

The University of Queensland and IIT Delhi Research Academy

UQ-IITD KNOWLEDGE NEXUS SEMINAR SERIES

Prof Bhaskar Kanseri

Experimental Quantum Interferometry and Polarization(EQUIP) Lab
Physics Dept, IIT Delhi



Securing Communication in the Quantum World

ABSTRACT

The session will explore:

Establishing secure communication in the quantum world is quite a demanding and challenging task. Quantum key distribution (QKD) is a method of securing communication using quantum means, which has become a new generation security solution and does not rely on the computational assumptions of problems presumed to be difficult. This talk will highlight some implementations of fiber and free-space-based QKD made by our group at IIT Delhi on a lab scale and in the real field environment. The need for multi-node quantum networks for realizing a quantum internet would also be discussed.

ABOUT THE SPEAKER

Dr. Bhaskar Kanseri serves as the IHFC Chair Professor at the Department of Physics and joint faculty at the Optics and Photonics Center (OPC), IIT Delhi. Before joining IIT Delhi, he was a postdoctoral fellow at the Institut d'Optique, France, and the Max Planck Institute, Germany. He earned his PhD from the University of Delhi and National Physical Laboratory, New Delhi. Prof. Kanseri has over 80 peer-reviewed publications and around 150 conference presentations. He received IIT Delhi's Teaching Excellence Award and Veena Arora Early Career Research Award in 2022, and was selected as a member of NASI and INSA Associate Fellow in 2023. Some of his notable contributions in fiber based secure quantum communication are the "first Indian intercity quantum secure communication for 100km" in 2022 and the "trusted node free quantum secure communication for 380km" achieved in 2023. More recently, their team has demonstrated free-space quantum communication for more than 11km distance. Currently Dr. Kanseri is pioneering entanglement-based quantum network activities at IIT Delhi under National Quantum Mission of India.



16 September, 2025 (Tuesday)
IST 11:00 a.m. - 12:00 p.m.
AEST 3:30 p.m. - 4:30 p.m.



Will be served

Note: Session will be recorded for documentation purposes

The University of Queensland and IIT Delhi Research Academy
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Theme: Quantum Technologies

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Quantum Computing | Quantum Communication & Cryptography |
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Send your nomination by **14 September** (PhD topic
and short abstract) to pica@admin.iitd.ac.in



Presentation Rules

- Maximum 3 minutes; exceeding time leads to disqualification.
- Spoken word only (no poems, raps, or songs).
- Presentation begins with first movement or speech.
- One static PowerPoint slide allowed (no transitions/animations).
- No additional media (sound, video) or props permitted.
- Adjudicating panel's decision is final.

Seminar and 3MT Schedule:

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LHC 212, 1st Floor,
Lecture Hall Complex, IIT Delhi

