



International Society of Muslim Women in Science (ISMWS) at AMU

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Exactly one year ago, in March 2021, during the celebration of the International Women's Day (IWD), a chapter of the International Society of Muslim Women in Science (ISMWS) was founded at Aligarh Muslim University under the Indo-US APJ Abdul Kalam STEM Education and Research Center of the Ohio State University (OSU) and Aligarh Muslim University (AMU) by the founder and president of ISMWS Prof. Sultana N. Nahar of OSU Astronomy and OSU Co-Director of the STEM Education and Research Center (APJAKSTEMERC). A committee of students and faculty members was formed with Alvia Fahreen, a Zoology undergraduate, as the first president with two other students as treasurer and secretary and the female members of the STEM Center, Prof. Farukh Arjmand, Dr. Hala, Dr. Swaleha Naseem, Dr. Nida Rehmani, Dr. Sabiha Parveen, and Prof. Sultana N. Nahar as the advisors.

COVID-19 pandemic continued inflicting the world, traveling was highly restricted, social gatherings were banned. Alvia had only limited scope for recruiting ISMWS members, but her courage and human side made her to organize a fund raising group to distribute food to the poor in Aligarh, devote to her study, write a research paper, and received a research grant from Frank and Debbie Incubation Center at AMU. She aims pursuing her Ph.D. degree at a US university, but the fees for the required tests for admissions are expensive. ISMWS decided to give a special recognition with an honorarium of Rs.15000 to Alvia toward her achieving higher degree. This is one example of ISMWS activities.

OBJECTIVES OF ISMWS:

ISMWS was founded in 2010 by Prof. Sultana N. Nahar of OSU with the following objectives and principles:

- form a network of Muslim females for moral support, encouragement for science and research,

- exchange information on higher education, jobs, fellowships, and secure grant
- respect the identity of each person, regardless of any regional, cultural differences, and help in self-confidence
- Motto: "Stay in Science (Basic or Applied)"
- Practice: "Keep some hours for intellectual nourishment everyday regardless which part of the day"
- Believe: "The more we use our brain and mind, the more beautiful we look.
- Islam encourages knowledge for both men and women.

NEED FOR A SOCIET



Figure 1

The need for a society of Muslim women in science was realized by a number of facts. In general, Muslim females scientists face more environmental problems and less resources in carrying out research than others. At her participation in an international conference held in Egypt in 2008 and later connections to Middle Eastern universities Nahar met modest, dedicated, highly motivated and inquisitive Muslim female scientists carrying out their research largely in isolation, with no collaboration with colleagues from developed countries, even in their own countries. They are eager but face difficulties finding and communicating male collaborators who are usually more experienced, and are not even aware of other female collaborators in the field or how to connect with them. The female professor of University of Khartoum in Sudan, who inspired Nahar for a society, in left picture and Prof. Muneera of Dammam University of Saudi Arabia (in the middle of right picture of Figure 1 are such examples. Nahar connected Prof. Muneera to Prof. Burcin of Miami University in Ohio (ISMWS member) for her research interest in laser physics.

They are also aware of the negative criticisms of others arising from cultural differences and find difficulties in becoming strong partners in the modern world. They (including Nahar herself) face

criticisms, such as, prayers are quoted as strange gestures, odhu (cleaning before prayer) in the restrooms not welcomed or get non-supportive expression, burqa or abeya covering as forced slavery, fasting as health risk ritual etc. Nahar's Nigerian student told her at the International School of Young Astronomers of International Astronomical Union “I never had a Muslim friend. Muslims don't value education”.

However, they need to know that inside the modest abaya, they are as lively as others, whether she is in India or Saudi Arabia. At Begum Sultana Jahan hall function in AMU, India (left of Figure 2), a girl in abeya but sparking eyes picked up the first prize from Nahar for her fast Bollywood dance before going out to her parents. Highly fashionable Physics undergrad students at Taibah University in Saudi Arabia put on their abeya so they can take picture with Nahar after her lecture (right of Figure 2).



Figure 2

It is not known in general that Université Al Quaraouiyine in Morocco is the first degree awarding and the oldest existing university which was founded in 859 by a Muslim female Fatima al-Fihri (UNESCO and Guinness World Records) (Left of Figure 3). The largest female university is Princess Nora University in Saudi Arabia with over 60,000 students (Right Fig. 3)



Figure 3

There has been progress. In 2009. An American professor, Dr. Conner, at United Arab Emirates University asked her science students to present a modern day female Muslim scientist to the university event and found Nahar. She took special permission for parents of each student on the project so they can stay late to interview Nahar. Their presentation (Left of Fig. 4) concluded “Women are smart” and the student who asked the maximum number of questions, Amira, later became a lecturer of Mathematics. It is the conclusion that all Muslim girls need to believe inside them. After about 11 years, Sarah Al Amiri became the Deputy Program Manager for the Mars Mission of UAE (middle of Fig. 4). Eight years later, Dr. Maryam Mirzakhani received the Fields medal of Mathematics (right, Fig. 4)



Fig. 4

ISMWS ACTIVITIES

Inspired by ISMWS: Kashmir U, and Women's College, TOP: L and R: Kashmir University lecute 2016, Bottom: Ladhak girl in complete while dress wanted to recite the Quran to express happiness, R: Burqa girl in the middle won the topmost prize in physics.





Fig. 5

Current Activities: i) Lectures,

ii) Networking,

iii) Connecting for scientific collaboration,

iv) Sharing success news in ISMWS newsletters,

v) Circulate useful scientific news,

vi) Circulate scholarship opportunities and job openings,

vii) Help with information for higher education in the US,

viii) Celebrate International Women's Day,

ix) Give recognition for excellence

Fig.6 Recognition to an Iraqi student, A math female student wrote an outstanding Ph.D. thesis with critical health condition and received recognition from ISMWS



NETWORKING:



Fig 7.

ACAG5: Prof. Lotfia El Nadi of Cairo University and Prof. Somaya Saad of National Research Institute of Astronomy and Geophysics (NRIAG) with the first female Guest of Honor in the Arab conference of Astronomy and Geophysics. Three together worked on many projects together successfully, R: WSU special women session with Nahar. Three ISMWS members in the group would receive the best Ph.D. thesis prizes, Bazzi is researcher and writer of the book We All are Connected.

IMPACT:

Members: Over 350 from 31 countries

1. USA, 2. Afghanistan, 3. Algeria, 4. Bangladesh, 5. Canada, 6. Egypt, 7. England, 8. Ghana, 9. India, 10. Indonesia, 11. Iran, 12. Iraq, 13. Jordan, 14. Kenya, 15. Kuwait, 16. Lebanon, 17. Malaysia, 18. Morocco, 19. Nigeria, 20. Oman, 21. Pakistan, 22. Palestine, 23. Russia, 24. Saudi Arabia, 25. Somalia, 26. Sri Lanka, 27. Sudan, 28. Syria, 29. Turkey, 30. United Arab Emirates, 31. Yemen

- "ISMWS at Ohio State" is the student chapter at OSU
 - ISMWS has a chapter at East Carolina University
 - ISMWS has been the topic of research project at Georgia Tech, Florida International University, OSU
- ISMWS featured at i) Western Washington University, physics course, Voice of America, American Physical Society, OSU media, public talks, etc.



Fig. 8 Left. MOA between OSU and Cairo Univeristy coordinated by ISMWS members Prof. Lotfia El Nadi and Nahar, Right: ISMWS member Prof. Noor-e-Zahra being recognized for her contributions for the Delhi workshop with program director Nahar.



Fig. 9. Left: ISMWS members, since her start of graduate school at Indian School of Mines came to OSU on a prestigious Indo-US fellowship to work with Nahar. She is with Nobel laureate Ketterele at APS conference whose online lectures she used to listen to. Right: Workshop at Kurnool being address by US Councilor Muller, Nahar held it with help of ISMWS member Dr. Nasreen Haque, also in the picture. It was the first time that Kurnool was visited by a high US official.

ISMWS network connected Cairo University to make MOA with AMU, connected NIT-Kashmir professor to Dhaka University, introduced research scopes in Bangladesh, India, Morocco, Turkish members

We have many tasks ahead to fulfill. There are examples like ISMWS member Dr. Safa Yousef from Yemen, a very bright student with a dream of nuclear scientist corsed many difficult path to achieve her Ph.D. degree, but is not able to find a proper place to putsue her dream research. We need to remain united and support each other to make our place in the advances for the humaniy. May Allah bless us.