

The Hearth Lecture Series

Trendspotting: Why Things Matter

Session: 31st October 2023

The Blind Side of Science: The challenges and journeys of women in academia and scientific inquiry

Writing for [The UN Chronicle](#), Dr Shamila Nair-Bedouelle, Assistant Director-General for Natural Sciences, UNESCO highlights that female researchers have shorter, less well-paid careers, their work is underrepresented in high-profile journals, and they are often passed over for promotion. The article demonstrates that women are typically given smaller research grants than their male colleagues and earn less recognition from their peers by pointing to the fact that only 12 percent of members of national science academies are women. The private sector has not fared better in gender inclusivity as tech start-ups founded by women face challenges in access to finance and women remain underrepresented in leadership and technical positions in big tech.

Trendspotting: Session 2 hosts Prof Anna Philpott, Head of the School of Biological Sciences, University of Cambridge for a first-hand account on these trends. Prof Philpott is joined by panellists who unpack the impacts of these trends in their respective professional practices ranging from academia in India to representing women sportspersons to the practice and research in fertility science. The aim of this discussion will be to lead the audience to identify the impacts of gender gaps in science and why the problem of lack of gender equality in science is indeed everyone's problem.

Interested readers are invited to take the Gender – Science Implicit Association Test (IAT) before the discussion. According to [Project Implicit](#), 'the IAT measures beliefs that people may be unwilling or unable to report'. This will be especially interesting to readers curious to discover an ingrained attitude that they did not know about. For instance, a reader may discover an inherent association in favour of linking men with science more than women with science despite believing that men and women must be equally associated with science.

Excerpts from Recommended Readings

1. Resolution adopted by the General Assembly on 22 December 2015

11 February of each year proclaimed the International Day of Women and Girls in Science. This resolution by the United National General Assembly (UNGA) recalls that full and equal access to and participation in science, technology and innovation for women and girls of all ages is imperative for achieving gender equality and the empowerment of women and girls. UNGA states its realisation that women, representing half of the world's population, continue to be excluded from participating fully in the economy and that gender equality will make a crucial contribution to the progress of the 2030 Agenda for Sustainable Development. Accessible [here](#).

2. Sophia Hoyer, Is the gender gap narrowing in science and engineering? in UNESCO Science Report: Towards 2030, 2nd edn., 2016.

This chapter of the report presents data on global, regional, and national trends such as women in climate change decision making, women as researchers, women in tertiary science education (health, agriculture, engineering, computer science), and the policy issues emerging from deterrents for women in research and academia. South Asia emerges as the region with the lowest shares of women in research. Data indicates that India witnessed a substantial increase in the number of women in engineering. Read the full chapter [here](#).

3. UNESCO Institute for Statistics, Women in Science Factsheet, June 2019

This factsheet presents regional averages for the share of female researchers (for 2016). The term 'researcher' is described as "...professionals engaged in the conception or creation of new knowledge. They conduct research and improve or develop concepts, theories, models, techniques, instrumentation, software or operational methods". As per this data, women account for a minority of the world's researchers (an average of 29.3% for the world and 18.5% for South and West Asia). Accessible [here](#).

4. UNESCO Science Report: The race against time for smarter development, 2021

Women have now largely achieved gender parity at university, although they remain a minority in Industry fields. It is as women embark upon a scientific career that the gender gap widens. Their presence becomes increasingly rarefied as they reach the higher echelons of research governance structures, such as academies of science or science councils. Full report accessible [here](#).

5. Department of Science and Technology, Government of India, Research & Development Statistics at a Glance, March 2023.

As on 1st April 2021, there were 67,441 (18.6%) women out of a total 3.62 lakh R&D personnel directly engaged in R&D activities. Available [here](#). **Note:** Many articles refer to the 2019-2020 report which indicates this number to be 56747 (16.6%). Access the full report [here](#). Also refer to the [answer](#) by the Minister of State (Independent Charge) of The Ministry of Science and Technology & Earth Sciences in Rajya Sabha (Session no. 256, Question no. 4132, Hardwar Dubey).

6. Gita Chadha & Asha Achuthan, Feminist Science Studies: Intersectional Narratives of Persons in Gender-marginal Locations in Science, Vol. 52, Issue No. 17, 29 Apr, 2017 (updated in February 2019), Economic and Political Weekly.

Feminist science studies (FSS) draw upon the philosophy, historiography, and sociology of science. Authors collected autobiographical accounts of women scientists as a tool to understand intersectionality (inter alia caste, class, ethnic, regional, language, location) in the making of marginalities in science. Available [here](#).

7. Namrata Gupta, Women in STEM in India: Understanding Challenges through Social Constructionist Perspective, American Behavioral Scientist 2022, Vol. 0(0) 1–20

This article demonstrates that constraints on participation of women in science occur at the intersection of Indian social, organisational, and institutional contexts. The author argues that the conversion of a doctoral degree to a successful career and the creation of 'merit' itself is a product of cultural and social capital attributed to class, caste, and gender. Available [here](#).

8. Nicola Slawson, 'Women have been woefully neglected': does medical science have a gender problem?', The Guardian, December 2019.

This article reports on the gender health gap resulting from a neglect of research on women. For instance, it is reported that there is five times more research into erectile dysfunction, which affects 19% of men, than into premenstrual syndrome, which affects 90% of women. Article available [here](#).

9. Parsons JL, et al., Anterior Cruciate Ligament Injury: Towards a Gendered Environmental Approach, Br J Sports Med 2021;55:984–990.

This paper concludes that over 20 years of research has failed to decrease the ACL injury rate disparity between girls/women and boys/men. Embedding gender in the study of ACL injury will heighten awareness of possible influences outside the traditional biological elements, challenge us to think about the inextricable 'entanglement' of sex and gender, and inform more effective approaches to ACL injury prevention and treatment. Available [here](#). You might also be interested in: **The Economist, Should women's football have different rules from men's?, August 2023, Sydney.** A study in 2019 at the Norwegian University of Science and Technology, concludes that the women are playing a game that is subtly different and considerably harder than the one being played by the men. Accessible [here](#).

10. The Economist, Making Baby Making Better, July 2023.

This article makes a case that IVF is failing most women. It argues that scientists have an astonishingly poor grasp of how a new life comes about despite reproduction being one of the most basic aspects of human biology. Infertility is often termed as 'women's health' despite insufficient research in all possible influences including the role played by the male factors. Available [here](#).