in research (SFI, 2016: 4) there is no recognition that the purportedly gender-neutral concept of excellence is problematic, without a clear definition, and that it ignores context (Campbell, 2018; Ferretti et

al., 2018; O'Connor and Barnard, 2021). The use of DORA (Declaration of Research Assessment) does not solve the problem of the standard to be defined as excellent for positions at various levels: a key requirement if 'excellence' is not to be used as a rationalising myth. Furthermore, even where detailed evaluative criteria are available, gendered practices may persist (O'Connor and O'Hagan, 2016); and similar material may be differentially evaluated if it is on a man's rather than a woman's CV (Moss-Racusin et al., 2012).

5. Building on SFIs potential to drive change in HEIs

Progress in tackling the gender profile of senior academic positions in Irish HEIs has been steady but slow: (the proportion of women at full professorial level increasing from 18% in 2012 to 27%: HEA, 2021). Assumptions that this reflects women's maternity leave, caring activities, lack of ambition, etc., are difficult to sustain given variation between HEIs: with the uneven implementation of the HEA (2016) recommendations being noted (HEA, 2020).

There is a passing reference in Strand 2 to SFI leveraging change within HEIs through the format of research funding requirements. SFIs Starting Investigator Research Grant (SIRG) Program incentivized HEIs to nominate excellent female candidates by allowing HEIs to increase the number of candidates that could be submitted from each institution, from the original six to 12, provided no more than six of these were men. This increased the proportion of women applicants (from 23% in 2013 to 47% in 2015) and their success rates (from 27% in 2013 to 50% in 2015). Although the application level was maintained in 2018 (at 48%), the proportion who were successful fell to 41% (Fritch et al. 2019). This flagship program has been suspended since then. The potential of the SFI Professor Program where institutions wishing to nominate candidates must include one woman as well as one man in their expressions of interest also does not seem to have been replicated in other funding programmes.

6. Adopting national and international best practices

Lack of gender equality and diversity in research funding organisations is a global issue (OECD, 2021). Effective initiatives to tackle this are apparent (Husu, 2021). In 2019 gender initiatives in the SFI *Frontiers for the Future Programme* showed the impact of gender proofing procedures and processes with 45% of women funded, compared to 21% in previous equivalent calls. Under the SFI-IRC Pathway Programme launched in 2021, 16 awards were made in STEM and eight in AHSS, with half in both areas to go to women.

However, the IRCs "gender blinding" or anonymizing of funding applications and references (2014) which increased women's success rate in STEM post-doctoral awards from 35% in 2013 to 57% in 2017 (IRC, 2020) seems to have been ignored, with SFI introducing "gender blind discussion" of applications by panel members. Accepting individual postdoctoral applications; including a facilitator on boards and giving an unranked list of candidates to the funders increased the offers made to women five-fold (Yen, 2020). Shared leadership was associated with greater diversity as regards gender, discipline and location in research teams (O'Connor and Fauve-Chamoux 2016). Including an observer on funding allocation panels also highlighted the processes through which discrimination was perpetuated (Ahlqvist et al., 2013). These and other examples might well be identified and emulated.

Conclusion

SFI's Gender Strategy 2016-2020 has been described and critiqued in this piece. The strategy was written in 2016 and thus has not benefitted from recent research in the area. However, the fact that it has not been updated (and that gender equality is less than prominent on the website) does suggest a certain lack of prioritisation. Key issues to be tackled in a future strategy for the new combined SFI-IRC structure includes a strategic focus on wissenschaft rather than on narrow areas of 'hard' science; a re-evaluation of the appropriateness of the entrepreneurial funding model; a much greater focus on the male dominated leadership of SFI funded centres; a contextual definition of levels of excellence; as well as building on its potential to drive change in Irish higher educational institutions and greater use of national and international best practices. Highlighting such issues and omissions will, it is hoped, be helpful in contributing to the Gender Strategy for the new SFI-IRC structure in 2023: one which has the potential not only to shape research funding but to drive change in the gender equality agenda in Irish higher educational institutions.

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ⁱ Email: pat.oconnor@ul.ie

ⁱⁱ Micheline Sheehy Skeffington took a gender inequality promotion case in 2009 against the National University of Ireland Galway (NUIG) her employer for 34 years. The Equality Tribunal (2014) found that in the promotion competition to senior lecturer, the university had discriminated against her because of her gender (describing the promotion process as ‘ramshackle’). It ordered the university to promote her to senior lecturer from 2009, to pay her the salary difference as well as a tax-free lump sum of €70,000. She gave that money to the other five women who had been shortlisted but not promoted in that competition to help them to fight their cases. The dispute involving four of these five women went to the High Court but was eventually settled by NUIG in 2018 with their promotion and an undisclosed financial settlement. The fifth woman had earlier received promotion and compensation through the Labour Court.

ⁱⁱⁱ The Athena SWAN charter is a gender equality framework developed to foster gender equality in higher educational institutions in the UK and launched in Ireland in 2015. Initially focused on the position of women in Science, Technology, Engineering and Maths, it now includes evidence based gender equality work across all disciplines/areas. <https://www.advance-he.ac.uk/equality-charters/international-charters/athena-swan-ireland>