



# Workshop on Quantum Communication and Information Security

Jointly organized by

NSC Lab (IIIT Allahabad), Cyber MANTHAN Center (IIIT Hyderabad), CDAC Bangalore, SETS Chennai

with the support of

Samgnya Technologies Foundation

(30<sup>th</sup> & 31<sup>st</sup> May 2026) URL: <https://security.iiita.ac.in/quantum/>

Venue: Indian Institute of Information Technology, Allahabad (IIITA), Prayagraj, UP-211015

## About the workshop

Quantum computing research is at high pace across the globe since it can solve many problems efficiently when compared with the classical computing. The quantum features such as superposition, entanglement and interference are danger for classical cryptography algorithms (public key cryptosystem) that are used in real life secure communication. Even though, technologist knows about this danger, still the quantum insecure algorithms are used in majority of the communication. There is a need to bring awareness to implement the quantum safe algorithms for the secure communication regardless of the complexity, cost and other factors. Also, there is a need for the development of quantum secure techniques to overcome the quantum attacks that can arise in the future. Hence, it is required for the researchers, industry practitioners and academicians to know about the need and present research and development in the Quantum communication and information security.

## Objectives of the workshop

- Train the manpower on quantum communication and information security for teaching, research and development.
- Invite researchers and academicians to discuss the current state of quantum communication security research and future directions.
- Provide opportunity to showcase the early stage work of participants through the poster presentation. This

motivates other participants to carry out research in quantum communication and information security.

## Topics to be Covered

- **Quantum Basics:** Qubit States, Superposition, Entanglement, Parallelization, Gates, No-Cloning Theorem, Error Correction, Grover's Algorithm, Shor's Algorithm.
- **Quantum Safe Cryptography for Classical Communication:** Post-Quantum Cryptography (Lattice based PQC), PQC with TLS, PQC with DNSSec.
- **Quantum Communication Security:** Quantum Key Distribution, Man-in-the-Middle Attack.
- **Quantum Malware:** Classical CPU based noise addition in the phase, amplitude, channel, etc.

## Call for Posters

Workshop invites posters in the following topics:

- Quantum Security
- Post-Quantum Cryptography
- Quantum Key Distribution

Best posters will get the certificate and may be given prize money. All poster titles will be displayed in the workshop website.

## Speakers

Experts from IIIT Hyderabad, IIIT Allahabad, IIITDM Jabalpur, SETS Chennai and CDAC Bangalore.

## Registration Process

Interested can register on or before 25<sup>th</sup> May 2026 at <https://security.iiita.ac.in/quantum/registration.php>.

## Registration fee

- Student Participants - ₹490 (with GST)
- Faculty participants - ₹980 (with GST)
- Industry participants - ₹1416 (with GST)

Note: Registration fees include registration kit, lunch and snacks during session.

## Funding Agency

Samgnya Technologies Foundation.

## Correspondence

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