

News & Events

Discussing Gender Equity in the Indian Astrophysics Community

The Working Group for Gender Equity (WGGE) of the Astronomical Society of India (ASI) was constituted in 2015 with eight members from Astrophysics institutes spread across the country. The ASI itself was constituted in 1972 and comprises more than 1000 professional Indian astronomers. The rationale behind setting up WGGE was the growing realization of the under-representation of women astronomers in permanent faculty positions, even though the representation at the undergraduate and graduate levels was healthy. The gender statistics presented in the detailed report by the Indian Academy of Sciences (IAS) and National Institute of Advanced Studies (NIAS) [1], revealed that ~40% or more of the students in science disciplines were women. A relatively healthy representation was observed even at the Ph.D. level inside Astrophysics institutes and universities where the average fraction was ~35%. However, in sharp contrast, the average fraction of professional women astrophysicists was a mere 10%. Several Astrophysics institutes either had no women on their faculty or only a single one. A formal proposal for the setting up of the WGGE was submitted to the ASI Executive Council in 2014.

We gathered the gender statistics from all major Astrophysics institutes in India and submitted them as a part of our proposal for the constitution of the WGGE. We pointed out that while the under-representation of women astronomers was a global phenomena, and specific reasons likely varied in different parts of the world, “unconscious bias” in the workplace [3,4,5] played an important role in the low representation of women, over and above the local societal factors. The proposed goals of the WGGE were summarized thus: “The working group will collect and analyze data about the representation of women in Indian Astronomy, conduct gender-sensitization talks and workshops, provide mentorship as needed, maintain a webpage with relevant resource material, and contribute towards the creation of an equitable workplace environment for the members of the Indian Astronomical community”. Five years on, the WGGE has indeed met and exceeded these goals. However, as the Indian Astrophysics community has begun to embrace the idea of gender-equity, signs of which were clearly visible in the recent ASI meeting a few months ago, the goals of the WGGE have evolved as well.

By the time of the submission of the proposal, an informal team comprising the first members of the formalized WGGE, had already organized two formal 1-2 hour sessions at the annual ASI meetings in Mohali (2014) and Pune (2015). In these sessions, the team members held several short presentations on “Unconscious Bias”, “Imposter Syndrome”, “Stereotype Threat”, along with a panel discussion on “Improving the Workplace for Gender Equity”. The turnout in

these sessions was large with a good mixture of both genders, as well as the presence of young astronomers including students and postdocs. The lack of statistical studies in India was remarked upon in these sessions by the participants, and a general consensus for the setting of a working group on Gender Equity emerged. The presentations from these sessions are available on the WGGE webpage. The WGGE members have also presented talks on the group’s activities in both national (*Pressing for Progress 2019* conference in Hyderabad) and international conferences (*Lucrezia Cornaro session on gender balance in astrophysics* at the *Revisiting narrow-line Seyfert 1 galaxies and their place in the Universe-2018* Padova, Italy).

After its inception, WGGE members created posters to publicize their activities as well as to highlight women physicists in India and around the world, and these were used to create “Gender corners” at the annual ASI meetings. The meeting participants could interact with WGGE members here, seek advice, or express their interest in volunteering for activities. A 4-page “Gender Questionnaire” was created and circulated among the ASI participants at its meeting in Kashmir in 2016. Apart from surveying the interest and gender awareness of the participants, the questionnaire itself was meant as an exercise in gender-sensitization. The anonymous responses from 66 astronomers (27 women, 39 men) that included students, postdocs, and permanent faculty/staff, were analyzed by WGGE members, and were presented at the WGGE session at ASI Hyderabad in 2018. The responses revealed that it was the women faculty/staff members (ages >35-40 years, who were 20% of the responders) who most seriously felt wide-spread gender-based discrimination in the field. The younger participants (age 20-30 years who were 60% of the responders), both women and men, did not feel any gender-based discrimination in their workplace. While this was heartening at first glance, it suggested that gender discrimination manifested itself at the later stages of faculty hiring and promotion for women.

Members of the WGGE were fortunate to get the opportunity to summarize the working group’s activities to the Executive Committee members, including the President, of the International Astronomical Union (IAU) in 2017, at a meeting held in the Inter-University Centre for Astronomy & Astrophysics (IUCAA), Pune (see picture). WGGE members used this opportunity to gather additional gender statistics from Indian universities with astrophysics departments, in which one or more member(s) of the faculty are the so-called “IUCAA-Associates”. This exercise revealed that the Indian universities seemed to be doing a better job of hiring female faculty members (~20%) compared to research institutes

(~10%). However, the fraction of female Ph.D. students was almost double the fraction of faculty members, even in the universities.

The WGGE also carried out an analysis on possible gender bias in the selection procedure for physics and astronomy Ph.D. admissions to research institutes across India. The study indicated that the multiple-choice written examination resulted in a steep decline in the fraction of female candidates; however, the subsequent interviews did not appear to have a strong effect on this fraction. In contrast, in a selection procedure that did not use multiple-choice questions, the fraction of successful female candidates was consistent with the fraction that applied for the position (for details, see WGGE webpage).

The WGGE further formalized the 1-2 hour sessions at the annual ASI meetings. After such sessions were held during 2017-20, the scope of the presentations and speakers has expanded. Non-astronomy-related experts have been invited to attend as well as speak about the gender-equity-related experiences in their respective fields. The invitees have included science journalists, physicists, mathematicians as well as social scientists. The attendance and response at recent WGGE sessions has greatly improved. At the ASI 2020 meeting, the Chair of the scientific organizing committee (SOC) explicitly noted the SOC's attempt at trying to create gender-balance while choosing all speakers as well as Chairs of scientific sessions, in his opening address to the ASI. The use of "gender" and "gender-balance" at ASI meetings has gone mainstream!

The WGGE has been organizing the "Anna Mani" lecture series on gender-sensitization in Astrophysics institutes in India since 2016. These lectures were named after the pioneering Indian physicist Anna Mani (1918 - 2001), who worked in the lab of C.V. Raman as a Ph.D. student, but who never obtained a Ph.D. degree [5]. In spite of this and other hurdles, Anna Mani forged ahead making significant contributions to spectroscopic studies of materials, solar radiation, ozone and wind energy instrumentation. The list of AM lecturers has included eminent physicists, science journalists, philosophers and social scientists like Rama Govindarajan (scientist at TCIS - TIFR, Hyderabad in 2016), Sumi Krishna (independent scholar and past President of the Indian Association for Women's Studies in 2018), Amrita Banerjee (assistant professor of Philosophy, IIT Mumbai, in 2019), Aashima Dogra & Nandita Jayaraj (science journalists at the Life of Science, in 2020), Rohini Godbole (physicist, IISc, in 2020), and Meera Nanda (writer and historian of science, IISER Pune and Mohali in 2020). The AM lectures have been recorded and are available as resource material on WGGE's webpage [6].

At the 2017 ASI meeting in Jaipur, WGGE members proposed for subsidized on-site childcare facilities. Although initially this meant that WGGE members had to closely coordinate with the local organizing committee, childcare has recently been formalized by ASI. This year the ASI has also allocated an annual budget of Rs. 50,000 for the activities of the WGGE. With the help of our webpage as well as our Facebook page, where articles and news related to gender equity are periodically posted, the existence and the activities of WGGE have gained visibility. The WGGE plans to sustain the progress that has been made and expand the scope of its activities further.

The present WGGE members are R. Banyal, R. Chatterjee, H. Jassal, N. Kanekar, K. Kelkar, P. Kharb (Chair), K. Misra, P. Shastri.



WGGE members, Preeti Kharb and Sushan Konar, with members of the IAU Executive Committee, Silvia Torres-Peimbert (President 2017) and Ewine van Dishoeck, (current President) in 2017.

References:

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