## 27th Monthly Colloquium- Abstract

Prof. Dr. Fahan Saif Quaid-i-University, Islamabad, Pakizatan.

## De Broglie's Legacy: Shaping the Future of Quantum Technology

At ultra-low temperatures, atoms exhibit wave-like behavior described by their de Broglie wavelengths. The ability to control coherence and explore wave-particle duality makes de Broglie matter waves central to emerging quantum technologies. In this seminar, I will present a toolbox for controlling and manipulating the dynamics of ultracold atoms. Furthermore, I will discuss the use of ultracold atoms in a range of cutting-edge applications, including quantum computers, quantum microscopy, atomic gravimetry, atomtronics, quantum metrology, and quantum simulation.



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16:00 IRST (Iran Standard Time)



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