

Selected papers presented at
the [2nd Network Gender &
STEM Conference](#), 3–5 July
2014, in Berlin, Germany

In association with



**NETWORK
GENDER
& STEM**
educational and
occupational pathways
and participation

About the Network Gender and STEM

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There is an urgent need to integrate complementary perspectives that address the question of how pathways into STEM can be facilitated at various points along the course of students' and young adults' educational and occupational development. Additionally, it is important to move beyond results that highlight only single aspects.

The first conference of the Network Gender and STEM in 2012 resulted in a special issue of this journal *International Journal of Gender Science and Technology* ([Vol. 5, No. 3](#)). The collection of papers in this special issue reflects selected presentations given at the second conference of the Network Gender and STEM, entitled "[Gender and STEM: What schools, families, and workplaces can do?](#)" and highlights the roles of schools, families, and workplaces for supporting or constraining girls/women and boys/men in choosing and persisting in STEM, as opposed to other pathways. In their guest Editorial for this special issue, Rebecca Lazarides and Angela Ittel overview the conference highlights, presented Keynotes, and Special Issue contents. An accompanying second part of this special issue will include further papers.

Professor Jacquelynne Eccles (University of California – Irvine), the patron of the Network Gender & STEM, opened the conference with an inspiring speech entitled "Gendered socialization of STEM interests in the family".

KEYWORDS

Gender & STEM Network; Selected conference papers; Special Issue; gender; STEM

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Professors Lynn Liben (Pennsylvania State University), Janet Hyde (University of Wisconsin-Madison), Petra Stanat (Institute for Educational Quality Improvement, Germany) and Sheri Berenbaum (Pennsylvania State University) offered inspiring keynote addresses.

The conferences and special issues are an initiative of the "Network Gender & STEM: Educational and occupational pathways and participation" (www.genderandSTEM.com). Members of the Network share the objectives of:

- (i) gaining more insight into the various connected aspects of career choices and professional careers of girls/women (and boys/men) in the direction of STEM; and
- (ii) detecting new approaches to actually improve the under-representation of girls/women in STEM.

BACKGROUND AND REVIEW

An important report published last year by the World Economic Forum ("[Global Gender Gap 2014](#)") suggests that we may have to wait until 2095 (80 years) to close the gender gap. The report measures the relative gaps between women and men in four key areas: health, education, economy and politics, in 142 countries. The development of talents, where and how many hours we work, and how much we earn still depends significantly on our gender. It is time for action!

From the late 1970s, the under-representation of girls and women in STEM fields in many countries has been considered to be problematic; it has been the subject of much research and various policies and intervention programmes (see OECD, 2006). Fewer girls and women are retained in STEM pathways through high school and university and into STEM career fields. Gender differences in STEM participation and associated factors have continued to preoccupy researchers who are concerned about gender equity. Several researchers, including those represented in this Special Issue, have argued that many girls restrict their possible education and career options by opting out of STEM pathways in high school or soon after, with a considerable impact on their future wellbeing from both an economic and a psychological perspective. In addition, there is a loss of potential STEM talent for societies and nations.

The international Network "[Gender & STEM: Educational and Occupational Pathways and Participation](#)" was formalised in 2010, and since then it has gained more than 80 members (most of them researchers in the field of gender & STEM), set up a website and a dedicated Facebook group (<https://www.facebook.com/groups/GenderandSTEM/>), published regular newsletters and organised two conferences. The first Network conference was held

in Haarlem, the Netherlands, from 5–6 September 2012 (also opened by patron Professor Jacquelynne Eccles), and focused on individual pathways towards (and away from) STEM fields. This conference marked the beginning of a more coherent way of exchanging information. Collectively we tried to find new ways to implement research findings in policy and activities. The conference resulted in a preceding Special Issue of the *International Journal of Gender Science and Technology* ([Vol. 5, No. 3](#)) in 2013 (available at: <http://genderandset.open.ac.uk/index.php/genderandset/issue/view/16>).

OUTLOOK AND FUTURE DIRECTIONS

The Network will hold its third conference on 21–23 July 2016, at the Newcastle University Business School, Science Central, Newcastle upon Tyne, England. The theme of this third Conference is “Promoting girls’ and women’s participation in STEM advancement and innovation: Connecting research with global policy and practice”, and it will be hosted by Professor Pooran Wynarczyk. The 2016 conference is intended to further extend the interdisciplinary collaboration of researchers from diverse fields who share a concern about gender and STEM participation.

At the 2016 conference, the following dimensions will be highlighted, which contribute to the participation and retention of girls and women in the STEM pipeline:

- (i) key factors and good practices within school, university and workplaces;
- (ii) the role of higher education institutes (HEIs), technology transfer officers and commercialisation policies in enhancing women’s participation in the commercialisation of STEM research and the creation of university spin-offs;
- (iii) the role of government, industry, public policy and career development policies;
- (iv) measures of positive action: STEM initiatives, schemes, networks and organisations;
- (v) individual, family, teacher and peer processes.

Complementary perspectives will address how STEM pathways can be facilitated at various points along the course of students’ and young adults’ educational and occupational development. There is great value in interrelating relevant research results in order to obtain a coherent interdisciplinary picture of gender and STEM from childhood until the labour market.

The inclusion and integration of cutting-edge research from diverse disciplines where there is relevant scientific and scholarly expertise, alongside input from STEM professionals, policy-makers and educators, will collectively break new ground and stimulate fresh lines of study on hitherto largely unexplored issues concerning the persistent problem of gender and STEM participation, which will enable us to better understand the current state of knowledge and chart directions for future research. We look forward to ongoing collaboration in our shared endeavour.

REFERENCES

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