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Editorial

International Year of Quantum Science and Technology 2025



The United Nations recently declared 2025 as the International Year of Quantum Science and Technology (IYQ). 2025 was chosen as the year to recognize 100 years since the initial development of quantum mechanics. German Physicist Werner Heisenberg published a famous paper that led to the discovery of phenomena known as Quantum Mechanics. It is a global initiative aimed at strengthening national capacities in basic sciences and science education. Furthermore, it highlights the contribution of quantum science to our increased knowledge and understanding of the physical universe, and the important role of quantum science and technology in creating sustainable solutions. Quantum discoveries have implications for the fundamental understanding of chemistry, biology, astronomy etc.. These discoveries are a valuable resource for innovation, and have led to advances in devices such as lasers and transistors, as well as enabling real advances in technologies once considered purely speculative, such as quantum computers. Quantum Computing, combined with artificial intelligence (AI), can process large amounts of data and perform complex calculations quickly. Quantum Science may reveal how everything in the universe, beyond the reach of our senses, is connected to others through diverse dimensions. They are exploring the potential of quantum science to change gravity, its relationship to space and time.

The Union Cabinet of the Government of India approved the National Quantum Mission (NQM) on April 19, 2023 and allocated Rs. 6003.65 Crore. This mission will focus on developing highly sensitive magnetometers in nuclear systems and atomic clocks for precise timing, communication and navigation. Technologies that rely on quantum phenomena are all around us. The first wave of quantum technologies gave us the transistor. These devices formed the foundation of modern computers and digital communications. Quantum Mechanics has enabled MRI scanners for medical imaging, lasers, solar cells, electron microscopes, atomic clocks used for GPS and more!

Quantum Mechanics and Quantum Physics are used to solve challenges in future scientific discoveries. The role of quantum science is becoming essential in medicine, industry, agriculture, transportation artificial intelligence, space exploration etc. The highlight of this year is that students and researchers ought to contribute by linking their studies with quantum science. Apart from that, it is necessary to widely spread information about the importance of quantum science and its applications to the public. Awareness about quantum science can be raised among the general public by conducting various public awareness training seminars, workshops, quiz competitions etc. on quantum science in schools, colleges, universities and research centers. Furthermore, research institutions be supposed to conduct research related to quantum science. Our Indian Journal of Natural Sciences is proud to join you in the International Year of Quantum Science and Technology events and raise awareness among the public.

Editor in Chief

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