



International Journal of Gender, Science and Technology

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Editorial

Welcome to the 2nd issue of the International Journal of Gender, Science and Technology. Since the launch of the first issue we have been encouraged by the overwhelmingly positive response to the new journal from a wide range of authors, reviewers and readers, many of whom have now registered as users. Our statistics show that the journal has reached many networks both in and outside of the academic research community, and we've been pleased by the steady stream of submissions from across the globe many of which are now in the pipeline for our next issue.

This issue contains empirical and theoretical papers, perspectives articles and five reviews including our newest addition, a conference review. Our contributions come from a wide range of locations – Australia, India, Canada, the USA, Sweden, Ireland, Spain, as well as the UK. We have tried to maintain a balanced representation of articles that reflects our interdisciplinary vision. Thus there is a mix of practitioner focused pieces as well as more theoretically based papers and the context covers a range of educational settings (schools, undergraduate and post graduate university students) as well as the industrial context.

Laura Hirshfield's paper "*She won't make me feel dumb*" is a qualitative study of physics undergraduates in the USA which focuses particularly on the concept of identity threat. This is used to explain why female students have lower self confidence than male students and why they don't give themselves enough credit for what they know. Hirshfield refers in the paper to the controversial remarks made in 2005 by Lawrence Summers, then President of Harvard University, implying that women are simply not as good as men at science and maths. It is worth reflecting that while there have been significant achievements towards gender equality in SET, the nature of gender differences and their social construction and social justification are still controversial and we hope to see them explored further in this journal. Hirshfield also raises an important issue about 'critical mass', a strategy that has frequently been the motivation behind numerous 'women into' initiatives and campaigns. However the assumption that simply 'adding more women' is the goal has increasingly been challenged, with more emphasis being placed in recent years on challenging the male dominated cultures within SET organisations including educational settings.



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In his paper *Discover!ng Women* Richard Watermeyer presents some theoretical background behind an intervention in Wales to encourage science learning among teenage girls at a critical time in decision making about school course options. Rather than evaluating the project, the paper draws on a number of critical theories to analyse what such a project may be attempting to achieve and why. One of the issues explored is that of role models, something which is picked up in two of our book reviews. Role models are frequently cited as important in supporting the entry and progression of women both in the workplace and in education or career choices. Yet although the theory suggests that this strategy should achieve positive results in terms of increased participation and progression, stories of successful women may in fact be discouraging and their remarkable achievements perceived as untenable and out of reach for the 'ordinary' girl or woman. This seems to be an area worthy of further research

Post-graduate study is a period in which professional identities start to be formed and, as such, is a crucial time for ensuring the retention of women within SET. Tanya Darisi et al's study of the aspirations of Canadian post graduate engineering students *Commitment to graduate studies and careers in Science and Engineering* provides a detailed analysis using both qualitative and quantitative data. Once again we see the recurring theme of the importance of organisational culture on progression and retention. The university culture or 'departmental climate' as well as the role of advisors were crucial in determining self efficacy and confidence which in turn influenced their intentions about completing the program and future career plans.

Helen Peterson's paper *The Gendered Construction of Technical Self-Confidence* is an industry based study of Swedish ICT professionals that explores how women present themselves as technically less than competent in order not to disrupt gender appropriate norms and gain acceptance from male colleagues, which seems to echo Hirshfield's argument about identity threat. SET industries are perhaps some of the most difficult locations in which to affect change, and the study serves to illuminate how male dominated cultures are reproduced, and how organisations perpetuate these despite their stated intention to increase the recruitment of women and support their progression as employees.

This theme is taken up by Lisa Lee, Wendy Faulkner and Carme Almeny in their perspectives piece , *Turning good policy into good practice*, which focuses on one of the biggest challenges that organisations face in bringing about change. Despite the proliferation of equality and diversity policies and initiatives to support work life balance, evidence suggests that behaviours and attitudes within many organisations are still perpetuating gender inequalities. This presents a conundrum for those well intentioned policy makers who have created what they perceive as the right conditions for gender equality to succeed and yet witness the continuing exodus of women

from SET professions and failure to attain higher level management posts. Lee, Faulkner and Almeny base their observations on research work conducted across Europe with engineering and technology companies, and uncover some of the reasons why policies are not easily turned into good practice. Their recommendations will be of importance to human resources managers and senior executives, and offer practical guidance on how to improve the impact of policies in achieving gender equality. As an accessible and practitioner focused piece, we would recommend this as essential reading for those working in this area.

Our perspectives pieces are intended to give the view points of experts who have a particular opinion coming from their own experiences as researchers, campaigners or practitioners in a particular sector. The second of the perspectives articles, written by Léonie Rennie, is a retrospective on the declining focus on gender issues in Australian schools over a period of thirty years, and as such is a valuable contribution from a stalwart campaigner and activist in this area, whose legacy is respected across the world. Taking us through the twists and turns of thirty years of policies and initiatives around girls and science it becomes clear that Australia shares similarities with Europe and North America, yet the particular local context also presents specific and different issues to address such as the educational rights of indigenous people, which would be of interest to those working on wider issues of equality and diversity in education.

This issue's book reviews are focused on the lives and contributions of women in science and technology in a range of countries and historical contexts. As Maureen McNeil points out in her review of *LabCoats and Lace*, 'documenting and celebrating the lives of 'women worthies' (Harding 1986:30) was an important strand of second wave feminism of the 1970s and 80s' (McNeil, this issue, pp.117 -119). This tradition is continued in some respects by each of the books reviewed in this issue, reclaiming inspirational 'herstories' and in doing so challenging the notion that women in SET are a recent phenomenon but also illustrating that local and cultural contexts have a significant role to play in how gender interactions within SET are manifested.

Madhuri Sharma's review of *Women and Science in India* edited by Neelam Kumar presents us with a collection of papers that illustrate the complexities of women's involvement with science in both colonial and post colonial contexts. Of particular concern (that may have resonance for UK readers facing imminent cuts in public spending and higher education), is the observation that 'the increasing privatization and liberalization of education in India, reduced government aid and rising cost has resulted in overall decline in women's enrolment in science' (Sharma, this issue, pp112 - 116). Sharma's conclusion about the need to move away from the male and female binary towards a more intersectional approach has resonance with the wider remit of equality and diversity work that many of us are addressing in our

local contexts.

Labcoats and Lace edited by Mary Mulvihill documents the lives of Irish women scientists and pioneers and makes visible the contributions of these remarkable women in both a national and international context. In her review Maureen McNeil raises some challenging questions about the application and use of these sorts of texts in raising aspirations of young women, echoing some of the discussions about role models in Watermeyer and Stevenson's paper

Women Science and Myth edited by Sue Rosser and reviewed here by Pam Stello, takes a historical overview to challenge the norms of science as male defined and male focused, and thus challenges the very nature of scientific enquiry itself. Once again the contributors draw on biographical sketches to make visible the participation of women in science since antiquity which, Stello asserts 'recover women's participation in scientific practices, dispel myths of inferiority, and inspire women and other underrepresented groups in science to undertake scientific careers' (Stello this issue, pp 120 - 122).

Every Other Thursday by Ellen Daniell offers a fascinating account of a group of women scientists in the USA who have met regularly over a period of 25 years to support and enhance their careers. Liz Sourbut's review includes some examples of the powerful impact of this group (known simply as Group) on some of its participants. Those of us of a certain generation will be immediately taken back to consciousness raising groups that formed such an important part our feminist awakening, but this also has resonance with the many women's networks that have been created within companies and other organisations in recent years, and is a testament to the strength and support that such collaborative ventures can bring about.

The final paper in this issue is a conference review by Jennifer Dyer and Liz Elvidge of a large European conference held in November 2009 in Aachen - *Going Diverse*. This is our first conference review and we hope the first of many. The online nature of the journal makes it possible to have links to papers and resources which creates a particularly rich review, with a personal touch from the reviewers. We hope this will encourage others to think about submitting reviews of conferences they have attended - not everyone has the resources to be able to attend conferences and yet the quality and breadth of materials and ideas exchanged can be enormously useful. We hope our conference reviews will enable non academics to share some of the benefits of the research discussed and the conversations that took place. . If you are planning to attend a conference and are interested in writing a conference review, please do contact us to discuss how to contribute your review for publication.

*Clem Herman, on behalf of the editorial team: Jennifer Carr, Elizabeth Whitelegg, Helen Donelan, Barbara Hodgson and Gill Kirkup.
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