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INTERNATIONAL ASTRONOMICAL UNION

ENSEMBLE

WOMEN IN ASTRONOMY

WORKING GROUP MAGAZINE

- Gender imbalance in Astronomy & IAU members
- WiA WG activities & Interview with outstanding female astronomer- Prof. Jocelyne Bell Burnell
- Survey on working conditions offered to women (especially mother's) in Astronomy
- Association Argentina de Astronomia - A gender perspective
- My story- WiA WG members share their career story
- News, meetings, funding opportunities, activities of WiA WG members and liaison with the IAU offices
- Upcoming events- IAU General Assembly meeting 2022



The official magazine of International Astronomical union Women in Astronomy Working Group (IAU WiA WG) offers a voice to Women in Astronomy, to exchange ideas, experiences, skills, define key efforts for the future, and engage policy makers and worldwide citizens. The aim of this WG is to promote the advancement of Women in Astronomy to assure that they are well represented in the international astronomical community and in return to help the community to achieve gender balance, at their work place. The IAU WiA WG is open to members from Astronomical communities and organizations from all over the world.

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<https://sites.google.com/view/iau-women-in-astronomy/home?authuser=2>

IAU WiA WG is a group of international Astronomer volunteering (unpaid) to improve the working conditions of worldwide women in Astronomy and maintain gender balance at the work place.

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- in Africa, Algeria, France, India, Iran, Italy

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- IAU WiA WG Training Program- 2, Jan 2022

- IAU -OAO - Girls in Astronomy event for Feb 2022

- IAU-GA WiA session @ Meeting in BUSAN, Aug 2022

Dear Readers,

With the arrival of 2022, the IAU Women in Astronomy Working Group (WiA WG) is delighted to launch its first edition of WiA WG **'ENSEMBLE'** magazine. The readers from the worldwide Astronomical community are invited to get acquainted with the remarkable range of activities initiated by our WG in 2021 to put into focus the contribution of Women in Astronomy, that might otherwise not be recognized.

Updates- During the XXXI General Assembly virtual Business Sessions of the IAU held in August 2021, a new team of WiA WG organizing committee (OC) members was formed, to bring together worldwide astronomers to propose measures to reduce the under representation of women in Astronomy. In the 1st issue of the **'ENSEMBLE'** magazine, the OC focuses on creating an awareness about, gender imbalance in the worldwide Astronomy community as well as within the IAU members, highlights the obstacles and working conditions offered to women (especially mothers) researchers to build their career, and country-specific data highlighting the gender-biased progress seen in the career of astronomers. The statistical data presented in this magazine on the global IAU members shows that there are only 21.2% women, while 78.7% men, and 0.1% other gender researchers. Among the total 12000 IAU members only 1.6% are a part of the WiA WG. The data from the first IAU WiA WG survey on 'Working conditions of women researchers' also shows a low (26%) participation of men researchers from all over the world. A lack of participation and low worldwide representation of women in Astronomy paves a way to a biased, unbalanced, unhealthy, unstable, and unsafe working environment.

The new WiA OC supports gender equality in Astronomy as initiated by the European Commission for Innovation and Research in their **'SheFigure' 2021 handbook** and promotes the idea that all genders should benefit equally from the opportunities available within this



research field funded by the public money. The OC also highlights on, how academic organizations and funding agencies can play a role to counter the gender imbalance in academia and as researchers how can we support each other to form a self-sustaining community. By sharing experiences, inclusivity practices and gender equality strategies, we can ensure full participation and contribution of Women to the development of astronomy- as an accessible field of research for all.

In the later part of the **'ENSEMBLE'** magazine, we promote inclusive and easily accessible ways of using digital platform to develop a self-sustaining community by offering virtual awareness programs like seminar series, interviews with outstanding lady astronomers, training programs, STEM activities at school up-to University levels, meeting and mentoring sessions, exchange personal experiences about career challenges in Astronomy, discuss impact of long-term temporary contracts provided to women astronomer worldwide translating in to a pool of talents that is systematically being loosed by the system under the current hiring practices. Finally a global look from a political perspective on securing the role, career, and future of Women in academia is also discussed.

If you are interested to get involved in IAU WiA WG diverse activities and opportunities to shape the community in 2022, we invite you to come and join us @ <https://sites.google.com/view/iau-women-in-astronomy/home?authuser=2> . **We wish you a very HAPPY and a SAFE NEW YEAR 2022 !**

Mamta Pommier (Editor & Chair)
IAU Women in Astronomy Working Group

IN FOCUS- Welcome to National Representatives & new member of the IAU WiA WG

Established in 2003, at the XXV IAU General Assembly in Sydney (Australia), the WiA WG composed of 181 worldwide members until August 2021. In September 2021, the WG was revitalized with the new team of organizing committee (OC) members. The new OC continues to pursue and reinforce the earlier mandate of the WiA WG to collect information, propose measures, and initiate actions to advance equality of opportunity for achievement between women and men in astronomy, in the IAU. Additionally, in the next 3 years, it will focus on the difficulties (bias, reduced career prospects, leaky pipeline and lacking role models, childcare issues, harassment, discrimination, unfair working conditions) faced by Women in Astronomy. It will also help bridge the gender gap in Astronomy & STEM fields, to facilitate the careers of women researchers and young women Ph.D. students worldwide. To achieve these objectives a four point action plan has been put forward by the new OC with a special focus on (i)Awareness & Sustainability, (ii)Training and Skill Building, (iii)Fundraising & (iv)Dissemination of results via conferences, magazines, and newsletters, etc.

Since its commencement, the WiA WG OC has initiated many regular activities such as, seminar series, training programs, surveys, community building, setting up of the communication channels on social media platforms, regular invitation to join and participate in the WG activities, to the women and men astronomers worldwide in order to build an active, diverse, and support-providing community.

In order to create a stronger links at the national level the OC has also invited all the members to join the IAU WiA WG as a 'National Representative' (NR) and represent their country. The role of the NR is to help us to collect data from their respective countries, translate the messages into the local language to facilitate interaction, and update the members if they are any activities related to Women in Astronomy being organized in their country.

16 members from the WG have joined the NR team (Fig. 1) as of now and the WiA OC is thankful for their excellent participation in the WG surveys, offering training programs, organizing seminar series, sharing resource materials, and inviting members to join the events they are organizing in their country.

Thank you all for the great team spirit!



Fig. 1 IAU WiA WG Organizing committee and National Representative members

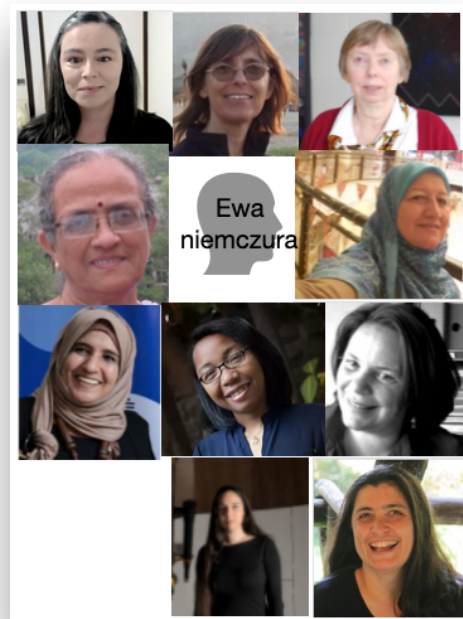


Fig. 2 IAU WiA WG new team members joined after Sep 2021

We have equally received an excellent response from the IAU members with 11 new members (Fig. 2) who have joined the WiA WG since Sep 2021. Please fill in the form available at the link below, if you are interested in joining the IAU WiA WG. All genders are welcome to join!

[https://docs.google.com/forms/d/e/1FAIpQLSfN4ZBAA-4my135pJUaKT5a5tA6KG8tOp-aVVUTqVHUnacKCg/viewform?usp=sf link](https://docs.google.com/forms/d/e/1FAIpQLSfN4ZBAA-4my135pJUaKT5a5tA6KG8tOp-aVVUTqVHUnacKCg/viewform?usp=sf_link)

The IAU is an international organization with over 12,000 members (professional astronomers and outreach members) from 83 different countries worldwide. It brings together astronomers from all over the world to share their scientific knowledge and foster collaborations to collectively promote and safeguard astronomy, via scientific meetings, communication, education, and development. The IAU membership data (https://www.iau.org/public/themes/member_statistics/) provides a broad, but incomplete and important information about the country-wise gender imbalance within the IAU members.

■ IAU Members in 2021

The IAU WiA WG is a part of the IAU Executive committee and composed of 192 worldwide members from 41 countries. We analyzed the IAU membership data to study the country-wise gender gap within the IAU members. The distribution of IAU membership data for astronomers in Fig.3, clearly shows that almost 78.7% members are men, 21.2% are women, and 0.1% members have either, unknown or other genders. Further, among the 12,000 members only 1.6% are a part of the WiA WG and among the total ~2545 women members, only 6.5% are a part of WiA WG (Fig.4). This clearly suggests that the participation of women researchers in the over all IAU community is small as compared to the men researchers.

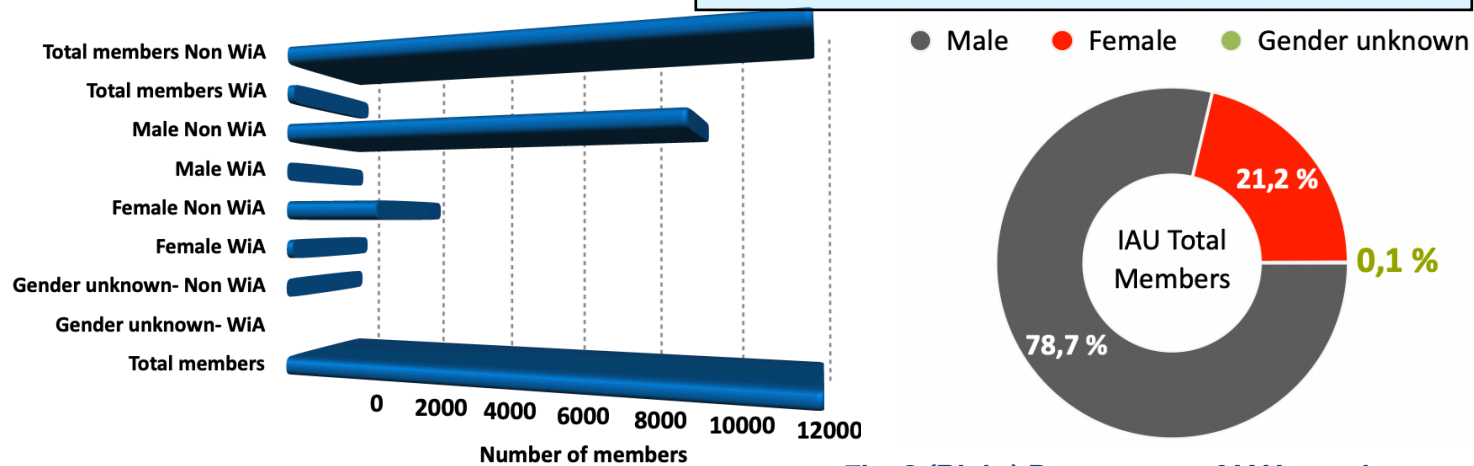


Fig. 3 (Left) Gender-wise distribution of IAU members

Fig. 3 (Right) Percentage of IAU members

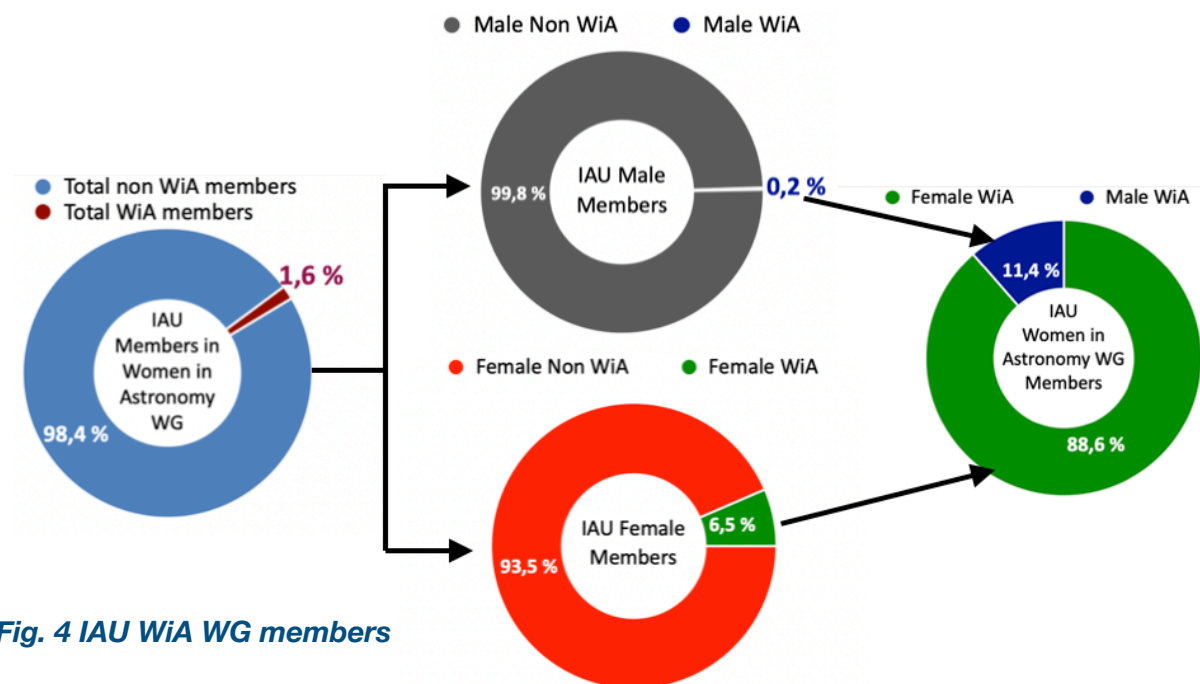
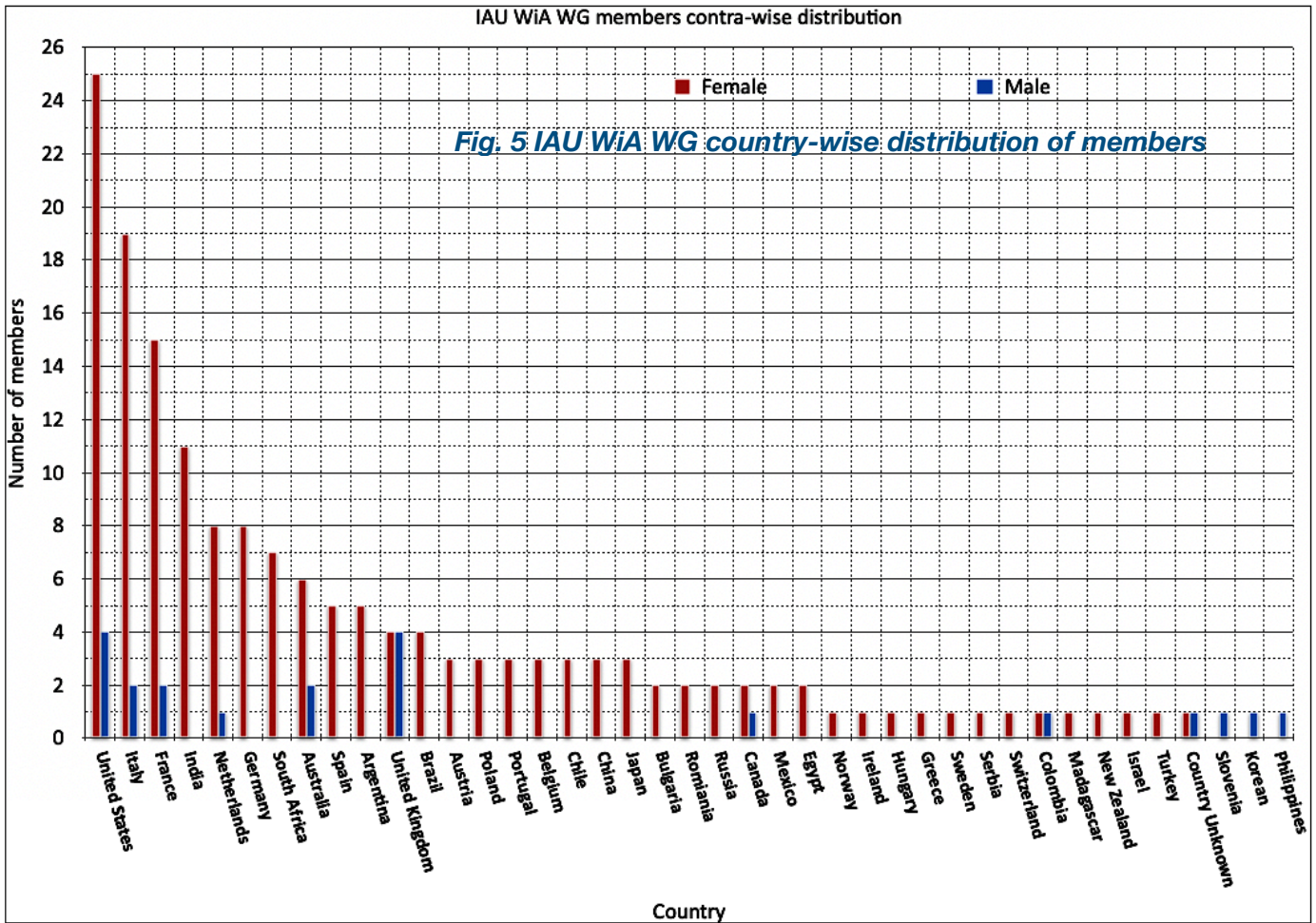
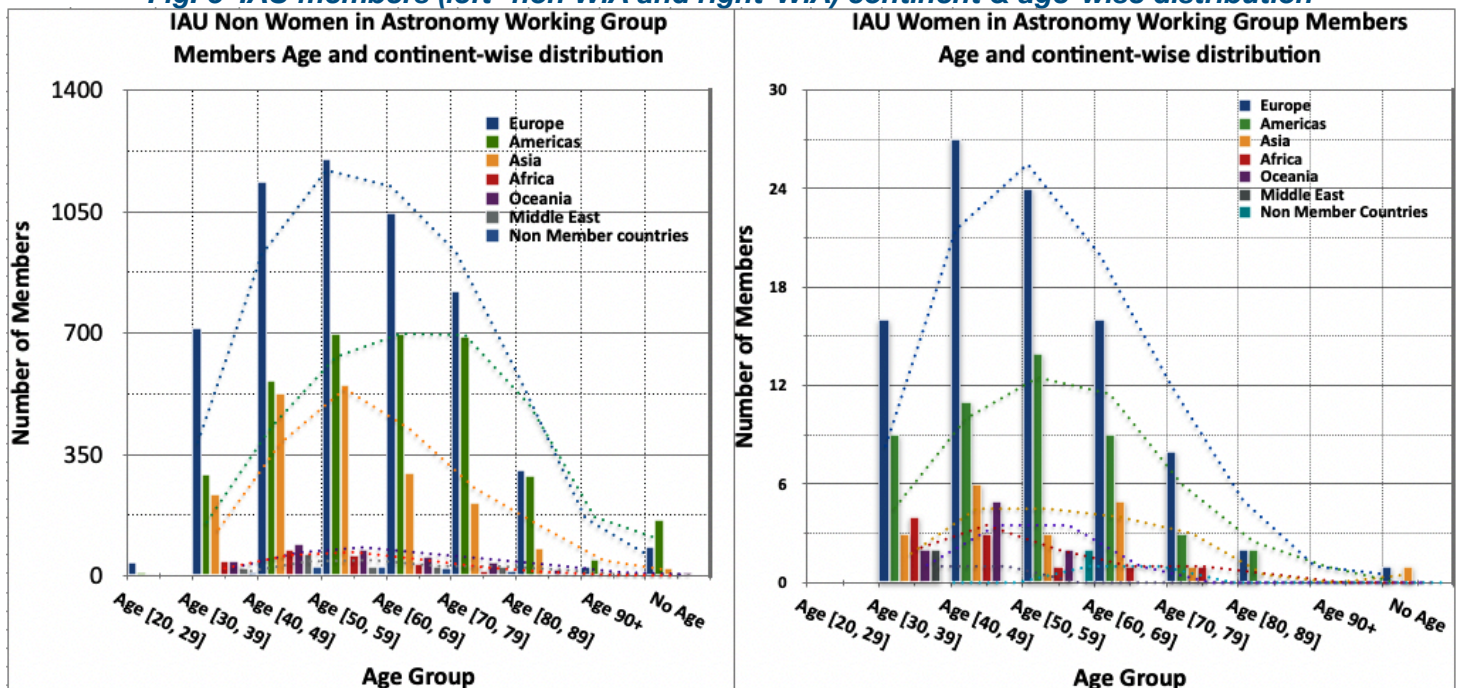


Fig. 4 IAU WiA WG members



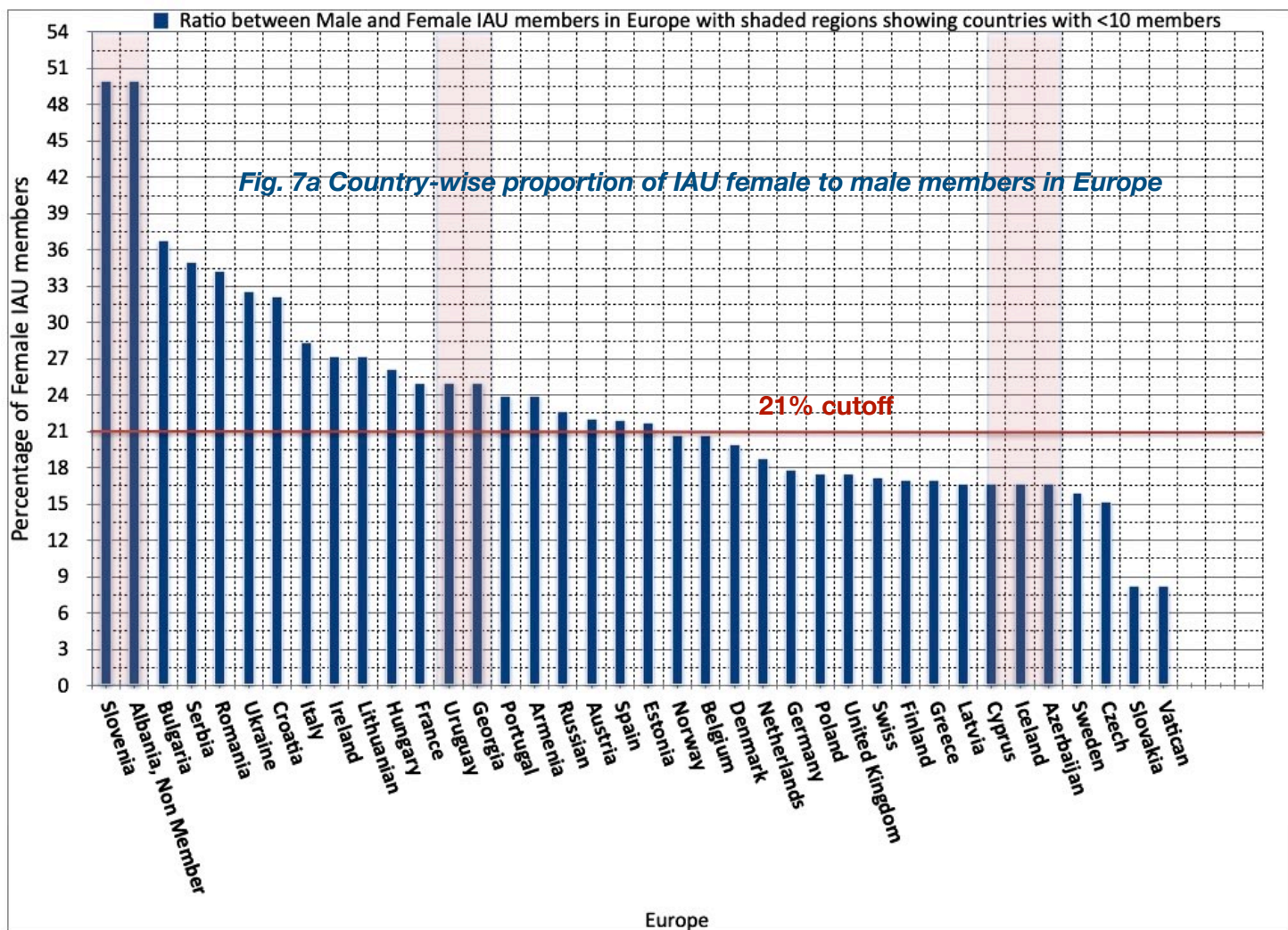
The IAU WiA WG country-wise distribution shows that there are 171 female members from 38 different countries and 21 male members from 12 different countries (maximum participation from the United States (US) and United Kingdom (UK)). Almost 50% members of the WiA WG are from the US, Europe (Italy, France, Netherlands, and Germany), and India, while the remaining 50% members are from 35 different countries from all the continents (Fig. 5).

Fig. 6 IAU members (left- non WiA and right-WiA) continent & age-wise distribution



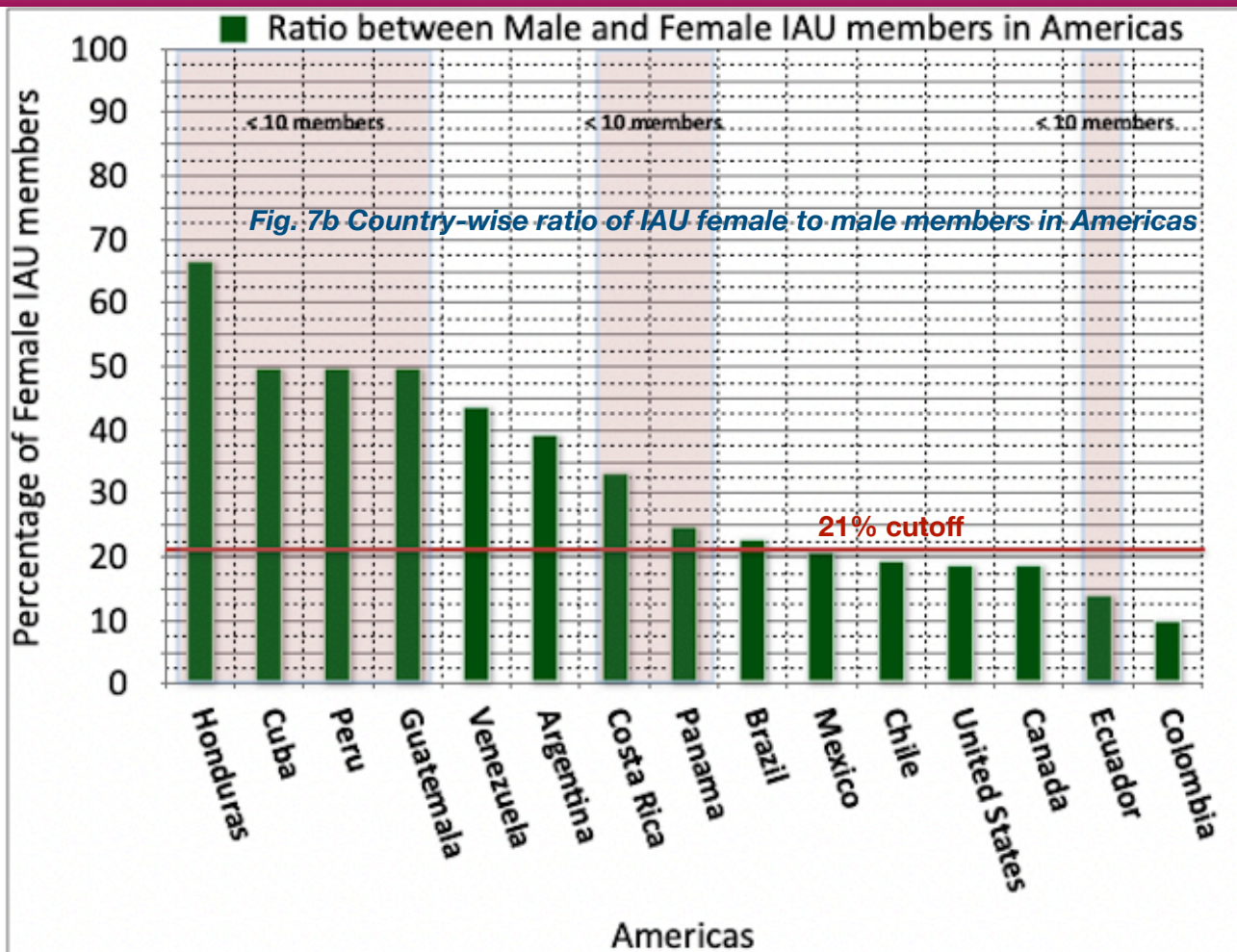
In Fig.6 the age and continent-wise distribution of IAU non-WiA (left panel) and WiA (right panel) members is shown. In both the figures a similar distribution trend of members is seen, with the participation from European members leading the statistics, followed by Americas, Asia, Oceania, Africa, Middle East, and Non-Member states.

The maximum age-group of non-WiA members peaks at >50-59 yrs for Europe and Americas, with a significant number of members >60 yrs. For Asia, Oceania, Africa and Middle East the peak is <50-59 yrs. The WiA WG members show the peak in age-group of members at >50-59 yrs for Americas, >40-49 yrs for Europe, Asia, Oceania, and <40 yrs from Africa and Middle East.



In Fig. 7 the proportion of women researchers for all the continents are shown with a 21% average cut-off as seen in the Fig. 3. The countries under the shaded regions are with <10 members, hence not covered (contribute marginally) for the statistical analysis and the interpretation. Countries above the cutoff have an active team of IAU women researchers, however not all the

members are a part of the WiA WG. Whereas some countries below the cutoff have an active WiA WG members. In Fig. 7a Country-wise percentage of IAU European women researchers is shown. 42% countries show women researchers above 21% average cutoff and 40% below the 21% average cutoff. France and Italy, with the WiA WG members dominating the statistics, after the US (Fig. 5), have 25% and 28.4% women researchers respectively.

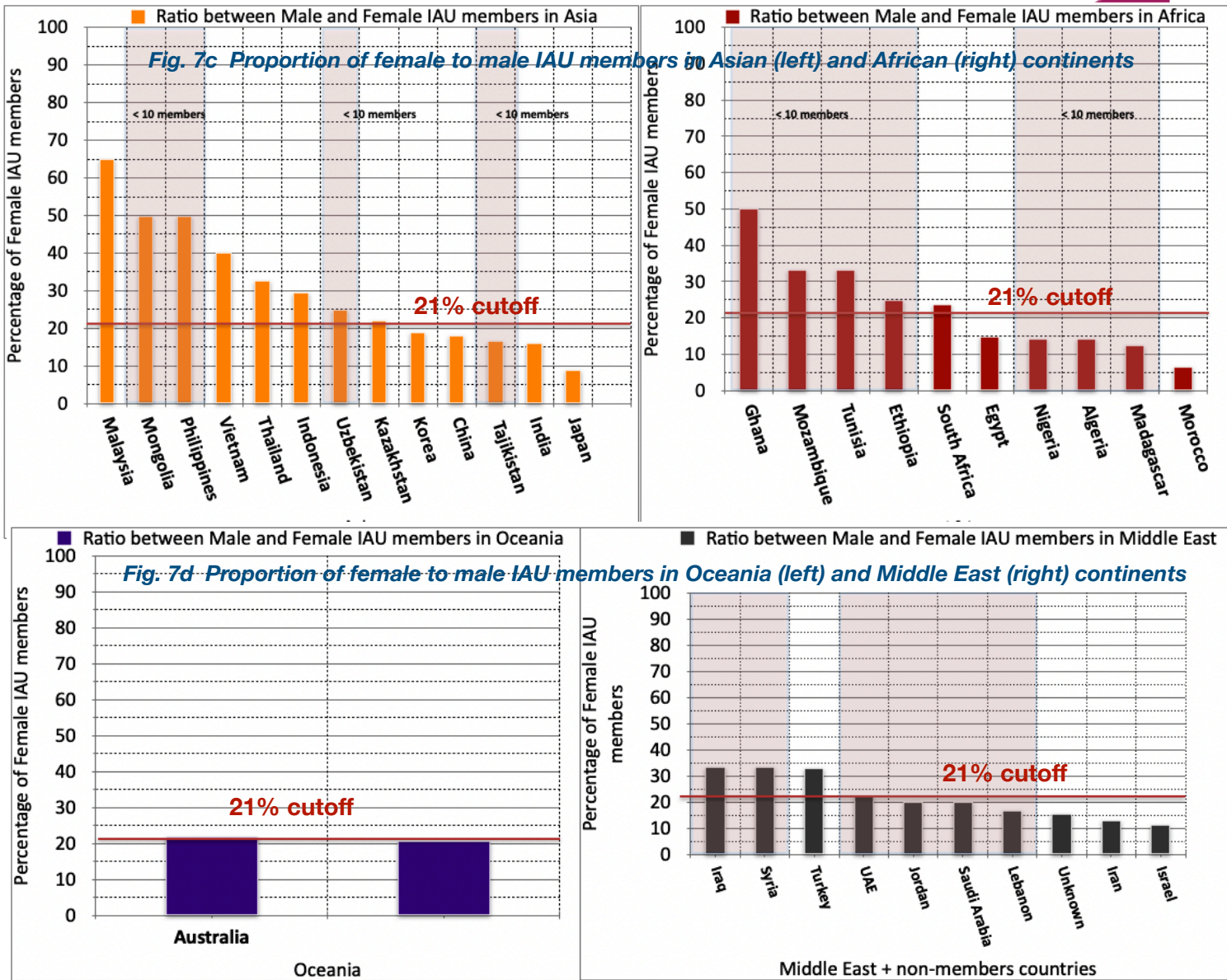


In spite of the WiA WG dominated by the women researchers from the US as shown in Fig. 5, their proportion from the US and Canada are below the cutoff level and almost 19% (ref. Fig. 7b). The proportion of women researchers from only 20% countries (i.e., Venezuela, Argentina, Brazil) are above the 21% cutoff and 33% countries are below the cutoff level, while 47% countries have weak participation with < 10 members.

In the case of Asia and Oceania (Fig. 7c & 7d left panel), countries like Malaysia, Vietnam, Thailand, Indonesia, Kazakhstan, Australia, and New Zealand show an active (>21%) participation from the women researchers whereas, Korea, China, India, and Japan show women researchers participation <21% cutoff.

In the case of Africa and Middle East (Fig. 7c & 7d right panel), an overall weak participation from the IAU members is seen. An active participation from women researchers is only noticed from Turkey (33%) and South Africa (>24%) while the remaining countries show a participation level <21% cutoff level. Further efforts are needed to increase the participation from these regions.

These statistics clearly suggests that only 34% (28) countries worldwide have an active (above 21% cutoff limit) participation from the women researchers. Among these 28 countries, 16 are from Europe, 3 from Americas, 5 from Asia, 2 from Oceania, 1 from Africa, and 1 from Middle East. Almost 66% of the countries have a weak participation from the women researchers, pointing towards a global gender imbalance in the field of Astronomy and STEM worldwide.



From the above IAU membership data, it is evident that:

- I. women are under represented in the field of Astronomy worldwide and also within the IAU members distribution with only 34% countries above the 21% average cutoff limit.
- II. among the total IAU members only 6.5% female and 0.2% male members are a part of WiA WG members, which raises concerns about the worldwide efforts being carried out towards the awareness, interest, and activities to overcome gender imbalance in astronomy
- III. active efforts are needed to encourage IAU members to join and support the cause of IAU WiA WG to achieve gender balance, welcoming, and safe working environment.
- IV. active efforts are needed to encourage members from the Astronomy community worldwide to join the IAU to help generate complete statistics that serves as a database for gender balance studies in STEM in general and Astronomy in particular.
- V. finally the gender imbalance seen in all the continents, points towards a need for significant efforts to increase the participation of women researchers within the IAU especially in the decision-making, funding and steering committees roles in order to secure their role and future in academia.

Gender imbalance is a long-standing critical problem existing in research and higher education especially in STEM fields (which includes Astronomy). As per the recent surveys conducted by organizations, like the EU commission, French ministry of higher education, U.S. Department of Education's National Center for Education Statistics, etc., it is evident that there are hardly <21% women holding permanent position in Astronomy, while >79% positions are filled by men. The IAU WiA WG carried out their 1st seminar series titled **“Career Challenges Faced by Women in Astronomy”** to highlight the issues faced by Women in STEM fields to carry out their career successfully. This Seminar series was widely announced on the social media channels and the website of the working group. Almost 100 participants at different career stages participated in this seminar series from all over the world (Fig. 8&9)



Fig. 8 IAU WiA Seminar Series-1 participation

The IAU President Prof. Debra Elmegreen, Mamta Pommier(WiA WG) and Santiago Vargas Dominguez (WiA WG) gave talks in this seminar series to create awareness about 'career challenges faced by Women in Astronomy', to highlight the working conditions offered to women (especially after maternity) in research fields, the systematic obstacles (discrimination, bias, stereotype, neglect of expertise, physical and mental harassment) faced by women throughout their career in STEM and in astronomy due to gender imbalance, awareness efforts being carried out in research organizations in the USA, EU commission and worldwide to ensure equality and inclusion, importance of inclusive and self-sustaining community that

supports gender equality, career of women in astronomy and how men could contribute towards it. 90% female and 10% male participated in this seminar series, which is noteworthy as a lack of male scientists attending these seminar series, points towards more engaging strategies needed, so that they can actively participate and help the situation. As we have seen in the earlier section, male scientists are dominating (79%) this field and they can play an important role to support the career of Women in Astronomy and maintain gender balance at the work place. An indispensable and a key role can be also played by the funding agencies, governing bodies, and organizations through structural reforms and institutional changes in decision-making and hiring committee panels by forming a gender-inclusive and diverse committee to ensure unbiased evaluation and successful hiring practices.

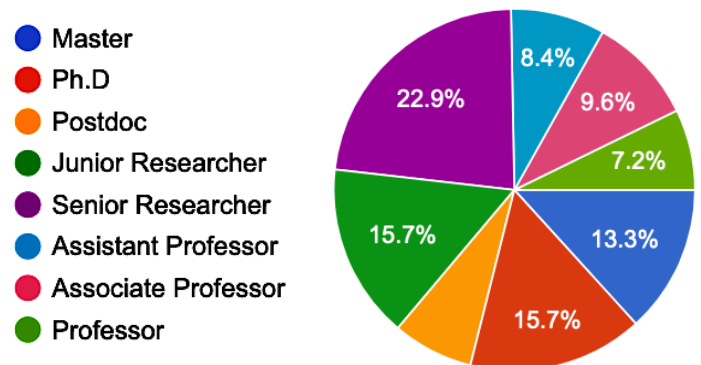


Fig. 9 Career wise distribution of participants from all over the world for the IAU WiA Seminar series-1

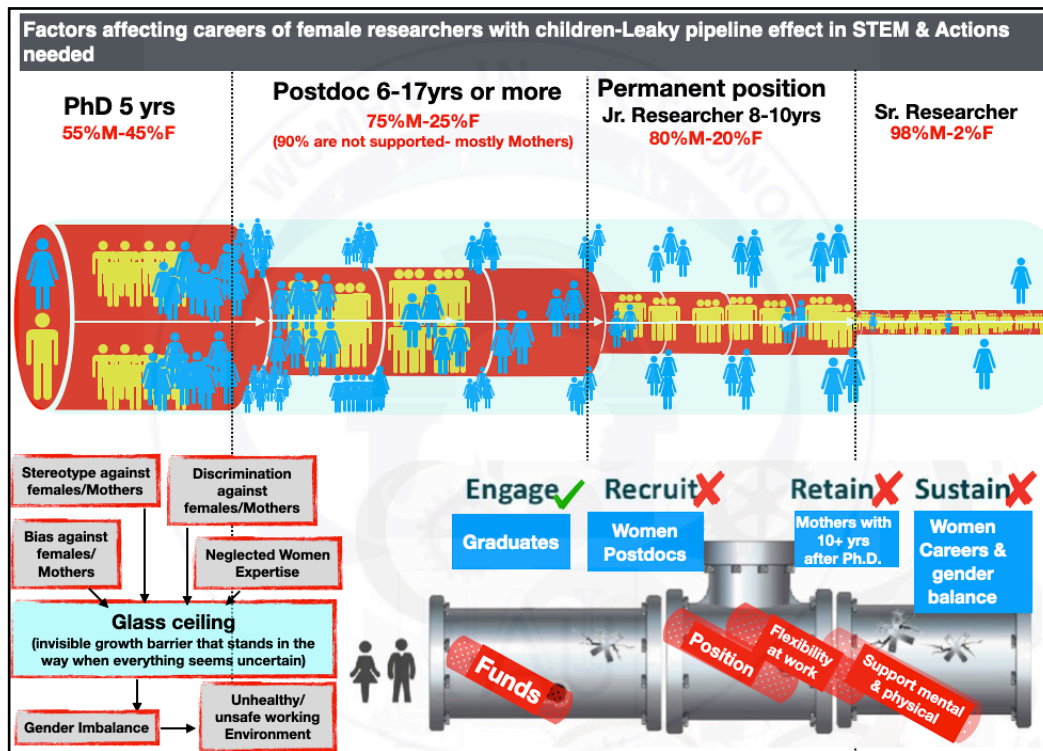


Fig. 10 Factors affecting women (especially mothers) career in research- refer <https://sites.google.com/view/iau-women-in-astronomy/home/upcoming-events-and-seminars?authuser=2>

In Fig. 10, we show the typical **‘leaky pipeline’** effect seen in the STEM fields constructed from the gender balance data published by the ministry of higher education in France (<https://www.enseignementsup-recherche.gouv.fr/pid35339-cid157348/esri-chiffres-cles-de-legalite-femmes-hommes-parution-2021.html>), where in spite of a somewhat gender parity seen at the PhD level (45% women), the proportion of women quickly goes down at every career advancement level from Postdoc (25% women) to permanent position level as Junior researcher (20% women) and senior levels (2% women). While only 1% women hold director and senior level positions.

mothers and foreign origins), bias (self conscious and unconscious), and neglect of women expertise (self-made pre-assumptions about work performance, lack of support, low paid, precarious, and unpaid work contracts), harassment (physical and mental, suppression from presenting results etc., ref. next section).

Women researchers land up working more than their paid contracts and full-time colleagues, which severely affects their health, while they don't have the security and health benefits of the permanent staff members. Their productivity and performance is unfairly compared to the full time researchers, even if they are offered part time contracts. All these factors systematically feed into the **‘Glass ceiling effect’** which acts as a barriers that systematically hampers their career growth and leads to gender imbalance, unsafe, unstable, and unhealthy working conditions. **Ultimately, they are forced (or constantly advised) to leave their research career due lack of support mainly arising from conflict of interest and high competition issues.**

There are several factors affecting this decline in the no.of women researchers at permanent positions in STEM fields which includes discrimination (gender), child minding and elderly responsibilities, stereotypes against women (especially

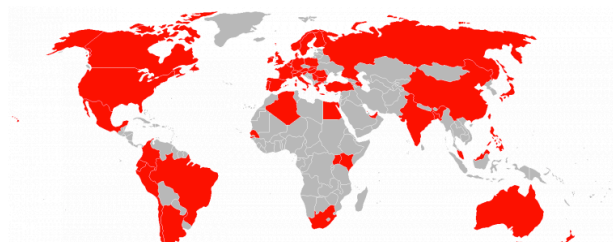


Fig. 11 IAU WiA Survey Series-1 global participation

The IAU WiA WG conducted a survey from Sep-Dec 2021 on the **‘Working conditions of Women in Astronomy’** in order to identify the global issues being faced by women researchers, exchange new suggestions and inclusive strategies to build gender parity, and gather testimonials that can serve as a statistical data to help the funding agencies, organizations, and hiring committee panels worldwide introduce new structural changes to support Women candidates and establish gender balance at work place. The survey was widely announced on the social media channels and the website of the working group. Here we present results with the data collected since 2019 on the same survey questionnaire during 3 different events. **Almost 750 participants from 50 countries at different career stages participated in this survey** (Fig. 11). 73% participants were women researchers, 26% were men researchers, and 1% researchers marked their gender as ‘Others’ in the survey response, as shown in Fig. 12. **The WiA WG OC thanks all the worldwide participants of this survey for their participation and testimonials.**

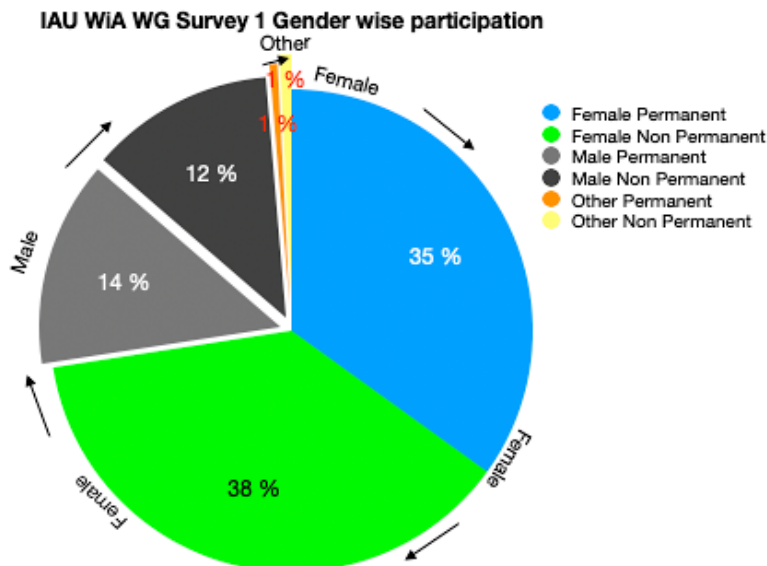


Fig. 12 IAU WiA Survey Series-1 gender-wise participation

The data clearly suggest that women non-permanent researchers are highly concerned about their unstable career situation, whereas permanent researchers are concerned about their career growth, hence they actively participated in this survey. Apparently the participation from men researchers although low, was also notable, with 14% permanent men researchers and 12% non-permanent researchers. The data for ‘Other’ genders showed equal participation for permanent and non-permanent researchers. In Fig. 13, a gender-wise distribution of the participants at different career stages is shown. The maximum participants (31%) of this survey were women researchers in non-permanent position holding either Junior researchers, Postdoc, and PhD positions, followed by 17% female permanent senior researchers and 12% Junior permanent researchers. A high proportion of women non-permanent junior researchers (31%) as compared to the men non-permanent junior researcher (10%) clearly indicates that at the graduate level women are actively engaged in higher

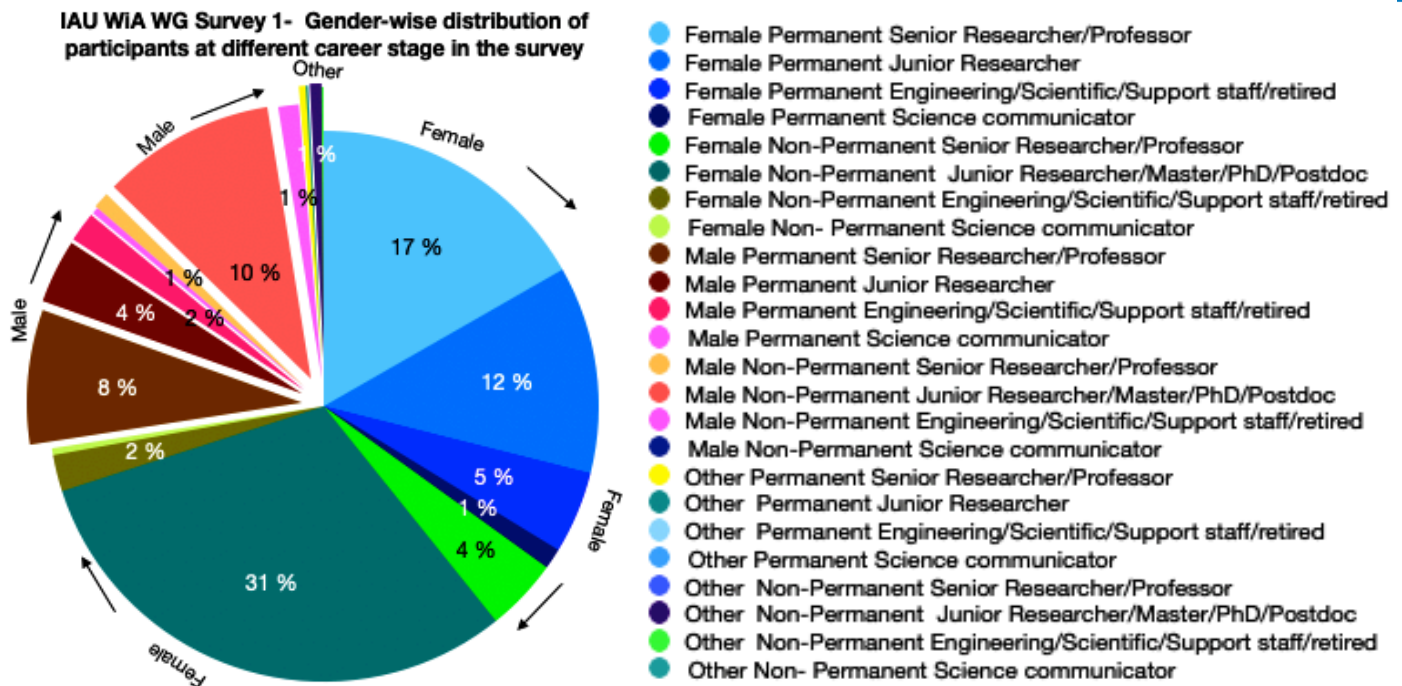


Fig. 13 IAU WiA Survey Series-1 gender and career stage-wise distribution of participants

IAU-WiA Survey 1- Gender-wise maximum career breaks in Astronomy and STEM due to Maternity/Paternity

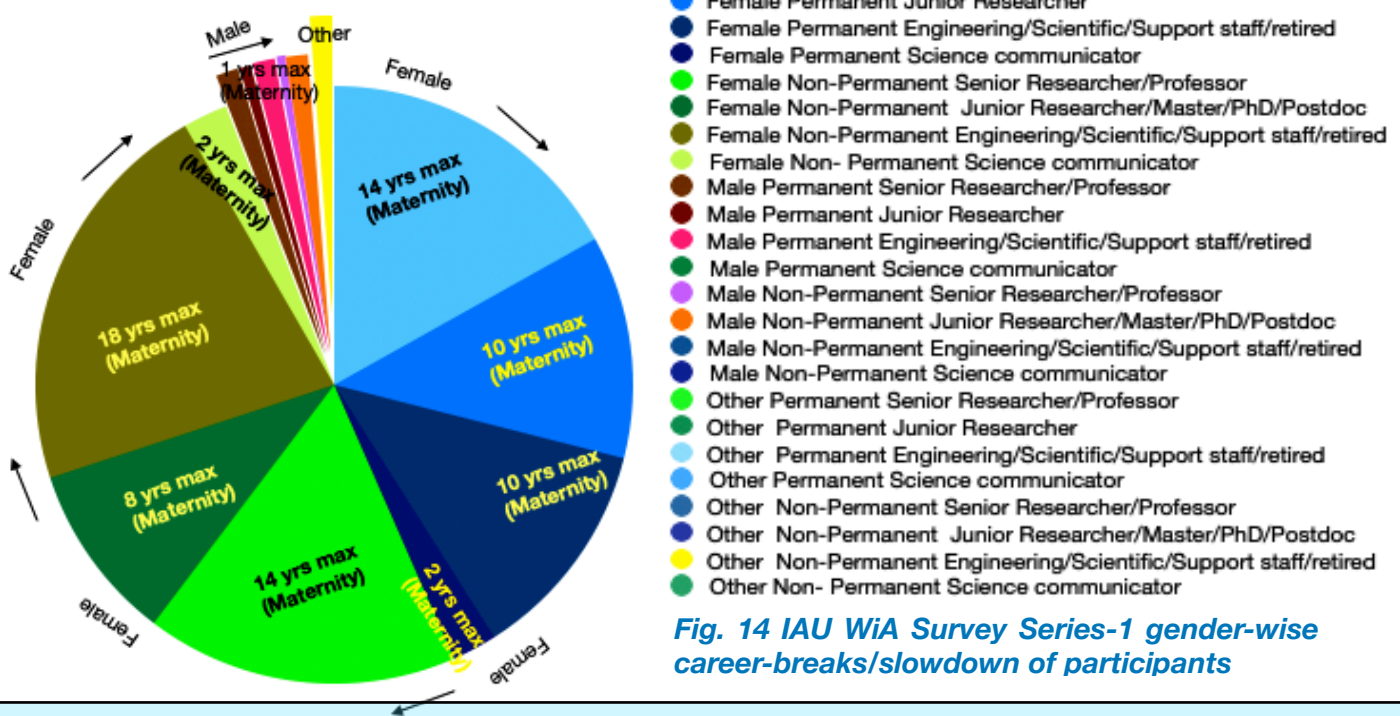


Fig. 14 IAU WiA Survey Series-1 gender-wise career-breaks/slowdown of participants

academics, however as career progresses to a permanent (35+ yrs age) or senior researchers level (40+ yrs age), there are less non-permanent junior (10%) and senior (1%) men researchers whereas there are still a large proportion of non-permanent junior (31%) and senior (4%) women researchers who continue to work on fixed-term contracts. This unbalanced situation is mostly due to slow down in the career of women researcher at every promotion stage mainly due to child minding/family responsibilities (leading to reduced productivity) that may last from 2 up-to 18 years (max. in the case family member with handicap), while it is <1 year for all the men researchers and women researchers with no children (ref. Fig. 14).

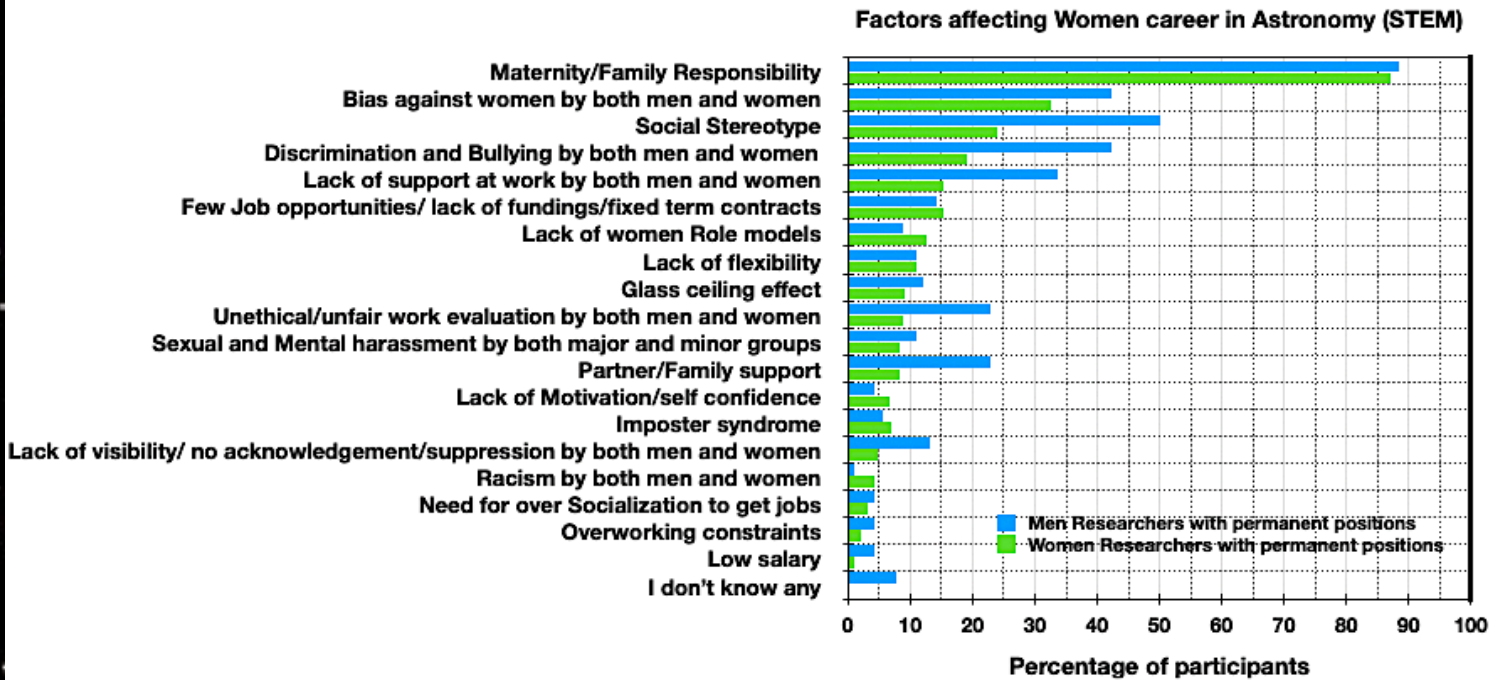


Fig. 15 IAU WiA Survey Series-1 gender-wise response from permanent researchers on factors affecting women career in Astronomy and STEM

Besides maternity and family responsibilities being the major factors affecting women careers (ref. Fig. 15), the other factors are bias, stereotype, discrimination, lack of funding, flexibility, and support at work place and family, lack of role models, Glass ceiling effects, unethical and unfair evaluation of work, harassment (physical, mental), imposter syndrome, suppression, non acknowledgement of work, racism, low pay scales, unfair practices, etc. It is clear from the Fig. 15 that efforts are needed at the-

- I. Organizational/institutional/funding agencies level to have new policies to support women's career with children responsibilities, by allowing equal parental leave, flexibility, fundings (especially to mothers).
- II. Better policies are needed at the organizations to ensure healthy and safe working environment, to counter harassment (physical, mental), discrimination, racism, unethical and unfair work evaluations and suppression of women researchers work and visibility
- III. Hiring and funding agencies need to consider the merit of the candidates by converting their productivity equivalent to 100% contracts, during evaluations. For e.g. for women candidates working on part-time (50%) contracts due to maternity, their productivity should be multiplied by 2, to compare with other full-time candidates, to ensure fair evaluation and promotion. **Apparently this information has a direct implication on the productivity of the candidate and is never asked in the application forms.**
- IV. Women's career should be supported in STEM, especially 'Role models' at every career stage to secure their role and future in higher academics and build confidence in the society, so that parents can continue to support girls education and career in STEM.

Due to a lack of such awareness, support, positions, and fundings (especially after maternity) the women researchers are often forced to leave academia leading to a gender gap in STEM fields. **Detailed result of this survey will be presented in the IAU GA XXXI Busan meeting, to be held in Aug 2022.**

The IAU WiA WG conducts regular interview series with outstanding lady Astronomers who have made significant contributions in research and supported the career of Women in Astronomy. They stand out today as a true role model for the future generation of Women Astronomers. These interview series are meant to highlight the challenges faced by 'Outstanding Women in Astronomy' and get inspired by their career paths.

For the first interview series we had invited **Prof. Jocelyne Bell Burnell**, to share with us her career journey and the message that she would like to convey to the IAU members and Women in Astronomy worldwide. She is a true role-model, much to be admired. Not only has she made a ground-breaking contribution to astronomy for her discovery of radio pulsars (1967), but has supported the future of science by generously helping young people, who may feel marginalized, to work in the field of physics, by the "Bell Burnell Graduate Scholarship Fund". She has been recently awarded the [Copley Medal](#) in 2021, where she became the second female recipient, after [Dorothy Hodgkin](#) in 1976. The Copley Medal is the oldest surviving scientific award in the world given by the [Royal Society](#), for "outstanding achievements in research in any branch of science".

Here is the interview held on 15th Dec 2021-

1-Please tell us about your career journey

Its been patchy, disrupted, not a standard career, but I have managed to hang in there in Astronomy in some capacity or another for most of my life.

2-What were the turning points in your career

They were frequent. When I was married, they were to do with my husband's move because of his job, after the marriage broke-up there were



Prof Jocelyne Bell Burnell

one or two changes. After, I have been in a place long enough and felt it was time I went somewhere else and have some other experience.

3-What message would you like to give to the supervisor who does not acknowledge, does not invite, and blames the students/temporary staff members (especially females) for a failure, or practices bias/discrimination/verbal abuse and takes the credit for the project?

The message has to be to the University department and to the practices and processes they have in place. They must ensure that those sort of patchy things doesn't happen, because its their job to monitor whats going one.

4-How did you handle biases and discrimination that you had to face in your career?

You just have to keep going. Do you best, work around the circumstances, just 'keep going'.

5-What role did the female or male colleagues play in your journey. Who supported you the most or were you alone in this phase?

There were rarely any other females, none when I was an undergraduate. There were one or two when I was a PhD student. In my first postdoc position, I was the only one of the women in the department and because there were so few women all of us had issues and whilst we were trying to support each other there was a limit to what we could do, as we had our own issues. Its getting much better now, there are more women and there is much more awareness, I think there is still probably more room for improvement in management of people but its getting better at-least in Britain.

6-How did you continue with your career until you had a permanent position?

Well if you look carefully 'my career' I have been doing a lot of miscellaneous jobs (technical, management, support staff, administration), I have been occasionally 'a researcher'.

7-In 2021, you (second female recipient) were awarded the [Copley Medal](#) (after [Dorothy Hodgkin](#) in 1976), How do you see this award today?

Well I haven't actually received it yet because of Covid-19 situation. It was a big surprise, I did not expect to get even a half of like that from the Royal Society so certainly a very big surprise. Interesting to read the list of former recipients, its all the big names in Physics, with Dorothy Hodgkin the only women researcher also from Oxford before me, So I said to the Oxford Press office, 'Oxford has swept the boards as far

as women are getting this medal', that push in the line a bit.

8-We are aware that you have done enormous efforts all your career to support and inspire women in research and you are continuing to do so. What were the consequences that you had to face for your efforts?

I am not aware that I have had to face any ill consequences to be honest.

9-Are you satisfied to see the developments in the career of Women in STEM today? What efforts would you like to see or do more?

Well, its undoubtably getting better, but it depends a lot on which country you are, in this quite a range of situation around the world. I watch the IAU membership data regularly, the fraction of British astronomers that are female is getting worse compared to the other major countries, so we need to pay attention to this situation.

10-Among the total IAU members, 21% are female, 79% are male, and only 1.6% (female + male) are a part of IAU WiA WG, what do you think could be the reason for such a small number (1.6%) of members in the IAU WiA WG? Should Astronomers worldwide be really concerned about the gender imbalance?

The small participation in the IAU WiA activities is mainly as we have a lot of things to do. More and more places are becoming concerned about the number of women and positions, so it gradually improving. We hope that it continues.

11-Why is gender balance important in Astronomy and STEM careers?

Diversity in general is important not just gender. A management consultant firm in the USA showed that in a work place the businesses that are more successful and robust are the ones that goes with more diverse workforce and but they are the harder ones to manage. If that applies in business then it also applies in science too.

12-Among all the women members-only 6.5% are a part of WiA WG, what do you think could be the reason for such a small number of women (6.5%) members, instead of 100%, in the IAU WiA WG? Based on your own experience, why do you think women astronomers are not participating in such WG activities?

Because they are also heavily occupied in gender issues in other arena (such as their country of work, department, home, etc.)

13-What message would you like to convey to all the IAU members and especially women astronomers?

Well, not especially to the women, but especially to the men and that is- diversity is important and the subject will be stronger if diverse people are doing it.

To the young PhD women researchers, I advice 'Hang in there, if you possibly can, its a great subject to work in'.

14-What are the ways to raise funds and how could we do that with the IAU WiA WG?

I don't have expereince in this field, but I had initiated the Athena SWAN program and it has worked well.

15-What are your future plans to support the Women Career in Astronomy? What kind of infrastructure changes in workplace could help women?

Certainly, where I work for the moment, at Oxford University, a lot more importance is being given to all the genders and people of color, not only for jobs but also in the recruitment committees. Another important policy to adapt is the 'Double-blind peer review' as shown by the Hubble Telescope survey with a big acceptance rate to the proposals written by women researchers. Thats probably the way to go ahead, where when you apply- you are not physically seen, this will help the referees do a fair and unbiased evaluation.

16-Hope you have seen our website link (<https://sites.google.com/view/iau-women-in-astronomy/home/upcoming-events-and-seminars>), with the 3-years plan, newsletters, and ongoing activities. We have new members joining every month. 3 years from now, what developments do you expect from the IAU WiA WG?

Having country-wise and gender-wise current and previous years IAU data statistics is very important, in order to see the progress that has been made by the IAU. Management training is equally important for everyone.

17- How do you think the pandemic has affected women and their research productivity?

The evidence in UK is that the Pandemic has affected the productivity (publications) and funding applications of women more than that of men. I suppose its the same all over the world. And as those women come-up for promotion, I am not sure how we are going to make allowances for this set-back in their productivity. Its concerning.



18-At which stage do you think women have the maximum hurdles in their career?

There is no specific main stage, every-time when you apply to get a job or promotion, there is an obstacle. Also if you are married, reconciling your career or your spouses career and if you have children, then the one who takes maximum care of the children in the couple, his or her career gets impacted.

19-So having no children, does that solves the career problem?

Well, that solves a problem... (laughs)... but then it means there are fewer children of highly intelligent people and is that good for a society and a country?

20-What about hiring problems?

A large number of women are getting interview calls for postdoc and permanent positions, but they are not being given

jobs in spite of their good recommendation letters and good interview results and the reason is they are called in by the committee just for showing equal candidates interviewed in all the genders ...'actually for the cosmetics'..., but in reality there are no intentions to really hire them. So its also worth asking, were they called for interviews, just because they are women as that helps the interview committee to show gender equality practices followed during the processes.

21-Would you like to convey a message or have any further advice to improve the situation of Women in Astronomy?

Main message is 'Be Persistent, Hang in there'. Things are improving but there is a room for more.

That was great. Thank you very much for your time, Jocelyn!



IAU WiA Interview series -1 Prof Jocelyne Bell Burnell



Fig. 16 IAU WiA Training Program Series-1 participation

Capacity building and Skill Development are the keystones to ensuring success in any field. The field of astronomy is no different. It requires good coding skills, use of software for data analysis and visualization. Hence, when I joined as co-Chair of the WiA WG, I considered Training Programs to be my major focus. It was decided to schedule easily accessible virtual training programs every alternate month to help women researchers acquire basic skills in research. We started off with our first Training Program titled **“Tools for Research in Astronomy”** which included sessions on python, astropy and latex. These were meant to be guiding tools that give participants a brief introduction and shallow dive in the above skills.

The Plan of the Workshop included, introduction to Python and Jupyter Notebooks, Plotting with Python, Matplotlib, Astropy, Overleaf, ADS, Latex.

This was to initiate the learning process so that depending on their respective areas of research, participants can continue their work. Interactive groups were set up on Slack as well as Telegram so that discussion and interaction can continue even after the workshop. The workshop was announced on our social media platforms and website. We had a very good response from the community and widespread registration from all over the world (See Fig. 16).

We would also like to acknowledge the support of Prof. S N Hasan in conducting the program. He gave talks as well as hands-on sessions in the program. He was the Head, Department of Astronomy, Osmania University, Hyderabad and Director of Japal-Rangapur Observatories. At present he is at the Dept of Mathematics, Maulana Azad National Urdu University, Hyderabad, India. His research interests are Celestial Mechanics and Dynamical Astronomy. He has published his research in national and international journals and has more than 25 years of teaching experience. He is actively involved in olympiads, public outreach and science popularization programs for children and adults.



Priya and S.N. Hasan



Adriana Maria Gulisano (a,b,c) , Alicia Cruzado (d,e), Ana Pichel(b), Jorrgé Correa-Otto, (f) Alejandro Mudrik (g)

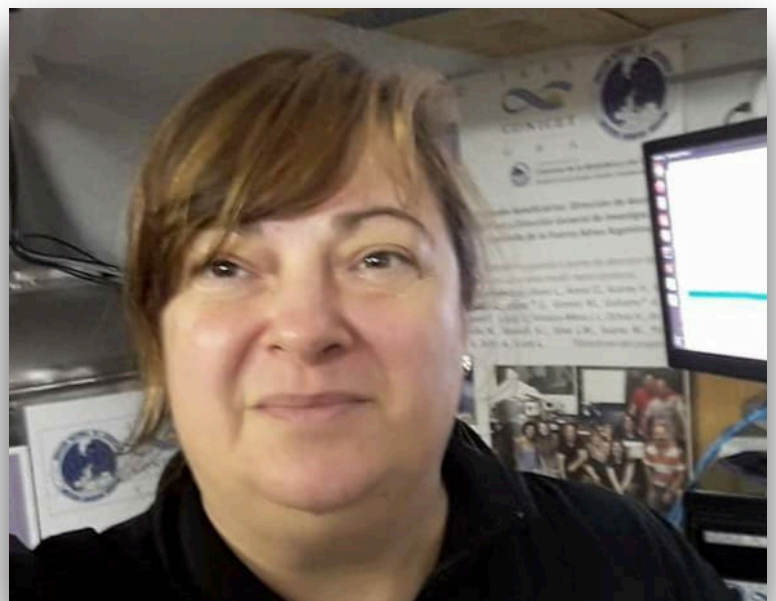
- a) Instituto Antártico Argentino, Dirección Nacional del Antártico , IAA/DNA, Argentina
- b) Instituto de Astronomía y Física del Espacio, IAFE CONICET-UBA, Argentina
- c) Departamento de Física, Facultad de Ciencias Exactas y Naturales, UBA, Argentina
- d) Facultad de Ciencias Astronómicas y Geofísicas, UNLP, Argentina
- e) Instituto de Astrofísica de La Plata (IALP), CONICET-UNLP, Argentina
- f) Facultad de Ciencias Exactas Físicas y Naturales, UNSJ, Argentina
- g) Observatorio Astronómico de Córdoba, UNC, Argentina

Introduction:

The main goal of this work is to perform a statistical analysis of the presence and participation of men and women in the field of Asociación Argentina de Astronomía (AAA). In order to prepare our sample, the distinction between men and women was made based on the traditional association of the people's name to a specific sex.

Finding the numerical differences in the presence and/or participation of men and women in the field of the AAA, will allow us to become aware of the different problems that the unbalance entails and then to implement actions to reverse this situation and finally achieve parity. This work was carried out based on the data that the AAA directive board provided at our request. However, given the difficulty in accessing some data, such as those related to invited talks to the AAA's annual meetings, and the incompleteness of some others, this work does not represent a complete study of the subject.

However, given the difficulty in accessing some data, such as those related to invited talks to the AAA's annual meetings, and the incompleteness of some others, this work does not represent a complete study of the subject. We also intend to carry out in the future a more detailed analysis of the available data and a deeper interpretation of them, appealing, if necessary, to the analysis perspective of experts in the study of these sociocultural phenomena.



Adriana Maria Gulisano

Procedures and results:

Since its creation, the AAA has not carried out a systematic update of its membership list, making effective the corresponding deletions of defaulters and deceased persons over the years. Therefore, the historical record that we have does not represent the real-time dynamics of its composition.

Taking this into account, and considering that the error in the registration dates of the members is comparatively negligible, the Figure 1 has been built. The figure shows with blue and red lines the number of male and female members accumulated from the creation of the AAA, in 1958, to the year specified on the abscissa axis. We understand that, beyond the large proportion of males observed in the first years of the existence of AAA, which keeps separated the red and blue curves represented in Figure 17, they tend to be parallel, reflecting the

The black curve in the figure clearly shows that the temporal variation of the difference between the numbers of male and female members has remained practically constant in the last 20 years. In Figure 18, where male and female holding management positions in the AAA are represented, a notorious inequality is observed in all the categories, except in the position of treasurer, being overwhelming the disparity in the higher hierarchical positions.

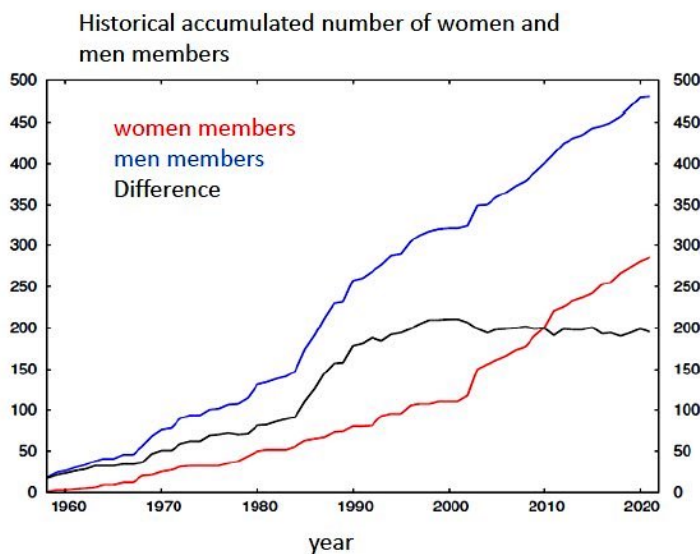


Figure 17. Historical accumulation of members as a function of time.

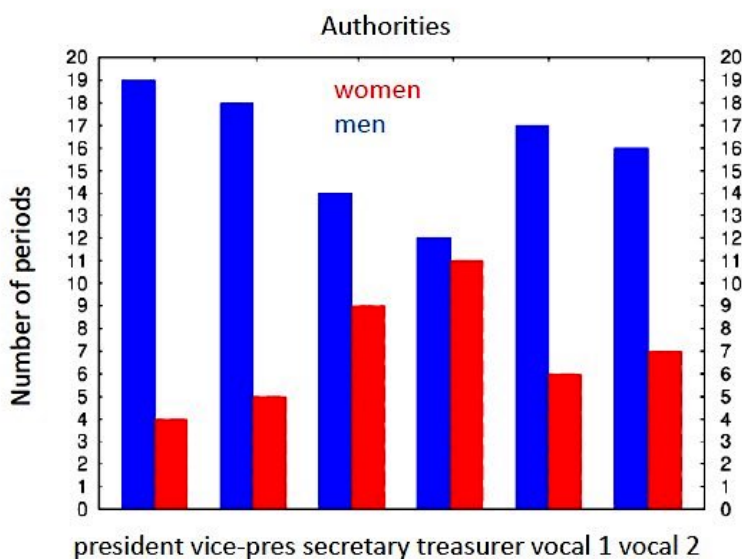


Figure 18. Number of periods during which female and male members held management positions in the AAA

Of the 23 periods elapsed since the creation of the AAA in 1958, in 19 of them the position of President was held by a man and in 4 by a woman, the vice-presidency was held in 18 terms by a man and in 5 by a woman and the position of secretary was in charge of a man in 14 periods and a woman in 9 of them. An analysis of the application and granting of scholarships is displayed in Figure 19. From the 344 applications for the AAA scholarships, 11 with incomplete data have been eliminated for this study.

Of the 333 AAA scholarships applications under study, 26 are applications for Type A Scholarships, 7 are applications for Type B Scholarships and 300 are applications for Stimulus Scholarships. Figure 19 shows no disparity in the percentage of scholarships awarded to men and women. Taking into account that 52% of the applicants are women and 48% are men, of the total scholarships awarded, 52% were awarded to women and 48% were awarded to men. Nor is there a disparity if the percentages of scholarships awarded to women and men are analyzed with respect to the number of applicants of their own gender, this percentage being 43% for both women and men.

Using the same sample as the one considered to draw up Figure 19, Figure 20 was obtained. A great disparity in the percentage of scholarships nominated with a male director and with a female director, 68% and 32% respectively, is observed. This disparity remains when the scholarships awarded are analyzed: 68% of the scholarships were awarded to applicants

postulated and awarded scholarships according to the applicant gender

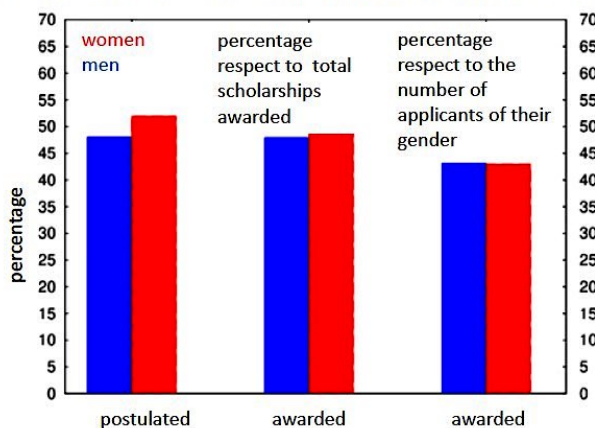


Figure 19. Application and granting of type A, B and stimulus scholarships. Analysis according to the applicant's gender.

A male director and 32% to applicants with a female director. No disparity is observed when analyzing the percentages of scholarships awarded to applicants with a female director and applicants with a male director with respect to the total number of applicants with a female director or male director, respectively, the percentages in both cases being 43%.

scholarships postulated and awarded according to the gender of the director



Figure 20. Application and granting of type A, B and stimulus scholarships. Analysis by gender of the director.

An analysis of the Application and Granting of Scholarships taking into account the gender of directors and applicants is shown in Figure 21. It is shown that both male directors and female directors have similar numbers of male applicants and female applicants. However, it is clearly observed that, when the director is male, the percentage of scholarships awarded to women is higher than the percentage of scholarships awarded to males, these percentages being 57% and 43%, respectively

director is a woman, in this case the percentage of scholarships granted to women being 41% and that of scholarships granted to men 59%.

Regarding the awarding of prizes, it can be seen at Figure 22, that The Carlos M. Varsavsky Prize, awarded biennially since 2006 for the Best Doctoral Thesis, has been awarded to 4 women and 4 men, the José Luis Sérsic Prize, awarded biennially since 2007 to the Consolidated Researcher, has been awarded to 1 woman and 7 men, and the Jorge Sahade Lifetime Achievement Prize, awarded triennially since 2006 to the Argentine researcher who has developed an extremely fruitful career, has been awarded to 1 woman and 4 men.

diminished in recent years. There is no disparity in the application and granting of scholarships according to the applicant's gender. From the analysis of the scholarships applications, it can be inferred that the direction of the corresponding projects has historically been carried out by men in a significant percentage (68%), which results in a significant disparity between men and women directors of scholarships granted by the AAA.

An important and sustained gender disparity is observed in the occupation of management positions, this being more pronounced in the positions of president and vice president. Although there is approximately no disparity between men and women in the awarding of the Varsavsky Prize, there is a disparity in the awarding of the highest category prizes, most of which have been awarded to men.

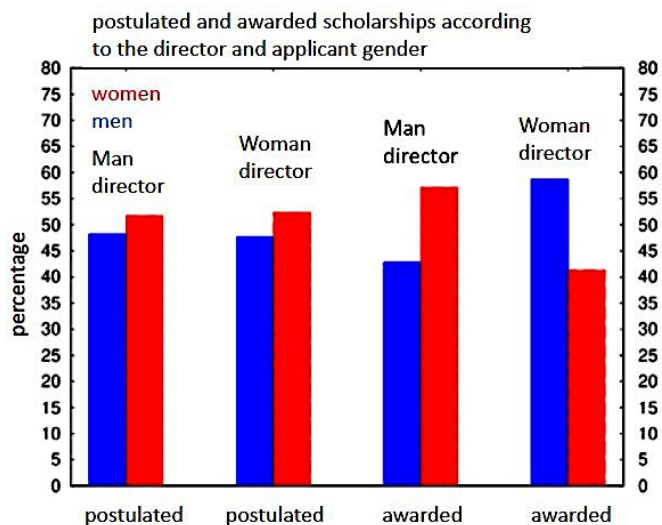


Figure 21. Application and granting of type A, B and stimulus scholarships. Analysis by gender of the director and the applicant.

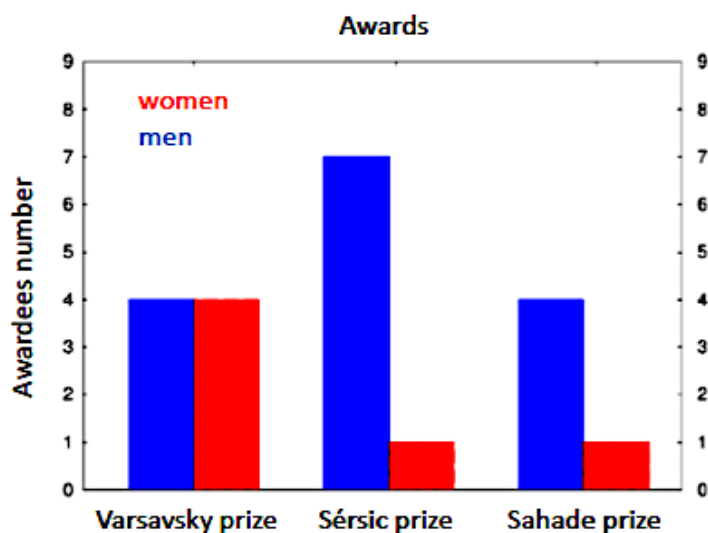


Figure 22. Awards given by AAA

Conclusions:

The analysis of the results shows that the historical disparity between men and women in the membership of the AAA has notably

The data analyzed, in particular the fact that the presidency and vice-presidency of the AAA, as well as the direction of scholarships, are mainly exercised by men, show a marked asymmetry in access to power positions between men and women. This asymmetry, observed in various social spheres, including the Argentine and Latin American scientific fields (Albornoz et al. 2018), has been generated by the patriarchal system that has prevailed for centuries in our societies, keeping women away from power positions and decision-making domains (Holloway 1993, Grant 1995). We hope that, with the participation of everyone in management policies, these problems will tend to be reversed in order to achieve true gender equality in our community.

Our contacts:

<https://aaascgeneroeiguald.wixsite.com/genero-aaa>

https://twitter.com/Genero_aaa

https://www.instagram.com/genero_aaa/

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1-Tell us about your career path from school days until now and when did you develop your interest in Astronomy

I did my basic education in Mumbai-India and grew-up in an academic family where scientific education was given high priority, hence a career in higher academics was an obvious choice for me. At an early age of 6 yrs, I was already amazed by the millions of stars in the milky way that we (my 3 siblings and I) could watch in the night sky from my grand-parents country house and was always curious to know, what lied behind these stars and was there another unexplored world out there. I use to watch the night sky for long hours trying to figureout why the stars showed twinkiling effect, different brightness and colors and why moon appeared patchy. Thats when my curiosity and interest in astronomy grew.

During my graduation days, I had several opportunities to work on X-ray and gamma-ray astronomy projects with eminent and encouraging scientists (all men) from the TIFR-Mumbai and also attended lectures from local and visiting international scientists. It was a very enriching experience that built my interest deeply into this field of research and then it was never looking back.

During my Masters in 2000, I attended the summer school organized by IUCAA-NCRA, Pune and visited the GMRT site. I was amazed to see the array of giant radio telescope built by Indian scientists under the PI-ship of late Prof. Govind Swarup- a very far sighted, approachable, enthisiastic scientist who was interested in discussing and encouraging students (female and male equally) to take up research as a career. After this summer school, I joined a Franco-Indian collaboration Ph.D project in 2003 on radio and multiwavelength study of high energy sources



Mamta POMMIER, observing at IRAM, Granada

started by the CEA, Saclay, France and TIFR-NCRA-GMRT, India. The project was led by Prof. Philippe Durouchoux (retired, CEA, Saclay), Prof. M. Manchanda (TIFR, Mumbai), and Prof. A. Pramesh Rao (NCRA-GMRT, Pune) and funded by the Indian Space Research Organization and Raman Research Institute trust. I worked mostly at the NCRA and had analysed 100s of GMRT datasets down to 235 MHz and trained many first time GMRT users in data analysis. It was a great experience working with all these men astronomers and in different labs, as they were very positive and encouraging people, with complimentary expertise. I also met my husband (a French national) at the GMRT, who was working on a collaboration project for Engineers under the French Civic service program in India.

I had spent half of my thesis time in France and would like to thank all the support, advice, and help from Prof. P.Durouchoux (Good mentor) and Prof. P. O. Lagage (CEA Director) for my thesis work. While in CEA, Saclay, I discovered that low frequency radio astronomy was not developed enough in France and there were not enough postdoc positions and fundings available in this field of research, but I had a Postdoc offer from the Observatory of Leiden, so I joined

the commissioning team of the LOFAR project as postdoc in Leiden, the Netherlands, in 2007 where I had an opportunity to work with Prof. H. Rottgering (Good mentor) and a leading team of radio astronomers. This was another enriching experience as it was an active, diverse and robust team, where I learnt new techniques in low frequency radio data validation and commissioning down to 50 MHz, developed my research projects on studying the non-thermal emission (using LOFAR, GMRT) and gas interaction in the galaxy clusters and wrote the SKA memo 113 on Imaging capability and system sensitivity. I thank my Dutch, UK, Australian, Indian, and Spanish-LOFAR and SKA collaborators for acknowledging my work in publications and presentations in meetings and conferences.

Since 2009, I am back in France and worked at CRAL and University Claude Bernard Lyon 1, due to family reasons (I had my children and French nationality).

In the last 12 years, I have helped to build the low frequency radio astronomy community in France and commissioning (data validation, quality checking, analysis) of the NenuFAR Imager (SKA-Pathfinder) by producing several images down to 40 MHz of AGNs and cluster, thanks to my earlier experience with the low frequency data analysis and LOFAR commissioning work. I continue to lead several projects with the SKA and Pathfinders on my research topic.



The main challenges that I have faced (and continue to face) in my career started after the maternity (2009) and during permanent job applications (on-going), when I had to experience systematic stereotypes, reduced flexibility, and discrimination or lack of postdoc positions offered in another cities or abroad due to family responsibilities, two-body problem and lack of local opportunities to work on low frequency extragalactic radio astronomy projects related to SKA and pathfinder in France, due to limited funding, expertise and a few women in this field.

3- How did you continue with your professional career, then?

Thanks to regular fundings (6 as of now) I had won by writing proposals, fair referee panels, support from the funding agencies in France, India, Netherlands, my PhD time collaborators, and the support of last 3 CRAL-Lyon observatory Directors, who hosted my radio astronomy research projects by providing me office space and computing facilities as well as the teaching duties I got at the University Claude Bernard Lyon 1 (UCBL1), France, **but, I had to also accept to work under part-time and 4 years of unpaid contracts due to small fundings I had won and family constraints.**

However, thanks to these support especially after the maternity phase, I could not only self-sustain my career since last 12 years, but also build the low frequency radio astronomy expertise in France (a SKA member country since 2021), help 17 students from college up to postdoc level (worldwide) to build their careers, developed several exchange programs between France and India, and help many students at the University with their job and higher degree applications by providing guidance and supporting recommendation letters. Due to these efforts Lyon University

Acknowledged my work and chose me as the **'1st Representative of Women in Research at the UCBL1' in 2019.** With the University members and the 'Equality and Diversity cell, I have initiated the **'Society of Women Researchers'** in 2019 to continue to support the career of Women at the University level and address issues they face, by organizing awareness programs, but we need fundings to do a meaningful help.

4-How did you handle biases and discrimination that you had to face in your career?

I always put my maximum best efforts in my projects and work hard to make sure that I deliver whatever I can, to the best of my capabilities or whatever I had promised to, you can see this very well in the last 4 months of activities of the IAU WiA WG. I handle biases and discrimination by doing my best in the given circumstances and helping others.

5-What role did the female or male colleagues play in your journey. Who supported you the most or were you alone in this phase?

As mentioned, all my supervisors were men, as women are holding less permanent positions worldwide. I was lucky to have supporting men as collaborators. But I have also had very difficult time with a few men collaborators too. Women collaborators were supportive and mostly limited due to their situation- very few women in France are working in low frequency radio astronomy.

6-Why did you choose to serve as the IAU Women in Astronomy WG Chair?

Women face a lot of obstacles, harassment (physical and mental) in their research career in STEM, as seen in the survey, however, they are often left alone to handle these problems and there is either very little or no effort done by the



Society of Women Researchers at the UCBL-1

Organizations to solve their problems. Their voices are unheard, this leads to a much sever health problem and sometimes even turns fatal, as seen in Fig. 15 of the survey. I feel concerned and worried about this situation, for the sake of future generation (**Don't you?**), and hence accepted to serve as the WiA WG Chair to help the career of women researchers. They deserve to be treated equally (its basic human right) and role of women in higher academics needs to be secured.

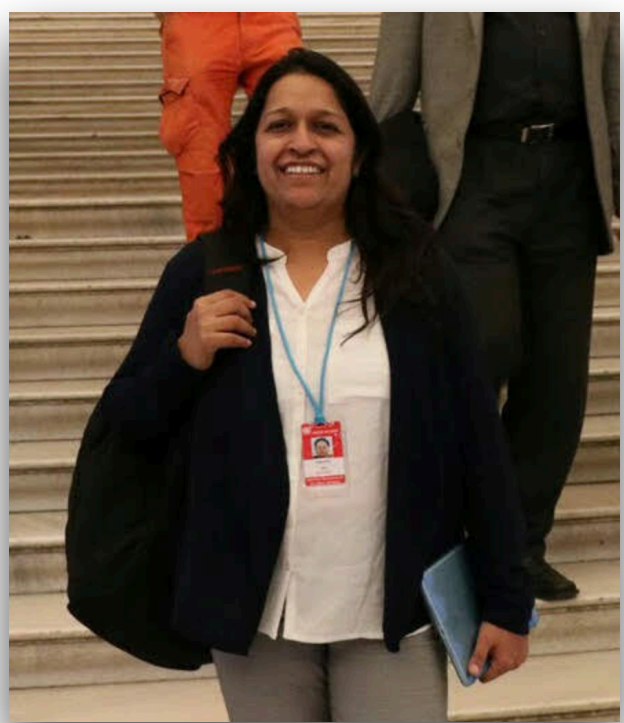
7-Why is gender balance and diversity important in Astronomy and STEM careers?

Gender balance is important in every field, as it leads to safe, progressive, and healthy working environment, and STEM fields are no different to that. Further, a diverse working environment is even better as it offers a more sustainable and evolved working environment with a future growth possibility. When gender balance and diversity is neglected in a project, then we land up losing a pool of resourceful and highly skilled workforce, which is not good for the development of the field as it becomes limited and short lived and this is not worth for the funding agencies and in return the society which is funding those projects.

8-Message- Be persistent, perseverant, helpful, and speak up your problems

1-Tell us about you career path from school days until now

I grew up and studied in Mumbai, India in a privileged family where I had the freedom to choose a career of my choice. It was here that I started working in the Planetarium as a student guide and student scientist. It was a great experience. We had lectures by visiting professors from TIFR as well as all over the world. I was a great fan of Carl Sagan as Cosmos was being screened on television. Prof N C Rana at TIFR, Mumbai was also a great support and I spent a summer visiting TIFR and learning Astronomy. It was a great experience & helped me in my first experiments with outreach and science education.



Priya Hasan



3- You are an active member in the Astronomical Society of India, What do you think about the Indian Astronomy community and the activities in general?

I am the Secretary of the Public Outreach and Education Committee of the Astronomical Society of India. Various campaigns have been done to popularize Astronomy in the country. There are various challenges in conducting these activities which include funding, lack of scientific temper, logistics and organizing. And with a country like India, with its large population and expense, a good effort has been made in coordinating activities with People Science Forums, Planetaria, and other stakeholders. So I would say, a good effort has been made, but there is always scope for more.

2- When did you develop your interest in Astronomy

Before I completed school, I knew that Astronomy will be my subject. Even now, after so many years, I fail to find pleasure in learning any subject other than Astronomy. The charm of the subject has always been a part of me. There is almost no other subject I think I would do. Probably it is a bias, but so be it.

4- What is the situation of Women in Astronomy in India and what efforts are being taken by the institutions

The situation in India is not very different from other parts of the world. There are various challenges women in STEM face. There is definitely a lack of women seen in higher positions and in general in universities and institutes all over the country. Things are changing, gradually. I am optimistic that things will change for the better. Efforts are being taken by institutions, but there is lots more to be done.

5- When did these efforts start, why and is there any visible change?

Efforts have started, only recently, where we do see more women in institutes in India. Universities, have a reservation for women and therefore the basic 33% representation exists, however deceptive. There has to be a point where women are given jobs that are not “only women” on the basis of pure merit.

6-Why did you choose to serve in the IAU Women Astronomy WG as a Co-Chair?

I do believe that efforts, continued and effective, have to be made to improve the situation of Women Astronomers all over the world. This has to be firstly in attracting women by outreach activities. Young researchers need to be trained and empowered to be employable and resourceful in their positions. And finally, efforts have to be made to retain these women in their positions, especially once they have added responsibilities of children and family. I wanted to be actively involved at all these three levels and hence I choose to serve in the IAU Women Astronomy WG as a Co-Chair.

7-You are either leading or involved in various IAU activities, which are these?

We are very much involved in astronomy outreach and education activities, training for olympiads, conducting workshops, sky shows and talks. We have received funding from the US Consulate in Hyderabad and the IAU-OAD. You can find more details at <https://shristiastro.com/>



8-You are also leading Astronomy activities under Astroshruti framework? Can you tell us more about this? Why did you start it? Is it an independent effort or with the help of institutions in India? Why is it interesting to carry out such activity on an independent platform?

My husband S N Hasan and I started Shristi Astronomy so that we could have coordinated activities in Astronomy Outreach and Education. We have worked in the absence of funding as well as in the presence of funding. It has been a very enriching and interesting effort. We have a large variety of lives we have touched and the enthusiasm on faces is what keeps us inspired. I think it is interesting to carry out activities on your own as you have full freedom to plan. Obviously, it does mean added responsibility and effort.



9- Of Course such activities demand a lot of effort, how do you organize it and how does it help you to advance in your career?

Yes, that's true. Sometimes it gets tiring because often these activities are planned on weekends or after work hours. In terms of promotions at work, a lot of these activities do not count. But in terms of work satisfaction and learning, it helps immensely.

10-What efforts would you like to take as IAU WiA Co-Chair.

Training Programs is one of the important tasks we have taken up. Mentoring of young aspiring astronomers is also an important issue that needs to be done which includes professional as well as non-professional (personal) mentoring to help women tackle various problems that they could be facing. Fundraising, general awareness, organizing symposia and workshops are also important.

11-What are your plans for the future?

To continue working to the best of my ability, hoping to help and work towards an inclusive, diverse community of astronomers with a common search for knowledge.

12-Do you have any message for Women in Astronomy?

I think women have to be persistent, work their way out and stay motivated and focused on their goals and work.



I am from Colombia, where my earliest memories are related to my fascination with the wonders of the sky. I hold a bachelor degree in Physics from the Universidad de los Andes in Bogota, and my interest in further postgraduate studies in Astronomy, which was not possible in my country at that time, motivated me to move to Europe and complete a Ph.D. in Astrophysics at the Instituto de Astrofísica de Canarias - ULL in Spain. I was involved in postdoctoral research experiences at the Dutch Open Telescope - University of Utrecht, Mullard Space Science Laboratory - University College London, Universidad de los Andes, and Big Bear Solar Observatory - New Jersey Institute of Technology. After almost 14 years abroad, I moved for good to my home country in 2014 to join the National University of Colombia where I am currently an Associate Professor, working at the National Astronomical Observatory of Colombia, the oldest observatory in America, which is part of the university. My research interest focuses on the study of the Sun, in particular the analysis of solar plasma and magnetic fields whose interplay gives place to a variety of solar features and the activity of the star.

I am currently leading the Group of Solar Astrophysics at the Observatory in which we opened this research branch in the country, but also organize outreach activities around the study of the Sun. I authored "My first book of the Sun", a book (in Spanish) that includes augmented reality to bring the study of the Sun closer to children. I am a member of the International Astronomical Union, the Royal Astronomical Society, and the European Astronomical Society, in which I have been honored to share with many colleagues and learn from their valuable experiences in research and outreach.

In particular, being part of the IAU Executive Committee WG Women in Astronomy since 2018 has allowed me to develop initiatives to support equality in astronomy, promoting it among girls and women. In Colombia, I have been part of projects aligned with this aim in rural areas in the country, where access to knowledge is even more restricted. I am the National Coordinator of the IAU Office of Astronomy for Education in Colombia, working with a team of experts to promote the use of astronomy in primary and secondary education and build a local astronomy community with common interests in order to coordinate efforts.

I consider myself very passionate about science communication and education. In the last 5 years, I have given more than 400 public talks for schools and academic institutions, astronomy festivals, and diverse outreach events; being also an opportunity to learn and get fundamental feedback from diverse audiences. I strongly believe that spending time sharing our knowledge and making it accessible to everyone represents a huge contribution for a society willing to face new challenges and help out to close the huge gaps of inequality faced by many communities.

Equity, diversity, and inclusion are topics that have drawn my attention since I started my activities at the National University of Colombia. I got rapidly involved in projects to promote the participation of different groups and communities using astronomy as a tool to achieve such objectives. One of the projects is called "Scientific girls and women" and aims to foster science skills in girls and women in vulnerable communities. I co-authored the book "Woman is science", a children's book (in Spanish) telling the story of 20 Latin American women scientists to publicize their life stories around science. At the National Astronomical Observatory, we organized an official course of astronomy based on tactile material and sonification tools adapted to visual-impaired students but also with the participation of students with normal vision. In 2016, I was involved in the organization of the 1st Workshop on Astronomy Beyond the Common Senses for Accessibility and Inclusion that was held in the historical Colombian city of Cartagena de Indias. It represented an international effort aligned to the objectives of the IAU Division C Commission C1 WG 3, with a program highlighting initiatives from many places around the world.

2nd Workshop on Astronomy Beyond the Common Senses for Accessibility

The 2nd Workshop on Astronomy Beyond the Common Senses for Accessibility and Inclusion was held on November 17-18, 2021, in virtual

experiences, work toward specific objectives, discuss recent applications, and participate in initiatives that were developed for audiences with disabilities. A number of 376 participants registered for the Workshop, from 54 different countries. The program comprised conferences: 20 oral contributions and 4 invited talks by: Stavros Katsanevas (European Gravitational Observatory), Gary Foran (Swinburne University of Technology), María del Carmen Argudo Fernández (Pontificia Universidad Católica de Valparaíso) and Dayna Thompson (Charles W. Brown Planetarium – Ball State University). All contributions will be part of the conference proceedings to be published in the Revista Mexicana de Astronomía y Astrofísica – Serie de Conferencias. I would like to express my appreciation to the local and scientific organizing committees, and the people and institutions that supported this event. For more details, accessing the Posters Exhibition and having the possibility to watch the recorded meeting, please visit the website: <https://tiny.cc/2wai>

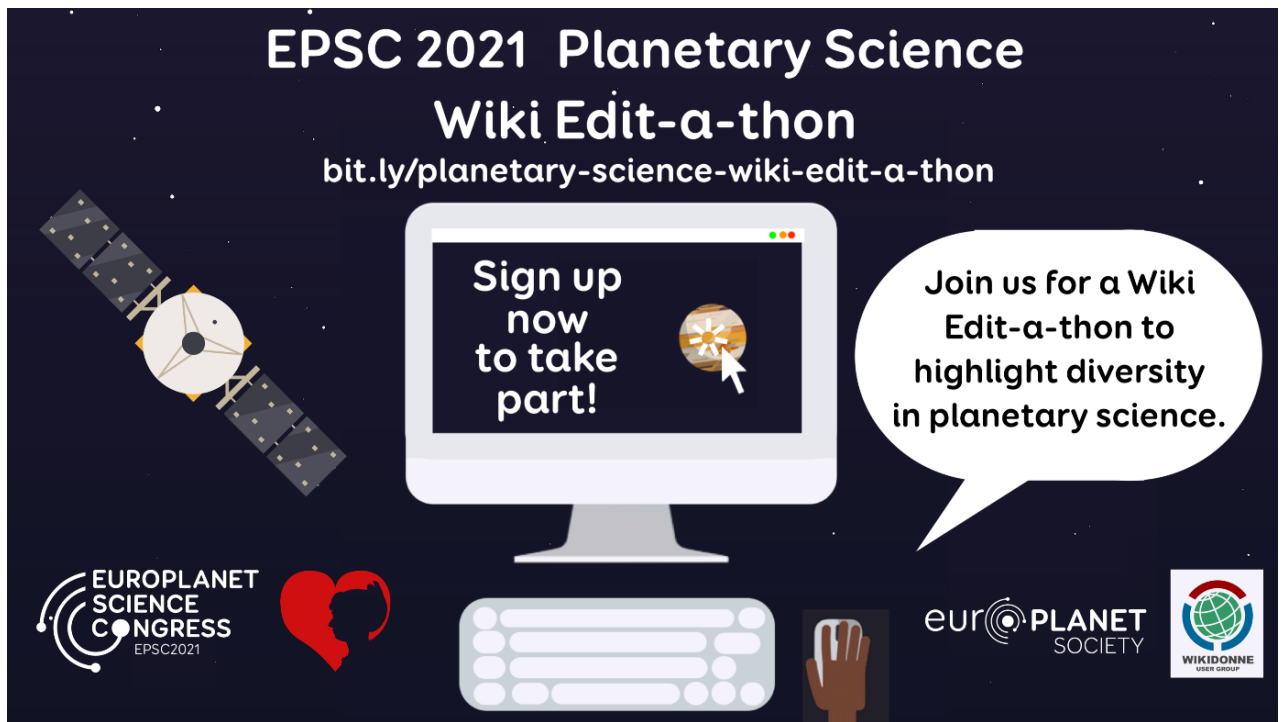
I am very excited to be once again part of the Executive Committee WG Women in Astronomy in the new triennium (2021-2024) and to be able to support the new activities that will be adding important inputs focused on the difficulties faced by women in astronomy and helping to reduce the existing gender gaps.

References- Mi Primer Libro del Sol (Audiobook)
https://www.youtube.com/watch?v=Yxjw3hmQVxk&feature=emb_title

Mujer es Ciencia:

http://ciencias.bogota.unal.edu.co/fileadmin/Facultad_de_Ciencias/Publicaciones/Archivos_Libros/Mujer_es_ciencia/Mujer_Es_Ciencia.pdf





Planetary Science Wiki edit-a-thon

Background

Wikipedia is an open source, web-based encyclopedia, allowing anonymous and registered users to create, edit and improve articles. A survey in 2018 showed that as many as 90% of Wikipedia's editors were male and as many as 81% of contributors were from the Global North [1].

In addition, there are fewer contributions about women, especially in STEM fields, and they are usually less developed [2]. In October 2014, only 15.53% of English Wikipedia's biographies were about women [3]. The WikiProject Women in Red was founded in July 2015 with the objective to address this gender bias in Wikipedia content. They succeeded in increasing the above-mentioned percentage to 18.71% as of 11 January 2021 [2].

Today, Wikipedia is within the 20 most popular websites [4] and every month it attracts more than 1 billion unique visitors [5]. Wikipedia therefore has a huge potential to change public perception of who is doing science and what a scientist 'looks' like.

Where are (women) planetary scientists on Wikipedia?

In June 2020, there were only 189 planetary scientist biographies on the English Wikipedia, including 48 biographies of female planetary scientists (25%). This percentage is in agreement with the percentage of women in the International Astronomical Union from all ESA's Member States (24%) [6], but planetary scientists are clearly underrepresented on Wikipedia. Many of them either do not have a Wikipedia biography yet, or if they do, they are often misclassified under the category of "astronomers" or "astrophysicists".

A Planetary Sciences Edit-a-thon

The Diversity Committee of the Europlanet Society aims to highlight diversity within the planetary science community. Therefore, during the Europlanet Science Congress (EPSC) 2020 and 2021 [7], they organized – in collaboration with [Women in Red](#), [WikiDonne](#), [WikiMujeres](#), and [Wikimedia Belgium](#) – a Planetary Science Wiki Edit-a-thon. An Edit-a-thon ('edit marathon') is an organized event where editors from an online community (such as Wikipedia in this case) write, translate and improve articles on a specific topic [2].

The 2021 edition of the Planetary Science Wiki edit-a-thon started on Friday 17 Sept. with an introduction given by Camelia Boban (WikiDonne), Ester Bonet (WikiMujeres), and Geert Van Pamel (Wikimedia Belgium). This was followed by almost daily edit-a-thon sessions where participants met to continue to create and translate Wikipedia articles.



Join us!

Every month we are (virtually) continuing to meet to add and translate new profiles. If you wish to take part to our Wiki edit-a-thon but you never wrote on Wikipedia, you are always free to join! There will be time for questions, feedback, and depending on the number of new people, we could give a short introduction to edit in Wikipedia.

Register on the google form:

<https://forms.gle/ed99DpASLjrPLb3u9>

References

- [1] https://meta.wikimedia.org/wiki/Community_Insights/2018_Report
- [2] https://en.wikipedia.org/wiki/Wikipedia:WikiProject_Women_in_Red
- [3] Eduardo Graells-Garrido, Mounia Lalmas, Filippo Menczer, "First Women, Second Sex: Gender Bias in Wikipedia", arXiv, 9 February 2015, p. 3.
- [4] "[Wikipedia.org Traffic, Demographics and Competitors](#)". www.alexa.com. Retrieved October 1, 2019.
- [5] <https://stats.wikimedia.org/#/all-wikipedia-projects>
- [6] Piccialli A., et al., Participation of women scientists in ESA Solar System missions: a historical trend, Adv. Geosci., 53, 169–182, <https://doi.org/10.5194/adgeo-53-169-2020>, 2020.
- [7] <https://www.europlanet-society.org/epsc-2020-planetary-science-wiki-edit-a-thon/>



Naghi Elisabeta Ana

“300 Stars”

A Trailblazer on the STE(A)M Universe (Astronomy at School)

During the 4th -10th of October 2021 the World Space Week event was organized in Oradea, Romania, to celebrate women’s participation into space field and the “**300 Stars**” project was launched, under the aegis of the Romanian Space Agency (ROSA) and Romanian National Astronomy Committee (CNRA).

What is this project about? It is about promoting educational activities related to the field of Astronomy and Space Sciences with a view to a future STEAM professional career, as well as to sharing and using examples of good practice for sustainable development (clean energy, solutions for the climate change etc.) at local/ national/ global level. Under this program, 15 schools from 12 counties in Romania will select a group of maximum 20 students aged between 6 and 11 years old (divided into two categories: aged 6-8 and 9-11). These students will have different backgrounds including those being in health risk situations, such as learning difficulties or even special educational needs, with severe disabilities, like blindness, or they belong to an under -privileged group, such as minorities or have a difficult family situation.

The selected group of students will be trained to develop soft transversal skills, such as critical thinking, problem solving or interdisciplinary and transdisciplinary approach, communication with the help of STEAM school subjects such as Science, Technology, Engineering, Arts and Mathematical activities, based on Astronomy education. All the activities will be carried out in 8 extracurricular workshops developed in each participating schools with the help of teachers teams formed by primary teachers together with Sciences teachers. The results of these activities (such as project works, drawings and paintings, videos or models, will be presented in different online sessions and finally the conclusions will be drawn during summer camps.

The first step in this project was carried out during the World Space Week 2021 in Romania and it covered, as previously mentioned, two main programs:

1. A wide range of, face to face as well as virtually activities, in an educational center in the city of Oradea. Specialists from well-known institutions, educational NGOs, teachers and students gathered to learn from each other.

2. Release of the main structure of teaching guides for extracurricular activities related to the field of Astronomy and STEAM in primary schools and establishing a teachers teams that will work on the final form of these guides.

The methodology: Project based learning and inclusive education is a way to promote Astronomy Education, STEAM subjects, to develop skills: critical thinking, problem solving or inter and transdisciplinary communication approach. Teachers and students from all over the country, or world, can work together, supervised by teachers from Sciences, Astronomy, Science, Technology, Arts and Mathematical backgrounds. We would like to present you the way we can teach astronomy using practical and attractive, non-formal methods, linked to outdoor education and CLIL. It is innovative and creative. Children from primary schools can work with secondary and high school students to ensure peer and collaboration learning.

In the second part of the project, the participating schools are expected to implement the proposed activities. These may also work as a test, as we plan to have these guides available at the national level, as a part of the school curriculum with the approval of the Romanian Ministry of Education, which we will get after they are tested, or just as an auxiliary material to be used with passionate students.

It is very important to emphasize that these activities represent a real opportunity for students from the target group of the project, who belong to disadvantaged categories (rural areas, difficult social backgrounds, limited access to educational opportunities) or not. It allows the school students to get involved in Astronomy projects, in order to discover their abilities and develop new skills. We consider our project to be an important step in deciding if a STEAM career would be suitable for their best interest.

As the groups of teachers are working hard these days in releasing the activities for the proposed guides, your opinion about this idea would be a lot appreciated. We are open to any collaboration and new ideas as professional support is important in this stage.

By-
Naghi Elisabeta Ana & Magda Stavinschi

Coordinator, Naghi Elisabeta Ana
NAEC, Romania,
Member of the Romanian National
Astronomy Committee (CNRA)

Email: ana.naghi@gmail.com

World Space Week October 4th-10th 2021

Women in Space celebrated in Romania



Magda Stavinschi

Between October 7th and October 10th 2021, we organized in Romania the event **'300 STARS- PIONEERS OF THE STE(A)M UNIVERSE'** as part of the World Space Week 2021, whose topic was **'WOMEN IN SPACE'**. The activities were organized in the city of Oradea, Bihor County.

Among the 100 participants, there were teachers who work with students belonging to various schools of primary and secondary level: primary and lower secondary level schools, national, theoretical, technological or vocational high schools, centers of inclusive education, Children's Palaces (public schools that provide non formal education). The teachers involved were primary level teachers, secondary level science teachers, as well as art and culture teachers (foreign languages, dancing), as we intended to add the A to the STEM concept. All these teachers came from 20 counties from all over Romania, both from urban and rural areas. School inspectors were also present at the practical activities to get an idea of how they will be implemented in schools. Besides them, professional astronomers and astronomy experts joined the event so as to promote STEAM, astronomy and space science careers for the young generation in Romania, a rather new educational field in our country.

The key words: career, jobs of the future, STEAM, astronomy, space sciences, robotics, artificial intelligence and creativity represented concepts that characterized both the face-to-face and virtual workshops of the event.

The local organizers of the event were an educational NGO – the Association Partnership for Education- Youth Center "The Spot" and the School Inspectorate of the Bihor County, both having the headquarters in the city of Oradea. We also had the full support of the Romanian Space Agency – ROSA and the Romanian National Astronomical Committee – RNAC, as both institutions had people designated to be observers of the event. Two local companies were also involved so as to attract young students and turn them into a valuable future workforce: Vernicolor and Astormueller. The Romanian Ministry of Education was the scientific coordinator, thus there was an official educational partnership between this institution and ROSA, registered by both institutions.

The opening ceremony from October 7th 2021 was held online and had participants from various institutions of Romania: the president and members of the ROSA and the RNAC, school inspectors and counsellors of the Romanian Ministry of Education, the vice president and members of the "Stephen the Great" University of Suceava City, general school inspectors and specialty inspectors from the counties of Bihor, Cluj, Suceava, presidents and members of scientific professional associations and societies: Meridian Zero from Oradea, Astroclub Bucharest, Cygnus Suceava, a representative person from the Foundation Education for an Open Society.

Besides them, there were official participants from abroad: the Director of the Office for Astronomy Education – IAU (Germany), the coordinator of E-ROAD-IAU (Netherlands), coordinators of astronomy education from Japan, Sri Lanka and India, coordinators of STEM education from Australia and South Africa, the production manager of Global Science Opera from Norway. All of them sent a greeting record to show their support and congratulations for the event **300 STARS- PIONEERS OF THE STE(A)M UNIVERSE -World Space Week 2021** organized by Romania.

During the opening ceremony we also presented some motivational videos made by women and young ladies from Romanian that have a successful astronomy, space science or STEM career, as well as by girls or university female students that are in the process of reaching such an ambitious goal, that of having a professional career in the field of science.

During the event, we also organized practical workshops of space sciences, robotics, astronomy, artificial intelligence and creativity, debates regarding the concept of Global Science Opera, the critical understanding of STEAM careers, as well as the role of astronomy both in Romanian schools and all over the world. Within this context, the event promoted project and inclusive education based learning, thus insisting on the importance of astronomy education, of STEAM subjects and of all activities that develop 21 century skills: critical thinking, problem solving, inter- and transdisciplinary communication in an innovative and creative way.

It was also a great opportunity to start elaborating teaching guides for astronomy extracurricular activities, complementary to the school curriculum for primary level, guides that will be created by teams made of primary level teachers and STEAM subject teachers of lower and upper secondary school level.

The coordinators and organizers of the event strongly believe that, in the magical world of technology, the renewal of workforce and future careers should become one of the main priorities of any modern society. Official page of the event- <https://www.facebook.com/spatiuWSW>

Naghi Elisabeta Ana &
Magda Stavinschi

National Astronomy Education
Coordinator, Romania
Email: ana.naghi@gmail.com



300 de stele-Deschizător de drum
în Universul STE(A)M
-Oradea, Județul Bihor-
Perioada 3-10 Octombrie 2021

World Space Week OCTOBER 4-10

Săptămâna Mondială a Spațiului 2021 sărbătorește
Femei în spațiu
Eveniment desfășurat sub egida:

Organizatori: APPE, INSPECTORATUL ȘCOLAR JUDEȚEAN BIHOR, The SPOT

Sponsori: ROSA, OAE, CNRA, AstorMueller, VERNICOLOR

Artwork by Douglas Shuler, Lockheed Martin. Copyright © 2021 World Space Week Association. All Rights Reserved.

Study in Germany (Funding and Opportunities)

There are a various opportunities for study and research in Germany! In this text, we might help you to get there. It includes some information and a selection of the most famous organizations which may finance your research stay as a Master student, PhD student, postdoc or senior researcher.

1- DAAD – Deutscher Akademischer Austauschdienst

The German Academic Exchange Service (DAAD) is the German government's organization for promoting international academic exchange. They provide financial support to approximately 100,000 people each year who travel to and from Germany through their programs and financing for students, staff, researchers, and others in higher education.

Scholarships from the German Academic Exchange Service (DAAD) are very competitive, and beneficiaries are chosen by independent selection committees based on their outstanding academic records and convincing and practical project proposals or statements of purpose.

Please visit their website for application forms, comprehensive application rules, and current deadlines: www.daad.de



Al-Shaimaa-saad

2- Alexander von Humboldt Foundation

The Alexander von Humboldt Foundation encourages international and German researchers to collaborate. Every year, it grants over 800 research scholarships and prizes, including the prestigious Alexander von Humboldt Professorship. The Humboldt Foundation Network, which spans the globe and provides lifelong networking as well as recurrent funding and assistance, is a unique feature. There are almost 30,000 Humboldtians in this alumni network, including 56 Nobel Prize winners.

For more information, kindly contact or/and visit :

info@avh.de, www.humboldt-foundation.de

3-DEUTSCHE

FORSCHUNGSGEMEINSCHAFT

The Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) is Germany's main source of research funding. It funds around 31,000 research projects with a yearly budget of 3.3 billion euros. The DFG is a self-governing, independent science and research organisation. As a result, the research sector makes its own decisions directly. The bottom-up approach is used. It benefits all fields of science as well as the humanities.

Every postdoctoral researcher in a German research institute is welcome to apply to the DFG for support.

For more details: info-nachwuchs@dfg.de,
www.dfg.de

How do I choose a university in Germany?

There are various kinds of institutions of higher education in Germany. A majority of these belong to either of the following categories: Universities (including Universities of Technology, abbr. TU) are research oriented and offer a wide variety of subjects. These can award doctorate degrees. Universities of Applied Sciences (abbreviated as FH) are practice-oriented institutions that provide courses in engineering, business administration, social sciences, and design.

Although these do not issue doctoral degrees, a master's degree from a Fachhochschule qualifies one to apply for a PhD at a university.

3 approaches how to do a PhD in Germany:

1. Apply for a structured PhD program
www.daad.de/deutschland/studienangebote/international-programs/en/
2. Look for PhD job positions at German universities- www.phdgermany.de
3. To a professor or research institute, send a speculative application. If you want to apply to an institute directly, look for work groups that do research in your subject of interest in the online database- <https://www.gerit.org/en/>

Where can I find more information?

Study and Research in Germany:

www.daad.de/international-programmes
www.study-in.de
www.research-in-germany.org
www.gerit.org
www.funding-guide.de

We wish you every success!

A short online course on positional astronomy in Kannada, the regional language in South India

The short course introduced the basics of positional astronomy; different coordinate systems and conversions from one system to another were taught. Basic mathematical formulations for rise and set times of sun and other objects, planetary conjunctions and oppositions were discussed in detail. Practical exercises included derivation of the orbital periods of planets from observations of elongations, retrograde motion and using simple geometry. Calculations of the duration of a lunar eclipse geometrically, corrections for parallax, refraction and aberration were discussed.

The course was offered in Kannada, the regional language in South India. It is for the first time that such a course was made available in Kannada.

By- B S Shylaja

Coordinator from the Jawaharlal Nehru Planetarium Dr Anand



Women amateur astronomers calendar in Italian



The Unione Astrofili Italiani (UAI) and the group "Astrofile" released the 2022 Calendar of the Astrofile in Italian in Nov 2021.

The "Astrofile Calendar" collects work from Marcella Botti and collaborators who believe that joining forces, creating connections and knowing other women passionate about Astronomy could give a new breath to the Women's Astronomy Picture Of the Day (WAPOD) WG activities.

You can read more about their work and download the calendar at -

<https://www.uai.it/sito/news/uai-divulgazione/luai-lancia-il-calendario-delle-astrofile-2022/>

Forwarded by- Cesare Pagano
Coordinator IAU Inclusive Outreach (Inspiring Stars)



1- Women Astronomy Day

- Algerian Women in Astronomy

In order to celebrate accomplishments and contributions of women to the space sector and sciences, during the World Space Week 2021, the Sirius Astronomy Association in collaboration with the African Astronomical Society (AfAS), and the NOC-IAU Algeria, organized the **"Algerian Women in Astronomy"** online conference on October, 10th, 2021.

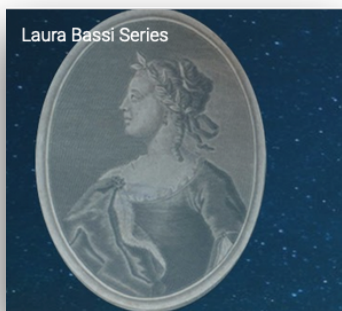
-By Chaima Ali-Khodja, The Sirius Astronomy Association, departement de physique, NOC-IAU



2- Laura Bassi colloquium series - INAF Padova Observatory, Italy

The **"Laura Bassi"** colloquium series started on the occasion of the 2021 UN "International Day of Women and Girls in Science" is hosted by the INAF Padova Observatory. It aims at showcasing and promoting the research of early career women astronomers. Talks take place on the second Thursday of each month, and the first talk was organized on Oct 14th, 2021.

-By Daniela Bettoni & Sara Lucatello, Organizing Committee Laura Bassi series INAF, Italy

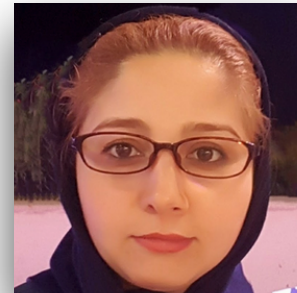


Working Group of Gender Equity

3- Female Branch of Astronomical Society of IRAN

The women (WAI) astronomers of Iran established **the female branch of the Astronomical Society of Iran** and inaugurated it on 9th Nov, 2021, the birthdate of Dr. Alenush Terian, mother of modern Iranian astronomy. The IAU President and IAU WiA WG Chair sent their greetings and support letter to Dr. E. Erfani the only female member of the board of directors of the Astronomical Society of Iran (ASI). We wish you success!

-By Encieh Erfani, Board of directors ASI



4- Egalités hommes-femmes en milieu professionnel : Les effets des stéréotypes de genre- by Isabelle Régner, University of Marseille, France

The online workshop was organized on 29th Nov, 2021 to create awareness against stereotypes and bias, **by the Femmes & Astro team of SF2A, France.**

5- Europe-Africa Summit Preview "Women's Movements in African Science, Technology, and Innovation:

The online meeting was organized from 8th-9th Dec, 2021, with the aim to give "more visibility" to different woman's movements in the fields of science, technology, and innovation within the African Continent.

-By Mirjana Povic The African Network of Women in Astronomy

6- Anna Mani Gender Equity Lecture Series were organized by the Working Group for Gender Equality, **Astronomical Society of India**



1- with IAU Office of Astronomy for Development (OAD)

The **'Forum on Astronomy in Africa'** was organized to bring together the African astronomical community to prepare for the 2024 IAU General Assembly meeting that will be held in South Africa. The 3 days workshop from 27th-29th October, 2021 was organized to discuss how the continent can maximally benefit from this unique opportunity as well as how best to facilitate participation by countries in Africa in various scientific and social development projects.

The WiA WG participated and presented their WG activities in this workshop

-Kevin Govender, Vanessa McBride and Organizing team of the meeting Forum on Astronomy in Africa

2- with IAU Office of Astronomy for Education (OAE)

The Second Workshop (virtual) on **"Astronomy Beyond the Common Senses for Accessibility and Inclusion"** was organized by the Universidad Nacional de Colombia (Colombia) in collaboration with the IAU OAE from 17th-18th Nov, 2021. The second version of the workshop provided new opportunities to develop strategies, share experiences, discuss recent applications, and participate in initiatives that were developed for audiences with disabilities.

The WiA WG participated and presented a poster on their WG activities in this workshop

-Santiago Vargas Domínguez (Chair) and Organizing team of the Workshop on the Astronomy Beyond the Common Senses for Accessibility and Inclusion



1- IAU WiA -Training Program Series- 2 'Essential Skills in Astronomy', Jan 10-14th, 2022

IAU Women in Astronomy Working Group
 BIMONTHLY VIRTUAL TRAINING PROGRAM SERIES - 2
 January 10-14, 2022 | 13h30-15h30 Central European Time (UTC + 1 hour)

Registration is open for all the International astronomy community female members and students.
 Register @ https://docs.google.com/forms/d/e/1FAIpQLSc5I-3647gWEPuhYVjJ-TgZlhjOZJcKAF0BQnWFHxpOxxHg/viewform?usp=st_link

TP2-Essential Skills for Astronomy Research

10th & 12th Jan- The Sun available for everyone: Exploring solar images with a visualization software- Santiago Vargas Dominguez (Colombia)
 11th Jan- Twitter for Scientists (why and how to use it)- Arianna Piccialli (Belgium)
 13th & 14th Jan- TOPCAT -Introduction to TopCat and it's application to select Science Cases- Priya Hasan (India)

Coordinator: Mamta Pommier (Chair, IAU WiA)
 Theme: The aim of this Training program is skill-building and development of women's careers in Astronomy. The 'Essential Skills for Astronomy Research' is a 5-days virtual Workshop with 2 hours/day. Tutorials/assignments will be given to the participants for practice sessions and certificates will be distributed for the participation and/or completion of assignments.

Contact email: iauwia2124@gmail.com
 IAU Women in Astronomy Working Group

Please click below for the virtual program details:

<https://sites.google.com/view/iau-women-in-astronomy/home/upcoming-events-and-seminars/training-program-2?authuser=2>

2- with the IAU Office of Astronomy Outreach (OAO)

The **'Women and Girls in Astronomy 2022'** event will be jointly organized by the IAU Executive Committee Working Group Women in Astronomy and the Office for Astronomy Outreach in February 2022.

-Contact : Mamta POMMIER (Chair IAU WiA WG) and Suzana Filipecki Martins (International Outreach Officer, IAU OAO)

3- XXXIst IAU General Assembly Meeting, August 2-11, 2022, Busan, Republic of Korea.

The **'IAU Executive committee Women in Astronomy Working Group meeting'** will be organized from August 8-11, 2022, during the GA meeting.

IAUGA 2022 | XXXIst International Astronomical Union General Assembly
 August 2-11, 2022 | BEXCO, Busan, Republic of Korea

IAU Executive committee
WOMEN in ASTRONOMY Working Group meeting

Astronomy for All Busan 2022

Rationale: The gender and diversity dimension of science and technology has become one of the most important and debated issues worldwide, impacting society at every level. The International Astronomical Union, through its Executive Committee Working Group on Women in Astronomy, has been a strong advocate for discussing these themes openly and for supporting initiatives that can improve a more balanced representation of diversity in our community. In this context, the IAU WiA WG together with the NOC of the IAU-GA in Busan are proud to announce the Women in Astronomy Lunch Meeting (WL), talks, mentoring, and poster sessions. The IAU WiA meeting and lunch sessions are open to all the participants attending the IAU General Assembly meeting 2022.

NOTE- If you plan to join the special IAU Women in Astronomy WG Lunch+Mentoring session the please register at the link - [IAU WiA Mentoring session @ IAU GA meeting Busan, 2022 South Korea](#)

Topics:

- Gender balance statistics in Astronomy & Awareness, Juggling family and career, including the 2-body problem
- Problems (Harassment, bullying, and sexual harassment in the workplace) faced by Women in Astronomy (STEM), Consequences and how to deal with it
- Efforts being carried out at the national level by Universities & Research organizations
- Efforts being carried out by funding agencies & international organizations
- Discrimination (Positive and negative)
- Awards just for women - how do we feel about that?
- Non-academic career options (industry, K12 teaching, national labs/observatories...)
- Ethics in publishing: getting credit for your work (How to assert yourself regarding scientific work, how to make your voice heard and your work noticed in a group environment, especially if there aren't other women.

Key Speakers:

- **Catherine Cesarsky**
- **Debra Meloy Elmegreen (Lunch session)**
- **Ewine F. van Dishoeck**
- **Rohini Godbole**
- **Silvia Torres Peimbert**

Website and Registration:

http://www.iauga2022.org/program/program_06_8.asp?sMenu=abo6 &
<https://iauwiaga.sciencesconf.org/>

ACKNOWLEDGEMENT

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With these collective efforts we hope for secure working conditions, support for Women's career in Astronomy, and counter gender balance gaps in higher academics and STEM fields!



Happy Reading!

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