JCOM

THE NEED FOR FEMINIST APPROACHES TO SCIENCE COMMUNICATION

What role can Athena SWAN play in gender equality and science communication?

Clare Wilkinson

Abstract

This essay discusses how gender-focused culture change initiatives developed for science (like Athena SWAN) might offer models for science communication. Such initiatives can seek to mobilise change amongst university departments and practices, but there are also potential pitfalls in such approaches. Using experiences in a department at UWE Bristol as a basis, the article will consider whether such schemes in science offer potential for science communication to reflect on its own gender imbalances.

Keywords Science and policy-making; Science communication: theory and models; Women in science

DOI https://doi.org/10.22323/2.18040306

Submitted: 23rd August 2019
Accepted: 30th August 2019
Published: 30th September 2019

What is Athena SWAN?

Science communication whilst related to many scientific disciplines is often institutionally separate from it. Originating from a blurred range of disciplines including the social sciences, STS, and education, as well as the sciences, science communication often shares commonalities with scientific fields, but there are also differences, including the anecdotal observation that many working in science communication are women. Are there then lessons to be learned from efforts in science, to address gender equality, that are useful for science communication?

The Athena SWAN Charter is a framework developed by Advance HE, a United Kingdom-based not-for-profit that supports strategic change and continuous improvement in higher education. The Charter provides recognition to U.K. universities and individual departments for work they are carrying out to advance gender equality, in terms of representation, progression and success for all. At the basis of the charter are ten principles that institutions commit to and seek to progress. These include amongst other things addressing unequal gender representation, tackling the gender pay gap, tackling issues around short-term

contracts, encouraging active leadership from senior staff and considering the intersection of gender and other identities.

First established in the U.K. in 2005, Athena SWAN grew from work carried out between the Athena Project, a diversity project running between 1999 and 2007, and the Scientific Women's Academic Network (SWAN), to advance the representation of women in science, technology, engineering, medicine and mathematics (STEMM) [Advance HE, 2019a]. In 2005, there were 10 members; by 2019 this had grown to 164, including 815 individual awards provided to universities, research institutes and individual departments or faculties in the U.K. [Advance HE, 2019b]. In May 2015 the charter expanded to also include work in the arts, humanities, social sciences, business and law (AHSSBL), additionally capturing staff in professional and support roles, as well as transgender staff and students, and recognising barriers to progression that affect others beyond women. Athena SWAN mirrors a range of other 'charter marks' which have appeared throughout the U.K. Higher Education landscape, including the Race Equality Charter, Stonewall (LGBT equality) and the Mindful Employer (mental health).

At the heart of Athena SWAN is the aspiration to ignite culture change, as the ninth of its ten principles explicitly states:

> 'We commit to making and mainstreaming sustainable structural and cultural changes to advance gender equality, recognising that initiatives and actions that support individuals alone will not sufficiently advance equality.'
> [Advance HE, 2019a]

What does culture change look like in this setting and what might we take away from such agendas to apply in science communication?

Culture change can mean many different things and there are certainly cultures to change. Data on the gender pay gap in U.K. universities suggests an on average 15% difference between women and men [Pells, 2018]. Female professors make up only one in four professors [Advance HE, 2018a], whilst a recent study suggested that 40% of women in leadership positions in HE reported being put in 'near impossible' leadership situations, where they were not given the authority over the staff they were intended to influence [Arnold et al., 2019]. When you consider intersectionality, there are even more issues to consider: for example of the one in four female professors, 91.6% are white, with only 8.4% identifying as BME ("black and minority ethnic," a phrase commonly used in the U.K.) [Advance HE, 2018a]. Athena SWAN activities can then involve a smouldering pot of issues for any institution, as well as structural and societal inequalities which can be very challenging to tackle, and issues that are rarely solved overnight or by 'quick fixes' alone.

We first became involved in Athena SWAN activities at UWE Bristol in 2012 with a self-assessment team set up in the Department of Applied Sciences, the first department at UWE to apply for an award and we continue to move forward in the process, aspiring for a Silver award in our next application. The department is complex. In the last application, data was included on 18 undergraduate programmes, six postgraduate taught programmes, two doctoral programme routes and numerous foundation level studies. Now we are adding additional

MSci's and apprenticeship models. As the ways in which people access higher education evolves, so too do the ways in which we might need to act and influence. For example, apprenticeship recruitment lies not with UWE alone but also with the associated employers we work with.

Athena SWAN is broader than a focus on students. Staff, departmental culture, research income and decision-making processes are also crucial. This includes reflection on processes not only involving permanent academic staff, but also associate lecturers, technical teams and professional services, making sure the application captures a true reflection of the department at any one time.

What are the benefits of Athena SWAN?

One of the first points to highlight about Athena SWAN, and alluded to above, is that it involves the compilation of a huge range of data. This includes data on students; application processes, attainment, and student destination after graduating; data on staff, including progression and promotional data, uptake of training, awareness and use of flexible working, and leave policies, amongst many other things. This range of data is a significant burden to collect, often involving multiple sources across the institution, but importantly it moves away from assumptions as to what the issues with gender equality might be, or even the assumption that there are no problems at all.

Beyond this data, Athena SWAN involves collecting the views and perspectives of staff and students. In our department, that includes surveys of undergraduates, postgraduate research students, and staff, as well as professional and technical teams, and focus groups to gather qualitative insights. In addition to offering a source of data, these efforts raise attention to and make gender equality an implicit part of the department's work. The 2019 staff survey had a 74% response rate, also allowing staff and students to inform priorities in the work. For example, the department introduced survey questions on planning for the end of your career, based on feedback from staff that this was an important period in peoples' working lives that is often neglected.

Collegiality is also important and each Athena SWAN application and award is supported by a self-assessment team, including staff working at a range of grades, in professional, technical and academic roles. It also includes student representation, sometimes challenging when discussing topics that reveal the realities of academics' working lives but crucial in insuring student perspectives are captured. The self-assessment team aims to be representative of a range of working and personal contexts, including male representation and support.

The final point to make in terms of benefits relates to the role of actions. Athena SWAN if used effectively is not about inactivity once an award has been achieved; instead each department or institution will have produced a significant action plan, on which they must demonstrate and evidence progress over the coming years. These actions are encouraged to be 'SMART' (specific, measurable, attainable, realistic and timely), with named individuals associated to actions, and identifying the priorities to be tackled with the greatest urgency. A recent study suggested the presence of an Athena SWAN award appears to have a statistically significant impact on issues such as availability of flexible working, opportunities for promotion and collegiate team working amongst departments [Arnold et al., 2019].

Our application and action plan are circulated to the whole department, adding transparency and ownership to actions for the future. Nonetheless, it is a significant piece of work to then track and evidence 'impact' from such activities, especially so when changes can include a multitude of influences and may not be tied back to activities emerging from the self-assessment team or department alone.

The generation of action plans also means that mechanisms around gender equality, which in the past may have been seen as novel, are swiftly becoming part of standard practice, as institutions learn from and draw on the ideas of other departments and institutions. For example, inclusivity or unconscious bias training for interview panels, or the availability of mentoring schemes for female researchers, are now commonplace in many universities. Whilst those particular schemes can be criticised (because they can imply 'the leaky-pipeline model,' maintaining 'an idea that we have to "fix" women rather than the system' [Wade and Zaringhalam, 2019]), their widespread character also leaves space for departments and institutions to consider more radical ways to tackle inequalities, raising expectations as to what is beyond the 'norm'. It is becoming more challenging to have practices standout, and this has the potential to drive forward essential practice across the sector, as well as identify solutions that don't work in practice or unduly focus on women as the 'problem'.

What are the disadvantages?

Athena SWAN is not without its challenges. As Athena SWAN has grown so too has its links to other academic infrastructures. In 2011, the National Institute for Health Research (NIHR) in the U.K. essentially required Athena SWAN for some funding schemes [Advance HE, 2019c]. The charter mark is included in a list of possible evidence institutions and departments may provide to demonstrate to U.K. research councils that they meet its policies on equality, diversity and inclusion. These requirements provide a strategic 'stick' to encourage some institutions to engage with the gender equality agenda, but they also hold the danger that they may diminish the exercise to form a 'tick box' for those who are driven purely with this incentive in mind. Moreover, the requirements mirror a wider neo-liberal accountability and metrics based agenda, which has led some to critique the framework as an example of 'moderate feminism'. This can be pragmatic and have benefits but such drivers can lead to reductionist approaches to gender equality, which neglect the complexity of gender, and intersectionality, and also leads to additional, unpaid, emotional labour for women [Tzanakou and Pearce, 2019, p. 3].

Reflecting its increased popularity amongst universities, Athena SWAN has grown to be something of a 'machine'; echoing the fact that data is required from such a multitude of sources, plus the extent of the application form, there are strong criticisms regarding the workload involved. Advance HE are currently reviewing the processes associated with the charter mark, with the independent review particularly focussing on the administrative burden and award process [Advance HE, 2018b]. Other questions have arisen as to how equitably awards are provided, and there remains only mixed data as to the real change the charter marks propagate [Rosser et al., 2019; Gregory-Smith, 2017].

Data can also be problematic when they are sourced on aspects of university life that can easily be missed, such as committee memberships, student volunteers, or success rates in internal schemes and competitions. Arguably, universities should

have a clearer picture of such work which may often go 'unseen' and contribute to inequalities. However, those data are not always easy to track.

A further common criticism of Athena SWAN then is that the leadership and administration involved in Athena SWAN can be problematic for the very people it seeks to advance, women [Tzanakou and Pearce, 2019]. Self-assessment teams are often heavily led by female staff [Rosser et al., 2019], with universities taking varying approaches as to how that is reflected in their workloads. Athena SWAN can easily become another task adding to female academics' 'housework' [MacFarlane, 2018]. Female staff are often seen to be more burdened than male colleagues with activities such as mentoring, advising students, and attending committees, as well as a disproportionate sense of responsibility to be a 'role model' as they advance in their careers [MacFarlane, 2018]. This leads to arguments that women (and men) involved in leading such gender equality processes deserve better recognition for their efforts, be it time bought out or links to promotional processes [Donald, 2018]. And whilst Athena SWAN has broadened to a wider focus on issues associated to gender, there can still be the perception that it is simply associated to 'women's issues', neglecting the broader benefits it might bring to staff and students of any gender identity.

The sheer scale of the issues involved can then be challenging. As Professor Athene Donald [2018] has highlighted:

> 'If one thing could transform the world for women and men, to bring genuine equality about, then it would already have been done. It is, rather, the need to change so many parts of the system that is the problem: appointment and promotion procedures and criteria; reporting and handling bullying, harassment and worse; child care provision; long hours culture… the list goes on.'

What makes this a particular challenge for many leading such efforts is that they might be based in one department or faculty and sometimes at a relatively junior point in their leadership career [Donald, 2018]. Advancing culture change, which can be tied to governance structures, regulations, HR policies and more, is therefore not without its challenges.

How might such a model be used within science communication?

A point to note before considering whether there is a role for a model like Athena SWAN in science communication: in U.K. departments and institutions in STEMM, the Athena SWAN process can already lead to reflecting on aspects associated to science communication in their work. The application process encourages data and reflection on the culture of a department or university, including for example, the gender balance of staff at open days, and those engaging in 'outreach'. Whilst many in science communication may not label the work they do as 'outreach', such data provides opportunities for academic organisations to reflect on who is involved in science communication, as well as other engagement activities. This may aid the way communication is recognised and valued, but also ensures that staff and students who are reflective of diversity do not become overburdened by such roles.

One valuable aspect of charter mark activities is the opportunity it prompts to reflect on and gather data. Anyone who has been working in the field of science

communication will be 'anecdotally' aware at least of the gender disparities, which appear to be present in many sectors of the field. This ranges from the high numbers of women on science communication masters programmes, to the presence of female employees over a number of parallel sectors, such as science teaching and public relations. Similarly, it is noticeable that as you move through the science communication 'pipeline' to more senior positions, or consider the 'science personalities' who might dominate in the media, more typical gender disparities appear to remerge. There is a need for more research and evidence around such trends to move such suspicions beyond the anecdotal.

Some may argue there are positives to the high numbers of women in science communication, for instance the visibility of female role models. Nonetheless it may also lead to critical questions as to why women seem more attracted to work in this field, creating further question marks over the desirability of working in some other areas of STEMM, and fostering further inequalities, given that careers in science communication can be considerably less well paid, for instance, than some other scientific sectors. It is also the type of role that is frequently built up through voluntary experience and placements, which may raise questions, not only about gender equality, but also equality more widely. And as more science communicators manage to develop their careers as freelancers, there are considerations about the 'casualisation' of labour [Tzanakou and Pearce, 2019], as well as how such science communicators are able to negotiate the challenges of caring responsibilities, career progression and more.

For such gender research to work in science communication it must be properly resourced. Science communicators often work on shoestring budgets, or lack access to funding schemes for research that might be more readily available in other disciplines, with much science communication and public engagement funding restricted to the support of practical projects and events. It would be unrealistic to suggest science communication is therefore likely to support an infrastructure such as Athena SWAN in the near future and nor may it wish to. Rather there might be opportunities to build in additional research through funding or linking up to broader departmental and university initiatives, and to ask important questions regarding the gender balance in science communication using lessons, both negative and positive, from the model as a starting point.

References

Advance HE (2018a). Equality in higher education: statistical report 2018. London, U.K.: Advance HE. URL: https://www.advance-he.ac.uk/sites/default/files/2019-05/2018-06-ECU_HE-stats-report_staff_v5-compressed.pdf (visited on 24th July 2019).

— (2018b). *Review of the Athena SWAN charter*. URL: https://www.ecu.ac.uk/equality-charters/athena-swan/review-of-the-athena-swan-charter/ (visited on 6th August 2019).

— (2019a). *About Advance HE's Athena SWAN charter*. URL: https://www.ecu.ac.uk/equality-charters/athena-swan/about-athena-swan/ (visited on 24th July 2019).

— (2019b). *Athena SWAN members*. URL: https://www.ecu.ac.uk/equality-charters/athena-swan/athena-swan-members/ (visited on 24th July 2019).

— (2019c). *History of Athena SWAN (pre May 2015)*. URL: https://www.ecu.ac.uk/equality-charters/athena-swan/about-athena-swan/history-of-athena-swan/ (visited on 24th July 2019).

Arnold, J., Barnard, S., Bosley, S. and Munir, F. (2019). Onwards and upwards: tracking women's work experience in higher education year 3 report. London, U.K.: Advance HE.

Donald, A. (2018). *Now I understand Proust better (but feel less positive about Athena Swan)*. URL: http://occamstypewriter.org/athenedonald/2018/01/22/now-i-understand-proust-better-but-feel-less-positive-about-athena-swan/ (visited on 31st July 2019).

Gregory-Smith, I. (2017). 'Positive action towards gender equality: evidence from the Athena SWAN charter in U.K. medical schools'. *British Journal of Industrial Relations* 56 (3), pp. 463–483. https://doi.org/10.1111/bjir.12252.

MacFarlane, B. (2018). 'Women professors, pay, promotion and academic housekeeping'. [Blog post]. *WONK HE*. URL: https://wonkhe.com/blogs/women-professors-pay-promotion-and-academic-housekeeping/ (visited on 31st July 2019).

Pells, R. (6th April 2018). 'Gender pay gap: how much less are women paid at your university?' *Times Higher Education*. URL: https://www.timeshighereducation.com/news/gender-pay-gap-how-much-less-are-women-paid-your-university (visited on 7th August 2019).

Rosser, S. V., Barnard, S., Carnes, M. and Munir, F. (2019). 'Athena SWAN and ADVANCE: effectiveness and lessons learned'. *The Lancet* 393 (10171), pp. 604–608. https://doi.org/10.1016/s0140-6736(18)33213-6.

Tzanakou, C. and Pearce, R. (2019). 'Moderate feminism within or against the neoliberal university? The example of Athena SWAN'. *Gender, Work & Organization* 26 (8), pp. 1191–1211. https://doi.org/10.1111/gwao.12336.

Wade, J. and Zaringhalam, M. (6th August 2019). 'Why we need to keep talking about equality in physics'. *Physics World*. URL: https://physicsworld.com/a/why-we-need-to-keep-talking-about-equality-in-physics/ (visited on 9th August 2019).

Author

Clare Wilkinson, is an Associate Professor in Science Communication and Co-Director of the Science Communication Unit (SCU) at UWE, Bristol. The main focus of Clare's research is public engagement, including how different disciplines, researchers and public participants are mobilised to engage. Her work has been published in a wide range of journals including New Media and Society, Science Communication, Journalism Practice, Health, Risk & Society, and Public Understanding of Science. In 2016 Clare co-authored the book Creative Research Communication: Theory and Practice with Emma Weitkamp, and published by Manchester University Press. Clare leads on gender equality in the Department of Applied Sciences, UWE, Bristol. E-mail: clare.wilkinson@uwe.ac.uk.

How to cite

Wilkinson, C. (2019). 'What role can Athena SWAN play in gender equality and science communication?'. *JCOM* 18 (04), C06.
https://doi.org/10.22323/2.18040306.

ISSN 1824-2049. Published by SISSA Medialab. jcom.sissa.it