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 **Date & Time:**
30th July, 2025 @ 12:00 PM IST

 **Venue:**
Classroom-4, TCG CREST

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Title – Dream or Reality? Quantum Network: the Past, Present and Beyond

Abstract

Quantum entanglement reflects the essential differences between classical and quantum physics. The nonlocality and intrinsic randomness of quantum entanglement not only deepen our understanding of the laws of quantum world, but also give rise to emerging quantum information technologies, including quantum communication and quantum computation, which can ensure secure information exchange and greatly enhance the computing power, respectively. I will introduce how to experimentally test quantum entanglement and how to turn quantum information technology and quantum network from purely theoretical concepts into reality. Specifically, how to overcome the security loopholes caused by imperfection of realistic devices, how to extend the distance of quantum communication, and how to use the coherent manipulation of multiple qubits to achieve a quantum computer that can surpass classical supercomputers. I will also introduce the future prospects of the global quantum communication network and its new applications in the field of quantum metrology, as well as the development roadmap of quantum computing.

Organized by:

CQuERE (Centre for Quantum Engineering, Research and Education), TCG CREST, Kolkata, INDIA

For more details, please visit the website: <http://www.tcgcrest.org/iyq2025>

For any queries, feel free to contact us through the email: iyq.2025@tcgcrest.org