



Nuclear for Peace

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# PNS Newsletter

A Quarterly Newsletter of the Pakistan Nuclear Society

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## Inside this Issue

From the desk of Editor-in-Chief	01
Activities during the 1st Quarter of 2025	02
Outreach and Linkages	11
Silent Heroes	11
A Historical Photo	12
National and International Nuclear News and Views	12
Obituaries	13
Members Section	14
WiN Activities	14
Students Corner	15
Social Events	16

## Vision

*To become a resource centre for disseminating information and to promote practical applications on peaceful uses of nuclear science, engineering and technology for sustainable socio-economic development. The principal tools to be used for this purpose would be PNS Website and PNS Newsletter.*

## Announcements

*Launching of the Book on  
**Dr. Ishfaq Ahmad, an icon of  
Pakistan's Nuclear Programme**  
on May 13, 2025  
at Islamabad Club*

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## From the desk of Editor-in-Chief

A significant milestone in the history of Women in Nuclear (WiN) Pakistan Chapter, operating under the umbrella of the Pakistan Nuclear Society (PNS), was the successful organization of an International Conference in Islamabad from February 12-13, 2025. During the conference, a special session was held with the **Director General of IAEA, H.E. Rafael Mariano Grossi**. This event is expected to strengthen international collaborations, particularly with WiN-Global, creating more opportunities for women in the nuclear field.

Another noteworthy initiative, following the regular publication of well-received quarterly Newsletter, is the launch of **PNS Scientific Journal**. A committee has been formed to outline the operational framework for this ambitious endeavor and to set up a promising Editorial Board comprising experienced national and international professionals. Initially, it will be an on-line journal, with the potential to evolve into a full-fledged printed publication in the future.

Having completed their two-year term, the two superior bodies of PNS, the Scientific Advisory Board (**SAB**) and the Administrative Advisory Board (**AAB**) have been reconstituted to provide guidance and to shape the future direction of PNS programmes and activities as well as its visibility at national level. PNS Council sincerely appreciates the outgoing members for their invaluable advice and support and warmly welcomes the newly appointed members of high distinction and honour.

A few universities have shown their willingness to accept scientists and engineers associated with PNS at visiting faculty positions. Resultantly, a **Visiting Faculty Pool** has been set up to utilize their expertise. Interested persons may contact the President of PNS.

A comprehensive report on PNS activities undertaken during two years (2023-24) has been prepared and is available for ready reference at the website <https://pns.org.pk/pns-term-report/>

For the information of all, the office of PNS has been relocated to a new building at CHASHNUPP Hostel, Islamabad. Council members will be available there every Tuesday and Saturday from 10:00 AM to 3:00 PM, in addition to the special meetings.

**PNS Newsletter is also available at:** [https://pns.org.pk/pns\\_newsletter/](https://pns.org.pk/pns_newsletter/)

## Activities During the 1<sup>st</sup> Quarter of 2025

### International Conference on the Opportunities for Women in Nuclear Science and Emerging Technologies

#### Summary Report

Women in Nuclear (WiN) - Pakistan, in collaboration with the Pakistan Nuclear Society (PNS), organized a two-day international conference on “Opportunities for Women in Nuclear Science and Emerging Technologies” from February 12-13, 2025 at PNRA, Islamabad. The primary objective of the conference was to highlight the significant contributions of women in Pakistan who are actively engaged in nuclear sciences and allied disciplines. The event provided a platform for women to exchange information, interested in national and international cooperation, explore opportunities and share best practices.

The conference was attended by over 150 women scientists and engineers from PAEC, PNRA, strategic organizations and universities. It featured seven technical sessions with a total of 37 presentations. Three distinguished international guest speakers, Ms. Eva Gyane (Representative of WiN-Global), Ms. Janette Donner (President of WiN-IAEA), and Dr. Sajedah Alameer (Jordan Atomic Energy Commission) delivered invited talks during the plenary session. Dr. Sarah Qureshi, the developer of an eco-friendly jet engine in Pakistan, was specially invited for a talk on her invention. Additionally, five recorded presentations from international speakers representing the IAEA, Austria, Cameroon, Tunisia and USA were shared.

#### Inaugural Session

Ms. Eva Gyane graced the session as the Chief Guest. Dr. Samreen Shehzadi, the Conference Secretary, in her welcome address, applauded this milestone as the first ever international conference on women in nuclear science and technology in the country. Dr. Shazia Fatima, President of the WiN-Pakistan, highlighted national and international activities undertaken over the past two years. In a video message, Ms. Melina Belinco, President of WiN-Global, commended WiN-Pakistan’s efforts in strengthening the role of women in nuclear sciences. Dr. Muhammad Tahir Khaleeq, President of PNS, provided an overview of PNS programmes, particularly the reactivation of the WiN-Pakistan Chapter. Mr. Faizan Mansoor, Chairman PNRA presented thanks giving remarks.

As part of the opening session, the following eight esteemed members of WiN-Pakistan who have received National Civil

Awards over the years were honoured with “Shields of Honour” presented by the Chief Guest:

1. **Ms. Nasim Akhtar Bhatti, POP**
2. **Ms. Syeda Shadab Fatima Kamal, POP, S.I**
3. **Dr. Shafqat Farooq, POP**
4. **Dr. Shabana Waseem, POP**
5. **Dr. Samina Roohi, T.I**
6. **Ms. Samina Wasim, T.I**
7. **Dr. Sarah Qureshi, T.I**
8. **Dr. Nusrat Jahan, T.I**



In her inaugural speech Ms. Eva Gyane praised WiN-Pakistan for taking the initiative to organize its first international conference. She encouraged participants to join WiN-Global and actively contribute to strengthening the Pakistan Chapter.

Ms. Hina Younus, Executive Member, WiN-Pakistan Council and Ms. Zahra Khanum Kausari, Executive Member, PNS served as stage secretaries.

Miss Sana Jamal, Junior Scientist at PINSTECH, very efficiently managed the tiring job of coordinating foreign guests throughout their visit.

#### Plenary Session

Following the inaugural ceremony, four invited talks were delivered by the guest speakers:

- Nuclear Non-proliferation Regime - Ensuring Peaceful Uses of Nuclear Technology in Times of Change - Ms. Eva Gyane
- Empowering Women in Nuclear: Breaking Barriers and Building a Brighter Future - Ms. Janette Donner
- Rapid Extractive Scintillation Method for Uranium Measurement in Soil and Yellowcake Samples - Dr. Sajedah M. Alameer
- Eco-friendly Contrail-free Jet Engines for Aviation - Dr. Sarah Qureshi (Aero Engine Craft Pvt. Ltd., Pakistan)





**Technical Sessions**

The conference featured six key technical sessions:

**1. Agriculture & Biotechnology**

- Application of Radioimmunoassay to Improve Livestock Agriculture in Pakistan – Rehana Kausar (NIAB)
- In Vitro Antifungal Assessment of Green Synthesized Silver Nanoparticles Against Brown Spot Disease of Rice – Faiza Kanwal (NIAB)
- Nuclear Approaches to Develop Climate-Resilient Pulse Crop Varieties – Mariah Aslam (NIAB)

**2. Nuclear Safety & Security**

- Interim and Long-term Storage Challenges and Strategies for Managing Spent Fuel – Zahra Khanum Kausari (PNRA)
- Impact of IAEA Peer Review & Advisory Services on Enhancing Regulatory Effectiveness in Pakistan – Noreen Iftikhar (PNRA)
- Addressing Challenges in Nuclear Security: Enhancing Protection through Technology and Collaboration – Irsa Jahangir (PNRA)

**3. Medicine & Human Health**

- New Radioligand Therapies/Nuclear Pharmacy Challenges – Shakera Kahtoon (PINSTECH)
- Understanding the Anti-inflammatory and Anti-carcinogenic Potential of Justicia Adhatoda Extract Against Asbestos-mediated Lung Injury – Rida Asrar (University of Agriculture Faisalabad)

**4. Environment**

- Heavy Metal Contamination and Radiological Effects in Soil Samples from Murree, Pakistan – Naila Siddique (PINSTECH)
- Isotope Hydrology for Water Resource Management – Um-e-Robab (PINSTECH)

**5. Emerging Technologies**

- Licensing Small Modular Reactors: An Overview of Potential Regulatory Challenges for Pakistan – Almas Muneer (PNRA)
- Data-driven Artificial Intelligence Approaches for Seismicity Pattern Analysis: A Northern Pakistan Case Study – Amna Tahir (MSSP, PAEC)

**6. General Session**

- Women Empowerment and Future Directions for Women in Nuclear Science – Kiran Akhtar (Liaquat National Hospital, Karachi)
- Empowering Women in Nuclear: My Journey with IAEA MSCFP Fellowship – Sana Khalid (BINO)



### Special Session with the Director General of IAEA



A major highlight of the conference was the special session with **Rafael Mariano Grossi**, DG IAEA, as the Guest of Honour. Also in attendance were Dr. Raja Ali Raza Anwar, Chairman PAEC, Mr. Faizan Mansoor, Chairman PNRA, Ms. Amna Baloch, Pakistan's Foreign Secretary, Mr. Kamran

Akhtar, Pakistan's Ambassador to Austria and Slovakia, Members of PAEC and PNRA as well as senior officials from other organizations and universities.

In his keynote address DG IAEA emphasized the Agency's commitment to gender balance and the need to create opportunities for women in the nuclear industry. He emphasized the importance of creating opportunities for the talent to grow and excel in the nuclear fields and ensuring a balanced workforce.

#### Poster Competition

A Poster Competition was held on Day-1 providing a platform for young researchers. A panel of experts evaluated 19 posters and cash prizes were awarded to the top four presenters:

1. **Momina Ashraf** (PIEAS) – 1st (Rs. 20,000/-)
2. **Mariam Akhtar** (NIBGE) – 2nd (Rs. 15,000/-)
3. **Shrisha** (PINSTECH) – 3rd (Rs. 10,000/-)
4. **Nida Maryam** (ICCC) – 3rd (Rs. 10,000/-)

#### Panel Discussion

A panel discussion on "Women Empowerment in Nuclear Science & Technology: Challenges & Opportunities" was moderated by Dr. Samreen Shehzadi. Panelists included Ms. Eva Gyane, Ms. Janette Donner, Dr. Sajedah Alameer, and Ms. Raheela Hammad. They shared insights on overcoming challenges and exploring opportunities in the nuclear field.

#### Closing Session

**Prof. Dr. Bushra Mirza**, Vice Chancellor Fatima Jinnah Women University, Rawalpindi was the Chief Guest for the closing ceremony. She encouraged young women to pursue careers in nuclear science and technology. Certificates were awarded to speakers, poster winners, participants, and organizers.

#### Conference Dinner & Cultural Visit

A formal dinner was hosted at The Dome Restaurant, Daman-e-Koh and was attended by foreign guests and council members. The foreign delegates also visited the Pakistan Monument and Museum at Shakarparian.

#### Conference Outcome

WiN Pakistan International conference 2025, was a resounding success that was made memorable by the presence of eminent



personalities like DG IAEA and others. The event promoted dialogue among the young women scholars and the veteran International experts. The attending participants called it a great motivation for them in inspiring young women to pursue careers in nuclear science and technology.



(Dr. Samreen Shahzadi, Secretary WiN-Pak)

### Scientific Advisory Board (SAB)



### Meeting of the SAB

The first meeting of the SAB was held on February 04, 2025, at PAEC Rest House, G-8/3, Islamabad. The meeting was physically attended by the following Board Members.

1. Engr. Parvez Butt, NI, HI, SI, former Chairman PAEC (Chairman)
2. Mr. Muhammad Naeem, NI, HI, SI, former Chairman PAEC
3. Dr. Nabeel Hayat Malik, HI, SI, former Chairman NESCOM
4. Engr. Saeed Alam Siddiqui, former Member Power, PAEC
5. Engr. Syed Ziauddin, former Member Engineering, PAEC
6. Dr. Shazia Fatima, DG Nuclear Medicine and Oncology
7. Dr. Muhammad Tahir Khaleeq (Secretary)

In addition, some Board Members joined the meeting via Zoom:

8. Engr. Muhammad Anwar Habib, HI, former Chairman PNRA
9. Dr. Abdullah Sadiq, SI, former Rector PIEAS and GIKI
10. Engr. Waqar Murtaza Butt, T.I, former Member Engineering, PAEC
11. Engr. Tayyub Muhammad Ali, former DG KCP

All PNS Council Members attended the meeting as observers.

The meeting was chaired by Engr. Parvez Butt. Dr. Muhammad Tahir Khaleeq formally welcomed the distinguished members and expressed gratitude for their willingness to advise PNS as members of SAB. He presented a report on PNS activities conducted during 2023-24. In this period PNS has held 24 scientific seminars, 33 student sessions, 17 special events, and 22



outreach collaborations. Moreover 1,300 students from over 70 universities were enrolled. PNS has also successfully established the Chapters on Women in Nuclear (WIN) and Youth in Nuclear (YIN). In addition, 11 social and recreational programmes and activities were also organized or planned for 2025.

### Discussions and Recommendations

Engr. Parvez Butt welcomed the members and expressed his satisfaction with PNS's initiatives in promoting nuclear science and technology. He emphasized the importance of indigenization and self-reliance for national development. Commending efforts to enhance outreach and collaboration, particularly with the Engineering Development Board (EDB), he advised replicating successful projects like PARAS as profitable business ventures. He also encouraged the development of indigenous capabilities for Small Modular Reactors (SMRs) and supported the Endowment Fund, suggesting a fixed annual membership fee of Rs. 1,000 to strengthen funding.

Mr. Muhammad Naeem praised PNS's efforts and recommended closer coordination with SPD. He urged a focus on tangible, achievable initiatives within PNS's scope. Highlighting the value of student seminars, he suggested making them more engaging by incorporating project exhibitions.

Dr. Nabeel Hayat Malik proposed that PNS should function as a think tank, integrating strategic areas of interest for SPD. He emphasized strengthening collaboration with SPD and suggested inviting the DG ACDA for discussions. Advocating for a national nuclear roadmap, he recommended formulating a Nuclear Energy Policy document and a long-term strategic framework for technology development. He further emphasized the importance of emerging technologies such as Fast Breeder Reactors, Quantum Computing, Artificial Intelligence, and Fusion Technology. Additionally, he recommended documenting successful applications of nuclear technology.

Engr. Syed Ziauddin stressed the need for stronger collaboration and outreach with the industry, suggesting the definition of measurable milestones for various initiatives. He underscored the importance of indigenization, particularly in licensing and regulatory compliance. To enhance public awareness, he encouraged writing books and articles on the peaceful uses of nuclear technology.

Engr. Tayyub Muhammad Ali advocated for producing documentaries on PAEC's achievements, beginning with power projects. He recommended leveraging the Expert Advisory Pool to strengthen industry linkages and exploring PARAS-like services for exporting dates. Additionally, he proposed organizing a seminar on Pebble-Bed Reactors.

Dr. Abdullah Sadiq endorsed Tayyub Muhammad Ali's recommendations and emphasized the need for stronger ties with international nuclear societies. He also appreciated the Endowment Fund initiative.

Engr. Waqar Murtaza Butt suggested archiving the history of Pakistan's nuclear power programme, starting with KANUPP. He

proposed organizing a full-day seminar in Karachi on Hydrogen Production as a future fuel. He recommended adopting standards from international nuclear societies, particularly the China Nuclear Society. Additionally, he advocated for establishing a Karachi Chapter of PNS.

Engr. Anwar Habib highlighted the need for revising the PNS Constitution and informed members that a committee had been formed for a comprehensive review. He assured that SAB members would be consulted for feedback once the draft was prepared.

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### Administrative Advisory Board (AAB)



### Meeting of the AAB

The first meeting of AAB was held on 27th February 2025 at the PAEC Rest House, G-8/3, Islamabad. The following members attended the meeting:

1. Dr. Ansar Parvez (Chairman)
2. Air Commodore (Retd) Khalid Banuri
3. Prof. Dr. Mohammad Mujahid
4. Prof. Dr. Bushra Mirza
5. Prof. Dr. Muhammad Afzal Rao
6. Ms. Ismat Gull Khattak
7. Ms. Shahnaz Kapadia Rahat
8. Raja Naveed Akhtar Satti
9. Dr. Sarah Qureshi (via Zoom)
10. Dr. Muhammad Tahir Khaleeq (Secretary)

Ambassador Kamran Akhtar, Mr. Nusrat Mirza, Mr. Nasir A. Qureshi, and Dr. Zafar Nawaz Jaspal could not attend as they were out of station. Members of the PNS Council attended the meeting as observers.

The meeting was chaired by Dr. Ansar Parvez who warmly welcomed all the participants and expressed gratitude for their presence despite their busy schedules. He emphasized the importance of AAB in guiding and strengthening PNS in achieving its mandate of promoting the peaceful applications of nuclear science and technology for socio-economic development and visibility at national level.

Following this, Dr. M. Tahir Khaleeq delivered a presentation outlining the scope, objectives, initiatives, and overall performance of PNS. He acknowledged the valuable contributions of the distinguished Board members and expressed appreciation for their willingness to serve on this prestigious platform.

### Discussions and Recommendations

Dr. Ansar Parvez expressed his satisfaction with the diverse expertise and dedication of the Board Members. He commended the PNS Council for being self-driven, motivated, and proactive despite limited resources. Seeking to enhance PNS's effectiveness, he invited Board Members to share their insights and proposed individual meetings to maximize their contributions. Additionally, he suggested creating a WhatsApp group for AAB members to facilitate discussions and idea-sharing. To ensure effective monitoring and evaluation of PNS initiatives, he recommended setting Key Performance Indicators (KPIs).

Air Commodore (Retd) Khalid Banuri congratulated the re-elected PNS Council members on their continued dedication. He emphasized the importance of setting specific, tangible goals for improved outcomes. While endorsing the Endowment Scheme, he stressed the need for demonstrable results. He further suggested creating short educational videos to raise public awareness about the benefits of nuclear technology.

Prof. Dr. Muhammad Afzal Rao acknowledged the contributions of nuclear scientists to national development and encouraged PNS to serve as a bridge between industry and academia. He proposed inviting university faculty and professors to join PNS and support nuclear awareness campaigns.

Prof. Dr. Bushra Mirza underscored the importance of guiding students in key research areas and strengthening linkages between universities and industries. She proposed collaboration with the Pakistan Academy of Sciences (PAS) for funding and recommended reaching out to the Higher Education Commission (HEC) and the Export Development Fund for financial support. Additionally, she invited PNS Council members to Fatima Jinnah Women University (FJWU) to explore research collaborations in emerging technologies.

Prof. Dr. Mohammad Mujahid emphasized PNS's role as a platform for knowledge transfer between academia and industry. He proposed establishing a pool of experienced scientists and engineers to mentor students. Furthermore, he offered Visiting Faculty positions at Pak-Austria Fachhochschule: Institute of Applied Sciences and Technology (PAF-IAST) for PNS members.

Ms. Ismat Gull Khattak highlighted the need for clear objectives and well-structured activities. She recommended developing Terms of Reference (TORs) for AAB meetings to assess progress annually. Additionally, she proposed signing Memorandums of Understanding (MoUs) with universities and colleges to promote awareness of nuclear science and technology.

Ms. Shahnaz Kapadia Rahat stressed the importance of defining KPIs to measure the impact of PNS initiatives over time. She suggested integrating nuclear technology education into the national curriculum and publishing booklets in simple language to educate the public. She also recommended incorporating nuclear-related lectures into Teachers' Training Programs to enhance knowledge dissemination.

Raja Naveed Akhtar Satti proposed engaging with chambers of commerce to understand industry expectations. He recommended organizing a seminar at the Islamabad Chamber of Commerce and Industries (ICCI) and suggested collaboration with Uraan Pakistan, a national initiative focused on sustainable development.

Dr. Sarah Qureshi commended the achievements of nuclear scientists and engineers in both defense and peaceful applications. She pointed out the lack of public awareness regarding these contributions and emphasized the need for educational outreach in schools and colleges. Additionally, she advocated for follow-up actions on the meeting's discussions to ensure progress.

The meeting concluded with a collective agreement on strategic actions to enhance PNS's role in promoting nuclear science and technology for national development. The Board Members expressed their commitment to continue to contribute towards achieving these goals.



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### Oath Taking Ceremony of PNS Council 2025-26

The oath-taking ceremony of the newly elected Council of the Pakistan Nuclear Society (PNS) for the 2025–26 term was held on January 18, 2025 at the PAEC Rest House, G-8/3, Islamabad. A large number of PNS members and their families attended the event. Engr. Pervez Butt, NI, HI, SI, former Chairman PAEC administered the oath to the Council members. The newly formed team comprises a mix of young and experienced office bearers, all dedicated to elevating the Society to an international level for promoting the peaceful applications of nuclear technology.

Following the formal oath-taking Dr. Mohammad Mohsin presented the Society's progress report while Mr. Ghulam Sarwar shared the financial report for 2024. Dr. M. Tahir Khaleeq highlighted the Society's current and future initiatives. In his speech, the Chief Guest Engr. Pervez Butt praised the Society's growing efforts in promoting the peaceful uses of nuclear technology. He particularly commended its outreach to other organizations and universities, as well as its focus on engaging students. The event was skillfully coordinated by Ms. Amina Tahir, SE, MSSP, PAEC, who served as the stage secretary.

The following individuals took the oath:

- Dr. Muhammad Tahir Khaleeq – President
- Mr. Waqar Ahmad Butt – Vice President
- Dr. Mohammad Mohsin – General Secretary
- Mr. Muhammad Abbas Qamar – Finance Secretary
- Executive Members:  
 Prof. Dr. Javed Iqbal Saggiu  
 Mr. Ghulam Sarwar  
 Syed Zahid Hussain  
 Ms. Nazia Kashif  
 Ms. Zahra Khanum Kousri



## Exploring New Horizons in Prostate Cancer

The Pakistan Nuclear Society (PNS), in collaboration with the Punjab Institute of Nuclear Medicine (PINUM), also known as PINUM Cancer Hospital Faisalabad, organized a symposium on “Exploring New Horizons in Prostate Cancer Therapy” on February 18, 2025. The event was made possible through the dedication and efforts of Dr. Muhammad Babar Imran, T.I, Director of PINUM, and was excellently organized by Dr. Tania Jabbar, Principal Scientist, and Dr. M. Shahzad Afzal, Head of the Nuclear Medicine Department. The session was coordinated by Dr. Nayyar Rubab, Senior Nuclear Physician, who served as the Stage Secretary. Physicians and surgeons from various hospitals in Faisalabad attended the symposium, while many others joined via Zoom.

The seminar commenced with a recitation from the Holy Quran followed by a welcome address by Dr. Babar Imran. A formal introduction to PNS was presented by Dr. M. Tahir Khaleeq, President of PNS. The half-day event featured three insightful lectures by esteemed experts.

- Prof. Dr. Tahir Bashir, Head of Urology at Allied Hospital, Faisalabad, discussed the significance of personalized treatments in managing metastatic prostate cancer.
- Dr. M. Ejaz Khan, Head of Oncology at PINUM, highlighted the transformative role of Lu-177 PSMA therapy in treating advanced metastatic cases.
- Dr. Nadeem Lodhi, Principal Scientist from PINSTECH, Islamabad, provided valuable insights into the safety and efficiency of Lu-177 radiopharmaceutical production

A very useful discussion session was held after the formal lectures. This seminar served as a valuable platform for healthcare professionals and researchers to explore cutting-edge therapies for prostate cancer.



The event was honored by the presence of Dr. Shazia Fatima, Director General, Nuclear Medicine & Oncology (NMO), PAEC, as the Chief Guest. In her address, she praised PNS for its efforts in organizing impactful seminars at PAEC cancer hospitals and reaffirmed her commitment to supporting such initiatives in the future.

The seminar concluded with a vote of thanks by Dr. Tania Jabbar, marking the end of a highly informative and engaging session. Memento shields were presented to the speakers.

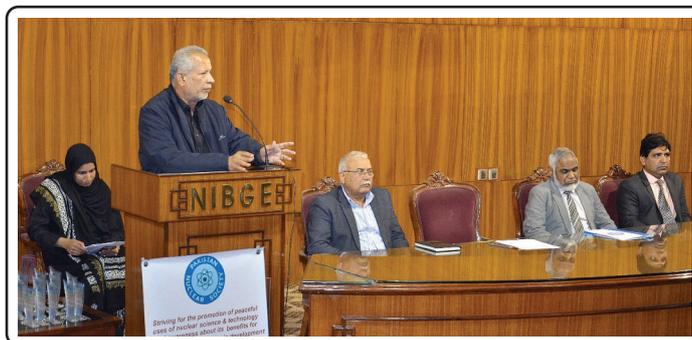


## Radiation Applications in Biotechnology and Genetic Engineering

A one-day seminar on “Radiation Applications in Biotechnology and Genetic Engineering” was held at National Institute of Biotechnology and Genetic Engineering (NIBGE), Faisalabad, on February 19, 2025. The seminar was jointly organized by PNS and NIBGE, with Mr. Abdul Malik Paracha, PS, NIBGE, serving as the programme coordinator. Around 70 participants including students and officials from NIBGE and NIAB, attended the event. Experts and researchers highlighted the transformative role of radiation in advancing biotechnology and genetic engineering. The seminar commenced with a welcome address by Dr. Nasir Ahmad Saeed, Director NIBGE. Following this, Dr. Muhammad Tahir Khaleeq introduced PNS, outlining its nationwide activities and emphasizing the peaceful applications of nuclear technology.

The seminar featured insightful presentations on various research areas:

- Dr. Nasir Ahmad Saeed provided an overview of the ongoing research at NIBGE and its achievements at national and international level.
- Dr. M. Hamid Rashid discussed gamma-ray-mediated microbial enhancements for enzyme production.
- Dr. Tariq Mehmood Bhatti presented insights into biotechnology-driven gold extraction.
- Dr. Mehboob-ur-Rahman shared advancements in genomic research focusing on modern approaches for developing resilient crops.
- Dr. Imran Amin elaborated on CRISPR-based genome editing initiatives at NIBGE.
- Ms. Rubab Ramzan presented her research on UVC-induced microbial modifications for enzyme production.



- Dr. Rubab Zahra Naqvi moderated the whole session and presented her work on Next Generation Sequencing based RNA Seq technology.

The seminar concluded with an engaging question-and-answer session, providing participants with the opportunity to interact with experts and facilitating valuable knowledge exchange and collaboration on the potential of radiation in scientific advancements. Dr. Muhammad Tahir Khaleeq also announced Mr. Abdul Malik Paracha as the Faisalabad Regional Coordinator of PNS. Mr. Waqar A. Butt gave a motivational speech for students on hard work and determination to achieve goals in life.

In the concluding session, Dr. Youssaf Saleem, Director NIAB, was the Chief Guest. In his speech he praised PNS for organizing such informative events at PAEC institutes and ensured his commitment to supporting PNS in future initiatives.

At the end, Dr. Nasir Ahmad Saeed delivered a vote of thanks, expressing gratitude to the speakers and organizers for their contributions. Shields were later distributed among the speakers and PNS officials in recognition of their efforts to make the seminar a successful event.



## Strengthening Economy through Quality

PNS and NEW-1 have achieved a landmark by capacity building and preparing for certification under ISO 19443:2018 certification; an international standard for quality management systems specifically tailored for organizations in the nuclear energy sector. This certification, the first of its kind in Pakistan, sets specific requirements for applying ISO 9001:2015 within the supply chain of the nuclear energy sector for products and services crucial to nuclear safety. By obtaining this certification, the manufacturers and suppliers of critical industrial products and services can significantly reduce reliance on foreign expertise thereby saving substantial foreign exchange.



This accomplishment highlights PNS's instrumental role in providing capacity-building support to NEW-1. Their collaborative efforts included training and awareness sessions for stakeholders, adopting ISO 19443 as a National Standard through Pakistan Standards & Quality Control Authority (PSQCA), conducting independent gap analysis of management systems and implementing follow-up actions. Thanks to these efforts, NEW-1 emerged

as the first organization in Pakistan that is ready for ISO 19443 certification. Pakistan Standards and Quality Control Authority (PSQCA) acknowledges this effort of PNS as a significant contribution to Pakistan and is going to highlight it through the portal of Commonwealth Standards Network (CSN).

This initiative by PNS, which involved indigenous consultancy and capacity-building measures, saved approximately 5 million rupees in foreign exchange. PNS extends its gratitude to all stakeholders involved in this endeavour, including PAEC, PNRA, PSQCA, Pakistan National Accreditation Council (PNAC) and Certification Services Pakistan (CeSP) as well as various PAEC establishments for their invaluable support towards this national cause.

Special recognition is due to the leaders of this remarkable achievement namely Mr. Saliq Qadeer Butt, Mr. Saeed-ur-Rehman, and Mr. Abdul Rehman. Their dedication and leadership were pivotal in achieving this significant milestone for Pakistan. In this connection, PNS awarded a Readiness Certificate to NEW-1. The coordination by Dr. Anjam Iqbal in the whole process is acknowledged and deeply appreciated.



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## Review of PNS Constitution

The first meeting of the PNS Constitution Review Committee (PCRC) was held on January 25, 2025 at PAEC Rest House, Islamabad. The meeting was attended in person by Mr. M. Anwar Habib, Engr. Sohail Mazhar, Dr. Riffat M. Qureshi, Dr. Shams ud Din, and Mr. Waqar A. Butt, while Mr. Syed M. Ayub Shah participated via Zoom.

The key points discussed during the meeting were as follows:

### 1. Revision of the Document

All members unanimously agreed that the constitution should be revised to align with current circumstances and clarify or eliminate ambiguities. The primary challenge is to maintain its connection with the original text making minimal changes. However, outdated administrative provisions should be removed to enhance operational efficiency.

### 2. Title and Format

It was observed that similar documents are often titled "By-laws" instead of "Constitution." Dr. Riffat Qureshi presented a recently approved document of the Pakistan Academy of Sciences (PAS) titled Memorandum of Association and Bylaws. The committee agreed to adopt a similar title and format for PNS. Additionally, it was suggested that since all activities of the Society focus on the peaceful uses of nuclear techniques, the word "Peaceful" should be included wherever nuclear science and technology is mentioned in the document.

### 3. Global Recognition & Societal Objectives

Mr. Syed Ayub Shah stressed the importance of achieving global recognition and establishing international linkages for tangible benefits. He also highlighted PNS's role in the socio-economic development of the country and proposed reframing the objectives and section-wise activities in detail.

### 4. Verification of PNS Registration Status

The only official document available in PNS records is its certificate of registration from 1990 under Act 1860-XXI, issued by the Registrar in Islamabad. Mr. Sohail Mazhar informed the committee that, at one point, all society registrations in the federal area were cancelled, raising concerns about the current legal status of PNS. The committee agreed to verify this matter with the relevant authorities.

### 5. Legal Considerations

Dr. Shams ud Din, who is also a law graduate, will address the legal complexities and liaise with registration authorities. He referred to the By-laws and Rules of the American Nuclear Society (ANS) to gain insight from a well-established society in the nuclear field.

### Next Steps

It was decided that Dr. Riffat Qureshi, Dr. Shams ud Din, and Mr. Waqar A. Butt will conduct preliminary revisions based on the Pakistan Academy of Sciences (PAS) By-laws. The revised document will then be shared with all PNS members via WhatsApp and email. Final approval will be sought in a special meeting or during the Annual General Meeting (AGM).

## Outreach and Linkages

### Meeting with Member Administration, PAEC

PNS delegation comprising of the President, Vice President and General Secretary held a meeting with Maj. Gen. Muhammad Asim Khan, HI(M), the newly appointed Member Admin at PAEC HQ, Islamabad on 6th February, 2025. During the meeting the delegation elaborated on the initiatives and activities of PNS as per requirement and interest of PAEC centres as well as other strategic organizations. In addition to discussing various matters

of mutual interest they addressed the issue of relocating PNS office from PAEC Rest House in G-8/3 to the CHASHNUPP Hostel in H-8, Islamabad. Member Admin assured the delegation of his full support and suggested to enhance PNS programmes of public awareness with the collaboration of Public Relation (PR) Division of PAEC.

### Meeting with CEO Mera Maan

The President and the Vice President of PNS visited the attractive setup of “Mera Maan”, a private sector training and consulting company and met its Founder and CEO, Shahnaz Kapadia Rahat. She has recently joined PNS as a Member of AAB. Ms. Kapadia is a passionate social entrepreneur with over 30 years of experience in designing and implementing large-scale socio-economic development programmes for government, public and

private sectors. She has also worked as a consultant with UNDP, CIDA, UNIDO, UNHCR, USAID, SDC, UNICEF, World Bank, UNWOMEN and ADB. Many issues and programmes of mutual interest were discussed aimed at enhancing PNS activities. She assured her support and expertise especially in capacity building and training.

### Meeting with Officials of Atlantic International Business Network (AIBN)

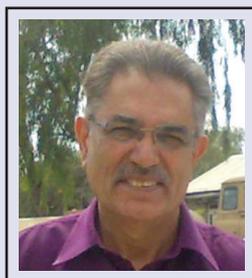
Mr. Shahid Hussain, Technical Director and Col. (Retd) Farrukh Javed, SI(M), Chief Operating Officer visited PNS office on March 18, 2025 and held discussions with PNS Council Members in the context of participation in an International Conference and Exhibition to be held at Doha, Qatar from 28-30 April 2025. The aim is to showcase Pakistan’s healthcare innovations and foster collaboration with international stakeholders by connecting

Pakistani professionals and organizations with their Qatari counterparts. PNS has offered to arrange experts for delivering lectures in nuclear medicine and oncology. Subsequently, their meeting was arranged with Dr. Shazia Fatima, DG NMO for cooperation in the health sector. Mr. Shahid has desired PNS to sign MoU with AIBN for future collaboration in the areas of mutual interest.

## Silent Heroes

*Lest we Forget*

### Dr. Khurshid Alam Butt



Dr. Khurshid Alam Butt was born on April 21, 1947 in Lahore. He completed his matriculation at Denny’s High School, Rawalpindi in 1963, and earned his F.Sc. from F.C. College, Lahore, in 1965. Excelling academically, he received two gold medals for securing first positions in his B.Sc. and M.Sc. degrees in Geology from the University of the Punjab in 1969.

He began his professional career in 1970 as a Geologist at the Atomic Energy Centre, Lahore. He pursued higher studies in Canada and earned a Ph.D. in Igneous Petrology and Geochemistry from the University of New Brunswick in 1976. He also received specialized training at the Colorado School of Mines, USA.

He returned to Pakistan in 1978 and joined Mineralogy Division of AEMC Lahore as Head Mineralogy Division. In 1981 Dr. Butt was transferred to the Mineral Hard Rock Division and spent 13-14 years in Peshawar. He was promoted to Principal Geologist in 1986 and subsequently to Senior Principal Geologist and to Chief Scientist (Geology) in 2003. He served as IAEA expert on mineral

exploration to Government of Indonesia for two years. He was awarded a Gold Medal by PAEC for his pioneering geological work at Baghalchur mines, Pakistan’s first uranium mining site. He has the distinction to discover a new mineral, the only one from Pakistan. The Punjab Geological Society honoured him with a Gold Medal for this discovery.

Dr. Butt was a Fellow of the Pakistan Academy of Geological Sciences, the Punjab Geological Society, and the Pakistan Nuclear Society. Throughout his career he published 42 research papers in national and international journals and contributed over 40 R&D reports to PAEC. Recognizing his outstanding contributions the Government of Pakistan awarded him the prestigious Sitara-e-Imtiaz for discovering and successfully testing the country’s largest uranium deposit.

After 36 years of exemplary service he retired in 2007 and was re-employed for two years as Director General of the AEMC, Lahore from 2007 to 2009. He died during Phosphate Mine visit in Abbottabad as Consultant Geologist on June 29, 2011. May Allah Kareem rest the departed soul in Jannah.

*(Mr. Jamil Ahmad, Ex-Dir. REO)*

## A Historical Photo



*The visit of Director General IAEA (1986)  
Mr. Waqar A. Butt, Dr. N. M. Butt, Dr. Sigvard Eklund, Dr. I.H. Qureshi and Dr. Ishfaq Ahmad*

## National and International Nuclear News and Views

### IAEA sees Rapid Potential Growth in Nuclear, if Key Challenges Overcome

With nuclear power generation set to reach a record level in 2025, a new report from the International Energy Agency (IAEA) says that the interest in nuclear energy is at its highest level since the oil crises in the 1970s. Support for expanding the use of nuclear power is now in place in more than 40 countries. There are currently around 63 nuclear reactors under construction representing more than 70 GW of capacity while operating lifetime extension of more than 60 reactors worldwide is planned. Annual investment in nuclear, for both new plants and lifetime extensions of existing ones has increased by almost 50% in four years since 2020 exceeding USD 60 billion.

### New varieties of Mung Bean Developed at NIAB

Nuclear science has helped Pakistan achieve self-sufficiency in mung bean production, as most varieties grown in the country have been developed by NIAB in collaboration with the joint FAO-IAEA Centre for Nuclear Techniques in Food and Agriculture. These varieties have improved crop yields, enhanced disease resistance and enhanced nutritional profile. The two

Also, the January 13, 2025 issue of **the Bulletin of the Atomic Scientists** has issued following statement on future of nuclear energy. “Undeniably, ambitions for a nuclear renaissance are thriving. The UK is building its first nuclear power station in 30 years, France plans a new fleet of 14 reactors and, in total worldwide, 100 new reactors are proposed”. Big Tech companies, who require reliable low-carbon dioxide base-load electricity to provide for their energy-thirsty AI technologies and data storage, are supporting nuclear energy too.

*World Nuclear News, 16 January 2025.*

varieties released in 2021 namely NIAB Mung 2021 (NM-2021) and Abbas Mung were grown on about 70 per cent of Pakistan’s mung bean land area that year making a substantial contribution to the country’s food security and economy, the IAEA states in its latest bulletin.

*Dawn Newspaper, February 17, 2025*

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### Protein from Tardigrades Lessens Radiation Sickness

Scientists have long known that the microscopic animals also known as tardigrades or moss piglets can survive radiations some 1000 times higher than a lethal human dose. Back in 2016 they have identified a gene called Dsup in tardigrades that helped protect human DNA from radiation damage. In recent experiments, scientists created special nanoparticles that deliver

the protein-building instructions from the Dsup gene into targeted tissues in mice. They discovered that the animals experienced less DNA damage after being blasted by radiation. There is great hope that something similar could be developed to lessen the nasty side effects of chemotherapy or radiation-based cancer treatments.

*Science Adviser; February 25, 2025.*

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## Obituaries

### Mr. Nazir Ahmed Chughtai



Mr. Nazir Ahmed Chughtai was born on 10th March 1944 in Jhang. He completed his school education from Government High School Jhang, did F.Sc. from Intermediate College Gulberg Lahore, B. Sc. from Islamia College Civil Lines Lahore and masters in chemistry from Government College Lahore, the prestigious institution of Pakistan. He

served in PCSIR Laboratories Lahore for some time before joining PAEC. He joined PAEC in May 1975 along with two well-known personalities, Dr. Khalil Akhtar Shahid and late Dr. Muhammad Salim. Immediately after that he was assigned the task of R & D work in Materials Division (then Nuclear Materials Division) PINSTECH. He had been an important member of the R & D team working on nuclear fuel cycle. He was transferred to CPC D. G.

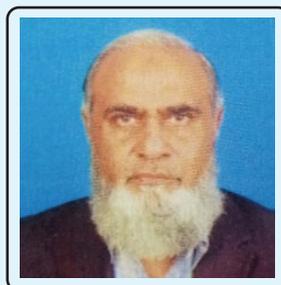
Khan in 1981. He fulfilled his duties as plant Incharge of uranium refining plant. He had remarkable understanding with officers and staff members which is a key factor to meet the targets. After serving in CPC for five years, he was transferred back to Materials Division PINSTECH due to health issues. He was assigned the duties of incharge chemistry lab along with other administrative tasks from time to time. He was elevated to Head Materials Division in August 1999. He was a methodical person having an excellent memory. His quality of giving honest word of advice helped the people technically and administratively. He retired as Chief Scientist/Head Materials Division PINSTECH on 9th March 2004.

Mr. Nazir Ahmed Chughtai, a lifetime member of PNS, breathed his last on 15th January, 2025. May ALLAH Kareem rest the departed soul in eternal peace and place him at a high position in Jannah. Ameen!

*(Engr. Ghulam Yahya, colleague)*

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### Mr. Muhammad Afsar



Mr. Muhammad Afsar was born on August 11, 1949 in a village near Chakwal. He earned his B.Sc. from Government College Chakwal and later completed M.Sc. in Physics from Punjab University, Lahore, in 1973. After that he joined PAEC in June 1974. Over the course of 35 years, he made significant contributions to the field of nuclear safety and radiation

protection. At the beginning of his career, Mr. Afsar worked as a health physicist at PAEC's mining project in DG Khan. He later joined the Health Physics Division of PINSTECH, where he was involved in various assignments related to health physics.

Afterwards, he was transferred to the Directorate of Nuclear Safety and Radiation Protection (DNSRP), which was incorporated into Pakistan Nuclear Regulatory Authority (PNRA) in 2001. During his tenure at PNRA, he held several key positions, including Head of the Regional Radiation Protection Institute (RRPI) in Lahore, Director of RNSD-1 at PNRA Headquarters, and Director of Administration. He continued to serve at PNRA until his retirement in 2009 as Chief Scientist.

Mr. Afsar took his last breath on March 15, 2025, in Islamabad, and was laid to rest at his native village in Chakwal. May Allah bless him with the highest rank in Jannah.

*(M. Abbas Qamar, Colleague)*

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## Members Section

### Pakistan Nuclear Society

In the heart of Pakistan, bright minds unite,  
To harness the atom, to spread its light.

A beacon of knowledge, a guiding force,  
Shaping the future, charting the course.

With wisdom deep and vision wide,  
They stand with science side by side.

From energy bright to healing hands,  
Their impact stretches across the lands.

They teach, they train, they innovate,  
For progress bold, they advocate.

Through research strong and knowledge pure,  
A prosperous future they ensure.

The youth they guide, the world they show,  
How peaceful atoms help us grow.

In power, in health, in fields so vast,  
Their mission echoes, built to last.

Oh, PNS, your flame shines bright,  
A torch of wisdom, a source of light.

And as your mission scales new height,  
Tahir salutes your endless light.

*Poems by Dr. M. Tahir Khaleeq*

### پاکستان نیوکلیئر سوسائٹی

ہے یہ چراغِ علم و ہنر، پاکستان کی شان ہے  
نیوکلیئر سائنس کا یہ قافلہ، عزم کی پہچان ہے

روشنی کی راہ میں، جلائے علم کے دیے  
تحقیق کی دنیا میں، نئے باب یہ کھول دیے

توانائی، طب، زراعت میں، ہو یا صنعت کی بات  
ایٹمی سائنس کا ہر میدان، اس کا ہے اثبات

طلبہ کے لیے امید ہے، تحقیق کا سنگ میل  
نئی نسل کو دے رہنمائی، بنے ترقی کی دلیل

علم کا ہے یہ قافلہ، بڑھتا رہے یونہی  
پاکستان کی شان بنے، چمکے سدا زمیں

پاکستان نیوکلیئر سوسائٹی، چراغِ علم کی پہچان ہے

ترقی کا ہر قدم اس کا طاہر، وطن کی شان ہے

## WiN Activities

### Honors for Young Members



**Ms. Sana Jamal**, Junior Scientist has been selected as the WiN-YG Representative for South Asia. In this position she will act as primary liaison for WiN YG members in the assigned region. She will develop

and implement strategies to drive membership growth, organize regional events, meetings, and workshops to connect members and promote WiN-YG's mission and collaborate with the global WiN-YG team to align regional activities. Ms. Sana has recently joined PINSTECH after completing MS in Nuclear Engineering from PIEAS.

\*\*\*\*\*



Another PNS Lifetime Member, **Ms. Safoora Rana**, JS, PIEAS has joined WiN Global Young Generation as the Internal Contact and Feedback Lead. In this role

she will support the Recruitment and Growth team in its mission to expand and strengthen global network, aiming to double WiN-YG membership by the end of 2025.

\*\*\*\*\*

### Representation in WiN-YG General Assembly

The WiN Young Generation General Assembly, held on February 15, 2025, brought together members from 60 countries to exchange ideas, strengthen collaborations, and explore opportunities in nuclear science. The session highlighted the global impact of nuclear science while reinforcing WiN-YG’s mission of fostering knowledge exchange and collaboration.

**Sana Jamal** had the honor of representing Pakistan, where she presented an overview of WiN Pakistan’s activities and achievements. Her report emphasized efforts to promote women’s participation in nuclear science, support capacity-building, and

foster collaborations aimed at strengthening Pakistan’s nuclear workforce. Through mentorship programs, technical workshops, and training initiatives, WiN Pakistan has played a vital role in empowering women in the field, aligning with the broader goals of WiN Global.

Larissa Noudem, President of WiN YG, also highlighted WiN Pakistan’s 1st International Conference, held in Islamabad during February 2025. The active participation of WiN YG members in the conference was greatly appreciated, further showcasing their commitment to advancing nuclear science worldwide.

\*\*\*\*\*

### Sight Seeing

Following the busy schedule of two days WiN conference in Islamabad the conference organizers along with the foreign delegates, Ms. Eva Gynae and Ms. Janette Donner, visited Taxila Museum and Jaulian archeological site which is a Buddhist monastery dating from the 2nd century CE and believed to be one of the world’s oldest universities in the region.



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## Students’ Corner

### Promoting Peaceful Uses of Nuclear Technology in Pakistan

A student session on “Peaceful Uses of Nuclear Technology” was held on February 20, 2025 at The University of Faisalabad (TUF). The event was organized by the Pakistan Nuclear Society (PNS) in collaboration with the Department of Biochemistry and Biotechnology. Prof. Dr. Tahira Iqbal, Dean, Faculty of Sciences, TUF served as the coordinator of this initiative. More than 200 students and faculty members attended the session which aimed to raise awareness about the peaceful applications of nuclear energy across various fields.

The programme commenced with a recitation from the Holy Quran followed by a Naat-e-Rasool. Dr. Bakhtawar Nasir from the Department of Biochemistry and Biotechnology, delivered the welcome address and also coordinated the session as the stage secretary. As per tradition Dr. M. Tahir Khaleeq introduced the Pakistan Nuclear Society highlighting its nationwide activities and emphasizing the peaceful applications of nuclear technology.



The session featured two key lectures. Mr. Waqar Ahmad Butt delivered a talk on “Applications of Nuclear Technologies in Pakistan” while Mr. Muhammad Abbas Qamar presented “Nuclear Radiation and Its Effects on Human Health.” It was followed by a question-answer session.

At the end Dr. Tahira Iqbal delivered the vote of thanks expressing gratitude to the speakers and organizers for their valuable contributions. PNS delegates from Islamabad also met Prof. Dr. Aman Ullah Malik, Rector of the University. The event served as an important platform for knowledge-sharing and discussions on the advancements of nuclear technology in Pakistan. As a token of appreciation, shields were presented to the speakers.



\*\*\*\*\*

## Social Events

### Annual Dinner of PNS Families

Following the oath taking ceremony on 18th January 2025 PNS members and their families enjoyed a lively social event featuring poetry, humour, and music. Ms. Zahra Khanum Kousri coordinated the event as the stage secretary. The entertainment was further enriched by live performances on tabla, rubab and harmonium by three professional musicians. Ayesha Meerab, daughter of Ms. Zahra, recited a beautiful poem, while Dr. Hamid Saleem and Dr. Khalid Jamil captivated the audience with their heartfelt poetry. Dr. Shaukat Hameed Khan, shared nostalgic stories from his student life which received a warm round of applause. Dr. Ahmad Ahsan Nawaz amused the audience, telling a few jokes.

To conclude, Mr. Waqar A. Butt expressed gratitude to the organizers, presenters, musicians, and audience for their participation in the vibrant and enjoyable gathering. The evening ended with a delightful annual dinner for families.





Issue 18/2025

April-June, 2025

# PNS Newsletter

Nuclear for Peace

A Quarterly Newsletter of the Pakistan Nuclear Society

#### Patron:

Dr. Muhammad Tahir Khaleeq

#### Editor-in-Chief:

Mr. Waqar Ahmad Butt

#### Editors:

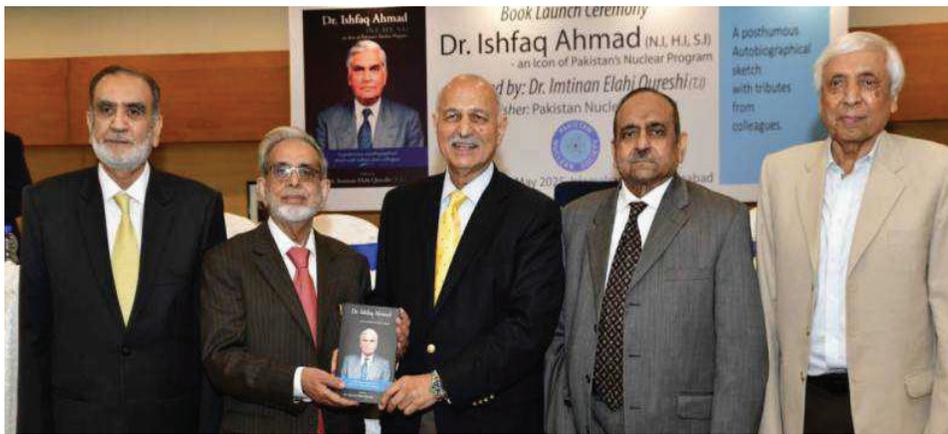
Dr. Muhammad Sadiq

Mr. Saleem A. Ansari

Mr. M. Abbas Qamar

## Inside this Issue

From the desk of Editor-in-Chief	01
Activities during the 2 <sup>nd</sup> Quarter	02
Outreach and Linkages	05
Silent Heroes	09
A Historical Photo	09
Nuclear News and Views	10
Members Section	11
• Congratulations	11
• Members' Contribution	11
• Obituaries	12
WiN Activities	13
Students Corner	14
Social Events	16



## From the desk of Editor-in-Chief

Pakistan Nuclear Society (PNS) organized several remarkable events during the second quarter. Continuing the tradition of celebrating Youm-e-Takbeer on 28th May, PNS invited a number of scientists and engineers who had participated in the historic Chaghi nuclear tests to share their experience with the audience. They recalled with great relish and happiness the moment when the iconic ash cloud rose above the rugged hills—a symbol of immense national pride and achievement.

Another significant event was a book launching ceremony held at the Islamabad Club on May 13, 2025. The book has documented the life, achievements, and contributions of Dr. Ishfaq Ahmad, former Chairman of the Pakistan Atomic Energy Commission (PAEC), who accomplished a pivotal role in the development of Pakistan's nuclear programme. The prestigious ceremony was attended by a distinguished gathering of dignitaries.

Organizing interactive sessions in universities and colleges is another important activity of PNS. This aims to inspire the younger generation to excel in science and technology—especially in the peaceful applications of nuclear energy. These sessions not only helped to counter negative propaganda against nuclear technology but also supported elevation of Pakistan's image as a responsible nuclear state.

Another significant initiative is the transformation of PNS into a Certification Body for nuclear components and services in view of indigenization of nuclear power programme. After extensive training, workshops, gap analyses, it has successfully acquired readiness certificate. A team of experts is now working towards formal certification from the Pakistan National Accreditation Council (PNAC).

The Youth in Nuclear (YiN) Chapter of PNS has been firmly established, with its first council formed through secure online elections. Similarly, after completing its two-year term, elections for the Women in Nuclear (WiN) Pakistan Chapter have also been successfully conducted and WiN new council has been constituted.

PNS has embarked on the ambitious project of launching its own research journal. A dedicated team is deftly working on this initiative, however, financial constraints continue to pose challenges in fulfilling the necessary prerequisites.

## Vision

*To become a resource centre for disseminating information and to promote practical applications on peaceful uses of nuclear science, engineering and technology for sustainable socio-economic development. The principal tools to be used for this purpose would be PNS Website and PNS Newsletter.*

## Announcements

*Tribute to*

**Prof. Dr. Riazuddin**

Pakistan Academy of Sciences

September 9, 2025

## Contact:

**Pakistan Nuclear Society**

CHASNUPP Hostel, 3rd Floor,

Near Jamia Salphia, H-8/1, Islamabad

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URL: <https://pns.org.pk>

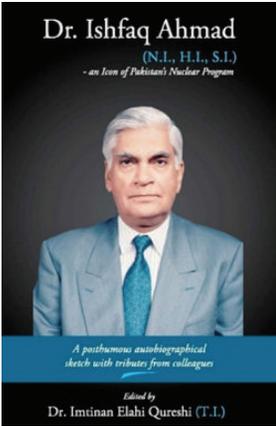
YouTube: PNSociety

Facebook: Pakistan.nuclear.society

Ph. Nos. +92-322-8883339

## Activities During the 2<sup>nd</sup> Quarter of 2025

### Book Launch Ceremony



Pakistan Nuclear Society hosted a dignified and memorable ceremony for launching of the book “Dr. Ishfaq Ahmad: An Icon of Pakistan’s Nuclear Program”, intending to celebrate the remarkable legacy of one of the nation’s most distinguished scientists. This posthumous autobiographical sketch, edited by Dr. Imtinan Elahi Qureshi-former President of PNS, offers a compelling narrative of Dr. Ishfaq Ahmad’s monumental contributions to Pakistan’s nuclear

development, enriched by heartfelt tributes from his colleagues and friends.

The event drew a distinguished audience, including current and former chairmen of strategic organizations, ambassadors, vice chancellors from various universities and a number of senior professionals from nuclear community. Senator Mushahid Hussain Syed graced the occasion as the Chief Guest on 13th May 2025.

Dr. M. Tahir Khaleeq, President of PNS, welcomed the guests and gave a concise overview of the Society’s ongoing initiatives. Dr. Imtinan then presented a detailed account of Pakistan’s

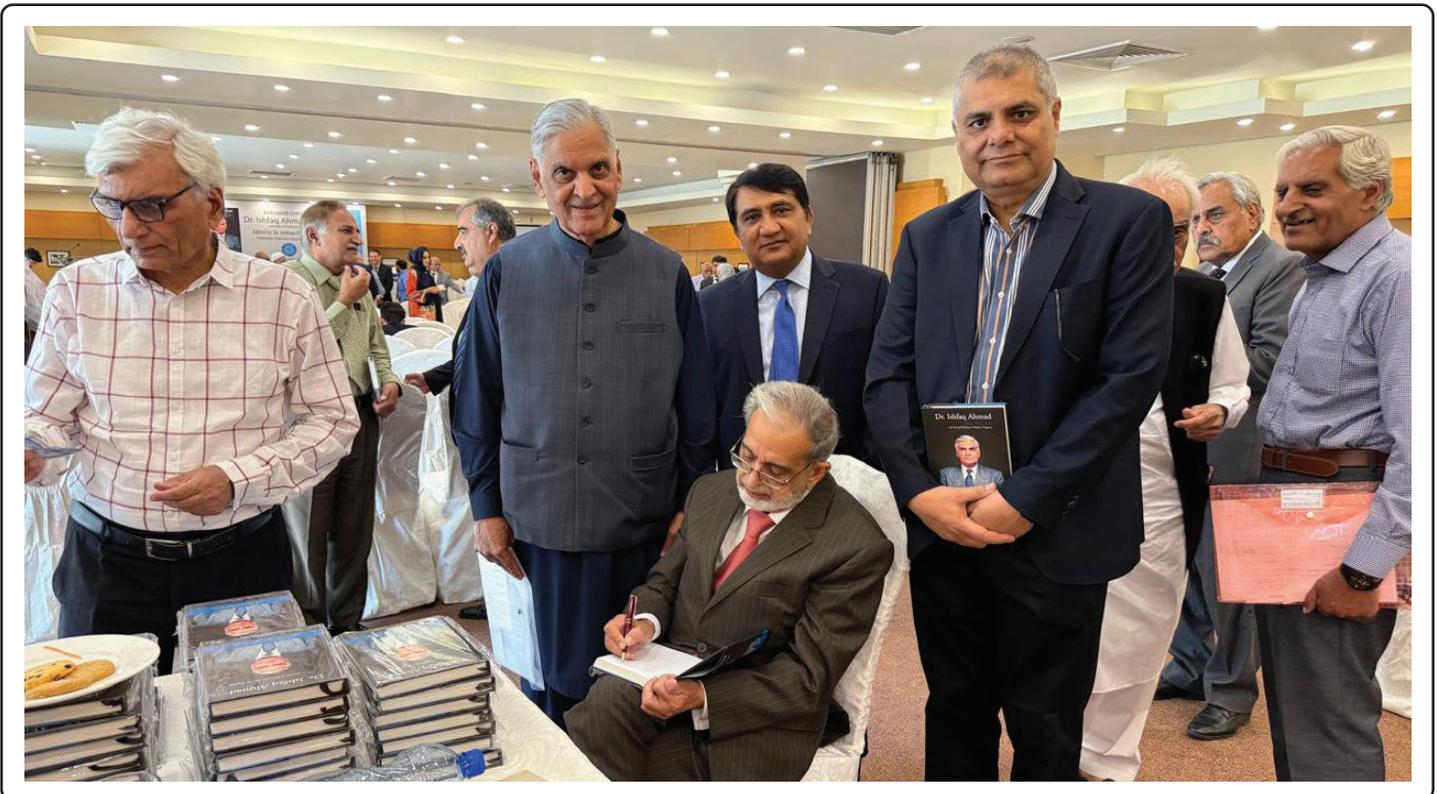
nuclear journey, emphasizing Dr. Ishfaq’s pivotal role not just as a scientific leader, but as a symbol of inspiration for the nation’s scientific community.

Engr. Parvez Butt, former Chairman of the Pakistan Atomic Energy Commission (PAEC), shared personal recollections of working closely with Dr. Ishfaq during the critical years of Pakistan’s nuclear deterrence efforts. He lauded his leadership in establishing over 30 key scientific and technical institutions and praised his exceptional ability to recognize and foster talent purely on merit.

Dr. Shamim Ahmad Chaudhri, the first elected President of PNS, highlighted Dr. Ishfaq’s significant work in non-classified areas, including nuclear medicine, agriculture, and research. He also noted Dr. Ishfaq’s instrumental role in Pakistan becoming an Associate Member of CERN in 2014-a major milestone in global scientific collaboration.

Air Commodore (Retd.) Khalid Banuri, Senior Advisor on Strategic Affairs, described the book as “a window into the life of a pioneer.” He commended Dr. Ishfaq’s steadfast focus, quiet determination, and visionary approach that enabled the country to succeed in its nuclear ambitions despite international embargoes and sanctions.

A touching message from Mr. Aijaz Ahmad, son of Dr. Ishfaq Ahmad, was read by Mr. Muhammad Naem, former Chairman



of PAEC. The message offered personal insights into Dr. Ishfaq's values-his simplicity, humility, and deep belief in purposeful work over material wealth.

In a keynote address, Senator Mushahid Hussain Syed paid glowing tribute to the late scientist, calling him the "Master Mentor of the Scientists". He praised Dr. Ishfaq as a man of principle, vision, and unyielding dedication. The senator noted the symbolic timing of the book launch in May, just ahead of Youm-e-Takbeer, commemorating Pakistan's nuclear tests. He also linked

the occasion to Pakistan's recent military success in operation Bunyan un Marsoos, underlining the strength of national defense.

The ceremony concluded on a high note as Dr. Imtihan Qureshi presented a copy of the book to Senator Mushahid Hussain Syed. The event was a great tribute, marked by national pride and honor for the great personality of Dr. Ishfaq Ahmad.

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### *PNS Celebration of Youm-e-Takbeer*



Pakistan Nuclear Society celebrated Youm-e-Takbeer on May 28, 2025 at the Pakistan Academy of Sciences (PAS), Islamabad. This significant occasion commemorates Pakistan's historic

entry into the nuclear club in 1998 reaffirming the nation's commitment to technical excellence, national security, and development in civil nuclear technology. The event was marked by a significant number of dignified gathering of renowned scientists, engineers, and experts who physically rendered their services at the site where the nuclear test was conducted.

The programme began with the recitation from the Holy Quran, followed by a welcome address and opening remarks by Dr. Muhammad Tahir Khaleeq. A reflective script presented by Mr. Waqar Ahmad Butt added a personal and patriotic touch. The audience was then taken through the historical journey of Pakistan's nuclear achievements by Dr. N. M. Butt, SI. Mr. Muhammad Naeem, NI, HI, SI highlighted the vital role of the nuclear fuel cycle in national progress. Dr. Ansar Parvez,



HI, spoke about the achievements and contributions of nuclear programme in various sectors of Pakistan. The ceremony concluded with insightful closing remarks by Engr. Parvez Butt, NI, HI, SI. The celebration served as a tribute to the vision,



dedication, and scientific achievements of Pakistan's nuclear community. Stage Secretary of the event, Ms. Nazia Kashif,

Executive Member, PNS coordinated the stage very efficiently.

\*\*\*\*\*

### *One day Seminar at Fatima Jinnah Women University*

PNS and WiN-Pak, in collaboration with the Department of Physics at Fatima Jinnah Women University (FJWU), Rawalpindi, organized a seminar on "Environmental Changes and Water Resources Management." on May 21, 2025. The event was attended by an enthusiastic participation by around 200 students.

The seminar began with a welcome address by Dr. Nawishta Jabeen, In-charge of the Physics Department. Dr. Shazia Fatima, President of WiN-Pak and Director General of Nuclear Medicine & Oncology at PAEC, shared her insights on the topic, drawing from her extensive experience in the field. This was followed by a vibrant and informative presentation by Dr. Samreen Shahzadi, Secretary of WiN-Pak, highlighting the role of women in nuclear science.



The technical session included the following presentations:

- 1. Pakistan's Water Resources and Agriculture** – Dr. Imtiaz Ahmed, former DG International Affairs, PAEC
- 2. Introduction to Isotopes: Basic Concepts and Applications in Hydrology and Water Resources Management** – Dr. Saira Butt, Head of Isotope Application Division, PINSTECH

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### *PNS Certification Services Network for Sustainable Quality & Safety Management*

Indigenous expertise are required in areas of design, development, and manufacturing of NPP systems, structures, and components for ensuring sustainable and cost-effective operation, maintenance, and up-gradation of Nuclear Power Plants (NPPs). The new international standard, ISO 19443:2018, tailored for the nuclear power industry, integrates the requirements of ISO 9001:2015 and IAEA GSR Part-2.

Since 2023, PNS has been actively involved in building national

### **3. Nature-Based Solutions for Groundwater Management**

– Engr. M. Dilshad Arshad, Director Hydrology, PCRWR

### **4. Nuclear Safety and Radiation Protection** – Ms. Aneela Raza, PSO, PNRA

The students actively interacted with the speakers, and their queries were effectively addressed by the experts.

In his speech, Dr. M. Tahir Khaleeq, President of PNS, emphasized the importance of such initiatives for student's development and encouraged them to join the Society as Associate Members. He expressed his gratitude to Dr. Nawishta and her team for their excellent organization of the event.

The seminar concluded with an inspiring message by Mr. Waqar A. Butt, who urged students to adopt the mantra: "Never give up in life."



capacity for ISO 19443:2018 certification. This certification, specifically for products and services important to nuclear safety (ITNS), is expected to significantly reduce reliance on foreign services and save considerable foreign exchange.

PNS takes pride in supporting NEW-1 through a comprehensive capacity-building approach that includes:

- Conducting training and awareness sessions for all stakeholders

- Supporting the adoption of ISO 19443:2018 as a national standard by PSQCA
- Performing independent gap analyses of the management system and providing follow-up support
- Supporting the adoption of ISO 19443:2018 as a national standard by PSQCA
- Performing independent gap analyses of the management system and providing follow-up support

This initiative has already saved about 50 million rupees in foreign exchange. As a result, NEW-1 is now ready for

ISO 19443:2018 certification. However, Pakistan currently lacks an accredited certification body for this standard.

To address this gap, PNS aims to become an Accredited Certification Body for ISO 19443:2018. By establishing a Certification Services Network of Quality and Safety Management Practitioners, PNS seeks to provide sustainable, long-term support for quality and safety management across the NPP supply chain. For this activity a Workgroup of Quality Management & Accreditation has been created. Regular weekly meetings are held via zoom link to achieve this purpose.

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## Outreach and Linkages

### Interaction with Foreign Experts and Scientists

To enable quick launching of PNS Research Journal, PNS delegation approached the organizers of the International Nathiagali Summer College to facilitate interaction with international faculty. Consequently, PNS Members Dr. Masroor Ikram and Mr. Waqar A. Butt participated in the Nathiagali

Summer College from June 12-14, 2025. They held productive discussions with experts from the UK, USA, UAE, Qatar, and Romania. All the experts graciously agreed to join the Advisory Board of the journal and also expressed their willingness to contribute high-quality research papers.

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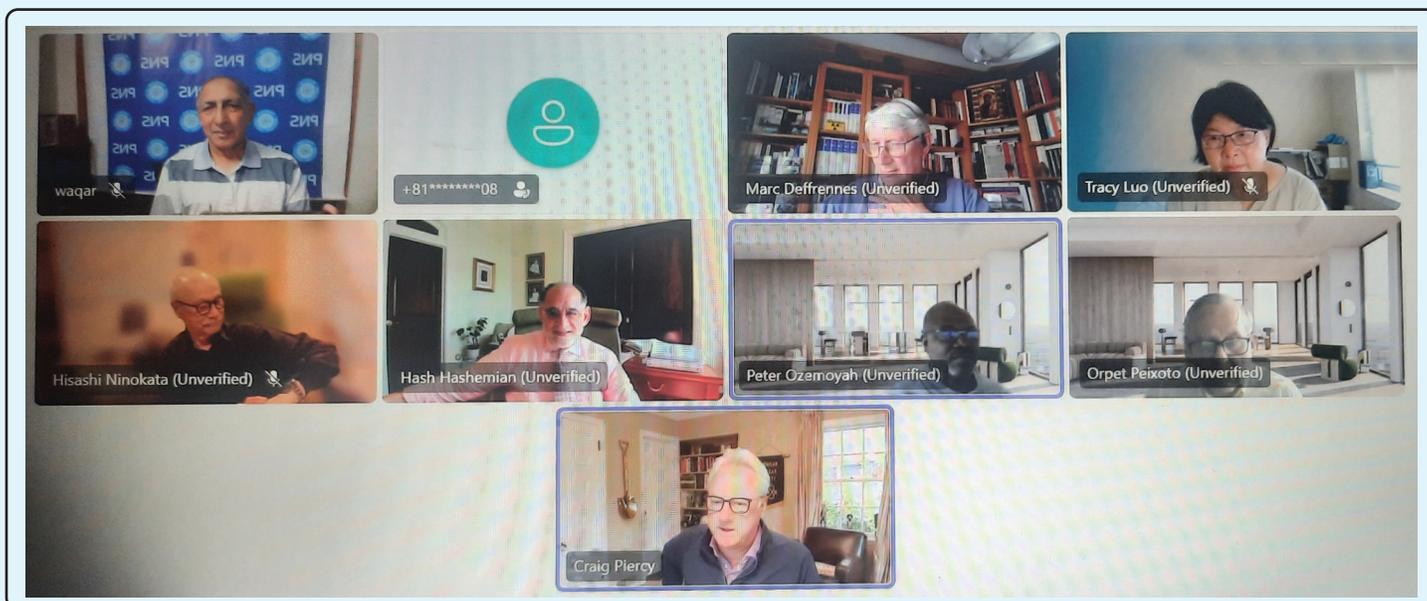
### INSC Meeting

The first meeting of the International Nuclear Societies Council (INSC) in 2025 was held remotely on April 21. Following participants introductions, several administrative matters were discussed, including the budget and membership fee status, proposed changes to the INSC structure, a website upgrade, initiatives to support young graduates and students for participation in COP-29 and the INSC Global Award 2025.

PNS Vice President joined the meeting via Zoom and expressed

support for the proposed structural changes to INSC, particularly the inclusion of more parties and regions in light of the expanding nuclear programs in various countries.

Subsequently, PNS submitted the nomination of a highly qualified individual from Pakistan for the INSC Global Award, which will be announced during the second INSC meeting, scheduled to take place in Vienna, Austria, during the IAEA General Conference in September 2025.



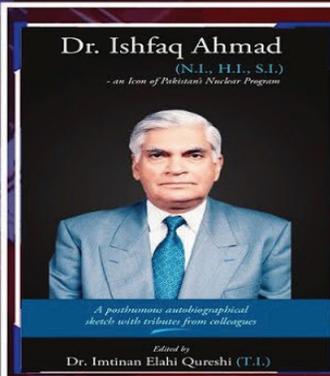
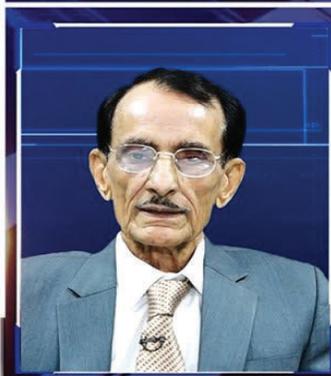
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### Interview about the Book on Dr. Ishfaq Ahmad at RFI Channel

Rabita Forum International (RFI) is a digital platform that broadcasts news and feature programs in various regional languages. Mr. Nusrat Mirza, Chairman RFI and a distinguished journalist known for his contributions to both print and digital media, hosted a one-hour virtual session on the book about Dr. Ishfaq Ahmad, former Chairman PAEC. The book was edited by Dr. Imtihan Elahi Qureshi and published by PNS. The session

began with Mr. Waqar A. Butt providing an overview of PNS and its objectives. Dr. Qureshi then discussed the inspiration behind the book's publication and highlighted the key topics it covers. The program was aired prior to the official Book Launch Ceremony on 13th May 2025. A recording of the session is available on the PNS website at <https://pns.org.pk>.

## A BOOK ON MONUMENTAL CONTRIBUTIONS OF DR. ASHFAQ IN NUCLEAR TECHNOLOGY.



**RFI**  
DIGITAL

\*\*\*\*\*

### An evening with Nusrat Mirza

During his visit to Islamabad, PNS hosted a dinner with Mr. Nusrat Mirza at the NESCOM Club on June 27, 2025. The event was attended by Council Members of PNS, as well as elected representatives from WiN and YiN. Dr. Ansar Parvez, former Chairman of PAEC, was invited as the Guest of Honor. The evening featured fruitful discussions, during which Mr. Mirza

shared several notable experiences—particularly concerning the strong public opposition to the construction of the K-2 and K-3 nuclear power plants near Karachi. His efforts in managing media relations and addressing criticism from academic activists were acknowledged and appreciated.



### A sitting with Mr. Aijaz Ahmad

Upon the invitation from PNS, Mr. Aijaz Ahmad, son of Dr. Ishfaq Ahmad, currently residing in France, intended to attend the memorial reference held in honor of his late father. However, due to travel restrictions at the time, he was unable to participate. Later, during a visit to Pakistan, Dr. Imtihan Elahi Qureshi extended a gesture of goodwill by inviting Mr. Ahmad to the Islamabad Club. The President, Vice President, and General Secretary of the Pakistan Nuclear Society (PNS) also joined the gathering. During the event, many cherished memories were shared about Dr. Ishfaq Ahmad’s personal life, his kind and respectful nature towards his family, and his remarkable qualities. He was remembered not only as a pioneer of the nuclear programme but also as a symbol of greatness to those who knew and loved him. May ALLH Kareem rest the soul in eternal peace.



\*\*\*\*\*

### Meeting at COMTECH

A delegation from the Pakistan Nuclear Society (PNS), comprising Dr. M. Tahir Khaleeq, Mr. Waqar A. Butt, Dr. Masroor Ikram, and Dr. M. Javed Akhtar, visited COMSTECH in Islamabad on June 5, 2025. They held a meeting with Dr. Shahid Mahmood Baig, HI, SI—Advisor at COMSTECH and former Chairman of the Pakistan Science Foundation. The meeting featured in-depth discussions focused on seeking guidance and support for PNS’s initiative to launch a research journal. Other key topics included the organization of international conferences with the participation of OIC member countries. Dr. Shahid Baig appreciated the efforts and programs undertaken by PNS and assured his full support for their ongoing and future initiatives.



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### Visit to PINSAT

A three members delegation from PNS Council namely Mr. Waqar A. Butt, Mr. Ghulam Sarwar, and Syed Zahid Hussain visited the Preston Institute of Nano Science & Technology (PINSAT), Islamabad on June 12, 2025, and held a meeting with the renowned nuclear scientist Prof. Dr. N. M. Butt, SI, Chairman of PINSAT. He has previously served as Director General of PINSTECH and as Chairman of the Pakistan Science Foundation. During the hour-long meeting, Dr. Butt shared several lesser-known insights from Pakistan’s nuclear history, beginning with the foundational work of Prof. Rafi M. Chaudhry, a pioneer of nuclear science in the country. He recounted several eye-opening events and milestones that contributed to Pakistan’s emergence as a nuclear power. As a gesture of generosity, Dr. Butt donated two books he edited—The Excitement of Science and its Urdu translation. In recognition of his contribution to the recently launched book on Dr. Ishfaq Ahmad, PNS presented him with a set of five books.



### Participation in the Farmers' Day/ Training Workshop at NIAB

The Nuclear Institute for Agriculture and Biology (NIAB) has developed and released climate-smart, high-yielding varieties of castor bean and sesame seeds. The cultivation of these high-value oilseed crops is expected to play a significant role in reclaiming vast areas of uncultivated, degraded, and marginal lands across Pakistan. It is expected that it will enhance the socio-economic conditions of farmers.

To promote this important initiative, a national training workshop was held at NIAB, Faisalabad, on April 10, 2025. The workshop focused on key areas such as modern production technologies, crop value addition, quality seed supply, domestic utilization, and

export opportunities. The event attracted over 400 participants, including representatives from public and private sector organizations, industry stakeholders, exporters, and members of the farming community.

Dr. Masood Iqbal, Member Science (PAEC), was invited as the Chief Guest, while two former ministers of the provincial assembly were also invited as special guests. The President and Vice President of PNS attended the event as Guests of Honor. The workshop was organized by Dr. Mahmood-ul-Hassan, Deputy Chief Scientist (DCS), and was widely praised by the participants for its high quality, relevance, and overall impact.

\*\*\*\*\*

### A visit to the new Campus of Fatima Jinnah Women University

Dr. Bushra Mirza, Vice Chancellor of Fatima Jinnah Women University (FJWU), Rawalpindi, who is also a member of PNS Administrative Advisory Board, arranged a visit for PNS officials to the university's new campus located at Chakri Road. Consequently, the President and Vice President PNS met with the Heads and Faculty Members of the Departments of Physics, Bio-Sciences, and Bio-Photonics on April 16, 2025.

Dr. Nawishta Jabeen, Chairperson of the Department of Physics, welcomed the guests and presented an overview of the department's development journey. She highlighted the success stories of its alumni, including their achievements in securing international fellowships and admissions to prestigious institutions. She also proposed offering associate memberships of PNS to students, providing them with opportunities to engage with the nuclear industry and related sectors. She expressed interest in establishing a Memorandum of Understanding (MoU) with PNS to formalize this collaboration. Dr. Haleema Sadia Qureshi and Ms. Farah Hasan from the Department of Physics also participated in the meeting.

Dr. Tahir Khaleeq provided an overview of the Pakistan Nuclear Society, detailing its foundation, mission, and objectives. He emphasized PNS's commitment to supporting both academia and the nuclear industry, aiming to create a mutually beneficial relationship. He also offered short courses during the summer break, tailored to the specific needs of students.

Mr. Waqar Butt recalled PNS's earlier visit to FJWU in 2023 and acknowledged the strengthening relationship between the two institutions. Based on this collaboration, both parties proposed organizing a session in the third week of May 2025 on the topic of "Environmental Changes and Water Resources Management". The event was conducted successfully.

It was agreed that the Department of Physics would share a list of available service instruments, including the Atomic Force



Microscope (AFM) and the Hall Effect Measurement System. PNS would facilitate training sessions for faculty members on the use and operation of these instruments and would arrange for characterization services at discounted rates.

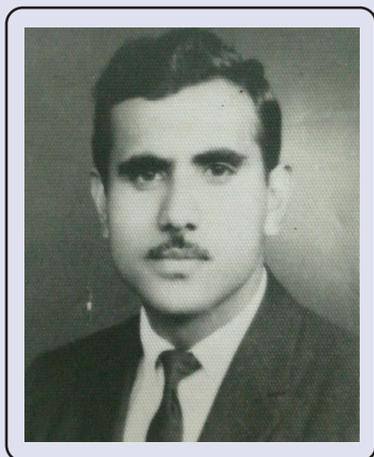


The second meeting was held in the office of Dr. Nosheen Masood, Head of Biotechnology Department. Dr. Ifra Ghori and Dr. Naila Safdar, Incharge Dept. of Bioinformatics also joined the meeting. The possibilities of collaboration with PNS in mutual areas of interest were discussed and it was suggested to hold expert lectures for the benefit of relevant students.

## Silent Heroes

*Lest we Forget*

### Dr. Abdur Rashid, SI



Dr. Abdur Rashid earned his M.Sc. (Honors) in Chemistry from the University of the Punjab, Lahore, in 1961, securing a Gold Medal. He went to Imperial College of Science & Technology, London for higher studies and completed his Ph.D. in 1965. He joined the Pakistan Atomic Energy Commission (PAEC) on his return in 1965, where he served with distinction until his retirement as Chief Scientist

techniques in in-situ polymerization and developed a wide range of reinforced polymer composites. His expertise led to his selection for a nationally significant project on the synthesis of organic compounds and energetic materials—a mission he initiated from laboratory research to pilot plant development, and ultimately achieved large-scale production successfully.

He also established state-of-the-art analytical facilities and developed capabilities to meet the analytical requirements for strategic materials. Alongside his classified technical work, Dr. Rashid remained active in academic research, publishing 17 research papers.

In recognition of his exceptional contributions in research and development in the field of chemistry, the President of Pakistan awarded him the prestigious civil honor of *Sitara-i-Imtiaz*.

and Director of Technical Development.

Dr. Rashid made pioneering contributions in the field of polymers, particularly in radiation-cured polymers. He introduced innovative

\*\*\*\*\*

## A Historical Photo



*Turkish Prime Minister Suleman Demirel signing on Visitors' Book during his visit to PINSTECH on 25th October, 1992.*

## National and International Nuclear News and Views

### Historical Achievement by C-1

Chashma Nuclear Power Plant Unit-1 (C-1) achieved a historic new operational record on April 30, 2025 by operating continuously for 400 days - a first in Pakistan's history. This milestone was accomplished under the supervision of the well

experienced professionals of PAEC. Earlier, Chashma Nuclear Power Unit-2 (C-2) and C-4 had made the record of continuous operation for 365 days.

\*\*\*\*\*

### Growing Nuclear Energy Generation and Nuclear Fuel Cycle

The International Energy Agency (IEA) has projected that global nuclear energy generation will reach an all-time high in 2025, surpassing the previous record set in 2021. This growth is attributed to the commissioning of new reactors and increased interest from sectors requiring stable, low-emission energy sources. A significant requirement in meeting higher demand for nuclear energy generation is fortifying the nuclear fuel supply chain. For this end, on April 8–10, 2025, the World Nuclear Association and the Nuclear Energy Institute co-organized World

Nuclear Fuel Cycle (WNFC) 2025 Conference in Montreal, Canada. Over 300 industry leaders, policymakers, and technical experts met to explore the evolving dynamics of the global nuclear fuel market, including uranium mining, conversion and enrichment. The event focused on what the growing demand for secure, reliable, 24/7 clean energy will mean for the nuclear fuel cycle. Moving forward, as countries, financiers and large energy users support the goal of tripling global nuclear capacity by 2050, the trend is expected to continue and intensify.

\*\*\*\*\*

### New Research for Fusion Reactor Designs

In a paper published in Physical Review Letters, a team of researchers from The University of Texas has described a new shortcut that can help engineers design leak-proof magnetic confinement systems for fusion reactors 10 times as fast as the gold standard method, without sacrificing accuracy. While several

other big challenges remain for all magnetic fusion designs, this advance reactor addresses the biggest challenge that's specific to a type of fusion reactor first proposed in the 1950s, called a Stellarator.

\*\*\*\*\*

### New IAEA Project to Enhance Water Forecasting

Forecasting climate and hydrological extremes is one of the most important means of adapting to climate variability and potentially limiting the risks associated with those extreme events. The IAEA is launching a new research project to integrate isotope tracers into hydrological and climate modelling systems for more robust

simulations of water availability. Isotope-enabled models can simulate and track how different forms of water move and change throughout the water cycle. The Research Project will address data gaps: Patching incomplete datasets, aligning time-stamped data.

\*\*\*\*\*

### Conference on Radiation Applications: From Planes and Plastics to Climate Change and Culture

IAEA hosted the third International Conference on Applications of Radiation Science and Technology (ICARST-2025), held in Vienna, Austria from April 7-11, 2025. Around 1000 experts, policymakers and industry leaders attended the event. The conference objectives were to provide a comprehensive review of significant developments in the applications of radiation science and technology, highlighting the state-of-the-art technologies in the field; assess national, regional, and global initiatives for implementing proven industrial applications of radiation science

and technology. Moreover, it also aimed to create a collaborative platform for representatives from industry and academia to develop new initiatives and chart a clear-cut pathway for the adoption of radiation technologies to support the achievement of the United Nations Sustainable Development Goals (SDGs). The conference showcased how radiation science supports advances that drive the production of high-performance materials, enhance environmental sustainability and optimize industrial operations.

\*\*\*\*\*

## Members Section

### *Congratulations*



Dr. Muhammad Yussouf Saleem, Chief Scientist, has been appointed as Director General, Agri and Bio at PAEC HQ. Before that, he was the Director of Nuclear Institute of Agriculture and Biology (NIAB),

Faisalabad. PNS Council extends its heartfelt congratulations to him on his well-deserved appointment.

\*\*\*\*\*



Dr. Uzma Maqbool, Deputy Chief Scientist, has been appointed as Director NIAB, Faisalabad. Prior to this, she served as the Head of Food Safety Group in the Animal Sciences Division at the same

institute. PNS Council extends its heartfelt congratulations on her well-deserved appointment.

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### *Members' Contribution*

#### **Safeguarding our Future: The New Era of Nuclear Waste Management**

by

*Miss Hafiza Anosh Shahid (PNS Intern)*



Nuclear waste management is vital for ensuring that radioactive by-products and radioactive leftovers are handled carefully in order to ensure protection of people and the environment from radiation hazards. Nuclear waste comes in different types:

radioactive wastes, and management of nuclear waste is crucial to keep the environment safe and to gain the trust of people. Currently, innovative approaches are reshaping nuclear waste management. Finland's Onkalo repository, opened in late 2020s, is a world leader, capable of storing waste deep in stable rock for up to 100,000 years. France and Sweden are also building similar sites, while U.S. is exploring an innovative approach: using the heat from radioactive waste-hotter than 300°C-to make biodiesel, a renewable fuel, which could shrink waste piles. South Korea and U.S. are testing pyro processing - a way to recycle used fuel to cut down waste and make it less harmful. Another innovation, called Synroc, uses a synthetic rock to lock waste more than older methods like glass. The International Atomic Energy Agency's Joint Convention, signed by over 70 countries, sets global safety rules, and its CRAFT project shares knowledge to help Member States. The Nuclear Energy Agency's February 2025 Back-End Week brought 24 countries together to plan better waste strategies, but challenges still remain.

- Low-level waste, like used tools, disposables, etc. which goes into shallow storage sites.
- Intermediate waste, like reactor parts that needs stronger protection and specific sites are built for storing such wastes.
- High-level waste, like spent fuel that stays dangerous for thousands of years and must be buried deep underground.

Since, nuclear power plants produce clean energy with almost no carbon emission. Besides this, nuclear power plants generate

The U.S. still doesn't have a permanent site for high-level waste, even after years of talk about places like Yucca Mountain.

Managing waste is expensive—which costs about 5% of nuclear power. Moreover, there are different rules in countries like France, which recycles waste, whereas, the U.S. doesn't recycle it. Sweden and Finland show how local communities are involved in choosing storage sites builds trust and alleviates public concern.

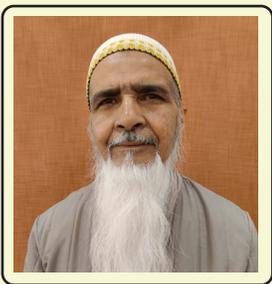
Still, the waste management market is growing and expected to hit \$8.52 billion by 2030.

With continued research and innovation, nuclear waste management is becoming safer and more sustainable, ensuring nuclear energy's vital role in a clean energy future.

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## Obituaries

### Tayyeb Muhammad Ali



Mr. Tayyeb Muhammad Ali, a distinguished engineer and a Member of Scientific Advisory Board of PNS was born on May 17, 1944 in Karachi. He earned his Bachelor of Electrical Engineering from NED University, Karachi in 1969, followed by a Master of Science in Nuclear Engineering & Science from Queen Mary College and Imperial College London in 1976.

His academic foundation laid the groundwork for a remarkable career that would see him at the forefront of Pakistan's nuclear energy initiatives.

Mr. Ali dedicated over forty years of his life to PAEC, where he made significant contributions to the development and indigenization of nuclear power in Pakistan. From 1969 to 1984, Mr. Ali played a key role at the Karachi Nuclear Power Plant. PAEC greatly benefited from his expertise and leadership from 1984 to 2008 at the Chashma Nuclear Plants and PAEC headquarters, where he held various positions that contributed to technological progress and transfer of innovative knowledge amongst nuclear community. Mr. Ali's extensive experience encompassed multidisciplinary engineering and technical

activities related to nuclear power projects, including reactor engineering, instrumentation and controls, HVAC, etc. His work involved planning, design, research and development, procurement, commissioning and operation of nuclear facilities ensuring safety and promoting self-reliance in Pakistan's nuclear sector.

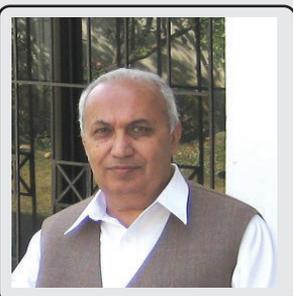
In recognition of his outstanding contributions, Mr. Ali was awarded Pride of Performance in 1998. Beyond his professional achievements, he was committed to community service and actively participated in social activities, reflecting his dedication to the betterment of society. In his later years, Mr. Ali offered his services in an honorary capacity to the Prime Minister's House, Planning Commission, and other relevant assignments, demonstrating his unwavering loyalty and commitment to the country.

Mr. Ali took his last breath on May 01, 2025, in Rawalpindi. He will be remembered not only for his professional accomplishments but also for his passion for indigenization and self-reliance in the field of nuclear energy. His impact on the industry and his commitment to Pakistan will continue to inspire future generations. May Allah bless him with the highest rank in Jannah. Ameen.

(M. Abbas Qamar)

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### Dr. Syed Jalal Hussain Bukhari



Dr. Jalal Bukhari, born on September 23, 1940, in Mardan. He pursued his M.Sc. in Physics at the University of Peshawar. He was recognized not only for his academic excellence but also as an enthusiastic hockey player. After completing his Master degree, he served as a lecturer at

the same university from 1964 to 1968. He was later awarded a Commonwealth Scholarship, which enabled him to pursue Ph.D. studies at the University of Bradford, UK. He completed his Ph.D. degree in 1973. Upon his return, Dr. Bukhari joined PAEC and was posted at PINSTECH.

Dr. Bukhari rendered outstanding and invaluable services to PAEC, which extends over a distinguished career spanning of three decades. Coming from modest beginnings, Dr. Bukhari

exemplified discipline, brilliance, and determination from an early age.

He played a pivotal role in the Radiation Damage Group within the Nuclear Physics Division. His expertise took him to Jülich, Germany, for post-doctoral training. Later, he became the Group Leader of the Crystal Growth and Detector Fabrication Group, which was eventually relocated to the Optics Lab for a specialized assignment.

Even after retiring in 2000, Dr. Bukhari continued to contribute actively. He served as an advisor to PAEC for two years and then joined the Ghulam Ishaq Khan Institute (GIKI) as a professor,

where he taught and mentored students for nine years. When the Ministry of Science and Technology sought his expertise for a laser crystal project, he returned to Islamabad and worked on the initiative for four more years.

Dr. Bukhari spent his final years in Islamabad, surrounded by his family. He passed away on June 21, 2025, and was laid to rest in Peshawar. His life stands as a beacon of selfless service, humility, and relentless commitment to science and education.

May Allah grant him eternal peace and the highest place in Jannah. Ameen.

*(Ms. Saida Jan)*

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### Dr. M. Mufazzal Saeed



Dr. Muhammad Mufazzal Saeed was born on April 19, 1952, in Rawalpindi. He completed his F.Sc. from Asghar Mall College, Rawalpindi in 1971, followed by a B.Sc. from Punjab University in 1973. He earned his M.Sc. in Chemistry from Islamabad University (now Quaid-i-Azam University) in 1976. On January 31,

1977, Dr. Saeed joined PAEC as a Scientific Officer in the Nuclear Chemistry Division (NCD) at PINSTECH. He later pursued further education, obtaining an M.Phil. in 1981 and a Ph.D. in 1988, both from Quaid-i-Azam University. His early research focused on the separation and production of suitable materials for neutron sources. His team successfully isolated the necessary

radionuclide for neutron devices, a critical component of PAEC's strategic program. His primary research areas included adsorption, kinetics, thermodynamics, liquid-liquid extraction, and flow injection analysis. Among his significant scientific contributions was the successful synthesis of Di-2-ethylhexyl phosphoric acid (DEHPA), an organic extractant used in the separation of rare earth elements and actinides. In 2008, he was appointed Head of the Chemistry Division and retired in 2012 as Chief Scientist. After retirement, he faced health challenges, particularly related to his spinal cord and knee joints. Dr. Saeed passed away on June 13, 2025. He is remembered with deep respect and admiration, both as a dedicated scientist and a kind human being.

*(Dr. Mohammad Wasim)*

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## WiN Activities

### WiN-Pak Council Elected for 2025-26

Women in Nuclear (WiN) Pakistan Chapter of PNS completed its two years term. Re-elections were conducted for selection of new

WiN council members via electronic voting on June 22, 2025. As a result, the following WiN members have been elected:



**Dr. Shazia Fatima**  
President



**Dr. Samreen Shahzadi**  
Secretary



**Ms. Benazir Zainab**  
Treasure



**Dr. Sidra Hafeez**  
Council Member



**Ms. Iqra Jawad**  
Council Member

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### Eid Milan Party in PINSTECH



WiN-Pak organized Eid Milan celebrations among lady scientists and staff working in PINSTECH on April 10, 2025. The ladies celebrated the event with great zeal and enjoyment.

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### Meeting with Dr. Rizwana Abbasi

WiN-Pak invited Dr. Rizwana Abbasi, a renowned scholar, during her visit to Pakistan, for a lunch, which was hosted by the office bearers at the Pearl Continental Hotel, Rawalpindi. Productive mutual discussions were held regarding her linkages with WiN-IAEA and potential avenues for future collaboration. The WiN-Pak Council expressed its sincere appreciation and gratitude for her valuable support in facilitating the participation of the IAEA Director General in the international conference organized by WiN-Pak in Islamabad on February 12, 2025. Dr. Rizwana is the wife of Mr. Kamran Akhtar, Ambassador of Pakistan to Austria and Slovakia.



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## Students' Corner

### YiN Office Bearers Elected for 2025-26

To fulfill the formal requirement for the establishment of Youth in Nuclear (YiN) of PNS, elections were conducted via electronic

voting on June 15, 2025. As a result, the following lifetime members of PNS have been elected:



**Ms. Attia Rehman**  
President



**Ms. Ayesha Aziz**  
Secretary



**Mr. Hamza Shahid**  
Treasurer



**Dr. Syed Fakhar Alam**  
Council Member



**Dr. Jawaria**  
Council Member

\*\*\*\*\*

### Career Counselling Session at H-8 College, Islamabad

Pakistan Nuclear Society invited Dr. Aqeel Shahzad, CEO of Career O'clock for conducting a Career Counselling Session at Islamabad Post Graduate Model College (IPGMC), H-8, Islamabad on May 15, 2025. The session was facilitated and organized by Dr. Muhammad Khalid, Principal, IPGMC. It was attended by more than 50 students. The main purpose of the seminar was to provide guidance and insights to help students to discover their strengths and interests and explore career pathways to develop a best career plan.

Dr. Shahzad is a distinguished professional with over 25 years of experience in senior positions in various organizations as well as teaching at multiple universities. This interactive session was designed for final-year university/college students on the cusp of entering the professional life. Through real-world case studies, role-plays, and expert insights, participants gained a deeper understanding of the challenges and opportunities that awaited them in the corporate landscape. The session aimed to equip students with the skills, confidence, and mindset required to thrive in their



future careers, making them job-ready and industry-prepared.

In the end, Dr. Muhammad Khalid admired the efforts of PNS and the speaker for arranging this session at H-8 College. Dr. Imran Khan, took up the responsibility as Stage Secretary and coordinated the session in a very efficient manner. Session concluded with a very effective Question and Answer session.

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### Career Counselling Session at FG degree College

Dr. Aqeel Shahzad organized another Career Counselling Session at FG Degree College, H-9, Islamabad on June 02, 2025. Upon the initiative of PNS, the session was facilitated and organized by Prof. Javed Iqbal Mughal, Principal of the FG College. It was attended by about 40 students. The main purpose of the seminar was to provide guidance to students to explore career pathways.

Before the formal lecture by Dr. Shahzad, Dr. Muhammad Tahir Khaleeq briefly presented the introduction of PNS and the activities it is performing all around the country for students. The

session was aimed to equip students with skills, confidence, and mindset required to achieve future careers plans. At the end of interesting lecture, the students asked practical questions which were well addressed.

In the end, Prof. Javed Iqbal Mughal, made a motivational speech and appreciated the efforts of PNS as well as the learned speaker for his voluntary offer to deliver a useful lecture. Mr. Salah Uddin coordinated the session as Stage Secretary in an efficient manner.



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## Social Events

### PNS Hiking and Recreational Club

PNS Hiking and Recreational Club has been established to promote outdoor healthy activities among children and families

of PNS members. Following are the Members of the Club:

- |                              |          |                              |           |
|------------------------------|----------|------------------------------|-----------|
| 1. <b>Mr. Waqar A. Butt</b>  | Convener | 2. <b>Syed Zahid Hussain</b> | Secretary |
| 3. <b>Mr. M. Abbas Qamar</b> | Member   | 4. <b>Dr. Imran Zaka</b>     | Member    |
| 5. <b>Ms. Nazia Kashif</b>   | Member   |                              |           |

The Club organized its first short hike for PNS families on Sunday, April 13, 2025, along the scenic Trail-5 in Margalla Hills. Approximately 60 participants, including children, hiked the lush

green trail up to the first spring, located two kilometers from the parking area.



In an innovative effort to promote environmental awareness, children were encouraged to collect litter such as wrappers, waste paper, and plastic bottles along the trail. Enthusiastically embracing the task, most children actively participated and

disposed of the waste in designated dustbins. As a token of appreciation, all participating children received certificates of recognition.



After the hike, a traditional gathering was held on the grassy lawn opposite the CDA Nursery. Participants briefly introduced themselves, with the purpose of making connections and friendships among families. Tea, prepared with a special recipe by Shah Jee (Syed Zahid Hussain), along with refreshment boxes, was served to all participants.

Upcoming proposed events include a 2-night family recreational trip to Swat Valley from September 12–14, 2025 and another short hike combined with a picnic in Margalla Hills scheduled for November 02, 2025.



Issue 19/2025

July-September, 2025

# PNS Newsletter

Nuclear for Peace

A Quarterly Newsletter of the Pakistan Nuclear Society

#### Patron:

Dr. Muhammad Tahir Khaleeq

#### Editor-in-Chief:

Mr. Waqar Ahmad Butt

#### Editors:

Dr. Muhammad Sadiq

Mr. Saleem A. Ansari

Mr. M. Abbas Qamar

## Inside this Issue

From the desk of Editor-in-Chief	01
Activities during the 3 <sup>rd</sup> Quarter	02
Outreach and Linkages	08
Silent Heroes	10
A Historical Photo	10
Nuclear News and Views	11
Members Section	12
• Congratulations	12
• Obituaries	13
WIN Activities	14
YiN Activities	14
Students Corner	15
Social Events	16



## From the desk of Editor-in-Chief

The PNS is actively pursuing two ambitious initiatives, viz. publishing a good quality International Research Journal, and designation of PNS as a Certification Body for Nuclear Safety related equipment and services.

Efforts for the first initiative include constitution of a team of eminent scientists and engineers, who has unanimously selected a unique name for the journal as “Synexis” with the theme of ‘Synergies in Science’. In this regard, linkages with national and international organizations and individuals have been established. The second initiative is also on the fast track. PNS has organized a workshop, a training course and held several meetings at SES, PNRA, PNAC, PAEC HQ, and also conducted gap analysis at NEW-1. These activities have enabled PNS to identify the essential documentary requirements for obtaining a readiness certificate from PNAC. The volunteer efforts of both the teams are duly recognized and appreciated.

Aiming to explore opportunities for PNS Members, especially those scientists and engineers having 30-40 years of invaluable experience, meetings were held with CEO Sanghol Engineering Services, DG Pakistan National Accreditation Council (PNAC) and MD PAEC Foundation so that their expertise can be monetized by their vast experience.

Alongside scientific and technical programmes, physical fitness is regarded as a key to a prosperous life. Hiking through lush green hills and trips to heart alluring valleys in the Northern areas inspire everyone. Previously, PNS members and their families made excursion trips to Sharan valley in Kaghan district and Sudhan Gali up to Ganga Choti and the Toli Peer in Kashmir. This year, they enjoyed the trip to Mahodand Lake in Upper Swat.

One more initiative is setting up PNS Scouts Club in collaboration with the National Scouts Association. Preliminary discussions have been held with them and registration to join the Club has started. Attractive programmes will be chalked out at various places using the countrywide centres.

## Vision

*To become a resource centre for disseminating information and to promote practical applications on peaceful uses of nuclear science, engineering and technology for sustainable socio-economic development. The principal tools to be used for this purpose would be PNS Website and PNS Newsletter.*

## Announcements

*Students Convention  
on*

**Pakistan's Achievements in  
Nuclear Science & Technology  
November 26, 2025**

**COMSATS, Park Road, Islamabad**

## Contact:

**Pakistan Nuclear Society**

CHASNUPP Hostel, 3rd Floor,

Near Jamia Salphia, H-8/1, Islamabad

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URL: <https://pns.org.pk>

YouTube: PNSociety

Facebook: [Pakistan.nuclear.society](https://www.facebook.com/Pakistan.nuclear.society)

Ph. Nos. +92-322-8883339

## Activities During the 3<sup>rd</sup> Quarter of 2025

### A tribute to Prof. Dr. Riazuddin, *HI, SI* (10 November 1930 – 9 September 2013)

One of the missions of the Pakistan Nuclear Society (PNS) is to honor and remember those individuals who have played a crucial role in making Pakistan a nuclear power. PNS arranges memorial talks of prominent dignitaries to highlight the invaluable contributions and unwavering commitment of legends of nuclear science and technology with the intention that their innovative work may become a source of inspiration for future generations. Prof. Dr. Riazuddin remained a silent hero who has played a pivotal role in Pakistan's nuclear weapons development programme. Dr. Riazuddin was a theoretical physicist, specialized in high-energy and nuclear physics. He was a student of Prof. Abdus Salam and completed Ph.D under his supervision at Imperial College, London. He was affiliated with Islamabad University (now Quaid-i-Azam University), and also served as Member Technical, PAEC.

the Holy Quran by Mian Yasin, a lifetime member of PNS who sponsored the event. Dr. Kausar Abdullah Malik, President of PAS / former Federal Minister delivered a welcome address, via Zoom link. Afterwards, Dr. Muhammad Tahir Khaleeq, President PNS presented introductory remarks and PNS progress of activities. He emphasized the importance of commemorating such influential individuals. Mr. Waqar Ahmad Butt, Vice President PNS, provided a formal introduction of Dr. Riazuddin, briefly outlining his academic and professional life, while highlighting his significant achievements. *Fatiha* was offered not only for Dr. Riazuddin but also for PNS members who had passed away during 2024-25.

Several renowned figures then shared their memories and reflections on working with Dr. Riazuddin.



PNS organized a memorial reference on September 9, 2025, at the Pakistan Academy of Sciences (PAS) in Islamabad to pay tribute to Dr. Riazuddin. The event was attended by around seventy young and senior scientists, engineers, technologists, and people from various walks of life, all eager to share and learn about his extraordinary work. The ceremony began with the recitation from

**Prof. M. Aslam Baig** highlighted Dr. Riazuddin's enduring personal interest in mentoring young scientists and engineers, as well as his strong friendships with colleagues at the University. **Prof. Fayyazuddin**, twin brother of Dr. Riazuddin, conveyed his message recalling the golden memories of working with a highly capable and technically skilled personality. **Dr. Ali Paracha**,



his students read out the message. **Dr. Arshad Riazuddin**, emphasized his father's special interest in classified activities of national interest. **Prof. Asghar Qadir**, remembered how people frequently visited Dr. Riazuddin's home, shared meals with him, and received his support in their professional matters. **Prof. Zafar Iqbal**, remarked on Dr. Riazuddin's fearless approach to the projects he undertook, always thoroughly prepared and fully dedicated. **Prof. Asghari Masood**, described Dr. Riazuddin as a fatherly figure who took personal interest in the financial well-being of his colleagues. **Dr. Shaukat Hameed Khan**, highlighted Dr. Riazuddin's unwavering commitment to his work and his ability to manage effectively with limited resources. **Dr. Hamid Saleem**, spoke of Dr. Riazuddin as a great person with a very helpful attitude towards his colleagues. **Dr. Asif Salahuddin**,

nephew of Dr. Riazuddin, shared memories of the time spent with him, emphasizing his dedication to work in all situations. **Prof. Jamil Aslam**, who co-authored the book on Dr. Riazuddin, described the valuable guidance during his research project. He lauded Dr. Riazuddin's dedication to work even in his last days.

These recollections collectively painted a picture of the man who was not just a teacher but also a mentor, friend, and guiding light to those fortunate enough to work with him.

Ms. Zahra Khanum, Executive Member of PNS, acted as the stage secretary. The program concluded with a vote of thanks by Dr. Mohammad Mohsin, General Secretary PNS, who also acknowledged the cooperation and support of the Academy of Sciences in making the event a success.



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### *The message from Prof. Fayyazuddin: Brother of Dr. Riazuddin*

One of the features of modernizing knowledge, which was developed mainly in the West after 7th century, is that its validity transcends the individual and applies universally to all humanity. This knowledge had played a key role in the social, political and economic development of the West. Riazuddin was conscious about the importance of this modernizing knowledge.

In 1966, he joined the newly established Islamabad University, now Quaid-e-Azam University, as Director of the Institute of Physics. The atmosphere at the institute was conducive to impart modernizing knowledge to graduate students and researchers. The high academic standards were strengthened by eminent visiting faculty, which included Susemu Okubu, Kurt Symmanzik, Jeremy Bernstein and Michael Woritis, whom Riazuddin invited for short visits using generous grants from the Ford Foundation. The Institute of Physics became internationally known through publishing research papers in leading international journals. It acquired the reputation of one of the best institutes as East of Suez in theoretical particle physics.

In 1972, the Prime Minister of Pakistan Mr. Zulfikar Ali Bhutto decided to pursue nuclear option for national security and appointed Munir Ahmad Khan as the Chairman of PAEC. In 1973, Riazuddin was appointed as Member Technical of the Commission. He played a pioneering role in planning and prioritizing important elements and understanding the basic scientific and engineering procedures for this multidisciplinary project as an outsider who was not part of the nuclear establishment.

Prof. Abdus Salam and Riazuddin envisaged the International Nathiagali Summer College for Physics and Contemporary Needs in 1976 with strong support from the Chairman PAEC. It provided an enviable opportunity to the scientific and academic community in Pakistan to meet and listen to some well-known physicists of our time. Nobel Laureates like Prof. Salam, C.N. Yang, Leo Esaki, Samuel Ting, Robert Hafstadter, Robert Penrose, David James Thouless and Ray Glauber attended these Summer Colleges.

The National Centre for Physics was established to promote physics by inviting distinguished Physicists for lectures and

interacting with the academic and scientific community, however, this Centre could not initiate useful activities for the development of science and technology. Dr. Tariq Siddiqui, Vice Chancellor of Quid Azam University, revived it by appointing Riazuddin as Director NCP for the development of higher education and scientific culture in the country.

In the end, I'd say that distinguished personalities like Riazuddin are completely unknown to the public, political leadership and the Establishment in Pakistan. This memorial reference is a good step towards recognition of scientists and their contributions for the nation.

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### *Management of Safety Culture: From Compliance to Commitment*

The Pakistan Nuclear Society (PNS) organized a one-day seminar on "Management of Safety Culture: From Compliance to Commitment" in collaboration with Chashma Nuclear Power Generating Station (CNPGS) and the Pakistan Nuclear Regulatory Authority (PNRA) on September 16, 2025, at the CHASNUPP Center for Nuclear Training (CHASCENT). The program was coordinated by Mr. Zahid Saleem, Director, C&O; Mr. Abdul Rehman Sajid, PM C-4; and Mr. Abid Iqbal, Principal Scientist, C&O Directorate from the CNPGS site. Mr. Muhammad Nasarullah, Director Project Engineering, acted as the focal person from PAEC Headquarters for arrangements of the event.

Mr. Habib-ur-Rehman, General Manager of CNPGS, was the Chief Guest who delivered the welcome address. He warmly received the PNS team and praised their efforts in organizing a meaningful seminar at CNPGS. This was followed by an introduction to the Pakistan Nuclear Society by Mr. Waqar Ahmad Butt who highlighted the Society's programs and activities across the country, with a focus on the civil use of nuclear technology.

In the academic session, four lectures were delivered:

- Mr. M. Anwar Habib, Former Chairman PNRA, spoke on "Safety Culture and its Impact on Safe Performance in the Nuclear Industry."
- Mr. Muhammad Arshad, PE, RNSD-II, PNRA, presented "Assessment of Safety Culture at CNPGS by PNRA."
- Mr. Zahid Saleem, Director C&O, CNPGS, delivered a lecture on "Safety Culture Management and Analytical Overview."

- Mr. Muhammad Abbas Qamar, CS (R), Former Director DOS, spoke on "Importance of Leadership and Management in Safety Culture Implementation at NPPs."



The seminar was attended by more than 60 participants, and the lectures were well received. Mr. Zahid Saleem also served as Stage Secretary, coordinating the session with great efficiency. The event concluded with a vote of thanks presented by Dr. Muhammad Mohsin, Director HRD, PAEC HQs, and General Secretary of PNS.

After the academic session, the PNS team visited the construction site of the 1200MWe C-5 NPP. They were very impressed by the huge structure of the country's largest nuclear plant. The Plant Manager elaborated on the construction phases with historical background and timely implementation of the project.



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### Nuclear Technology in Pakistan

On September 17, 2025, a one-day seminar on “Benefits of Nuclear Technology and Radiation Effects” was held at the University of Mianwali. The event was jointly organized by PNS and the University of Mianwali, and coordinated by Dr. Adeel Rasheed, Head, Department of Physics. More than 200 students and faculty members attended the session. The seminar aimed to promote awareness about the peaceful applications of nuclear technology in various fields. Dr. Adeel presented the welcome address. Dr. Muhammad Mohsin, General Secretary of PNS, then introduced the Society and its nationwide activities, with particular emphasis on the peaceful use of nuclear technology.

concluded with a short motivational message for students. The stage was efficiently managed by Dr. Fahad Mehmood, Assistant Professor, University of Mianwali.

The session included the following lectures:

- “Applications of Nuclear Technologies in Pakistan” by Mr. Waqar Ahmad Butt, Vice President, PNS.
- “Introduction of Nuclear Radiation and its Effects on Human Health” by Mr. Muhammad Abbas Qamar, Finance Secretary, PNS.

This venture served as a significant forum for enhancing understanding of nuclear energy, its advantages, and the critical need for responsible and safe practices in its use. The seminar



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### SDGs Workshop at Scouts College, Bartasi

The Pakistan Scout Association (PSA) invited PNS to deliver a keynote lecture during the workshop “Scouts for SDGs” at the Pakistan Scouts Cadet College, Bartasi. Accordingly, Mr. Waqar Ahmad Butt delivered a talk on July 30, 2025, highlighting “Pakistan’s contributions to the achievement of Sustainable

**Development Goals (SDGs) through its civil nuclear programme**”. Through colorful slides, he illustrated how 9 out of the 17 SDGs are directly connected to nuclear fields and explained Pakistan’s active role in advancing these goals.



Recognizing their common goals, PNS and PSA agreed to work together in close collaboration. In this regard, the establishment of a PNS Scouts Club (PSC) was discussed during a joint session held on August 18, 2025 at the PSA National Headquarters in Islamabad. Mr. Mian Naik Akhter, National Secretary PSA, and Mr. Liaqat Ali Awan, Director of Adult Training, briefed the PNS team on upcoming programmes, with particular emphasis on Family Scouting Activities. To support this initiative, Syed Zahid Hussain, Executive Member PNS, was appointed as Coordinator of PSC.

PNS members and their children are encouraged to join the Scouts and actively participate in these constructive and engaging activities. For clarity, scouting programmes are open to all age

groups, divided into categories as follows: Shaheen (ages 5–11), Scouts (ages 11–18), and Rovers (ages 18 and above).



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### Progress of PNS Certification Services Project

PNS aspires to become the first-ever Certification Body in Pakistan in accordance with ISO 19443, the international standard for the supply of Items Important to Nuclear Safety (ITNS). In this context, representatives of the PNS Certification Services Network held a meeting on July 27, 2025, with Mr. Ateeq ur Rehman Memon, Director General of the Pakistan National Accreditation Council (PNAC). Mr. Azhar Iqbal, Director (IL) at PNAC, also participated in the meeting. The session concluded on a positive note, with PNAC authorities expressing their support and willingness to collaborate on this project of national importance. The initiative requires dedicated professionals and students to help establish and implement a Quality Management System based on ISO/IEC 17021. PNS members with relevant experience and interest are encouraged to join and contribute to this effort.

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achieving the ISO 19443 Readiness Certificate. This valuable session was held at PAEC Headquarters on September 02, 2025, which was chaired by **Mr. Muhammad Jameel**, DG (NPE). It was attended by directors and other key officials from the power sector. Mr. Jameel commended the efforts of the PNS Certification Group for their awareness-raising initiatives and the productive discussions that took place for a greater national cause.

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Two subject experts, **Mr. Emran Ahmed**, former CEO of Certification Services Pakistan (CSP), and **Mr. Zohair Haider Rizvi**, former DG (DQM), PAEC, were invited to the PNS Office to provide guidance and propose a future course of action regarding accreditation and certification. The meeting was attended by Mr. Waqar A. Butt, Dr. Muhammad Mohsin, and Dr. Anjum Iqbal.



As part of the ongoing process, the Directorate General of Nuclear Power Engineering (DGNPE), PAEC invited PNS to organize an interactive session to raise awareness about the significance of ISO 19443 certification. During the session, **Mr. Zahid Salman**, Deputy Director (QM) ICCG, and **Mr. Muhammad Farhan Babar**, Principal Engineer (QAD) SES, delivered keynote talks, presenting a case study on NEW-1 (SES) and its journey towards

Dr. Anjum briefed the participants on the current situation, highlighting the following key points:

- ISO 19443 is a Quality Management System Standard for organizations in the supply chain of items important to nuclear safety.
- At present, there is no certification body in Pakistan for the

unique ISO 19443 standard.

- c) NEW-1 (SES) is ready for ISO 19443 certification.
- d) Several other PAEC organizations are also preparing for certification.
- e) PNRA supports ISO 19443 certification, as it would enhance the licensing process.

After detailed discussions, the participants unanimously agreed on the need for PNS to become a Certification Body (CB) to ensure sustainable indigenous support for the country’s Nuclear Power Programme. The experts advised initiating a dedicated project to establish Pakistan’s first-ever accredited CB for ISO 19443. They also recommended key activities required to provide sustainable technical support for NPPs and reduce substantial foreign

exchange expenditure. It was agreed that PAEC authorities should be approached for the necessary support and funding.

PNS gratefully acknowledges the voluntary contribution of Ms. Ismat Gull Khattak, former DG (PNAC), for reviewing the draft recommendations and providing valuable suggestions.



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### Discussion session at PNRA on Quality Management Services Collaboration

A meeting was held on July 10, 2025, at the National Institute of Safety & Security (NISAS) with participation from relevant officials of the Pakistan Nuclear Regulatory Authority (PNRA). PNS delegation comprising the senior management of PNS attended the meeting in person, while a representative from the Pakistan Standards & Quality Control Authority (PSQCA) joined via Zoom from Karachi.

The participants held detailed discussions on training opportunities related to the national nuclear regulatory framework, as well as industrial quality and safety standards. Potential training courses on international standards—such as ISO/IEC 19443 and IEC 61508—were considered for joint implementation. It was agreed that PNS and NISAS would jointly organize workshops, seminars and training courses with the aim of enhancing knowledge and skills of the organizations providing products and services important to nuclear safety (ITNS) in the nuclear energy sector. The main focus was to arrange training course in the field of ISO 19443, which is an international standard that specifies requirements for a Quality Management System (QMS). This course will enable the participants to understand the requirements of QMS that are necessary for certification of an industry to manufacture safety-class equipment.

The following actions were mutually agreed upon:

- a) A steering committee comprising members from PNRA, PAEC, PNS, and PSQCA will be established to define the way forward and to implement workshops, seminars, and training programs for nuclear business stakeholders.
- b) PNS will provide PNRA and PSQCA with a list of local vendors and suppliers of nuclear-grade equipment/items so that they can be invited to participate in relevant training courses.
- c) PNS, in collaboration with NISAS and PSQCA, will organize a seminar to raise awareness about training needs related to national quality and safety standards for nuclear business stakeholders and suppliers.
- d) NISAS will include 2–3 training sessions in its Training Calendar, subject to discussion and subsequent approval by PNRA Management.
- f) The modalities of mutual collaboration will be further discussed, and Memoranda of Understanding (MoUs) will be signed among the parties as appropriate.



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## Outreach and Linkages

### Meeting of PNS Team with CEO of the Sanghol Engineering

Mian Yasin, Chief Executive Officer of Sanghol Engineering Services, hosted a meeting at his office in Gulberg Greens, Islamabad. The PNS team, together with experts in electronics, electrical, and mechanical engineering, took part in the interactive session. These experts can be engaged in various projects offered by national as well as international companies. During the meeting,

Mian Yasin outlined his initiatives, including the establishment of a training centre where specialists will serve as consultants in their respective fields. The key objective of this initiative is to develop a skilled workforce through structured training, enabling them to perform effectively both within the country and abroad.



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### Meeting of PNS Delegation with Member Power of PAEC

PNS delegation namely Dr. M. Tahir Khaleeq, Mr. Waqar A. Butt, Dr. M. Mohsin, and Dr. Masroor Ikram held a meeting with Mr. Mohsin Fayyaz, Member Power, PAEC and discussed the two important initiatives, i.e. the launch of a research journal and the accreditation of PNS as a certification body for nuclear standards.

The meeting, held in his office, proved highly productive. Recognizing the significance of these initiatives, Mr. Mohsin assured his full support in bringing them to completion. He also urged PNS to actively advocate for nuclear power as a clean and sustainable source of electricity generation.

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### Courtesy Visit of PNS Team to the Managing Director of PAEC Foundation

A delegation from PNS, comprising Dr. M. Tahir Khaleeq, Mr. Waqar A. Butt, Mr. M. Abbas Qamar, Dr. Anjam Iqbal, and Syed Zahid Hussain, paid a courtesy call on Mr. Chaudhry Munir, the newly appointed Managing Director of the PAEC Foundation. The aim was to explore opportunities for PNS Members, especially scientists and engineers, with enormous experience and utilize their services for the socio-economic development of the

country. Ms. Sadia, Secretary of the Foundation, was also present at the meeting. The discussions were constructive and insightful, centering on avenues of potential collaboration between the two organizations. It was agreed that experts from the PNS advisory pool would be engaged as and when required for various projects of the Foundation. Mr. Chaudhry Munir assured his full support for PNS initiatives.

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### Participation in INSC Affairs

The International Nuclear Society Council (INSC) is keeping up its tradition of bestowing a Global Award annually to outstanding individuals in recognition of their efforts in promoting nuclear technology for sustainable societal welfare. The selection of this award is made by a high-level committee formed from INSC Member States. This year, the committee comprises Dr. Khadija Bendam, 1st Vice President, Ms. Tracy Luo, 2nd Vice President and Mr. Waqar A. Butt, Representative from Pakistan. After careful evaluation of the candidates' CVs, considering the Award's objectives and thorough discussions via meetings on zoom link, Prof. Poong Hyun Seong, Professor Emeritus, Department of Nuclear and Quantum Engineering, Daejeon, Republic of Korea was declared the winner. The award bearing a certificate was

given to him during the IAEA General Conference in Vienna held in the 3rd week of September 2025.

The General Assembly meeting of INSC was held on September 16, 2025 during the General Conference of IAEA in Vienna, Austria. Due to financial constraints, the representative from Pakistan could travel to Vienna. Therefore, Ms. Imama Zaidi from PAEC who is currently serving as a Consultant in IAEA participated in that meeting as Pakistan Representative on behalf of PNS. The important issues include the Paper on Restructuring of INSC by adding new Groups from Africa and Asia to maintain the balance and to support one young researcher for participation in 2026 Pacific Basin Nuclear Conference in Busan, Korea.

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### Scientific events and establishment of Al-Beruni Science Club Jhelum

The Pakistan Nuclear Society (PNS) organized three scientific events at postgraduate colleges in Jhelum during the past two years. The objective of these events was to highlight the country's scientific research and development activities and promote interest of local youth. Recognizing the community's growing interest in scientific activities, a forum named 'Al-Beruni Science Club' has been established in collaboration with the Community Development Council (CDC), Al-Markaz, Jhelum, and the Jhelum Chamber of Commerce and Industry (JCCI). To formalize this initiative, Dr. Shahid Tanveer, President of the CDC, and

Haji Zahid Hussain Butt, President of the JCCI, jointly signed a memorandum of understanding. Working alongside PNS and the Club is committed to promote science & technology and its practical applications for the socio-economic development of Pakistan. Joint events will be conducted under this initiative.

The driving force behind this effort is Dr. Anjam Iqbal, PNS Coordinator for QMS. It is also noteworthy that the renowned Muslim scientist Abu Rehan Al-Beruni made a remarkably accurate measurement of the Earth's diameter at Nandna, a site located near the Jhelum district.



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## Silent Heroes

*Lest we Forget*

**Dr. M. Zaman Sheikh, HI, SI**

**A member of the team that developed specialized materials for strategic projects**



Dr. Muhammad Zaman Sheikh was born on October 8, 1930, in Hushairpar, Jullandar. He earned his B.Sc. from Emerson College, Multan, in 1950, his M.Sc. from Government College (GC), Lahore, in 1952, and his Ph.D. from the University of Sheffield, UK in 1965.

He served as a Lecturer at GC, Lahore, from 1953 to

1966. In 1966, he joined DASTO, where he rose to the position of Chief DESTO and then Scientific Advisor to P.M. In 1974, he became a pioneer member of the team that developed specialized high-energy materials for strategic projects, and he also established

the Department of Chemicals. Following his retirement, he was appointed Advisor at the Pakistan Atomic Energy Commission (PAEC), contributing to various projects involving the fabrication of materials, components, and devices of critical importance. Later, he served as a Consultant at the National Development Complex (NDC), a position he held until his death on November 19, 2018. Dr. Sheikh was a member of several high-level committees, including the National Commission on Science & Technology, the Member Council of PCSIR, the Advisory Committee for Defence Planning, and the Inter-Ministerial Committee of Chemical Verification.

In recognition of his outstanding services to the nation, he was awarded Sitara-i-Imtiaz in 1965, and later Hilal-i-Imtiaz in 1999. May Allah bless him and grant him the highest place in Jannah, Ameen.

*(Dr. Riaz Qadeer, son-in-law)*

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## A Historical Photo



*Visit of President Ghulam Ishaq Khan to PINSTECH on May 25, 1992*

## Nuclear News and Views

### International Developments in Nuclear Energy

#### **Record-Breaking Year for Nuclear Electricity Generation:**

According to the World Nuclear Performance Report 2025, released in September this year, nuclear reactors worldwide generated 2667 TWh of electricity in 2024, beating the previous record of 2660 TWh, which was set back in 2006. The average capacity factor also increased to 83%. The increase in global nuclear generation over the past decade is primarily down to Asia, which accounts for 56 of the 68 reactors commissioned. It is worth mentioning that amongst 70 reactors currently under construction, 59 are located in the region.

#### **Pakistan, IAEA Sign Five-Year Country Framework:**

Chairman PAEC and Head, Department of Technical Cooperation, IAEA, signed the framework on behalf of the agency. The Framework covers three technical cooperation cycles, in five key areas: food and agriculture, human health and nutrition, climate change and water resource management, nuclear power, and radiation and nuclear safety.

#### **Nuclear Technology Provides an Opportunity for Pakistan's Agriculture Sector to Mitigate or Adapt to Climate Change:**

Pakistan has been benefiting from nuclear technology in the agriculture sector for almost over four decades and has produced numerous new plant varieties. During a recent assessment mission by the Atoms4Food Initiative, the first of its kind in Asia and the Pacific, highlighted opportunities to integrate advanced technologies such as speed breeding and biotechnology into mutation breeding programmes for priority crops in Pakistan. The mission also recommended the need for cooperation between Pakistan and the FAO & IAEA to produce new and improved plant varieties.

#### **Russia Manufactures 250th Nuclear Reactor:**

Rosatom is installing a fourth unit at the Akkuyu nuclear power plant in Turkey. Fabrication of the control assembly for the reactor vessel is completed. Rosatom announces that this will be the 250th nuclear reactor made in Russia. Rosatom is also supplying two nuclear power plants to Egypt.

#### **Application of AI in Nuclear Industry:**

Westinghouse and Google Cloud announced a partnership to use artificial intelligence for enhancing the construction and operation of nuclear reactors. This collaboration aims to streamline the building process and improve the efficiency of existing reactors through data-driven insights.

#### **Nuclear Waste could be a Source of Fuel in Future Fusion Reactors:**

Researchers are developing new systems using nuclear waste to make tritium, one of the main fuels for nuclear fusion. The method proposes a particle accelerator to start atom-splitting reactions in the nuclear radwaste from power plants. So far, the theoretical system running on one gigawatt of energy, could produce about 2 kilograms of tritium per year, which is the same

amount as produced by the total yearly output from all heavy water reactors in Canada.

#### **First International Airport to Use Nuclear Energy:**

As a goal of becoming "the greenest airport in the world and to be energy independent", the Denver International Airport, in Colorado, USA. has been actively planning for a future when 120 million passengers will be using the airport. The airport is considering to build an SMR as a viable option to meet the airport's long-term electricity needs, available technologies, estimated costs, and funding options.

#### **Nuclear Science is Helping to Protect Rare Rhinos from Extinction:**

In a pioneering effort to combat wildlife trafficking of the threatened rhinoceros, in July this year a South African University began implementing a project supported by the International Atomic Energy Agency (IAEA). The project combines the safe insertion of radioactive isotopes into rhino horns and uses available nuclear security infrastructure to deter and detect illegal poaching at the borders.

#### **US DOE Announces First Selections for Pilot Reactor Programme:**

The US Department of Energy has announced its initial selection of 11 advanced reactor projects for the Nuclear Reactor Pilot Program. This exercise is a part of the Reforming Nuclear Reactor Testing at the Department of Energy executive order, and its goal is "to construct, operate, and achieve criticality of at least three test reactors using the DOE authorisation process by July 4, 2026. The projects include pressurised water reactors of 15 MWe and 20 MWe that would be located about a mile underground via a 30-inch borehole. A factory-fabricated 10 MWe sodium-cooled microreactor, and a 500-kW sodium heat pipe-cooled reactor.

#### **Four European Nuclear Technology Organizations Establish Alliance to Develop The EAGLES-Lead-Cooled Small, Gen IV Modular Reactor.**

The Franco-Dutch developers have set up a research collaboration to support the development of Thorizon One, a Gen IV molten salt reactor. The new partnership primarily seeks to develop corrosion tests for metals that are in contact with molten salt.

#### **Applications Open for the 2025 IAEA Marie Skłodowska-Curie Fellowship Programme:**

The programme empowers women to pursue degrees of their choosing by easing the financial burden of their studies, and provides the opportunity to pursue internships at the IAEA or with partner organizations like the IAEA Collaborating Centres. Applications Open for the 2025 IAEA Marie Skłodowska-Curie Fellowship Programme. Women interested in studying nuclear-related subjects at the master's degree level are encouraged to apply by 31 October 2025.

*(Mr. Saleem A. Ansari)*

## Members Section

### Congratulations

#### *New Responsibilities*



**Dr. Shakeel Abbas Rufi** has been appointed as Member Science, PAEC. Before that, he was the Director General of DTD.



**Mr. Zia Hussain Shah** has been appointed as Member Executive, PNRA. Before that, he was the Director General of Chairman Secretariat.



**Dr. Muhammad Tahir** has been appointed as Secretary, PAEC. Before that, he was the Director General of the Directorate of Safety (DOS).



**Mr. Mohammad Qayyum** has been appointed as Member Corporate, PNRA. Before that, he was the Director General of Inspection and Enforcement.



**Mr. Arshad Mahmood** has been appointed as DG Directorate of Safety (DOS) at PAEC HQ.



**Mr. Abdul Rehman** has been appointed as Secretary, PNRA. Before that, he was Project Director of the National Dosimetry and Calibration Lab.

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### Dr. Shahid M. Baig Elected as Fellow of SNARE

Dr. Shahid Mahmood Baig, H.I, S.I, former Chairman of the Pakistan Science Foundation, has been elected and conferred as a Founder Full Fellow of the “Society for Novel and Rare Diseases” (SNARE). Dr. Baig stated that this fellowship is not only a personal milestone but also a recognition of the collective efforts of colleagues, mentors, and students who continue to inspire him on the journey in genomics and science in general. The aim is to contribute more actively to advancing research, awareness, and solutions for rare and novel diseases that impact lives worldwide and particularly in the Pakistani population.



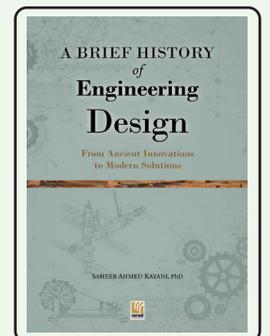
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### Book by Dr. Saheeb Kiyani



Dr. Saheeb Kiyani, a lifetime member of PNS, has recently published his book titled *A Brief History of Engineering Design: From Ancient Innovations to Modern Solutions*. This concise volume provides a sweeping overview of the history of engineering design, tracing

its development from ancient marvels to today’s digital and sustainable advancements. With clarity and insight, it explores how engineering design has evolved and continues to shape our modern world.



## Obituaries

### Syed Shaukat Hasan



Syed Shauket Hassan was born on March 15, 1950, in Karachi. He began his academic journey at Model High School in Hyderabad, Sindh and earned his BSc (Hons) in Physics from the University of Sindh, Jamshoro, in 1969, followed by an MSc in Nuclear Physics from the same university in 1970. After that he joined the Reactor School of the Pakistan Atomic Energy Commission (PAEC), for MSc degree in Nuclear

Technology from Quaid-i-Azam University in 1974. That same year, he began his professional career with the Nuclear Safety and Licensing Division (NSLD) of PAEC, which was later upgraded in 1984 to the Directorate of Nuclear Safety and Radiation Protection (DNSRP). His area of specialization was radiation protection and environmental safety. In 1977, he went to United States, where he earned a Master’s degree in Nuclear Engineering from Pennsylvania State University. In 1998, he was posted at PAEC Headquarters in the International Affairs and Training Division for over three years. During this time, he focused on

reviewing and analyzing matters related to disarmament, non-proliferation, and international treaties and conventions relevant to Pakistan’s nuclear program.

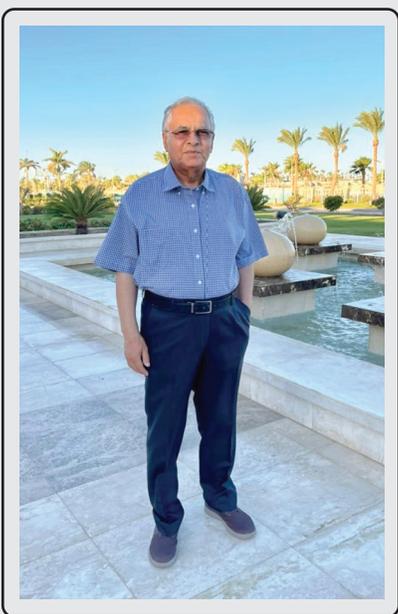
From 2001 to 2005, Mr. Syed Shaukat Hassan served as Minister (Technical) at the Permanent Mission of Pakistan in Geneva where he represented Pakistan at the Conference on Disarmament (CD) to provide expert advice to the Ambassador and the Ministry of Foreign Affairs on issues under discussion. Upon returning to PAEC Headquarters in 2005, Mr. Hassan established the Disarmament and Safeguards Division and led it as Director for nearly a decade. Over the course of his distinguished career, he dedicated 42 years of service to PAEC, retiring in 2010 as Chief Scientist and Director General of the International Affairs and Training Division.

Mr. Hassan was a person of remarkable integrity, admired for his humility, dedication, and meticulous approach to everything he undertook. He passed away on July 13, 2025, in Islamabad, and was buried in the H-11 cemetery. May Allah grant him the highest place in Jannah. Ameen.

*(M. Abbas Qamar, colleague)*

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### Tariq Parvez



Engr. Tariq Parvez was born on December 10, 1951. He obtained his early education at Cadet College Petaro (1964–1969) and graduated in Chemical Engineering with a specialization in Petroleum and Gas from Punjab University in 1975. Soon after, he joined PAEC, where he dedicated over three decades of service to the nation. His work spanned critical areas of nuclear power plant development, reactor safety, and quality control of systems and

components. He also earned recognition through international certifications from the IAEA and a diploma in fire protection technology, further strengthening Pakistan’s standing in nuclear safety standards. Rising to the position of Chief Engineer, he played a key role in projects that contributed to Pakistan’s energy security and technological advancement before retiring in 2011.

Mr. Tariq passed away on July 18, 2025, after a brave battle with cancer. His life was marked by strength, honesty, and compassion - values that guided him as a family man, professional, and friend. He will be remembered as a distinguished engineer, a man of integrity, and a source of love and guidance for all who knew him.

May Allah, the Almighty, bless him with the highest rank in Jannah.

*(Junaid Tariq, Son)*

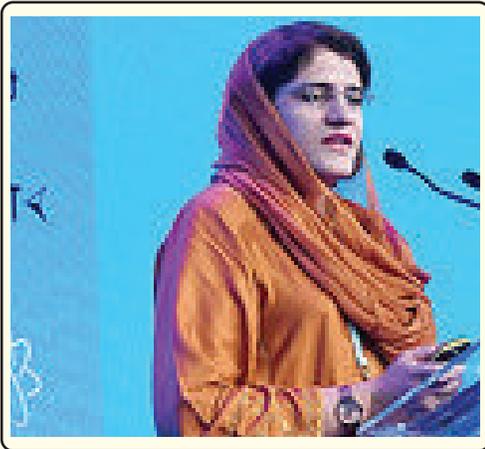
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## WiN Activities

### Participation in WiN Global Annual Conference at UK

Dr. Samreen Shehzadi, Secretary WiN-Pakistan participated in the 32nd WiN Global Annual Conference at London, UK from July 14-18, 2025. The theme of the conference was “Positively Nuclear: Influencing our Future” with the participation of 800 delegates from 54 countries around the world. The conference comprised various sessions, including Annual General Assembly, technical sessions, workshops, mentorship activities, motivational talks and country chapter report presentations. DG IAEA, Rafael Mariano Grossi, in his speech, acknowledged the contribution of women in the nuclear industry and the initiatives offered by the IAEA to inspire more women to pursue careers in the nuclear field.

WiN-Pakistan was one of the few WiN chapters selected to present its activities at the conference. Dr. Samreen delivered a presentation entitled “Role of WiN-Pakistan for Strengthening Women in Nuclear Science and Technology”. In her presentation, she focused on WiN-Pakistan goals, vision and highlighted its main activities at national and international forums. During the Annual General Assembly Session, Ms. Melina Belinco, President WiN-Global appreciated WiN-Pakistan for successfully conducting the first WiN International Conference in Islamabad. During her visit, Dr. Samreen had a meeting with Janette Donner, President of WiN IAEA, to discuss future collaborations between the two chapters. Overall, her visit was beneficial for establishing connections and potential collaborations with other WiN chapters.



## YiN Activities

### First Meeting of the YiN Council

All five elected members of the YiN Council held their first meeting at the office of President PNS, with members of the PNS Council. The participants discussed the future course of action and planned several activities, including a youth convention in Islamabad in November 2025. Responsibilities were distributed

among the Council members. It was also decided to reduce the lifetime membership fee from Rs. 5,000 to Rs. 2,500 until December 2025 in order to encourage more young people to join PNS.



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## Students' Corner

### Benefits of Nuclear Technology

Students living near nuclear power plants are generally aware of nuclear technology as a source of electricity, but often remain unfamiliar with its other benefits. To bridge this gap, PNS organized a seminar on “Benefits of Nuclear Technology” at PAEC Model College for Girls, Chashma, on September 15, 2025. The event was a collaborative effort between PNS and the Chashma Education Centre.

The program was coordinated by Professor Azhar Shoaib Shah, Head of PAEC Education Centre, Chashma, and Dr. Maqsood Ahmad from PAEC HQs. Dr. Muhammad Saddique, DG, KNFC, was the Chief Guest. Over 200 students and faculty members participated.

The program began with recitation from the Holy Quran and a heartfelt Naat by the students. Prof. Azhar Shoaib Shah delivered the welcome address, thanking PNS for arranging such an informative event. Mr. Waqar Ahmad Butt then gave an overview of PNS, followed by his lecture on “Atomic Energy and Benefits of Nuclear Technology.”

The other to Lectures were:

- “Introduction of Nuclear Radiation and its Effects on Human Health” by Mr. Muhammad Abbas Qamar.
- “Proper Management of General Waste” by Syed Zahid Hussain, Executive Member PNS,

The seminar also featured a lively question-and-answer session, and PNS delegates visited exhibits and models prepared by students, showcasing the integration of IT and nuclear concepts. The stage was efficiently coordinated by Ms. Naureen Ashraf, Associate Professor, and Ms. Maryam Gulzar, Junior Teacher. The vote of thanks was delivered by Prof. Azhar Shoaib Shah, who appreciated the efforts of the organizers, presenters, and students.

The event proved to be a valuable platform for raising awareness about nuclear energy, its wide-ranging benefits, and the importance of responsible practices.



## Social Events

### Recreational Family trip to Swat Valley

PNS organizes annual trips to scenic areas of Pakistan for the enjoyment of its members and their families. This year, a three-day trip to Swat was arranged from September 26 to 28, 2025. The group consisted of 23 adults and 3 children.

After lunch at Fizagat, Mingora, the participants traveled through lush green valleys dotted with fruit trees. With the river flowing gracefully on one side, they continued their journey and reached Kalam after sunset.

On the second day, four jeeps were hired to visit Mahodand Lake. Passing through the Ushu forest and the Matiltan waterfall, they

finally arrived at the lake, where they admired the breathtaking scenery of vast meadows and enjoyed boat rides on the crystal-clear waters.

The next stop was the Green Top viewpoint, located on a windy hill that offered a charming panoramic view of Kalam. However, one disappointing sight was the river, which had diminished to the size of a stream. Numerous huts and shops had been built in the riverbed, taking away from the natural beauty of this place, which is named as the “Switzerland of Pakistan.”



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Issue 20/2025

October-December, 2025

# PNS Newsletter

Nuclear for Peace

A Quarterly Newsletter of the Pakistan Nuclear Society

**Patron:**

Dr. Muhammad Tahir Khaleeq

**Editor-in-Chief:**

Mr. Waqar Ahmad Butt

**Editors:**

Dr. Muhammad Sadiq

Mr. Saleem A. Ansari

Mr. M. Abbas Qamar

## Inside this Issue

From the desk of Editor-in-Chief	01
Activities during the 4th Quarter	02
Outreach and Linkages	07
Silent Heroes	08
A Historical Photo	09
Nuclear News and Views	09
Members Section	09
WiN Activities	10
YiN Activities	12
Students' Corner	13
Social Events	15

## Vision

*To become a resource centre for disseminating information and to promote practical applications on peaceful uses of nuclear science, engineering and technology for sustainable socio-economic development. The principal tools to be used for this purpose would be PNS Website and PNS Newsletter.*

## Announcement

Students Convention on Interaction  
with Nuclear Scientists and Engineers  
February, 2026  
COMSATS University  
Park Road, Islamabad

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## From the desk of Editor-in-Chief

Although PNS is facing an acute shortage of financial resources, we are deeply grateful to the Nuclear Power Sector of the Pakistan Atomic Energy Commission (PAEC) for its financial support, which enabled PNS to successfully conduct two important activities in Karachi and Mianwali. The PAEC Cancer Hospitals in Bahawalpur and Nawabshah also provided generous assistance, not only in hosting seminars at their respective centers but also by offering accommodation for six PNS delegates. PNS extends its heartfelt gratitude to these centers for their invaluable support.

Continuing its tradition of honoring unsung heroes and living legends who have made significant contributions to the development of nuclear science and technology in the country, PNS awarded Lifetime Achievement Awards to Dr. M.N. Qazi and Engr. Mirza Azfar Beg. PNS deeply appreciates their dedicated and tireless efforts toward the advancement of nuclear science and technology for the benefit of the nation.

Other notable activities during this quarter included organizing meetings for two prestigious forums of PNS: the Scientific Advisory Board and the Administrative Advisory Board. The discussions at these meetings were highly productive, and the interest, seriousness, and guidance of the Board members served as a strong source of motivation for the PNS Council.

The final and most significant event of the year was the Annual General Meeting (AGM) of PNS, held at the newly established NCA Club, Margalla Farms. During the meeting, PNS presented its annual progress and financial reports. Additional activities on the same day included the oath-taking ceremony for Women in Nuclear (WiN), the presentation of the PNS Lifetime Achievement Awards, an entertainment program, and the hosting of the annual dinner.

## Activities During the 4th Quarter of 2025

### Meeting of the Scientific Advisory Board (SAB)

The second meeting of the Scientific Advisory Board (SAB) of PNS (2025-26) was held on October 23, 2025 at PNS office, H--8/1, Islamabad which was physically attended by the following Board Members:

1. Engr. Parvez Butt, NI, HI, SI, (Chair)
  2. Mr. Muhammad Naeem, NI, HI, SI,
  3. Dr. Nabeel Hayat Malik, HI, SI
  4. Engr. Muhammad Anwar Habib, HI
  5. Engr. Saeed Alam Siddiqui
  6. Engr. Syed Ziauddin
  7. Dr. Rakhshanda Bilal
  8. Dr. Muhammad Tahir Khaleeq (Secretary)
- The following Board members joined the meeting through Zoom link.
9. Dr. Abdullah Sadiq from Islamabad
  10. Engr. Waqar Murtaza Butt from Karachi

PNS Council members attended the meeting as observers.

Engr. Parvez Butt presided over the meeting. Following the recitation from the Holy Quran, Dr. Muhammad Tahir Khaleeq formally welcomed the distinguished members and thanked them for sparing their time to attend the meeting. He emphasized the importance of SAB in strengthening PNS and enhancing its role in promoting the peaceful applications of nuclear science and technology. This was followed by a presentation on the initiatives and activities of PNS, along with progress made since the meeting of SAB in February 2025. Subsequently, Mr. M. Abbas Qamar highlighted the financial position of PNS, the contributions made by members to the Endowment Fund, and the pressing need to further augment the Society's financial resources.

The following suggestions and points were presented by the Board Members:

Engr. Parvez Butt expressed satisfaction with the initiatives undertaken by PNS to promote nuclear science and technology. He appreciated the outreach and linkage efforts, particularly with the Engineering Development Board (EDB), and proposed further strengthening of existing collaboration with them. He volunteered to lead and guide PNS in meetings with EDB. He also highlighted the importance of mineral resources for national development and emphasized the role of nuclear scientists in mineral exploration and mining to achieve national self-reliance. He commended the knowledge, experience, and expertise of PNS members and their contributions to nuclear science and allied technologies.

Mr. Muhammad Naeem appreciated the activities and initiatives of the PNS Council and suggested strengthening liaison and collaboration with SPD. He highlighted initiatives already undertaken in his capacity as Advisor to SPD and assured PNS of support in arranging meetings with DG ACDA and DG SPD to highlight the contributions and relevance of PNS. He emphasized the need to demonstrate the significant impact of PNS at a comparatively modest cost in relation to other think tanks engaged in similar work. He advised PNS to continue building upon its successful initiatives and to focus on tangible and achievable activities within its scope.

Dr. Nabeel Hayat also appreciated the initiatives of PNS and proposed strengthening its role as a think tank. He advised PNS to include topics

of interest to SPD in its agenda and offered to facilitate meetings with DG ACDA for discussions on areas of mutual interest. He suggested that PNS could benefit from presenting its case to SPD for the allocation of a permanent budgetary head. He emphasized the need to utilize the expertise of PNS members in preparing a national nuclear roadmap in the form of a Nuclear Energy Policy document. He also suggested signing an MoU with PIEAS to promote research and development in critical and emerging technologies such as quantum sciences and artificial intelligence, alongside nuclear and allied fields, while maintaining a focused approach rather than covering overly broad areas. He stressed the importance of archiving and documenting successful experiences in the peaceful applications of nuclear technology.

Mr. Anwar Habib expressed satisfaction with the progress of PNS and informed the Board that, as head of the Committee for the revision of the PNS Constitution, recommendations were being finalized.

Syed Ziauddin advised arranging a meeting with DG Finance, SPD, to address the financial needs of PNS. He endorsed PNS efforts in strengthening collaboration with EDB and shared information regarding industry participation in the PIEAS Open House. He suggested that PNS should first identify potential funding sources and then focus its efforts accordingly. He further recommended enhancing the think-tank role of PNS through initiatives with specific, tangible, realistic, and achievable goals, supported by defined milestones to ensure measurable impact. He expressed the view that some initiatives, such as work on nuclear standards, may be beyond the current scope and capacity of PNS.

Engr. Saeed Alam Siddiqui proposed that PNS may request PAEC to include the issue of PNS funding in the agenda of the Commission meeting.

Dr. Rakhshanda Bilal appreciated the initiatives of PNS and suggested exploring alternative mechanisms for financial support, particularly in light of limitations imposed by organizational financial rules. She proposed that PNS may work on joint proposals with PAEC, incorporating funding support as an integral component from the PAEC side.

Dr. Abdullah Sadiq expressed satisfaction with the progress of PNS and endorsed the proposals and recommendations made by other Board Members.

Engr. Waqar M. Butt suggested archiving and documenting the history of nuclear power development in Pakistan, starting from KANUPP and gradually covering the latest plants (K-2 and K-3). He also proposed organizing a full-day seminar on hydrogen production in Karachi. He appreciated the outreach and linkage activities of PNS, particularly with EDB, and emphasized the need to follow up on progress made under existing collaborations.

In his concluding remarks, Engr. Pervaz Butt thanked the honorable Board Members for their valuable suggestions and guidance. Dr. M. Tahir Khaleeq also expressed gratitude and assured the members that the PNS Council would make every effort to implement the recommendations and looked forward to continued guidance and support from the SAB.



## Meeting of the Administrative Advisory Board (AAB)

The second meeting of the Administrative Advisory Board (AAB) of Pakistan Nuclear Society (PNS) was held on December 6, 2025 at PNS office, H-8/1, Islamabad. Following Board Members attended the meeting:

1. Dr. Ansar Parvez
2. Air Commodore (R) Khalid Banuri
3. Prof. Dr. Muhammad Mujahid
4. Prof. Dr. Muhammad Afzal Rao
5. Dr. Sarah Qureshi
6. Mr. Shabbir Halai
7. Raja Naveed Akhtar Satti
8. Mr. Nusrat Mirza (on zoom link)
9. Dr. Haleema Saadia Qureshi (on zoom link)
10. Dr. Muhammad Tahir Khaleeq

All the nine PNS Council Members attended the meeting as observers.

Dr. Ansar Parvez chaired the meeting and expressed his gratitude to the distinguished participants for attending this important gathering. Dr. Muhammad Tahir Khaleeq formally welcomed the members and provided an overview of the PNS mandate, which focuses on promoting the peaceful applications of nuclear science, technology, and allied disciplines for the socio-economic development of the country. He presented updates on the progress of the recommendations made during the AAB meeting held in February 2025. Additionally, Dr. Khaleeq delivered a comprehensive presentation on the overall activities of PNS and highlighted the financial constraints currently affecting its operations.

The Board members put forward several valuable suggestions and points for consideration, and decisions were made accordingly.

Dr. Ansar Parvez appreciated the expansion of PNS activities, noting that the Society has successfully brought together experts from diverse backgrounds and has created an enabling environment to function as a think tank for the socio-economic development of the country. He advised PNS to make maximum use of the experience of Board Members by organizing personalized and focused one-on-one meetings with individual members to enhance effectiveness.

Dr. Sarah Qureshi proposed that PNS formally approach the United Nations (UN) with a suggestion to establish a "Nuclear for Peace Day" to promote the peaceful applications of nuclear energy. She also recommended organizing a Science Mela in Islamabad for public outreach, in collaboration with the Al-Khwarizmi Society. Additionally, she proposed the development of a course related to nuclear or reactor physics and advised reaching out to relevant authorities to include it in university curricula. Dr. Qureshi offered her assistance in coordinating with the Ministry of Law and Justice regarding the pending Memorandum of Understanding (MOU) with the Engineering Development Board (EDB). She also suggested publishing the PNS newsletter online if

financial constraints prevent printing, and requested that presentations delivered by PNS at various forums be shared with AAB members for feedback and improvement.

Dr. Muhammad Afzal Rao fully endorsed Dr. Qureshi's suggestions. He further recommended increasing PNS membership within academia and industry by contacting senior management of universities and industrial organizations, encouraging them to become members by highlighting the benefits and importance of PNS membership. However, he emphasized that a hardcopy of the newsletter should still be circulated to prospective members for awareness and engagement. To address financial challenges, Dr. Rao proposed introducing an annual membership renewal fee of Rs. 1,000.

Prof. Dr. Muhammad Mujahid emphasized that PNS comprises a wealth of highly qualified and experienced scientists and engineers with diverse expertise, which should be utilized more effectively. He suggested compiling a comprehensive list of available expertise within PNS and involving these professionals as Professors of Practice at universities, particularly at the Pak-Austria Fachhochschule Institute of Applied Sciences and Technology in Haripur. He also proposed organizing seminars and workshops in collaboration with universities, offering internships to students to encourage their involvement with PNS, and reviving the process of awarding PNS Fellowships.

Mr. Shabbir Halai observed a communication gap, noting that PNS has not yet fully succeeded in conveying its value proposition to its target audience. He stressed that while PNS has much to offer, its message needs to be communicated more effectively to relevant institutions.

Raja Naveed Akhtar Satti commended the efforts and achievements of PNS and assured full support, including assistance in organizing a seminar at the Islamabad Chamber of Commerce and Industry (ICCI).

Air Commodore (R) Khalid Banuri emphasized the importance of making the PNS website and promotional videos more engaging and visually appealing to improve visibility and outreach. He briefed participants on international science-related days observed by the UN and encouraged PNS to actively participate in such initiatives. Additionally, he suggested lobbying with relevant commissions to create a mechanism for deducting PNS membership fees at the time of employees' retirement, allowing retiring personnel to automatically become PNS members. He further recommended sharing success stories to attract the younger generation and enhancing outreach through LinkedIn by sharing information and tagging young professionals.

At the conclusion of the meeting, the PNS Council expressed its sincere gratitude to the esteemed AAB members for their invaluable guidance and constructive suggestions. PNS reaffirmed its commitment, in collaboration with the AAB members, to implement the recommendations and look forward to continued guidance and support from the AAB.



## Annual General Meeting

The Annual General Meeting (AGM) of the Pakistan Nuclear Society (PNS) was held on December 26, 2025, at the new venue, Margalla Forms (NCA Club), Islamabad. More than 100 participants attended the meeting. The session comprised three segments: the oath-taking ceremony of WiN-Pak, the presentation of annual reports, and social events.

Continuing its tradition of honoring living legends in the nuclear field, PNS conferred the Lifetime Achievement Award (Scientists Category) upon Dr. Muhammad Nuruddin Qazi. The award, consisting of a medal and a certificate, was presented in recognition of his untiring contributions to Pakistan's nuclear research and development program. The Chief Guest, Dr. Inam ur Rahman, decorated Dr. Qazi with the medal, while the certificate was presented by the President of PNS, Dr. M. Tahir Khaleeq.

Ms. Hina Ahmad, daughter of Dr. Qazi, delivered a comprehensive presentation highlighting her father's life and remarkable achievements. Dr. Qazi then shared memories of his journey from India amid the extraordinary turmoil and bloodshed of the 1947 Partition.

Prior to the Chief Guest's address, Ms. Samina Wasim recited a poem dedicated to the esteemed personality of Dr. Inam ur Rahman. In his concluding remarks, Dr. Rahman reflected on his long association with Dr. Qazi, beginning from their early days at the first office of the Pakistan Atomic Energy Commission in Karachi.



During the formal session of AGM, Dr. Mohammad Mohsin presented an overview of the activities conducted in 2025. Mr. M. Abbas Qamar gave an overview of the financial situation of the Society. Dr. M. Tahir Khaleeq mentioned about the major events during the tenure of the present Council while Mr. Waqar A. Butt highlighted the proposals for amendment in the Constitution. The session was nicely conducted by Ms. Nazia Kashif, Executive Member PNS.

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## Special Session and Lifetime Achievement Award in Karachi

A seminar titled "Self-Reliance in Nuclear Power Operations" was jointly organized by the Pakistan Nuclear Society (PNS) and the Welfare Association of Retired Employees of PAEC (WARE). The seminar was held at KIRAN, Karachi on November 12, 2025. Mr. Muhammad Nadeem Ahmad, President WARE, welcomed the guests and participants. The event highlighted Pakistan's sustained progress toward self-reliance in nuclear power, with particular emphasis on the pioneering contributions of the design and operations teams of KANUPP (K-1). The participants remained engaged in meaningful discussions on the



evolution of indigenous capabilities, operational challenges, and the strategic importance of strengthening national expertise. The seminar focused on indigenous capabilities, operational challenges, and the strategic importance of strengthening national technical expertise to ensure long-term sustainability of the nuclear power program.

Several distinguished speakers shared valuable insights drawn from decades of professional experience. Mr. Jamshed A. Hashmi emphasized that self-reliance is not a destination but a continuous journey requiring commitment and innovation. Mr. Azfar Baig highlighted how the lessons learned from K-1 laid the foundation for Pakistan's modern nuclear power program. Mr. Javed Iqleem stressed the importance of developing local human resources, noting that the greatest asset is our trained and dedicated workforce. Engr. Waqar Muratza Butt discussed key engineering milestones and remarked that indigenous problem-solving has always been a national strength. Mr. Asif Baig shared updates on ongoing projects, reaffirming that Pakistan's capability to manage complex nuclear systems is stronger than ever.

The presence of Engr. Parvez Butt, Former Chairman PAEC as the Chief Guest, added great prestige to the event. He



appreciated the efforts of PNS and WARE, stating that such forums play a vital role in preserving institutional history and inspiring future generations of nuclear professionals. The seminar concluded on an optimistic note, with participants reaffirming their commitment to enhancing national competence and ensuring a secure and sustainable energy future for Pakistan.

One of the special highlights of the seminar was granting of the PNS Lifetime Achievement Award comprising a medal and a certificate upon Engr. Mirza Azfar Beg, in recognition of his dedicated and tireless contributions to the development of nuclear power plants in Pakistan. The Chief Guest praised Mr. Beg for his outstanding services to PAEC and the nation.



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### Seminar at KNP GS, Karachi

A one-day seminar titled “Leadership and Management Practices for Excellence in Nuclear Safety at NPPs” was organized by the Pakistan Nuclear Society (PNS) in collaboration with KNP GS on November 11, 2025, at the Karachi Institute of Nuclear Power Engineering (KINPOE).

The Chief Guest of the event was Engr. Parvez Butt, Former Chairman of PAEC. The seminar commenced with a welcome address by Engr. Nusrat Ullah Khan Afridi, Plant Manager K-2. An introduction to the Pakistan Nuclear Society was presented by Dr. Muhammad Tahir Khaleeq, President PNS, who highlighted the Society’s nationwide activities with particular emphasis on the peaceful applications of nuclear technology.

The Chief Guest, in his address, appreciated the efforts of PNS in organizing the seminar at KNP GS on such an important topic. The technical session began with a lecture by Mr. M. Anwar Habib, Former Chairman PNRA, on “Culture and Excellence in Nuclear Safety at NPPs.” This was followed by a presentation from Mr. Nusrat

Ullah Khan Afridi on “Leadership and Management at NPPs.” The third lecture was delivered by Mr. Muhammad Musharraf, PE, RNSD-III, PNRA, on “Leadership and Management.” The final lecture was presented by Mr. M. Abbas Qamar, CS (R), Former Director DOS, on “Leadership and Management at NPPs: From Compliance to Commitment.”



More than 60 participants attended the seminar, and the lectures were very well received. A discussion session followed, during which participants actively asked questions; this session was conducted by Mr. M. Abbas Qamar. Mr. Muhammad Imran Khan, Director (C&O), served as the Stage Secretary and coordinated the proceedings very efficiently. The seminar concluded with a vote of thanks by Mr. Waqar Ahmad Butt.



At the end of the event, the management of KNP GS arranged an informative and engaging visit to the K-2 Nuclear Power Plant for the guests from Islamabad.



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## Symposium at NORIN Cancer Hospital, Nawabshah

A one-day symposium on “Advances in Nuclear Medicine and Radiotherapy” was jointly organized by the Pakistan Nuclear Society (PNS) and the Atomic Energy Cancer Hospital, NORIN, Nawabshah, on November 13, 2025. The Chief Guest of the symposium was Prof. Dr. Madad Ali Shah, Vice Chancellor, Shaheed Benazir Bhutto University (SBBU), Nawabshah.

Dr. Sadiq Hussain Nohario, Director, NORIN, warmly welcomed the distinguished guests, PNS Council members from Islamabad, and all participants. He also highlighted the significance of the symposium. Dr. Muhammad Tahir Khaleeq presented an overview of PNS and emphasized its nationwide activities, with particular focus on the peaceful applications of nuclear technology.

During the technical session, three presentations were delivered. The first lecture, by Dr. Sadiq Hussain Nohario, provided a comprehensive overview of the facilities at NORIN Hospital and highlighted its major milestones and achievements. This was followed by a detailed presentation by Mr. Touqir Ahmad Afridi, Scientific Superintendent, NORIN, on various diagnostic and radiotherapy processes and procedures. The final presentation was delivered by Mr. M. Abbas Qamar on “Safety Requirements for Medical Exposure at Nuclear Medical Centers.”

Dr. Abdul Salam Abbasi, Senior Medical Officer, NORIN,

served as Stage Secretary and managed the proceedings with commendable efficiency. In the concluding session, Prof. Dr. Madad Ali Shah addressed the audience, appreciated NORIN for successfully organizing the symposium on this important subject, and commended the institution for providing valuable services to cancer patients in the region.

At the end, the Chief Guest presented traditional scarf (ajrak) to the speakers as well as PNS delegates from Islamabad. Mr. Waqar A. Butt gifted the latest book published by PNS on the life and achievements of Dr. Ishfaq Ahmad.



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## Symposium at BINO Cancer Hospital, Bahawalpur



A one-day “Symposium on Advances in Nuclear Medicine and Radiotherapy” was held at the Bahawalpur Institute of Nuclear Medicine and Oncology (BINO) Cancer Hospital on November 9, 2025. The event was jointly organized by PNS and BINO. Dr. M. Iftikhar Alam, Director BINO, warmly greeted the guests, PNS Council members from Islamabad, and all participants, and shared his views on the significance of the seminar. Mr. Waqar Ahmad Butt presented an overview of the Pakistan Nuclear Society and highlighted its nationwide activities, with particular emphasis on the beneficial uses of nuclear technology in different sectors.



During the technical session, three presentations were delivered. The first was by Dr. M. Iftikhar Alam, who introduced BINO and outlined its major milestones and achievements. This was followed by a detailed presentation by Mr. Muhammad Arshad, Principal Scientist/ Head of the Medical Physics Department at BINO on various diagnostic and radiotherapy processes and procedures. Mr. M. Abbas Qamar gave the final presentation on “Safety Requirements for Medical Exposure at Nuclear Medical Centers.” Mr. Muhammad Ismail, Admin Officer, BINO, acted as Stage Secretary and efficiently managed the proceedings. After the symposium, a guided visit of various hospital sections was arranged for PNS delegates.



## Outreach and Linkages

### Meeting with DG ACDA

A meeting of the PNS Council with the Director General ACDA, Maj. Gen. Syed Shahab Shahid (Retd), HI(M), was held in the Committee Room of the Public Relations Division, H-8/1, Islamabad. Mr. Muhammad Naeem, NI, HI, SI, former Chairman PAEC/Advisor SPD, and Dr. Nabeel Hayat Malik, HI, SI, former Chairman NESCOM/Advisor SPD, attended the meeting as members of the PNS Scientific Advisory Board. Maj. Asif Khalil also accompanied the Chief Guest.

Following the formal introduction of the Council Members, Dr. M. Tahir Khaleeq, President PNS, delivered a comprehensive presentation outlining the Society's objectives, initiatives, activities, and future programmes. He expressed appreciation for SPD's financial support in enabling various activities. Secretary Finance, Mr. M. Abbas Qamar, presented the Society's financial status and highlighted the significant challenges faced in meeting day-to-day operational expenses. He noted that the PNS reserve funds have been depleted, leaving the Society under severe financial constraints.

The DG ACDA commended the work of PNS and encouraged organizing joint events across various cities in collaboration with think tanks. He acknowledged the Society's genuine financial needs and agreed to explore possible avenues to ensure sustained support for its key programmes.



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### Awareness session at CISS

The Centre for International Strategic Studies (CISS) held its 6th Workshop for Trainers on Strategic Matters from October 21–23, 2025, at its office in Orchard Scheme, Islamabad. Ambassador Ali Sarwar Naqvi, Executive Director of CISS and the driving force behind the initiative, opened the event with welcome remarks. Distinguished speakers from the Ministry of Foreign Affairs (MoFA), the Strategic Vision Institute (SVI), the University of Lahore (UoL), ACDA/SPD, and PNS delivered insightful presentations to participants representing various strategic institutions and universities. During Working Session-4, Mr. Waqar Ahmad Butt, Vice President of PNS, made a presentation on “The Peaceful Uses of Nuclear Technology and Pakistan.” The session also featured Dr. Rabia Akhtar, Dean of the Faculty of Social Sciences at the University of Lahore, who discussed “Indigenizing Strategic Studies: A Pakistani Perspective.” The presentations were followed by an engaging interactive session with thoughtful questions and answers.



### Visit to Al-Qadir University

PNS was invited to participate in the Marketing Gala and Inter-Colleges Competition at Al-Qadir University. Dr. Anjam Iqbal and Mr. Waqar A. Butt visited the Sohawa campus and attended the Qirat, Naat, and speech competitions. The event was graced by dignitaries from various organizations and nearby colleges. A funfair featuring a variety of food stalls was also organized, where university students showcased their products as part-time business ventures. Mr. Waqar presented a PNS-published book on Dr. Ishfaq Ahmad, former Chairman of PAEC, to the University's Executive Director, Dr. Muhammad Amjad ur Rahman.



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### Meeting with the National Secretary, Pakistan Boy Scouts Association

A PNS delegation comprising Mr. Waqar A. Butt, Mr. Ghulam Sarwar, and Syed Zahid Hussain paid a courtesy call on the newly appointed Secretary of PBSA Mr. Tariq Aleem Gill at the Scouts Headquarters in Islamabad. They discussed the registration requirements for PNS as an organization as well as for individual members, to streamline the establishment of PNS Scouts Club. Following this, joint activities for all age-wise categories of scouts will be chalked out with mutual agreement. Mr. Gill ensured that PNS Scouts and their families could arrange special programmes at their facilities all over the country.

### Awareness session at the National Scouts Association

A large group of scouts—more than 100 boys and girls—along with 55 accompanying persons from various schools and colleges in Karachi traveled to Islamabad for camping and training at the National Scouts Association Headquarters. To observe the ongoing scouting activities of the newly established PNS Scouts Club, the Vice President of PNS, accompanied by two Council Members, visited the site and discussed opportunities for participation in the current programs. During the visit, Mr. Waqar A. Butt addressed two groups of scouts, raising awareness about the benefits of nuclear technology for the betterment of humanity.



## Silent Heroes

### Lest we forget

#### Dr. M.R. Najam, PoP



Dr. Mohammad Raman Najam was born on 15th December 1942 and obtained his early education at Ambala district Indian Punjab. After partition his family migrated to Pakistan and settled at Bahawalpur. He obtained his M.Sc. from Punjab University and then joined the Pakistan Atomic Energy Commission (PAEC) in 1965.

He did PhD in Nuclear Physics from the Australian National University in 1972. On his return from Australia, he was placed at the Nuclear Physics Division. He was one of the pioneer members of the Neutron Capture Gamma-ray Spectroscopy Group at the Pakistan Research Reactor at PINSTECH.

Because of his interest in teaching, he was transferred to the Centre for Nuclear Studies (CNS), now PIEAS. During his 33 years of meritorious service in the commission, Dr. Najam worked both

as a teacher and as a research scientist. As a faculty member of CNS, he set up a number of high-standard laboratories and taught different courses in nuclear physics. He has been in charge of the Student Technical Projects and the Board, coordinating projects with other national organizations.

He has developed several sophisticated nuclear instruments for the Commission's meaningful use while working on a highly classified project. He has also developed an automated diagnostic system which is invaluable in the nuclear field. He has published many research papers in international journals. In recognition of his outstanding contribution in the field of Science (Physics), the President of the Islamic Republic of Pakistan conferred upon him "President's Award for Pride of Performance".

He passed away on 20th April 2008 and was laid to rest in Islamabad. May Allah rest his soul in eternal peace.

## A Historical Photo



Engr. Parvez Butt, Dr. Mohamed ElBaradei (DG IAEA), Dr. Ishfaq Ahmad, Dr. S.A. Durrani and Dr. Haseeb Ullah

## News and Views

The share of nuclear energy in Pakistan's electricity mix rose notably in October 2025. During this October, our nuclear power plants produced 22.1% of the total electricity generated in the country, whereas last October this share was 14.1%. While nuclear share in installed capacity is only 7.8%, its contribution to actual electricity generation (energy mix in terms of GWh produced) is 2.5 times higher than other sources, due to its high reliability and capacity factor. This highlights a growing reliance on nuclear power as an indigenous energy source.

**Nuclear Energy in Focus at the G20 in South Africa:** Energy leaders from around the world convened the first-ever high-level G20 meeting on nuclear energy in Durban in October 2025. This was jointly organized by South Africa's Department of Energy and the IAEA. The conference was held amid rising projections for nuclear power expansion, and brought together energy ministers and high-level representatives from G20 countries, invited guest countries and the International Energy Agency. IAEA Director General emphasized that in Africa, as in the rest of the world, nuclear power is increasingly recognized as a source of reliable, safe and affordable energy. The global consensus on the need to bolster nuclear power capacity has been backed by efforts to increase access to financing, including by the World Bank, and others.

**Cold testing of Chinese First SMR Completed:** In October this year, China National Nuclear Corporation announced that it has completed cold functional tests at the first ACP100 small modular

reactor demonstration project under construction at China's island province of Hainan. CNNC announced in July 2019 the launch of a project to construct a 125 MWe ACP100 SMR at Changjiang. The first concrete was poured on 13 July 2021, with a planned total construction period of 58 months.

**Nuclear fusion gets a boost:** Nuclear fusion has entered a decisive new phase. ITER, the world's largest fusion experiment, with collaboration from 33 nations and thousands of engineers and scientists, remains the central international endeavor to build and operate a magnetic fusion device called a tokamak. This device is designed to prove the feasibility of fusion as a large scale carbon-free source of energy. Global private investment in fusion has exceeded US \$10 billion, reflecting growing confidence in the sector.

**Chernobyl radiation shield 'lost safety function' after drone strike – IAEA.** The inspectors found that the massive structure, built over the site of the 1986 nuclear disaster, had lost its "primary safety functions, including the confinement capability". The IAEA said repairs were essential to prevent further degradation of the nuclear shelter. However, according to environmental experts, "it is not something to panic about."

**Maharashtra and Andhra Pradesh proposed a sites for Indian SMRs:** Lead units for three small modular reactor designs are being developed by India's Bhabha Atomic Research Centre.

(Mr. Saleem A. Ansari)

## Members Section

### Appointment of Dr. Anila Usman as Rector PIEAS



Prof. Dr. Anila Usman, Chief Scientist, has been appointed as the first female Rector of the Pakistan Institute of Engineering and Applied Sciences (PIEAS), one of the country's leading universities in engineering sciences. After graduating in Nuclear Engineering from Centre for Nuclear Studies (CNS), she served as Registrar and Dean of Sciences at PIEAS. PNS Council congratulates Dr. Anila Usman on her

prestigious appointment.

### Dr. Sarah Qureshi, *T/I* honored



Every year, Asian Scientist magazine compiles a list of Asia's most outstanding researchers and innovators. In its eighth edition, the Asian Scientist 100 celebrates the region's best and brightest, highlighting exceptional achievements across a wide range of scientific disciplines. To be included on this prestigious list, honorees must have received a national or international award in the preceding

year for their research, or have made a significant scientific discovery or demonstrated outstanding leadership in academia or industry.

Dr. Sarah is ranked No. 4 among the 100 honorees. She also serves on the Administrative Advisory Board of PNS. The PNS Council extends its heartiest congratulations on this remarkable achievement.

## Obituaries

### Engr. Saeed Ahmed, S.I, PoP



Engr. Saeed Ahmed was born in September 1946 in Amritsar. After the partition of India in 1947, his family migrated to Pakistan and settled in Peshawar. He received his early education from Government School No.1, Cantonment Board, Saddar and completed his F.Sc and B.Sc from Edwards College, Peshawar, and graduated in Mechanical Engineering from the University of Peshawar in 1970.

Mr. Saeed Ahmed began his professional career with the Tarbela Joint Venture (TJV) and Khazana Sugar Mill (Sarhad Development Authority) Peshawar. He joined PAEC in 1976 and served at the Directorate of Industrial Liaison (DIL) as Senior Engineer and Head of the Mechanical Department. He played a key role in promoting indigenous manufacturing to support PAEC projects.

In 1983, he was appointed as Head of the Mechanical Department for the KCP-2 project under the supervision of Engr. Bashir-ud-Din Mahmood. He was later appointed as Project In-Charge in 1992. After the successful operation of the reactor in 1996, he served in senior leadership roles, including Director General, KCNC Kundian, and General Manager SES. Mr. Saeed Ahmed retired from services in 2006.

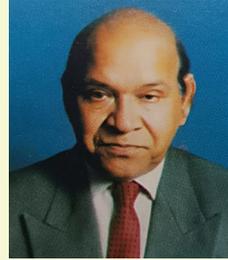
In recognition of his meritorious services, the President of Pakistan awarded him the Pride of Performance in 2000 and the Sitara-e-Imtiaz in 2010. Even after retirement, he continued to serve as Advisor to the Member (Power) for six years.

Mr. Saeed Ahmed passed away on December 10, 2025. May Allah Almighty grant him eternal peace.

(Mr. Fawad, Son)

(Mr. Anwaar Sh.)

### Dr. M. Jamil Qureshi



Dr. Muhammad Jamil Qureshi was born in August 1943 at Karnal, India. Following the partition in 1947, his family migrated to Pakistan and settled in Mianwali. He received his early education at Government High School, Mianwali, and later completed his F.Sc. from Islamia College, Lahore. He earned his B.Sc. (Hons.) in 1964 and M.Sc. in 1965 from University of the Punjab. Dr. Qureshi began his professional career in 1966

with an appointment at Forman Christian College, Lahore, and subsequently joined the Atomic Energy Centre, Lahore, the same year. Pursuing advanced studies, he completed his Ph.D. in 1970 from the University of Strathclyde, Glasgow, UK.

In 1970, Dr. Qureshi joined the Nuclear Institute of Agriculture and Biology (NIAB) Faisalabad, as a Senior Scientific officer. He was promoted to Principal Scientific officer and Chief Scientific officer, and was Head Biological Chemistry Division where he led several research projects, demonstrated excellence in scientific inquiry, and played a pivotal role in mentoring junior scientists. After many years of dedicated service, he rose to the position of Director, NIAB in 2000. He was later appointed Director of the Nuclear Institute of Food and Agriculture (NIFA), Peshawar where he served from 2001 till 2003. In this role, he made remarkable administrative and institutional contributions, including the upgradation of research and development facilities, establishment of modern laboratories, procurement of essential state-of-the-art equipment, renovation of infrastructure, and the development of an experimental research farm.

He was awarded merit certificates by PAEC in 1976, 1989, 1992 and 1996. In recognition of his exemplary services, he was awarded a Gold Medal in 1999. He had an extensive record of scientific publications in reputable national and international journals. He supervised more than a hundred and fifty M. Sc., M.Phil. and Ph.D. thesis of students at National Universities and acted as external examiner of Post-graduate students.

Dr. M. Jamil Qureshi passed away on 20th December 2025.

May Allah Almighty grant him eternal peace.

(Mr. Ameer, Son)

## WiN Activities

### Oath-Taking Ceremony



The elections for the Council of Women in Nuclear–Pakistan Chapter (WiN-Pak) were held in April 2025. However, due to unavoidable circumstances—primarily the non-availability of some Council Members—the oath-taking ceremony was delayed. The ceremony was eventually held on December 26, 2025, immediately prior to the Annual General Meeting at Margalla Forms (NCA Club), Islamabad.

Dr. Anila Usman, Rector, PIEAS, administered the oath to the newly elected Council Members: Dr. Shazia Fatima (President), Dr. Samreen Shahzadi (Secretary), Ms. Benazir Zainab (Treasurer), Dr. Iqra Jawad (Council Member), and Ms. Sidra Hafeez (Council Member).



Following the oath-taking, Dr. Samreen Shahzadi presented an overview of WiN-Pak activities conducted during the period 2023–2025. Dr. Shazia Fatima highlighted WiN-Pak’s collaboration with WiN Global and the International Atomic Energy Agency (IAEA). She also outlined future plans, including the proposed organization of a WiN Global Conference in Islamabad.



In her concluding remarks, the Guest of Honor, Dr. Anila Usman, congratulated the newly elected Council and appreciated the active role of WiN-Pak in national and international events. She assured her continued support for the Council in achieving its objectives.

In recognition of her outstanding achievement of being ranked among Asia’s top 100 researchers/technologists, PNS awarded a Shield of Congratulations to Dr. Sarah Qureshi. The shield was presented by Dr. N. M. Butt. The session was conducted efficiently by Ms. Ayesha Aziz, Secretary, Youth-in-Nuclear.

### WiN-Pak Member honored

Ms. Safoora Rana, a Nuclear Engineering student at the Pakistan Institute of Engineering and Applied Sciences (PIEAS), presented her Master’s research titled “Evaluation of Reflector Drums as an Alternative Control Mechanism in PWR-type SMRs” at the 2nd Saudi International Conference on Nuclear Power Engineering (SCOPE-2), hosted by King Fahd University of Petroleum & Minerals (KFUPM) in Saudi Arabia. The conference brought together more than 70 highly accomplished participants from top-ranked universities. She earned 5th position, standing alongside PhD scholars from leading institutions worldwide, and was also awarded a travel grant to attend the event.



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### Meeting with IAEA Expert

Ms. Katya Slavcheva, Technical Lead for Water Reactor Technology Development at the IAEA met with WiN-Pakistan delegation, during her visit to PIEAS. Dr. Samreen briefed about the activities of WiN-Pak with the cooperation of PNS. She mentioned the successful holding of the international conference at PNRA, Islamabad in which DG IAEA also participated. Ms. Slavcheva commended the activities of WiN-Pakistan and expressed her interest in future collaboration.



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### YiN Activities

#### Oath-Taking Ceremony: A step towards empowering future leaders



The oath-taking ceremony of the Youth-in-Nuclear (YiN) chapter formed under the umbrella of PNS was an inspiring and momentous occasion that marked the beginning of a new chapter in the journey of youth empowerment within the nuclear sector. The ceremony, held with great enthusiasm and anticipation, commenced with the recitation of the Holy Quran, setting a reflective and solemn tone for the proceedings.

The Chief Guest of the event, Mr. Faizan Mansoor, Chairman PNRA, graced the occasion with his presence, along with Dr. M. Tahir Khaleeq, President of PNS. Their presence underscored the importance of the event and their strong support for the newly formed chapter.

The ceremony was eloquently moderated by Ms. Zahra Khanum, whose engaging presence helped the event seamlessly. With great dignity, Mr. Faizan Mansoor, led the official oath-taking ceremony, where the newly elected members of YiN pledged their

commitment to the cause.

Ms. Attia Rehman took the oath as the President of YiN, followed by Ms. Ayesha Aziz, who was sworn in as the Secretary, and Mr. Hamza Shahid as Treasurer. Additionally, Dr. Jawaria and Dr. Fakhar-e-Alam were officially inducted as Council Members. The ceremony was a momentous occasion, symbolizing the beginning of their collective mission to inspire and engage the youth in the field of nuclear science and technology.

After the oath-taking, Ms Attia expressed her vision on future programmes and activities of YiN. Then Dr. Jawaria gave a presentation on “Empowering Women” and also shared her experience related to her participation in the prestigious meeting on the interaction of young scholars with Nobel Laureates in Lindau, Germany.



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#### Building Nuclear Future: Youth Awareness Program Held at Pak-Austria Fachhochschule

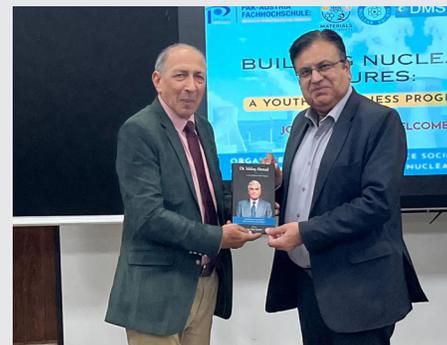
Youth-in-Nuclear (YiN) Pakistan Chapter on PNS in collaboration with Pak-Austria Fachhochschule Institute of Applied Sciences and Technology (PAF-IAST) hosted a youth awareness program titled “Building Nuclear Future” on December 09, 2025. The event aimed to introduce students to the fundamentals of nuclear science, radiation basics, everyday applications, and essential nuclear safety practices, while encouraging meaningful youth engagement in nuclear-related fields. The event was coordinated by Dr. Ghufran ur Rehman, Assistant Professor at PAF-IAST; Miss Attia Rehman, President YiN; and Dr. Syed Fakhar Alam, Council Member YiN/Assistant Professor at PAF-IAST.



Prior to the event, a meeting was held with Prof. Arshad Hussain, Director Establishment PAF-IAST, to explore potential joint ventures and future collaboration opportunities between academia and nuclear professionals.

The program featured a series of informative talks by learned speakers. Dr. M. Tahir Khaleeq introduced PNS and highlighted its role in promoting nuclear science and public awareness. Miss Attia Rehman presented an overview of YiN, emphasizing opportunities for student involvement and professional growth. Ms. Zahra Khanum, Executive Member PNS delivered an insightful talk on radiation fundamentals and their practical applications, while Ms. Amna Amjad conducted an engaging talk on communication skills, focusing on personal and professional development.

The event concluded with remarks by Prof. Arshad Hussain, who appreciated the initiative and encouraged industry professionals to



contribute their expertise to the university as Professors of Practice, further strengthening academia–industry linkages. The program was well received by students and successfully achieved its objective of raising awareness about nuclear technologies, inspiring youth to contribute toward a safer, innovative, and sustainable future.

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It was followed by a detailed visit to various labs in the Department of Material Science & Engineering and finally a delicious lunch was hosted for the guests from Islamabad.



## Students' Corner

### A session on Peaceful Uses of Nuclear Technology at Karachi University

An awareness session titled “Peaceful Uses of Nuclear Technology” was jointly organized by the Department of Physics, University of Karachi, and the Pakistan Nuclear Society (PNS) on November 10, 2025. The programme was coordinated by Dr. Intikhab Ulfat, Chairman, Department of Physics, and was attended by over 100 students and faculty members of the University.

Renowned anchorperson of Such TV and former Federal Minister, Mr. Nusrat Mirza, graced the occasion as the Chief Guest. The

The programme commenced with the recitation of the Holy Quran followed by Naat Sharif, after which Dr. Intikhab delivered the welcome address, emphasizing the significance of science and technology in national development. An introduction to the Pakistan Nuclear Society was presented by Dr. Muhammad Tahir Khaleeq, who outlined the Society’s nationwide activities with a special focus on initiatives aimed at benefiting students.

A technical lecture on “Status of Nuclear Physics in Pakistan” was



primary objective of the session was to highlight the importance and applications of nuclear science and technology for peaceful purposes in various fields of life.

delivered by Mr. Waqar Ahmed Butt, highlighting progress and future prospects in the field. This was followed by a presentation from Mr. Muhammad Abbas Qamar on “Introduction to

Nuclear Radiation and Basics of Radiation Protection”, addressing fundamental concepts and safety measures.

In his keynote address, Mr. Nusrat Mirza provided a comprehensive overview of Pakistan’s nuclear programme and its peaceful applications, reiterating his continued support for promoting awareness in this domain. He also mentioned his book, which documents Pakistan’s civil nuclear endeavors in detail.

Towards the conclusion of the event, the latest book published by PNS on the life of Dr. Ishfaq Ahmad was presented to Dr. Intikhab Ulfat. The session concluded with a vote of thanks by Dr. Shabana Rizvi, a faculty member of the Department of Physics.



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### Seminar on Benefits of Nuclear Science and Technology in Medical Sciences and Human Life at the University of Lahore, Sargodha Campus



A seminar on “Benefits of Nuclear Science and Technology in Medical Sciences and Human Life” was held at the University of Lahore, Sargodha Campus on October 8, 2025. This seminar was jointly organized by PNS and University of Lahore. Dr. Ahmad Hussain, Head, Department of Physics coordinated the session. Before inauguration of Seminar, a meeting of PNS team was held with Dr. Mian Ghulam Yasin, Pro-Rector of University. The seminar was attended by more than 100 students and faculty members of the University. The main purpose of the seminar was to create awareness about the peaceful use of nuclear energy and its applications in various fields.

The seminar commenced with the recitation from the Holy Quran and a Naat after which the welcome address was delivered by Dr.



Ahmad Hussain. Dr. M. Tahir Khaleeq, President PNS briefly presented the introduction of the Society and activities it is performing all around the country emphasizing upon the peaceful uses of nuclear technology. A lecture was delivered by Mr. Waqar A. Butt, Vice President PNS on “Applications of Nuclear Technologies in Pakistan”. Mr. Muhammad Abbas Qamar, Finance Secretary, PNS presented the “Introduction of Nuclear Radiation and basics of Radiation Protection”. Mr. Tasawwar Abbas, Lecturer and Media Head at University took up the responsibility as Stage Secretary and coordinated the session in a very efficient manner. The seminar concluded with the vote of thanks by Dr. Mian Ghulam Yasin, Pro-Rector of University. Furthermore, MoU was signed between PNS and UoL-Sargodha Campus for mutual cooperation.



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## Social Events

### Prize Ceremony of Oyster School



The High Achievers and Investiture Ceremony of the Oyster School System was held at Liansa Marquee, Naval Anchorage, Islamabad, on November 13, 2025. The colorful event was attended by a large number of students along with their parents. Mr. Waqar A. Butt, Vice President of PNS, was invited as the Chief Guest and administered the oaths to students selected for various leadership positions. Awards were presented to outstanding performers. It was a remarkable event that celebrated students' achievements and brought great joy to their parents.

### Annual Dinner and Entertainment

Following the Annual General Meeting (AGM) of PNS held on December 26, 2025, an entertainment session was organized in which members and their children actively participated. The session began with a briefing by Mr. Syed Zahid Hussain on the social programs conducted by PNS during 2025. He particularly highlighted that PNS had been registered as a Scouting Unit with the Islamabad Boys Scouts Association and encouraged members to motivate their children to participate in such healthy and constructive activities.

This was followed by a musical performance by Engr. Qazi Raheel Akhtar, Principal Engineer at ICCC, who played a couple of songs on the guitar. The entertainment continued with self-composed poetry presented by Dr. Khalid Jamil, Dr. Sarwar Alam, and Mr. Atif Saeed.

In between the performances, young children engaged the audience with an interesting quiz and distributed candies to those who gave correct answers. Due to time constraints, some planned

activities, including humorous skits and jokes, could not be presented. The evening concluded with a delicious dinner, which was thoroughly enjoyed by all participants.



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### Trip to Swat Valley

Alongside its regular hikes on the Margalla Hills, PNS has maintained its tradition of organizing an annual long-distance excursion to scenic regions of Pakistan for its members and their families. Responding to members' interest, a three-day trip to the Swat Valley—often called the Switzerland of Pakistan—was arranged from September 26-28, 2025. With the construction of new motorways, travel times have been greatly reduced. Thanks to this, the group, following the riverside route and stopping for lunch at Fizaghat, reached Kalam the same day. The next morning, passing through lush green Ushu Forest, they went up to the beautiful 'Mahodand Lake', where families enjoyed boating. In the afternoon, they continued to 'Green Top', which offered a breathtaking panoramic view of the entire valley.



### Bonfire with scouts

Taking advantage of the visit by a scouts group from Karachi, 16 children and 22 adults from PNS joined the traditional bonfire at the National Scouts Headquarters in Islamabad. Selected students entertained the audience with humorous poetry and a self-

composed qawali, while teachers also took part in the activities with great enthusiasm. In recognition of the dedicated efforts of the two coordinators, PNS memento Shields of Appreciation were presented to Mr. Tariq Ali Khan and Madam Bushra Ahsan.



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### Hike in Margalla Hills

PNS organized its second short hike for PNS families on November 02, 2025, along Trail-5 in the Margalla Hills. Around 60 participants, including children, walked through the lush green trail to the first spring, located two kilometers from the parking area. Some younger participants continued to the second spring, a further two kilometers ahead. After the hike, everyone gathered on the grassy lawn opposite the CDA Nursery for the usual gup shup. Tea and refreshment boxes were served to all participants.



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