Editorial

We would like to start this editorial with an overwhelming vote of thanks to Jenni Carr, who has now left the journal to work at the UK's Higher Education Academy. Her sterling work as Project Officer, getting the journal up and running and supporting the editorial team and board members as well as authors, reviewers and journal readers over the past three years, has been hugely appreciated by everyone concerned. We wish her all the best.

This issue of GST begins with a focus on the early stages of STEM careers. This is a crucial period when the formation of professional identities takes place that will shape and influence later career opportunities and trajectories. It is also a period when retention (or persistence as our North American colleagues prefer to call it) is of paramount concern. It is a challenge to bring fresh thinking to this issue, with traditional explanations and metaphors such as the leaky pipeline and glass ceiling failing to capture the complexities of the problem. Three of our papers in this issue draw attention to different aspects of this early career phase and the need for a more nuanced approach that takes complexity into account.

Roxanne Hughes' qualitative study in her paper: '_Are the Predictors of Women's Persistence in STEM Painting the Full Picture_?' explores the coping strategies used by women STEM undergraduates that might influence whether they persist in their STEM career choice and suggests a new way of understanding these. Hughes argues that previous explanations have tended to categorise women's responses either as ignoring gender bias or as taking on an androgynous identity. In Hughes' study the coping strategies of women STEM students are more nuanced and varied, and she concludes that we should move away from trying to find a universal explanation and instead recognise the complexity that surrounds the decisions of women who stay or leave.

This theme is also taken up by Kris De Welde and Sandra Laursen using a new metaphor 'the glass obstacle course', one that echoes the glazed ceilings, cliffs and partitions referred to by other authors. In their paper _The Glass Obstacle Course: Informal and Formal Barriers For Women Ph.D. Students in STEM Fields_, the obstacle course reflects their finding that women encounter numerous hurdles and barriers at different and unpredictable times, which pop up unexpectedly and randomly rather like in a video game. Although women in STEM are in principal aware of these issues, they do not know when they might appear and therefore are often surprised and thrown off course when these obstacles are encountered.

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The third paper, by Jennifer Dyer and Sean MacWhinnie reports on the experiences of women as they enter the early phase of insecure contractual employment in academic life, as 'post docs'. *A Survey of Chemistry and Physics Postdoctoral Researchers' Experiences and Career Intentions* draws on the UK context , and looks at the experience of both male and female post docs. Interestingly, there were more differences between the two disciplines than between the genders which highlights again the importance of digging beneath broad generalisations, and examining specific cultural issues. The authors also note that support structures such as appraisal, induction and mentoring were sometimes present but not necessarily common place.

In fact mentoring is increasingly used within both academic and commercial institutions and is an intervention that has the potential to deal effectively with complexity and address individual issues within the particular context of their institutional culture if carried out effectively. Jill Nemiro and colleagues give us an example of one such initiative, in their case study "*Evolution of a Faculty Mentoring Program for STEM Women*" which concludes with some useful recommendations for other organisations that might want to start such a scheme.

It is often asserted that the reason for girls not going into ICT (or the predominance of boys taking up computer science) is the culture of video games that shapes adolescents perceptions and self image. The final of our empirical papers is Ong and Tzuo's study of girls in Singapore which examines the experiences of girls designing their own computer and video games and challenges previous analysis that it is the violence of games that girls don't find attractive. In "*Girls' perceptions of characters' gender roles in digital games: A study in Singapore*" they found that many of the girls enjoyed 'battling' but created new characters and scenarios that disrupted normative gender power relations and stereotypes prevalent in most digital game genres.

Linked to this theme is the review by Juliet Webster of ' *Gender Codes: Why Women are Leaving Computing*' edited by Thomas J. Misa. The book explores the issue of women's exit from computing, and focuses in the first part on the historical development of a gendered culture in computing which led to a dramatic reduction in women from the 1980s onwards. As Webster highlights, an understanding of this cultural shift is crucial to creating and shaping effective interventions that can change the image and the conditions of computing work.

Also taking a historical perspective, '*Space Oddities: Women in Outer Space in Popular Film and Culture 1960-2000* by Marie Lathers', starts with an account of how women were at first considered and then excluded from the US Space programme in the 1960s. The Mercury Thirteen women had outperformed all the men in tests and trials, but none of them were eventually selected for the programme as according to the House of Representatives, there was 'no requirement for female astronaut training'. In her review of the book, Gwyneth Jones drawing on her experience as a science fiction writer, takes us on a fascinating journey through female

space flight chimpanzees, the US sitcom 'I Dream of Jeannie' and astronauts' foundation garments.

Our final book review *'Gender and the Science of difference: cultural politics of contemporary science and medicine'*, edited by Jill Fisher is reviewed by Julie Prescott. The book takes a multi-disciplinary tour of how scientific and medical discourse is infused with gendered assumptions and encompasses a wide range of topics from gay penguins to facial reconstruction surgery.

Finally if you would like to receive updates and news via Twitter please follow us @GST_Journal.

Clem Herman, on behalf of the editorial executive: Jenni Carr, Helen Donelan, Barbara Hodgson, Gill Kirkup, Elizabeth Whitelegg

Our thanks also go to all reviewers in 2011

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