

CQ_uERE, TCG CREST
Celebrating

“World Quantum Day”

(April 14, 2025)

Speaker:

Prof. Bimalendu Deb

Indian Association for the Cultivation of
Science, Kolkata, India



**Title: Quantum Computing in an Ion-Atom
Hybrid Platform**

Abstract:

We propose an ion-atom hybrid system for quantum computing. We demonstrate a two-qubit control phase-gate operation with 97% fidelity between two distant (more than 20-micron separation) neutral atom qubits by leveraging the ion-mediated interaction between the qubits. We discuss possible routes to scaling up the system and the possibility of multi-qubit gate operations.

 **Date & Time**

14th April 2025 @ 3:30 PM IST

 **Venue**

Classroom-4, TCG CREST

Join Zoom Meeting

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Organized by:

CQ_uERE (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