

Obituary



Professor Dr. M. Shamsher Ali (1940–2025)

Professor Dr. M. Shamsher Ali (1940–2025) stands as one of the most towering figures in the scientific and educational backdrop of Bangladesh. Trained as a leading theoretical nuclear physicist, he went beyond the confines of the laboratory to emerge as a visionary academic leader, a pioneer of open education, and an unwavering advocate for the popularization of science. This article explores his early life, his important contributions to nuclear physics, his leadership as the founding Vice-Chancellor of the Bangladesh Open University, and his lifelong mission to harmonize the pursuit of scientific truth with spiritual wisdom.

Introduction

The scientific community of Bangladesh lost one of its brightest personalities with the passing of Professor Dr. M. Shamsher Ali on August 3, 2025. For over six decades, Dr. Ali was synonymous with Physics in Bangladesh. His career was a unique combination of high-level theoretical research and popular science communication. He was not only a rigorous academic who investigated the mysteries of the atomic nucleus but also a charismatic public intellectual who could explain those mysteries to a child. As a founding Vice-Chancellor of two major universities and the President of the Bangladesh Academy of Sciences, he has shaped the nation's educational infrastructure.

Early Life and Academic Brilliance

Professor M. Shamsher Ali was born on November 9, 1940, in Bheramara, Kushtia, located in what was then the Bengal Province of British India. The region of Kushtia was culturally fertile ground. This was the land of Lalon Shah and Rabindranath Tagore, a geography where mysticism and intellect had long connected. Growing up in the twilight of the British Empire, Ali witnessed the shifts of the 1947 partition, which transformed his homeland into East Pakistan. His intellectual promise was evident from his early years. He started his early education with distinction, passing his Matriculation from Jessore Zilla School in 1954 and I. Sc. from Rajshahi Government College in 1956. He then moved to the University of Dhaka, the intellectual hub of the then East Pakistan, where he studied Physics. At that time, the department of physics was still enjoying the long shadow of Satyendra Nath Bose, the theoretical physicist whose collaboration with Einstein had given the world Bose-Einstein statistics. He earned his B.Sc. (Honors) in 1959 and M.Sc. in 1960, with a thesis in nuclear physics. His academic journey continued in the United Kingdom, where he attended the University of Manchester. It was the academic home of Ernest Rutherford, the father of nuclear physics, and was known as a hub for cutting-edge research. Ali arrived in this intense intellectual climate to pursue his doctoral studies. There, he completed a Diploma in Advanced Studies in Science in 1962 and achieved his

Ph.D. in Theoretical Nuclear Physics in 1965. He worked under the supervision of A.R. Bodmer, a distinguished theoretical nuclear physicist. His time in Manchester was the heart of a golden era in nuclear physics research, equipping him with the theoretical tools he would later bring back to his homeland.

Contributions to Theoretical Nuclear Physics

Upon returning to Bangladesh (then East Pakistan), Dr. Ali joined the Atomic Energy Commission (AEC), as a senior scientific officer. In 1970, at the age of 30, he was appointed Director of the Atomic Energy Center, Dhaka (AECD). This period coincided with the most turbulent stage in the nation's history, the 1971 Liberation War. The AECD was a strategic asset, and maintaining its scientific integrity amidst the violence and chaos of the independence struggle was a test of Ali's leadership. Following the independence of Bangladesh, he continued to steer the nation's nuclear research program, serving as Director until 1978 and subsequently as the Chief Scientific Officer of the Bangladesh Atomic Energy Commission (BAEC) from 1975 to 1982. It was during this period that he produced some of his most significant scientific works.

Dr. Ali's research interests were profound and varied. He is best known for his work, 'Ali-Bodmer potential' on the alpha-alpha interaction, a fundamental problem in nuclear physics concerning the forces between alpha particles (helium nuclei). His phenomenological studies in this area provided crucial insights into the structure of light nuclei. Additionally, he made significant developments in the study of hypernuclei - nuclei that contain at least one hyperon (a particle containing a strange quark) in addition to the usual protons and neutrons. His work on lambda-nucleon and lambda-lambda interactions helped expand the understanding of nuclear forces beyond the standard model of nucleonic interactions.

Throughout his career, he has published many research papers in reputed international journals. His work on "Resonating group studies of light nuclei" and "Three-body problems" remains referenced in advanced nuclear physics courses. He was also deeply involved in the International Centre for Theoretical Physics (ICTP) in Trieste, Italy, serving as an Associate and later a Senior Associate, which allowed him to maintain a vibrant connection with the global physics community.

A Visionary Educational Leader

In 1982, Dr. Ali relocated from the Atomic Energy Commission to the University of Dhaka as a Professor of Physics, a role he held until 2006. At the university, he was respected not just for his lectures on Quantum Mechanics and Mathematical Methods, but for his ability to integrate distinct concepts of physics into a unified view.

However, his legacy as an educator extends far beyond the classroom. Dr. Ali was a pioneer in democratizing education in Bangladesh through the Bangladesh Open University (BOU). As the founder Vice-Chancellor of BOU (1992–1996), he commanded the concept of distance learning in a newly independent nation. He understood that traditional brick-and-mortar institutions could not cater to the vast population of Bangladesh. Under his leadership, BOU utilized television, radio, and correspondence to bring education to the doorsteps of the working class, women, and rural populations. Later, he served as the founder Vice-Chancellor of Southeast University (2002–2010), playing a crucial role in the flourishing private university sector, ensuring quality and scientific rigor were maintained in private higher education.

Champion of Popularizing Science

Perhaps Dr. Ali's most beloved role was that of a science communicator. He believed that "science is for everyone," and he spent a lifetime breaking down complex scientific ideas for the public. He delivered over 300 talks on TV and Radio, including appearances on the BBC. His approach was to make science accessible and enjoyable. This philosophy culminated in his book, "Making Math Fun" (2014), which removes the fear

of mathematics from young minds. He also contributed a pivotal chapter titled "Television as a medium of Science Communication" to a Springer publication, highlighting his academic engagement with the very medium he used so effectively.

Whether discussing the Big Bang or the structure of the atom, Dr. Ali had a unique ability to ignite curiosity. He was also deeply interested in the combination of science and religion. Unlike many who view the two as incompatible, Dr. Ali argued for a harmonious coexistence, frequently lecturing on how scientific discovery can be seen as a means of understanding divine creation, a view that resonated deeply in the culturally religious context of Bangladesh.

Awards and Accolades

Dr. Ali's contributions were recognized globally and locally. He was a Fellow of the Bangladesh Academy of Sciences (BAS) since 1978 and served as its President from 2004 to 2012. This role placed him at the apex of the national scientific community. His presidency was marked by an outward-looking strategy. He strengthened Bangladesh's ties with the Inter Academy Partnership (IAP) and the Association of Academies and Societies of Sciences in Asia (AASSA). His international reputation was strengthened by his fellowship at the Third World Academy of Sciences (TWAS) and the Islamic World Academy of Sciences (IAS).

Some of his notable awards include:

- Hari Prasanna Roy Gold Medal (1974): For original contributions to Nuclear Physics.
- Bangladesh Academy of Sciences Gold Medal (1984): In the Physical Sciences (Senior Group).
- Khan Bahadur Ahsanullah Gold Medal (2004).
- Lifetime Achievement Award (2009): By the International Leadership Colloquium in Malaysia for his leadership in higher education.
- TWAS-ROCASEA Award (2013): specifically for his work in the "Public Understanding of Science".
- Executive member for Central and South Asia of the TWAS Council (2019–2022)
- Appointed Professor Emeritus at the Bangladesh Open University (2025)

Conclusion

Professor Dr. M. Shamsher Ali was more than a scientist; he was a national institution. He belonged to a generation of nation-builders who used their intellect to lay the foundations of Bangladesh's scientific and educational infrastructure. From the equations of nuclear interactions to the radio signals of national radio, his voice carried the weight of authority and the warmth of a teacher. As Bangladesh continues to modernize its scientific environment, the blueprint left by Dr. Shamsher Ali of open education and public engagement remains its guiding star. August 3, 2025, marked his departure, but his legacy continues to illuminate the classrooms and laboratories he devoted his life to nurturing.

- A.K. M. Akther Hossain

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