To,
Prof. Ajit Kembhavi, President, ASI

CC : Prof. Dipankar Banerjee, Secretary, ASI

Subject : Formation of *Working Group for Gender Equity*

Dear Sir,

We, the undersigned, members of the Indian Astronomy & Astrophysics community (from a number of academic institutions), would like to request you for the formation of a working group for gender equity under the aegis of ASI. To this effect we hereby submit a formal proposal giving details of the rational behind such a working group and a brief outline of the role we would like the working group to play. We hope you would take cognizance of the fact that a significant fraction of our community feel that the formation of such a group is the need of the hour.

For the Working Group to better serve the needs of the entire astronomy community, it would be advantageous if its constituted members reflect the diversity of the community in gender, age, affiliation, geographical region etc. In addition, in the interest of promoting equity in gender representation, we feel it is best chaired by a woman astronomer.

Hoping to receive a positive response from you.

Yours sincerely,
The Proposers of the Working Group

The Proposers : A core group of people (*Preeti Kharb, Sushan Konar, Niruj Mohan, L. Resmi, Jasjeet Singh Bagla, Nissim Kanekar, Prajval Shastri, Dibyendu Nandi etc.*) have been working towards sensitising the Indian Astronomical community about gender related issues and proposing the formation of a working group, with significant input from a number of others. However, a large section of the community have been supportive of this activity and would like to be a part of this initiative. Given below is the list of all the people supporting the formation of a working group for gender equity under the aegis of ASI.

Signatories

1	**ARIES, Nainital :**	Kuntal Misra
2	**BITS-Pilani, Pilani :**	Tapamoy Guha Sarkar Kaushar Vaidya
3	**HRI, Allahabad :**	Soumini Chaudhury
4	**ICTS, Bangalore :**	P. Ajith
5	**IIA, Bangalore :**	Ravinder K. Banyal Preeti Kharb Aruna Goswami Prajval Shastri Firoza Sutaria Pravabati Chingangbam Mousumi Das Eswara Reddy
6	**IIT, Gandhinagar :**	Anand Sengupta
7	**IIT, Guwahati :**	Santabrata Das
8	**IISc, Bangalore :**	Arnab Rai Choudhury Tarun Deep Saini Prateek Sharma
9	**IISER, Kolkata :**	Dibyendu Nandi Rajesh Nayak
10	**IISER, Mohali :**	Jasjeet Singh Bagla Harvinder K. Jassal
11	**IISER, Pune :**	Prasad Subramanian
12	**IISER, Thiruvananthapuram :**	Archana Pai Shankaranarayan
13	**IIST, Thiruvananthapuram :**	Resmi Lakshmi
14	**ISAC, Bangalore :**	Ravishankar B T V Girish Manju Sudhakar

Signatories (cont'd)

15	**ISI, Kolkata :**	Supratik Pal
16	**IUCAA, Pune :**	Arunima Banerjee Varun Bhalerao Gulab Dewangan Anuradha Gupta Neeraj Gupta Aseem Paranjape A. N. Ramaprakash Varun Sahni
17	**NCRA-TIFR, Pune :**	Poonam Chandra Jayaram N Chengalur Ruta Kale Nissim Kanekar Nimisha Kantharia Sushan Konar Dharam Vir Lal Yogesh Maan Niruj Mohan Ramanujam Divya Oberoi Tirthankar Roy Choudhury Yogesh G Wadadekar
18	**PRL, Ahmedabad :**	Sachindra Naik Nandita Srivastava Shweta Srivastava
19	**SINP, Kolkata :**	Debades Bandyopadhyay Pratik Majumdar
20	**TIFR, Mumbai :**	Shravan Hanasoge Manoj Puravankara
21	**Delhi University, Delhi :**	Patrick Das Gupta
22	**Mahatma Gandhi University, Kottayam :**	K. Indulekha
23	**Maulana Azad National Urdu University, Hyderabad :**	Priya Hasan
24	**Presidency University, Kolkata :**	Kanan Kumar Datta Ritaban Chatterjee

Signatories (cont'd)

25	**Viswa-Bharati, Shantiniketan :**	Sudipta Das
26	**Centre de Recherche Astrophysique de Lyon :**	Mamta Pandey-Pommier
27	**Leibniz-Institut für Astrophysik Potsdam :**	Isha Pahwa
28	**Institut de Planétologie et d'Astrophysique de Grenoble :**	Susmita Chakravorty
29	**Nehru Planetarium, New Delhi :**	N. Rathnasree

The Proposal

ASI Working Group for Gender Equity

Subject: Working Group for Gender Equity under the aegis of the Astronomical Society of India

Summary: We propose here the setting of a Working Group for Gender Equity under the aegis of the Astronomical Society of India (ASI). This will be the first such group to be set up in Asia. This 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.

Rationale: It is becoming clear that even though a large fraction of undergraduate and graduate students are female, their relative fraction drops dramatically when it comes to the Faculties of Research Institutes and Universities pursuing Astronomy in India **[1, 2,** also see **page 4].** This phenomenon is not unique to India and has been found to be prevalent around the world to varying degrees. While specific reasons may differ due to societal factors in different parts of the world, there is a growing realization that **unconscious bias** in the workplace **[3,4,5]** can be playing an important role in the low representation of women, over and above the local societal factors. To create awareness of these issues and move towards a better gender balance in Institute and University positions at the various academic levels, several major Astronomical societies have formed dedicated working groups. There is the Committee for the Status of Women in Astronomy (CSWA) under the American Astronomical Society (AAS), IAU Women in Astronomy Working Group, Women in Astronomy chapter under the Astronomical Society of Australia (ASA), Institute of Physics (IOP) Project Juno, the Women in Physics Working Group of the International Union of Pure and Applied Physics (IUPAP) **[6,7,8,9,10]**, and others.

The CSWA of the AAS has been monitoring statistics on female members at different levels of employment for over two decades. Proactive efforts made by the CSWA to increase awareness and create an equitable work environment, as well as the efforts of various other US organizations, have started showing visible results: the fraction of female assistant professors has nearly doubled in the past ten years (from 15% in 2003 to 27% in 2013), becoming for the first time equal to the fraction of female postdocs in the pool (28% in 2013) **[11].**

The project Juno of the IOP, UK has seen similar visible results. Between 2007/2008 and 2011/2012 the proportion of permanent female academic staff in physics cost centers rose from 11.2% to 15.6%. The proportion of female professors rose from 5.4% to 7.0%, female senior lecturers/lecturers rose from 14.8% to 20.3% and female researchers rose from 17.3% to 19.2% **[12].**

It is clear therefore that the presence and actions of various Working groups are making tangible gains. Judging from the long time-scales that are involved in making substantial changes, it is imperative that

we, the ASI members, take up this setting up of the working group with urgency.

History: The third session (the second formal session) on Gender Issues in Astronomy was held at the ASI meeting this year (2015) in NCRA, Pune. Apart from short talks on issues like "Unconscious Bias" and "Imposter Syndrome", this year we had a panel discussion on "Improving the Workplace for Gender Equity". Judging by the large turnout in both the formal sessions (close to a hundred participants in both IISER-Mohali and NCRA-Pune) and the active participation of the audience, it was apparent that astronomers find the gender equity issue important and relevant. The sessions were well attended by a large fraction of young people of both sexes. The gender ratio of the participants in the most recent session at NCRA was 60 to 40 in favor of men. The lack of statistical studies in India was remarked upon, and a general consensus for the setting of a working group on Gender Equity emerged from these sessions. Presentations from these sessions are currently hosted at http://www.ncra.tifr.res.in:8081/~sushan/

This Proposal: We propose here the setting of a Working Group for Gender Equity under the aegis of the Astronomical Society of India. As per our knowledge, this Group will be the first of its kind in Asia.

The possible functions of the working group would be:

1. Maintain the statistics on female members of the Astronomical community in India at various academic levels **[**e.g., European Commission's **13,** AAS's **14].** Only through this exercise will we be able to gauge the current situation in India and trace our progress over the years through periodic evaluation.

As the Pasadena Recommendations for Gender Equality in Astronomy **[15]** rightly note "The measure of equal opportunity is outcome, i.e., gender equity will have been attained when the percentage of women in the next level of advancement equals the percentage in the pool."

2. Conduct gender-sensitization talks, sessions, workshops, inside and outside of the ASI meetings. Raising awareness is the first step towards establishing gender equity in our workplace.

3. Collaborate with and learn from other Indian organizations that have Women in Science chapters, like (i) the Indian National Academy of Science (INSA), (ii) the National Institute of Advanced Studies (NIAS), both with the Department of Science and Technology (DST), and (iii) the "Women in Science" panel for the Indian Academy of Sciences (IAS) **[16,17].** These organizations have a wealth of resource materials and extensive experience in conducting national conferences and training programs for women scientists.

4. Maintain a webpage with relevant resource material like presentations from meetings and written articles. Create new resource

material including videos and posters, that promote gender equity in astronomy.

5. The working group members could provide mentorship as needed for young people entering the field of astronomy.

References:

[1] Delhi University statistics (www.du.ac.in/fileadmin/DU/.../Gender%20Audit%20Report_892010.pdf#)
[2] INSA statistics (http://www.insaindia.org/pdf/chapter1.pdf)
[3] http://www.pnas.org/content/109/41/16474.abstract
[4] http://www.aas.org/cswa/unconsciousbias.html
[5] F. Matteucci & R. Gratton, 2014, INAF-Astrophysical National Institute, Italy, http://adsabs.harvard.edu/abs/2014arXiv1402.1952M
[6] AAS, http://www.aas.org/cswa/
[7] IAU, http://iauwomeninastronomy.org/
[8] ASA, http://asawomeninastronomy.org/
[9] IOP Project Juno, http://www.iop.org/policy/diversity/initiatives/juno/index.html
[10] WiP of IUPAP, http://iupap.org/working-groups/wg5-women-in-physics/
[11] M. Hughes, 2014, CSWA Town Hall: Portrait of a Generation of Women in Astronomy, http://www.aas.org/cswa/Jan14/CSWAtownhall.pdf
[12] http://www.iop.org/policy/diversity/initiatives/juno/juno-evaluation/file_62014.pdf
[13] European Commission's "Gender Equality Report", 2014 http://ec.europa.eu/public_opinion/archives/eb_special_439_420_en.htm#428
[14] AAS's http://www.aas.org/cswa/percent_tenured.html
[15] Pasadena Recommendations http://www.aas.org/cswa/pasadenarecs.html
[16] NIAS-DST Training program for Women Scientists http://nias.res.in/newsbriefsarchives.php?cat_id=6&curr_page=1
[17] IAS's http://www.ias.ac.in/womeninscience/

Statistics

Ratio of Female members in Indian Astronomy Institutes (2013)***

Using publically available online data for the year 2013 from eight Astronomy Institutes including IIA, IISc, RRI, NCRA, ARIES, TIFR-DAA, IUCAA and PRL, we find that the fraction of female faculty members varies between 0 and 23%, with an **average of 11%.**

The ratio of female students for seven of the eight institutes mentioned above varies from 11% to 50%, with an **average of 28%.**

**** The details are provided in a talk hosted on this webpage:*
http://www.ncra.tifr.res.in:8081/~sushan/

Female/Male Ratio in Delhi University (Records primarily from 2007-2008)

www.du.ac.in/fileadmin/DU/.../Gender%20Audit%20Report_892010.pdf#

Students at Under Graduate Level

Medical Science: 997/(997+1164) = 46%
Mathematical Science: 3522/(3522+2069) = 63%
Science: 7901/(7901+5526) = 59%

Students at Post Graduate Level

Medical Science: 601/(601+744) = 45%
Mathematical Science: 814/(814+459) = 64%
Science: 1387/(1387+847) = 62%

Students doing PhDs

Medicine: 36/(36+38) = 49%
Mathematical Sciences: 238/(238+180) = 57%
Sciences: 420/(420+358) = 54%

Faculty Members

Lecturer/Senior scale

2005-2006: 74/156 = 47%
2007-2008: 78/164 = 48%

Readers

2005-2006: 96/248 = 39%
2007-2008: 107/254 = 42%

Professors

2005-2006: 69/258 = 27%
2007-2008: 70/251 = 28%