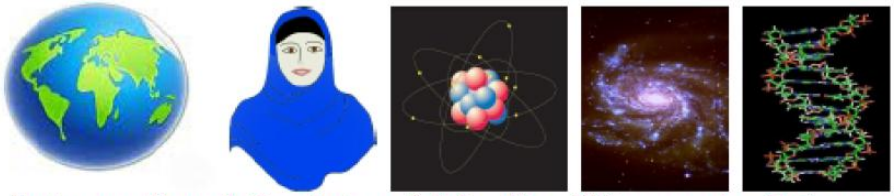
بسم الله الرحمن الرحيم

THE OHIO STATE UNIVERSITY



International Society of Muslim Women in Science

"INTERNATIONAL SOCIETY OF MUSLIM WOMEN IN SCIENCE (ISMWS)"

NEWSLETTER
2025

PIONEERS: Nuclear physicist Prof. Sameera Moussa (1917-1952), known for "Atoms for Peace", of Cairo University, Egypt. She said "My wish is for nuclear treatment of cancer to be as available and as cheap as Aspirin" and came up with a historic equation that would help break the atoms of cheap metals such as copper, paving the way for a cheap nuclear bomb.

Creator and Editor of the Newsletter: Prof. Sultana N. Nahar, Astronomy. The Ohio State University, USA, Email: nahar.1@osu.edu
ISMWS Established: April 2010

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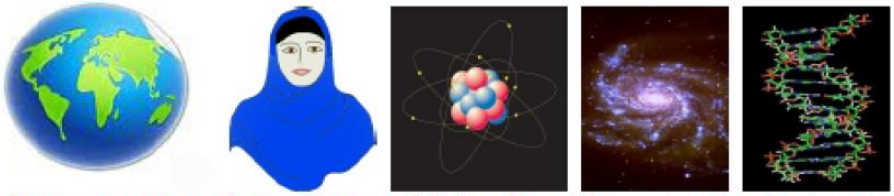


International Society of Muslim Women in Science

"INTERNATIONAL SOCIETY OF MUSLIM WOMEN IN SCIENCE (ISMWS)"

Motto: "Stay in Science (Basic or Applied)"

Practice: "Keep some hours for our intellectual nourishment everyday."

We believe: "The more we use our brain and mind, the more beautiful we look."

- **Members: ∼ 500 (global) from 33 countries, with additional members belonging to ISMWS chapters**

Founder & President: Dr. Sultana N. Nahar
140 W. 18th Ave, Astronomy
Columbus, OH 43210, USA
Established: April 2010

http://www.astronomy.ohio-state.edu/nahar.1/ismws.html
Email: nahar.1@osu.edu
Tel: 1-614-292-1888, Fax: 1-614-292-2928

ISMWS Newsletter, 2025

Contents:

1. PRESIDENT'S GREETINGS : 

Dear ISMWS Members,

Assalamu alaikum and a very Happy New Year to everyone!
Our prayer: "May Allah bless all of us with more successes in achieving our STEM objectives and bringing peace on the earth. We can not predict where the history will place us, but we are part of the history and current advances in STEM. It is our, members of ISMWS, duty to be engaged in the STEM issues we face in life and carry out research towards inventing methods or getting new information that will solve or reduce the problems and bring progress for humanity."


Nobel Laureate Prof. Omar Yaghi, a Palestinian at UC, Berkeley

- Israeli genocide on Palestinians continued in 2025 by target killings, mass killings, destroying educational institutions, research structures, blowing out shelters with bombs from air, water, and land force. But with almost nothing resisted Palestinians from education and continuing with it. The admirable beauty in their nature in seeking knowledge has remained alive. Students are graduating in ruins, teachers are teaching. One most wonderful news came out in 2025 - Palestinian Professor Omar M. Yaghi of University of California, Berkeley won 2025 Nobel prize in Chemistry along with two other scientists, Susumu Kitagawa and Richard Robson for creating a new kind of matter or chemical compound which Omar named metal–organic frameworks (MOFs). These compounds are porous in which metal ions and long carbon-based molecules form crystals with built-in cavities. By varying the building blocks, specific substances can be captured and stored inside the cavities. Following pioneering work by Richard Robson, around the turn of the millennium, Omar Yaghi and Susumu Kitagawa developed more flexible and stable MOFs. These are possible to use, for example, to harvest water from desert air, capture carbon dioxide, store toxic gases or catalyse chemical reactions. This is an example of endurance, perseverance, deep thinking and keeping the dream high to achieve wonders.
- Whenever you achieve anything, please write up a short paragraph with complete bibliography and email it for the newsletter or An-Nisa for other members to know.
- Please share your mobile numbers and make a network of what's app group of ISMWS members so you can communicate with each other, preferably only when you need to individuals relevant to you. The members list file at ISMWS website has email addresses of all members which can also be used for communicate. Please help each other to make ourselves strong.

Please always make sure you are safe and taking care of yourself and others.
Pray all the best always,

Prof. Sultana N. Nahar
Founder and President of ISMWS
Astronomy, The Ohio State University, Columbus, OH 43210, USA

2. ISMWS ANNOUNCEMENTS, NOTICES, & CONTACTS:

• **Newsletter is available electronically** at https://www.astronomy.ohio-state.edu/nahar.1//ismws.html#news

• **Submission of contributions for AN-NISA:** An-Nisa is the e-magazine that we introduced during celebration of International Women's Day (IWD) in 2022 under the Indo-US APJ Abdul Kalam STEM Education and Research Center of OSU and Aligarh Muslim University and included real stories of amazing Muslim women who are making history in the current time. You can submit your success stories, articles, poems, arts any time to be included in the year publication. Submission through email: nahar.1@osu.edu

Along with your contribution, send a picture of you and complete information of your current subject area, position and affiliation address, location to be included in the magazine. Please make the story/ies concise.

- An-Nisa has been approved for publication under Ohio State University's "Knowledge Bank"

• **Nomination for Recognition:** We recognize members at IWD celebration. Please submit nomination for recognition for yourself or someone else with i) a tentative citation, ii) paragraph giving reason for recognition, and iii) CV to Dr. Hala at hala.noman@gmail.com and me at nahar.1@osu.edu to be evaluated and certificate distributed at our celebration of IWD in March every year.

• Newsletters are posted at the ISMWS website https://www.astronomy.ohio-state.edu/nahar.1/ismws.html

• **Share your good news and updates with ISMWS members:**

Submit you yearly achievements in the format in the ISMWS newsletter in December to be included.

NOTE on news:

- Write your news describing in words instead of pointing to a website. You can add the website link or give complete bibliography of the news.
- A complete bibliography means i) "Title of the topic, ii) names of all authors (you can quote the number of authors after 4 authors as .. (n number of authors and must include your name), iii) name of the journal, volume number, page number and year.
- Please write your complete name, institution, and country names. Do not leave the task for the editor to find the information from the record.

NOTICES:

• **Volunteer co-editors are needed to serve for two years at a time.**

- One co-editor is needed to collect information and help in compilation of news for the ISMWS newsletter
- Two co-editors are needed for the e-magazine An-Nisa.

• Interested members please apply with a paragraph and CV to Sultana N. Nahar at nahar.1@osu.edu.

• Please note: You may not get any payment, but you use the experience and service in your CV. A certificate can also be provided.

• **Connecting to social media:** We are not active in social media. However, following ISMWS members are willing to maintain social media networks and can be contacted at the email addresses:

- **facebook:** Dr. Rubiya Samad, Physics, Central University of Kashmir, Email: rubiyasamad007@gmail.com

- **Instagram:** Dr. Rubiya Samad, Physics, Central University of Kashmir. Email: rubiyasamad007@gmail.com
- **twitter:** i) Prof. Fatma Azmy, Dept of Mathematics, Al Azhar University, Email: fatema_azmy@hotmail.com
- **linked:** i) Prof. Fatma Azmy, Dept of Mathematics, Al Azhar University, Email: fatema_azmy@hotmail.com
- **website:** Prof. Sultana N. Nahar, The Ohio State University, USA, Email: nahar.1@osu.edu

NOTES:

- Visit ISMWS website for news & various job & fellowship opportunities at https://www.astronomy.ohio-state.edu/nahar.1/ismws.html
- Invite any female, student/professional, in science to ISMWS membership
- Anyone in Physics and related to Physics, please become a member of American Physical Society (APS). It has many benefits. Free membership (not from US, Canada, Europe) form and instruction are available at
http://www.astronomy.ohio-state.edu/∼nahar/fip.html
- Inform ISMWS whenever you change your email address. It is used for all communications
- Create an ISMWS chapter at your institute/university. Contact Sultana Nahar for information when you are ready for it.

3. ISMWS ACTIVITIES & EXPOSURES

- S.N. Nahar

• International symposium celebrating the International Women's Day:

ISMWS and Indo-US APJ Abdul Kalam STEM Education and Research Center of the Ohio State University (OSU) and Aligarh Muslim University (AMU) jointly held the international symposium on March 22, 2025 celebrating International Women's Day (IWD) on a hybrid platform with in-person at Physics Conference room of Aligarh Muslim University with international participants from 9 countries, Egypt, India, Palestine, Saudi Arabia, Turkey, USA over the zoom. The Organizing Committee consisted of Prof. Sultana N. Nahar (Chair), Prof. Tauheed Ahmad with two student helpers from the Physics Department, Afifa Jamal, Farah Naz.

The Chief Guest was well-known scientist, Prof. Hala El-Khozondar, of Engineering at Islamic University of Gaza, Palestine. The program included presentations on experiences, perspectives of women in STEM and current research interest. Number of well-deserved women in STEM were recognized with i) Rising Star, ii) Inspiring Women, iii) Pioneering Women certificates. An art competition was held. Details of the event will be given in magazine "An-Nisa".

• ISMWS Fellowship 2025:

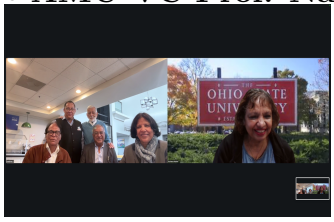
Mennatallah Salem Abumusleh, a medical student of Port Said University, Egypt received the scholarship for her academic excellence from ISMWS president Prof. Sultana N Nahar

• ISMWS sponsored 2 best student presenters.


The recognition was in basic and applied sciences awarded with plaques and honorarium at the 7th International Conference on Molecular Modeling and Spectroscopy (ICMMS6) organized by the National Research Center in Cairo, Egypt during December 2-5, 2024. The prizes went to two male presenters (picture above).

- ISMWS member Prof. Hanan Gouda Elhaes of Ain Shams University and President of ISMWS chapter in Egypt was the coordinator of ICMMS-7 (right picture: first on the left).

• AMU VC Prof. Naima Khatun's visit to USA



Meeting with AMU VC Naima Khatum over the zoom, august 2025

• Vice Chancellor Prof. Naima Khatun of Aligarh Muslim University, an ISMWS member, made an official visit to USA. She held on meeting with the OSU STEM Committee (picture attached). It included discussions on activities of ISMWS chapter at AMU.

- Prof. Naima Khatun was awarded the highest academic excellence honor for her research contributions from Government of India in 2025.

• Prof. Faiza Shujat, Taibah University, Madinah, Saudi Arabia report on ISMWS-Madinah:

Madinah Chapter news 2025-26 (under chair Prof. Sultana Nahar)

The beginning of this chapter originates after the direct interaction with our beloved ISMWS president, when Prof. Sultana Nahar delivered an honorary talk in the Department of Mathematics, College of Science, Taibah University, Madinah (Dec, 2021). We discussed promoting ISMWS in the blessed city of Al Madinah Al Munawwara by making a group of our sisters and working together on the path to success and righteousness.

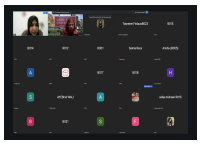
The two main strategies of Madinah ISMWS members are:

1. This group effort is committed to social work to support the Ziyarah people (willing to visit Makkah and Madinah) by performing volunteer duty despite all working schedules. During the blessed month of Ramadan, we additionally organized the distribution of Iftar and food. Our concern is to provide the necessities for the people from low income muslim countries. Some members also work in the "Masjid Nabawi" for evening shifts to analyze the r equirements of visitors. We will continue our services in the coming Ramadhan and fulfill our goal by the precious duas of ISMWS sisters.

2. Another strategy is to make small groups for the people who are working in the related areas of research and work together to reach higher scientific merit. We collaborate with our sisters from the countries (Malaysia, Indonesia, India, UK, and USA) to get admission to Ph.D. programs for many students. The ISMWS Madinah Chapter Contacts:

- Ms. Ayesha Al-Subhi (Event manager, Scientific research) Email: Aisha.alsubhi0@outlook.sa
- Mrs. S. Alharbi (Event manager) Email: salwa.alharbi1990@gmail.com
- Mrs. Ghofran Alhendi (Volunteer) Email: ghfareno@hotmail.com

4. COLLABORATIONS AND NETWORKING IN ISMWS



• **E-poster flyer and competition**

ISMWS initiative for e-poster competition:

ISMWS and its chapter at Indo-US STEM Education and Research Center at Aligarh Muslim University (AMU) has introduced a new initiative " International E-poster competition for female students". To enhance the ISMWS network, Adiba proposed the idea to Sultana Nahar who saw the benefit of it immediately. Together they organized the online competition successfully. The amazing part was the while post-graduate students submitted about 20 posters on their research work, undergraduates submitted about 30 posters on their concepts and solutions of current on-going or needed research. Some details of it will be presented in An-Nisa magazine.

,

Prof. Randa Asaf at the Astronomy of the Ohio State University, July 2025

• ISMWS member Prof. Randa Asaf of American University of Sharjah in UAE was invited by Sultana Nahar and made an excellent presentation on her astrophysical study in the Astronomy Department of the Ohio State University in July 2025. They continued to some research collaboration on spectroscopy.

• Collaboration with FALAK Mentorship program, Saudi Arabia:

, , Lana's speech at the final ceremony of FALAK Research Mentor program. FALAK group

FALAK Research Mentorship program, which was co-created by Lana Alabbasi and served as the founding director, ended successfully with excellent outcome in 2025. Lana engaged Sultana Nahar to be a mentor for two students. One of them Dana Bashaoib received best presenter award for her research presentation at the graduation ceremony.

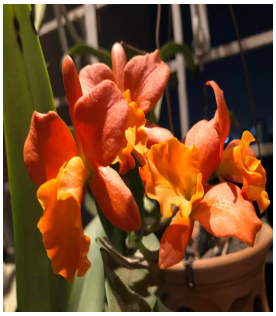
• Adiba, a Ph.D. scholar at Aligarh Muslim University and President of the ISMWS-AMU chapter, received invitation from American Physical Society (APS) to make research presentation at th Global Summit Conference held in California in 2025. She received APS travel grant, but needed support for accommodation to attend the conference, Sultana Nahar contacted the AMU Alumni Association in Atlanta which was extremely helpful to welcome Adiba with accommodation in an AAA house and daily transportation to the conference everyday.

• ISMWS member Dr. Rubiya Samad of Kashmir Central University was interested in applying for a grant under Indo-German collaboration and hence needed a collaborator in Germany. Sultana Nahar facilitated the connection to the well-known University of Tuebingen in Germany.

• OSU Astronomy Prof. A.K. Pradhan was making effort to support Gaza through scientific collaboration with ISMWS member Dr. Zher Samak of Al Aqsa University in Gaza. Sultana Nahar, also a part of the effort, found the pathway through Cairo University in Egypt. The process is in progress.

4. COLLABORATION AND NETWORKING IN ISMWS continues.

• ISMWS member Mahbuba Aktary of Begum Rokeya University in Bangladesh and Habib of Addis Ababa in Ethiopia were in the same global online Atomic Astrophysics course delivered by Sultana Nahar. When Habib got into King Fahd University of Petroleum and Minerals (KFUPM) in Saudi Arabia, he helped Mahbuba get into KFUPM with information.

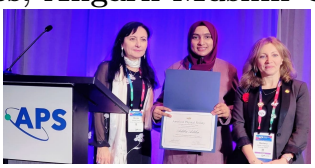


5. HIGHLIGHTS & SUCCESSES OF OUR MEMBERS

Our hearty congratulations on the achievements and prayers for the continued success of ISMWS members:

• Dr. Abeer Esmat, Department of Theoretical Physics, Higher Canal Institute for Engineering and Technology, Suez, Egypt:
- She sent the link of receiving the "Best Researcher Award" in Computational methods, Physicist in Particle Physics.
- She also reports receiving several certificates, such as, from workshop on SPSS applications, Women in Digital Business training, reviewer's certificate from "American Journal of Physics and Applications (AJPA)".

• Adiba, Physics, Aligarh Muslim University, India:



1) "Science in Bloom: Through the Garden of Inclusion" in ACS OMEGA journal by Adiba, 2) Adiba receiving the prestigious APS Distinguished Student Award at APS Global Physics Summit 2025., 3) Adiba receiving the award at ESTIC 2025 organized by DST, Government of India
She has multiple wonderful news. On Jan 21, she wrote "As salaam alaikum Ma'am,
Adiba here. Hope you are doing well.
- I have a good news to share with you. My work has been featured as cover art for ACS Omega journal, which came online today. I have attached the link and image for the cover art and editorial. https://doi.org/10.1021/acsomega.4c10401".
- Adiba, a PhD student in Physics at Aligarh Muslim University (AMU), has been honored with the Distinguished Student Award by the American Physical Society (APS) at the APS Global Physics Summit 2025 in Anaheim, California.
- She also brought laurel to the University by winning the Best Poster Award at the Emerging Science, Technology and Innovation Conclave (ESTIC) 2025, organized in November by the Department of Science & Technology (DST), Government of India."

• Prof. Faiza Shujat, Taibah University, Madinah, Saudi Arabia:
She wrote highlights of her 2025 achievements: "I am delighted to hear about the news of Al-Nisa. Kindly note that few achievements of mine to include in the news letter:
1-I got promoted to full Professor in Oct, 2025.
2- Guided 3 Master dissertation with publications in high indexed journals 2024-25.
3- Published more than 20 research papers including Q1 and Q2 in the year 2024-25.
4-Community services 2024-25: (i) Organized two day workshop Entitled " Basic skills in algebra and applications" 12-13, Dec, 2025.
4. Display a Model in celebration of international science day entitled "Contributions of Arab in Sciences" like nature, mathematics, chemistry, space,etc."

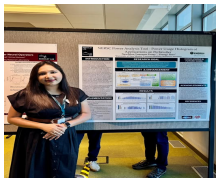
• Prof. Fatma Azmy, Al Azhar University, Cairo, Egypt:
- She is continuing her position as a visiting Assistant Professor of Mathematics at Ohio University, Athens, USA.

• Lana Alabbasi, King Abdulaziz University, Saudi Arabia
Lana wrote a wonderful news. "Dear Prof. Nahar, I hope you're both doing well! I wanted to share that I've been admitted to Oxford for a DPhil in Astrophysics! I will be working with

5. HIGHLIGHTS & SUCCESSES ... continues

Professor Bence Kocsis on gravitational wave astronomy!" In addition to her prestigious Rhode Scholarship, Oxford University will give her its own fellowship and an additional support for 6 months if Lana will need the time for complete her Ph.D.

• **Nawsheen T Promy, Ph.D. student at University of New Mexico, USA**:

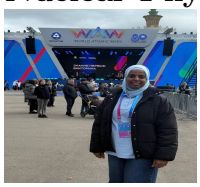

Nawsheen presenting her research

She wrote on August 2025: "Alhamdulillah, this year I have got the opportunity to work with the NERSC division on the power usage histogram of applications on Perlmutter supercomputer. As a computational biologist, I have always run my codes on supercomputer but never explored how the HPC facilities work. So, it was a very interesting experience for me because this time I actually got to see why HPC engineers emailed us to optimize the code and usage of resources

I would like to thank to my mentor Dr. Zhengji Zhao for giving me the opportunity to work with her this entire summer. Here is my 2nd internship at Lawrence Berkeley National Laboratory comes to an end (picture)".

• **Dr. Rahla Naghma, Devi Ahilya Vishwavidyalaya, Indore, India**: She, a recipient of WISE-PDF program grant of WISE-KIRAN division of DST of Government of India, is continuing as a Woman Scientist on "Study of radiative and collisional processes for the diagnostic of the astrophysical and laboratory plasma"

• **Dr. Safa Abdo, Nuclear Physicist, Egypt-Yemen:**


Dr. Safa Abdo had a scientifically active year. Followings are her involvements and achievements as described by her.

Leadership, Advocacy & Scientific Engagement Across 2024–2025

1. Leading a Global Youth Delegation at COP30: A Transformative Milestone

This year marked a significant professional milestone for Dr. Safa Abdo, who served as Co-Lead of Nuclear for Climate and successfully guided an international youth delegation of 23 members from 15 countries, representing diverse cultures, disciplines, and areas of expertise.

Throughout several months of preparation, Dr. Abdo developed and delivered targeted training programs focused on climate diplomacy, nuclear literacy, science communication, and strategic advocacy. She coordinated the delegation's logistics and participation, mentored first-time COP attendees, and ensured that youth voices were effectively represented at the highest levels of climate negotiations.

"Leading this delegation strengthened not only my leadership skills but also my understanding of global collaboration. Working with young professionals from so many cultures reaffirmed the power of diversity in shaping climate action." — Dr. Safa Abdo

This leadership experience culminated in a dynamic presence at COP30 in Belem, Brazil, where Dr. Abdo participated in and contributed to several high-level panels, scientific discussions, and youth engagement forums.

5. HIGHLIGHTS & SUCCESSES ... continues

2. COP30 Highlights

Participation as Co-Lead for Nuclear for Climate

Dr. Abdo arrived in Belem as part of the Nuclear for Climate leadership team, contributing to international discussions on the strategic role of nuclear technologies in the global clean energy transition. Her participation focused on advancing youth engagement, science-based climate solutions, and inclusive energy policies.

3. Children & Youth Pavilion – Day 1 (10 November)

Dr. Abdo delivered a powerful intervention at the Children & Youth Pavilion, emphasizing the importance of real climate justice, particularly the principle that no community should be left behind in climate action. Her message resonated strongly with young activists and policymakers, highlighting the disproportionate effects of climate change on vulnerable groups and the need for equitable access to clean energy technologies.

4. Panel: "Towards a Just Transition: Financing Africa's Move from Coal to Sustainable Energy Sources"

Dr. Abdo joined experts including Taisiya Afanasyeva (IAEA) and James Murombedzi (UNECA) to discuss financial and social mechanisms supporting Africa's transition to clean energy. Her intervention centered on:

- the importance of gender inclusion in energy strategies,
- the lived realities of African women affected by climate and energy insecurity,
- and the necessity of meeting communities "where they are" in order to accelerate a fair net-zero transition.

"If we want to shorten the road to net zero, we must walk it together."

5. Moderator – IAEA Pavilion Panel (13 November)

"From Rio to Belém: 30 Years of COPs, 33 Years of Climate Commitment"

Dr. Abdo organized and moderated an in-depth, reflective discussion on three decades of climate action and the evolution of nuclear technology within the climate agenda. Distinguished speakers included:

- Ney Zanella dos Santos – President, LAS-ANS; President, NBEPar
- Thiago Ivanoski – Director, Energy Research Office, MME
- Eliene Silva Silva – Host Country Lead, Nuclear for Climate
- Joice Mendez – Social Entrepreneur & Climate Advocate

The panel explored how science, innovation, and international collaboration can build a more just and resilient future

6. Scientific Panel – International Youth Nuclear Congress Pavilion

"Nuclear Energy: For Environment, For Energy, For the Future"

Highlighting the technical dimension of her work, Dr. Abdo presented on the environmental applications of nuclear science, with a focus on Neutron Activation Analysis (NAA) for pollution detection and environmental monitoring.

After several sessions addressing stakeholder engagement and policy, this panel allowed her to reconnect with her scientific roots and share nuclear experimental insights with young nuclear professionals.

7. Media exposures

In addition to her extensive participation at COP30, Dr. Safa Abdo was featured in multiple high-profile media interviews focusing on youth leadership, stakeholder engagement, and the role of nuclear energy in achieving net-zero targets.

During COP30 in Belém, Dr. Abdo was interviewed by the IAEA Communications Team,

where she highlighted the critical role of young professionals in driving the global energy transition. She emphasized how youth leadership contributes fresh perspectives, scientific insight, and a renewed sense of urgency in climate negotiations.

Dr. Abdo was also invited for two interviews with Brazilian news channels, where she explained the importance of stakeholder engagement—particularly the inclusion of marginalized communities, women, and local actors—as a fundamental pillar of the clean energy transition.

8. International Engagements Earlier in the Year

OECD Nuclear Energy Agency – 4th Stakeholder Involvement Workshop (15–17 October, Paris)

Dr. Abdo participated in three days of enriched dialogue on the future of stakeholder engagement in nuclear energy. She presented her Stakeholder Influencing Framework, using a real-world case study to guide participants through structured approaches to trust-building, communication, and collaboration.

Her contribution sparked deep discussions on the human dimension of nuclear technology, transparency, and public trust.

9. [in]visible Female Leadership Camp – Obninsk (21–29 September)

Dr. Abdo took part in the prestigious leadership camp in Obninsk, Russia, where she engaged in intensive workshops on leadership, self-development, and the ethical dimensions of artificial intelligence.

Key highlights included:

- a transformative series of leadership and ethics sessions,
- self-reflection exercises emphasizing personal growth,
- and a historic visit to the first NPT research reactor.

She also attended World Atomic Week, which deepened her understanding of global nuclear perspectives.

10. Invited Speaker – NewComers4Nuclear (NC4N) Summer School (WiN Global)

Dr. Abdo delivered a lecture on the importance of experimental installations in nuclear education, emphasizing that nuclear programs cannot rely on theory alone. She highlighted their role in:

- safety testing,
- engineering training,
- and fostering innovation and public confidence.

This session received exceptional engagement from participants and reaffirmed her passion for teaching and knowledge exchange.

11. Recognition – WiN Global Young Generation "Member of the Month" (July)

WiN Global Young Generation recognized Dr. Abdo for her leadership, commitment, and contributions as Executive Secretary and Co-Lead of Nuclear for Climate.

The recognition emphasized her dedication to empowering youth, promoting women in science, and advancing inclusive climate policies.

12. IAEA Conference – The first Stakeholder Engagement for Nuclear Power Programs, Vienna.

Dr. Abdo presented her work "Strategic Influencing Approaches for Stakeholders in the Nuclear Energy Transition" at the IAEA's international conference.

Her message underscored that effective stakeholder engagement requires:

- strategic financing,
- transparent communication,
- impactful media campaigns,
- coordinated international action,

- and continuous public education.

She reflected on a powerful day of diverse voices, scientists, policymakers, mayors, filmmakers, and Indigenous representatives, coming together to discuss the future of nuclear energy.

13. "The future of clean energy depends on bold collaboration and inclusive dialogue." In addition, Dr. Safa Abdo's work and leadership have been recognized on a broader media stage. A feature article titled ("An Egyptian woman enlightens the Nuclear Energy Conference") described her as a global model of stakeholder engagement, highlighting how she is "changing the stereotypical image of nuclear energy." The article celebrated her ability to combine rigorous scientific insight with humanitarian vision, showing to the world that Arab women are confidently and competently tackling complex issues of energy and climate.

At a time when climate challenges and energy crises overlap on the international research agenda, Dr. Abdo stood on the platform of the international stakeholder-engagement conference in Vienna, presenting a thought-provoking and human-centered vision. Her appearance underscored how inclusive leadership and gender-balanced representation are indispensable for building public trust and advancing nuclear energy as part of a clean, sustainable future.

14. Organizing and Moderating Global Webinars

Dr. Abdo also continued her commitment to education and outreach by organizing and moderating the WiNEXI webinar 13th May, 2025:

"Nuclear Techniques in Interdisciplinary Research and Education"

Featuring distinguished speakers, including Prof. Antoaneta Ene and Dr. Abdo herself. The webinar highlighted the wide-ranging applications of nuclear techniques across environmental science, energy, engineering, and advanced analytics.

The session showcased how interdisciplinary approaches can strengthen scientific literacy, enhance international cooperation, and inspire young researchers to pursue careers in nuclear-related fields."

• **Dr. Shadma Fatima, Ingham Institute of Applied Medical Research, NSW, Australia:**

She informed "Dear Professor, Assalamu Alaikum Wa Rahmatulah. Hope this mail finds you with good health. please find the link of my articles published this year. ...

Also I was named as a finalist for Guiding star mentoring and research awards by Stem Sisters."

• **Dr. Sultana N. Nahar, The Ohio State University, USA**

She received

- "William Fowler award of American Physical Society for "Distinguished Research in Atomic Astrophysics", 2025.

- Leadership award of "Outstanding Advisor" of the Ohio State University for student organizations

- Her research on the Sun was highlighted in "Client Research Spotlights" of the widely circulated 2025 Annual Research Report of Ohio Supercomputer Center

- She was featured as "Sultana Nahar: An Eye on the Sky" in the Voices of Excellence of OSU.

5. HIGHLIGHTS & SUCCESSES ... continues

• **Dr. Zamzama Rahmany, University of Paris, Saclay. France**:
She, a displaced Afghan female raising children all by herself while doing Ph.D. (husband was displaced to another country), updated as "would it be possible for you to change my address and give me access to APS? I am still a postdoc at the University of Paris Saclay and hope I can continue here till 2027." I hope you're doing well. I would like to share with you that despite all the suffering in life, I was able to obtain my PhD and have published six articles based on my PhD work. I have also attended six national and international conferences during my PhD. I am a postdoc at Laboratoire de Physique des Solides, University of Paris/Saclay till March 2027, and I am part of different projects related to multiferroics and superconductors. Published articles: ... Best regards and all my prayers for you and the ISMWS members, Zamzama Rahmany
Postdoctoral Fellow, Laboratoire de Physique des Solides
University of Paris/Saclay Address: E204, Bât 510, 1 rue Nicolas Appert - 91400 ORSAY Mobile: +33758793079

• **Prof. Safia Akhtar Kazmi, EED,ZHCET, AMU, Aligarh India**

Dr Safia Akhtar Kazmi, Associate Professor in the Department of Electrical Engineering at Aligarh Muslim University (AMU), has been awarded the IEEE Uttar Pradesh Section Outstanding Branch Affinity Group Advisor Award for 2025. The award was formally presented during the Annual General Meeting (AGM) 2025 of the IEEE Uttar Pradesh Section.
This recognition celebrates her contributions in alignment with IEEE's motto, "Advancing Technology for Humanity." As Faculty Advisor of the IEEE Women in Engineering (WIE) Affinity Group at Zakir Husain College of Engineering and Technology (ZHCET), AMU, she spearheaded a diverse range of impactful initiatives throughout 2025. Under her guidance, the WIE Affinity Group organised technical and professional development programs, including expert talks, webinars (MS Series 2.0, International Women's Day Webinar, IEEE WIE Day 2025, IEEE Week Special Talk), hands-on MATLAB/Simulink training, innovation challenges, and quiz competitions (INQUEST). WIE also addressed career development and soft skills through sessions on interview techniques, communication, and leadership growth. Beyond academics, the group emphasised sustainability and social responsibility through plantation drives, Ozone Day poster competitions, the Swasth Nari–Sashakt Parivar Abhiyan, and heritage walk. Felicitation ceremonies and collaborative competitions further strengthened motivation and inclusivity among students. Dr. Kazmi expressed gratitude to IEEE and AMU, noting that the award reflects the collective spirit of students and faculty working together to empower engineers and foster holistic development.

6. MEMBERS EARNING DEGREES:

Hearty congratulations for the graduates and pray for the successes of the next phase!

• Lana Alabbasi, King AbdulAziz University, Saudi Arabia

Lana graduated with her Bachelor of Science degree and has joined Oxford University in 2025

• Mahbuba Aktary, MS Student, Materials Science and Engineering Department, King Fahd University of Petroleum and Minerals, Saudi Arabia

Mahbuba has three wonderful news. She wrote:

"Dear Professor Sultana, Assalamu Alaikum wa Rahmatullah. I hope you are doing well.

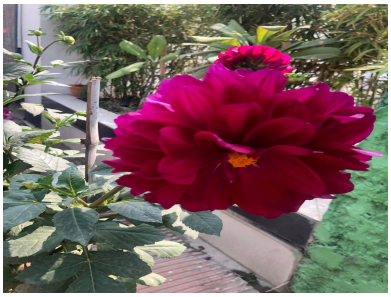
- I am glad to connect you after a long time with the good news my completion of MS degree in King Fahd University of Petroleum and Minerals.

I specially remember you as this journey start actually in your Class 2021. Brother Habib from Ethiopia inspired me to apply here. The knowledge and inspiration you have shared in the class has a great impact on my journey. I acknowledged you in my Academic thesis and would Like to share it with you. I don't want to forget who has contributed in my journey. Alhamdulillah I happy with my experience and would be glad to inform you that I have published 6 papers with a very good CGPA 3.75 out of 4.00. Besides that I tried to expand my networking by Mentoring Energy Hackathon in Saudi Arabia.

I was busy with my academic and personal life. My Father got heart attack and I was focusing on many things. That's why I Couldn't make frequent contact with you.

I got married this Summer, Alhamdulillah. My husband is studying in Petroleum Engineering, in Malaysia. Please keep us in your Du'a.

I am now PhD Student here. I remember you always in my Du'a. I will be in touch with you in many more beautiful events Inshaallah. Please take care of your health and stay blessed always. May Allah bless you in the most beautiful ways ever exist. Jazakallah Khair. Ameen."



7. INTRODUCTION BY NEW MEMBERS:

We welcome warmly and congratulate on the achievements of our new members!

• ISMWS had quite a number of members joining in 2025. Each expressed appreciate comment being part of the group.

8. SCIENTIFIC CONTRIBUTIONS and JOURNAL PUBLICATIONS BY ISMWS MEMBERS

• **Dr. Abeer Esmat, Basic Science Dept, Higher Canal Institute for Engineering and Technology, Suez, Egypt:**

- Jurnal: Next Research "Exploring structural stability and band gap tunability in lead-free double perovskitesK 2 B'AgBr6 (B' = Al, Ga, In) for optoelectronic applications A. Shankar a, A.V. Gil Rebaza b,c, Abeer E. A, Next Research 2 (2025) 10030

- Structural, Electronic, and mechanical insights into Rb2B'AgBr6 (B' = Ga, Al, In) double Perovskites: Pathways to Lead-Free optoelectronics A.V. Gil Rebaza a,b, A. Shankar c, Abeer E. Aly, Chemical Physics 591 (2025) 1125

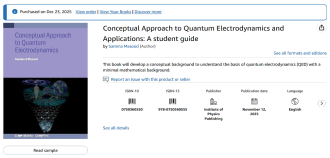
- Analytical and computational study of Fisher and Shannon information entropies in one and three-dimensional spaces for exponential-type potential Ituen B. Okon1,a , Clement A. Onate2,b, Eddy S. William3,c, W. L. Chen4,d, Cecilia N. Isonguyo1,e, Dianabasi N. Akpan5,f, Kaushal R. Purohit6,g, Akaninyene D. Antia1,h, Judith P. Araujo7,i, Aniekan M. Ukpong8,9,j, Uduakobong S. Okorie10,k, Etido P. Inyang11,l, Edwin S. Eyube12,m, Kizito O. Emeje13,n, Louis E. Akpabio1,o, Eno E. Ituen1,p, Abeer E. Aly14,15,q, KufreAbasi E. Essin, Eur. Phys. J. Plus (2025) 140:250 https://doi.org/10.1140/epjp/s13360-025

- Fisher and Shannon information entropies in 2-dimension for a non-central potential as applied to hydrogen diatomic molecules W.L. Chen a, I.B. Okon b , C.A. Onate c, C.N. Isonguyo a, S.A. Ekong d, J.P. Araujo e, Abeer E. Aly f,g, A.O. Anna h, E.S. William i, E.P. Inyang j, K.O. Emeje k, K.R. Purohi, Results in Physics Volume 75, August 2025, 108303

• **Saba Parvin, Aligarh Muslim University, Aligarh, India:**

"An Experimental Research for Finding the Effect of Magnetic Nanoparticles on the Dielectric Strength of Transformer fluids" Saba Parvin, Asfar Ali Khan*, Mohd Anis Khan, VOLUME 17 ISSUE 4 OCTOBER 2024 EXCELLENCE INTERNATIONAL JOURNAL OF EDUCATION AND RESEARCH

• **Prof. Samina Masood, University of Houston, Clear Lake, USA**:



She has published a textbook which takes lot of effort and discipline. She wrote "I am taking this opportunity to share another news. I recently published a book with IOP titled "Conceptual Approaches to QED" available as an online book and a hard copy as well. I am using this book in classes as well for teaching as well."

• **Dr. Zamzama Rahmany, University of Paris, Saclay. France**:

- Rahmany, Zamzama, and Savitha Pillai. "Magnetoelectric properties and Morin-type spin transitions of Na-doped GaFeO3." Journal of Physics: Condensed Matter 37.11 (2025): 115801.

- Rahmany, Zamzama, and S. Savitha Pillai. "Structure and magnetoelectric properties of Mn-doped GaFeO3." Journal of Materials Science: Materials in Electronics 36.22 (2025): 1-15.

- Rahmany, Zamzama, CK Divya Krishnan, and S. Savitha Pillai. "Structure and magnetodielectric properties of HDPE/GaFeO3 composites." Solid State Sciences 168 (2025): 108010.

- Rahmany, Zamzama, CK Divya Krishnan, and S. Savitha Pillai. "Structure and magnetoelectric properties of flexible PDMS/GaFeO3 composites." Solid State Communications 400 (2025): 115904.

- Rahmany, Zamzama, Nandakumar Kalarikkal, and S. Savitha Pillai. "Structure and magnetoelectric properties of hydrothermally prepared nanocrystalline GaxFe2- xO3 (x= 0.7, 1 & 1.3)."

8. SCIENTIFIC CONTRIBUTIONS and JOURNAL PUBLICATIONS BY ISMWS MEMBERS continuees

Journal of Materials Science: Materials in Electronics 35.11 (2024): 785.

- Rahmany, Zamzama, et al. "Structural, magnetic, optical, and photoresponse studies of hydrothermally prepared nanocrystalline GaxFe2-xO3 (x= 0.7, 1 & 1.3)." Materials Chemistry and Physics 276 (2022): 125343.

• **Dr. Zeba Qadri, Center for Quantum and Topological Systems, New York University-Abu Dhabi, UAE**:

She has published remarkable research findings. She writes " am pleased to share that my latest review article, entitled **"Enhancing spin coherence times in solid-state NMR using tailored heteronuclear spin decoupling"**, has been published in Progress in Nuclear Magnetic Resonance Spectroscopy.

In this work, we **highlight key decoupling methods in solid-state NMR spectroscopy**, with a particular focus on rCW decoupling and its variants. It presents experimental and numerical results along with theoretical insights to guide the design of decoupling strategies for enhanced sensitivity and resolution with minimal optimization and easy implementation.

The article is available online at: [https://doi.org/10.1016/j.pnmrs.2025.101586]

Thank you for your continued support."

9. PROFILES OF ISMWS MEMBERS

A natural scientist: Dr. Abeer E. Aly

Contents from "Africa Research Connect":

• **Dr. Abeer Esmat, Basic Science Dept, Higher Canal Institute for Engineering and Technology, Suez, Egypt:**

Dr. Abeer Aly is a seasoned academic and researcher with a Ph.D. in Theoretical Physics from Mansoura University, Egypt. With extensive teaching and administrative experience, she has held pivotal roles in various higher education institutions. Her research interests lie in the computational analysis of electronic and magnetic material properties, and she has significantly contributed to solid-state physics and theoretical modeling. Currently, she is affiliated with the Higher Technological Institute, New Heliopolis, where she continues her academic and research endeavors.

Dr. Abeer E. Aly is a distinguished academic author and researcher renowned for her contributions to the field of computational condensed matter physics and materials science. Her research primarily focuses on the optoelectronic, electronic, and magnetic properties of various advanced materials, including Heusler alloys, perovskite-graphene nanocomposites, and semiconductor compounds.

Dr. Aly's recent publications highlight her expertise in both experimental and theoretical investigations. In 2022, she published significant works on the modulation of optoelectronic properties of CdSe2 and the electronic and optical properties of CuAlxGa1-xTex2 featured in the journals Computational Condensed Matter and Chemical Physics Letters, respectively. Her work on half-metallicity in new Heusler alloys and the magnetic and optical properties of LaFeO3-rGO nanocomposites has been well-received in the academic community, with publications in RSC Advances and Chemical Physics.

Throughout her career, Dr. Aly has received sponsorships and support from prestigious institutions, including the Direktion für Entwicklung und Zusammenarbeit, United Arab Emirates University, and the Ministry of Higher Education and Scientific Research of the Republic of Sudan. Her research has also been recognized by the Reference and User Services Association.

Dr. Aly's contributions to the understanding of material properties through both experimental and density functional theory (DFT) calculations have established her as a leading figure in her field. Her work continues to push the boundaries of knowledge in materials science, providing valuable insights into the development of new materials with tailored properties for various technological applications. - She is a Global Particle Physics Excellence Awards of 2025

Abeer' explained her research as "This collaborative research portfolio employs advanced computational methods, including density functional theory (DFT) with the modified Becke-Johnson (mBJ) potential and the parametric Nikiforov-Uvarov method, to explore and design novel materials for next-generation optoelectronic and energy applications. The first study demonstrates the significant band gap tunability (0.09–2.57 eV) and robust mechanical stability of lead-free double perovskites K2B'AgBr (B' = Al, Ga, In), identifying them as prime candidates for sustainable solar cells and LEDs. The second work reveals that strategic Fe/Ru doping in the transition metal dichalcogenide OsS2 dramatically enhances its electronic band gap and optical absorption coefficient, positioning it as a high-performance,

earth-abundant alternative for photovoltaic devices. The third investigation provides a deep quantum information-theoretic analysis of hydrogen molecules under external magnetic and Aharonov-Bohm fields, offering fundamental insights into electron localization phenomena with direct implications for quantum computation and communication technologies. The compounds Rb2B'AgBr (B' = Ga, Al, In) exhibit cubic structures with high thermodynamic stability, as evidenced by negative formation energies, and demonstrate favorable mechanical properties including ductility and isotropy, making them suitable for flexible optoelectronic applications. Electronic structure analysis reveals tunable band gaps. The study concludes that these Rb-based double perovskites are promising, environmentally friendly alternatives to lead-based perovskites, with tailored properties for next-generation optoelectronic technologies such as photovoltaics, LEDs, and sensors.Collectively, these studies underscore the power of computational material science in discovering and optimizing environmentally friendly materials with tailored properties for sustainable energy and quantum technology applications."

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Scientific Officer Dr. Mhejabeen Sayed

Radiation & Photochemistry Division, Bhabha Atomic Research Centre, Mumbai, India E-mail: msayed@barc.gov.in

Dr. Mhejabeen Sayed did her M. Sc. in organic chemistry from S.I.E.S. College, Mumbai, and received first position in her M. Sc. batch. She got her Ph.D. (2010) in chemistry from the University of Mumbai, India. She joined the Chemistry Department of the School of Science, Narsee Monjee Institute of Management Studies, Mumbai, as an Assistant Professor for a brief period. Later on, she joined the Radiation and Photochemistry Division of the Bhabha Atomic Research Centre (BARC), Mumbai, India, initially as a prestigious K. S. Krishnan Research Associate, and finally joined as a Scientist, after successful completion of her research associateship. Her research interests include supramolecular and suprabiomolecular photochemistry involving macrocyclic hosts like cyclodextrins and calixarenes, and biomacromolecules like proteins and DNA. Dr. Sayed has published 39 research papers in high-impact international journals and a book chapter under RSC publication. She was invited by the editor of Royal Society of Chemistry (RSC) journal, Physical Chemistry Chemical Physics (PCCP), to contribute a Perspective article in the Emerging Investigators 2021 themed issue as an honour to her research contributions in supramolecular chemistry. Till now, her research papers have received 1409 total citations, and two of her research papers have also been highlighted as the cover pages of the corresponding journal issues, signifying the high standard of her research work.

Journal publications (Year 2025)

1) Effect of 4-CF3 group on photophysical behavior of 7-aminocoumarin dye coumarin-522 (C522); M. Sayed, D. K. Maity, H. Pal; J. Photochem. Photobiol. A: Chem., 462 (2025), 116202

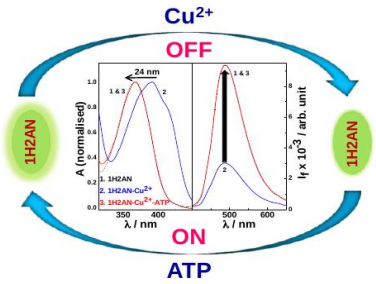
2) Highly sensitive, label-free ATP detection using a small molecule-metal-based ensemble with a ratiometric absorption and fluorescence light-up approach; M. Sayed; J. Photochem. Photobiol. A: Chem., 464 (2025), 116286

9. PROFILES OF ISMWS MEMBERS continues.

Recent research

Title: Highly sensitive ATP detection using a small-molecule–metal ensemble based on ratiometric and light-up approach

Adenosine triphosphate (ATP) is the predominant kind of energy utilised by living organisms, including humans, to sustain physiological functions. Therefore, it is imperative to have reliable and responsive detection of ATP in biochemical research and clinical monitoring. However, most of the developed sensor probes suffer from time-consuming synthesis, poor aqueous solubility, and limited selectivity and sensitivity. Herein, a highly selective and sensitive fluorescence turn-on sensor system was developed for the detection of ATP based on the ESIPT probe-Cu2+ complex. 1'-hydroxy-2'-acetonaphthone (1H2AN) is a well-known excited-state intramolecular proton-transfer (ESIPT) dye. The photophysical properties of 1H2AN undergo significant modulation upon its interaction with Cu2+. 1H2AN shows a decrease in absorbance and quenching in fluorescence intensity upon binding with Cu2+. Fluoresence-quenched dye-Cu2+ ensemble was then employed for turn-on signalling of ATP. Upon addition of ATP, the 1H2AN-Cu2+ complex exhibits increased absorbance along with a blue shift in the absorption peak and increased fluorescence intensity. The observed results indicate that in the presence of ATP, the 1H2AN-Cu2+ complex dissociates and releases the 1H2AN in the solution due to the competitive binding of ATP with the Cu2+. Using the linear increase in fluorescence intensity of the 1H2AN-Cu2+ complex with increasing ATP concentrations, the limit of detection was found to be 0.4 µM. The 1H2AN-Cu2+ complex was found to be more selective and sensitive towards ATP than towards other diverse bioanalytes. The current system is simple in design, lable-free, cost-effective, and fast in operation. The current system can find its applicability in complex biological systems.

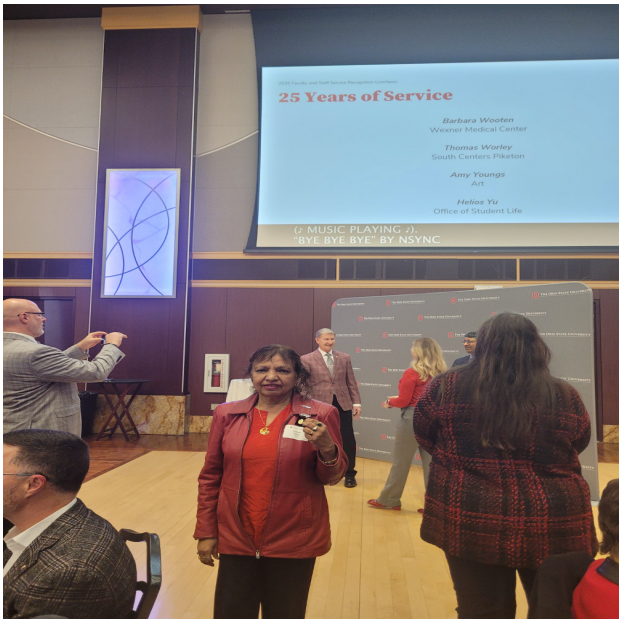


Present study demonstrates a small molecule (1H2AN)-metal (Cu2+)-based ratiometric and turn-on detection of ATP in pure water

10. ISMWS PICTURES: 2025 and past


L: "Dr. Esmat (second from right) with Sultana and Cairo University members on the bridge at the merger of Nile river and Crocodile lake in Ismalia, Egypt." R: OSU visit by Prof. Randa Asad with husband Dr. Asad, daughter at OSU 2025

L: Cover page of An-Nisa 2024, R: ISMWS member Moiza Ahmad, doing excellent in the medical school, in the evening when we had family dinner together at her house in Columbus.

L: Esma Sezen, the ISMWS-OSU committee member who gave talk twice at our IWD symposia, will graduate from OSU Mechanical Engineering in May, 2025. L: Sultana Nahar received 35 years diamond service pin in December 2025. OSU President is in the back.