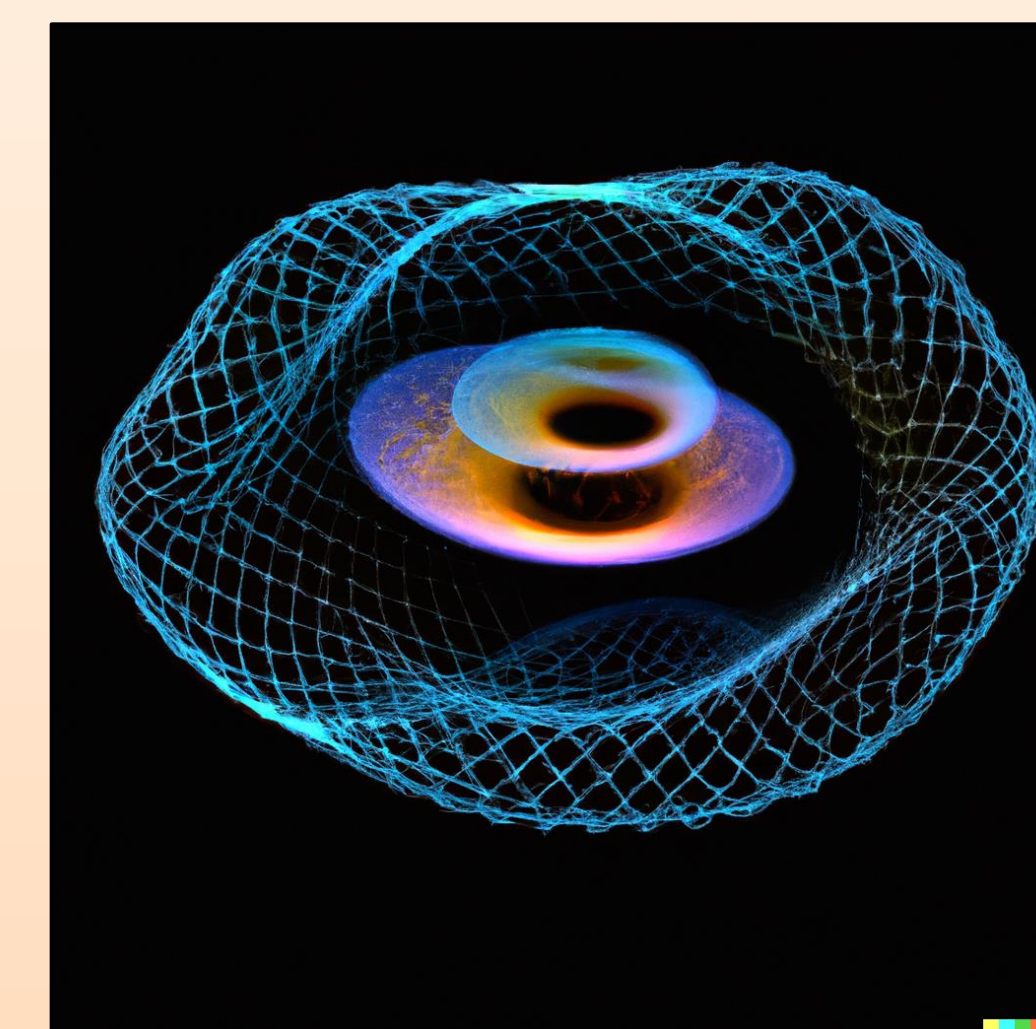
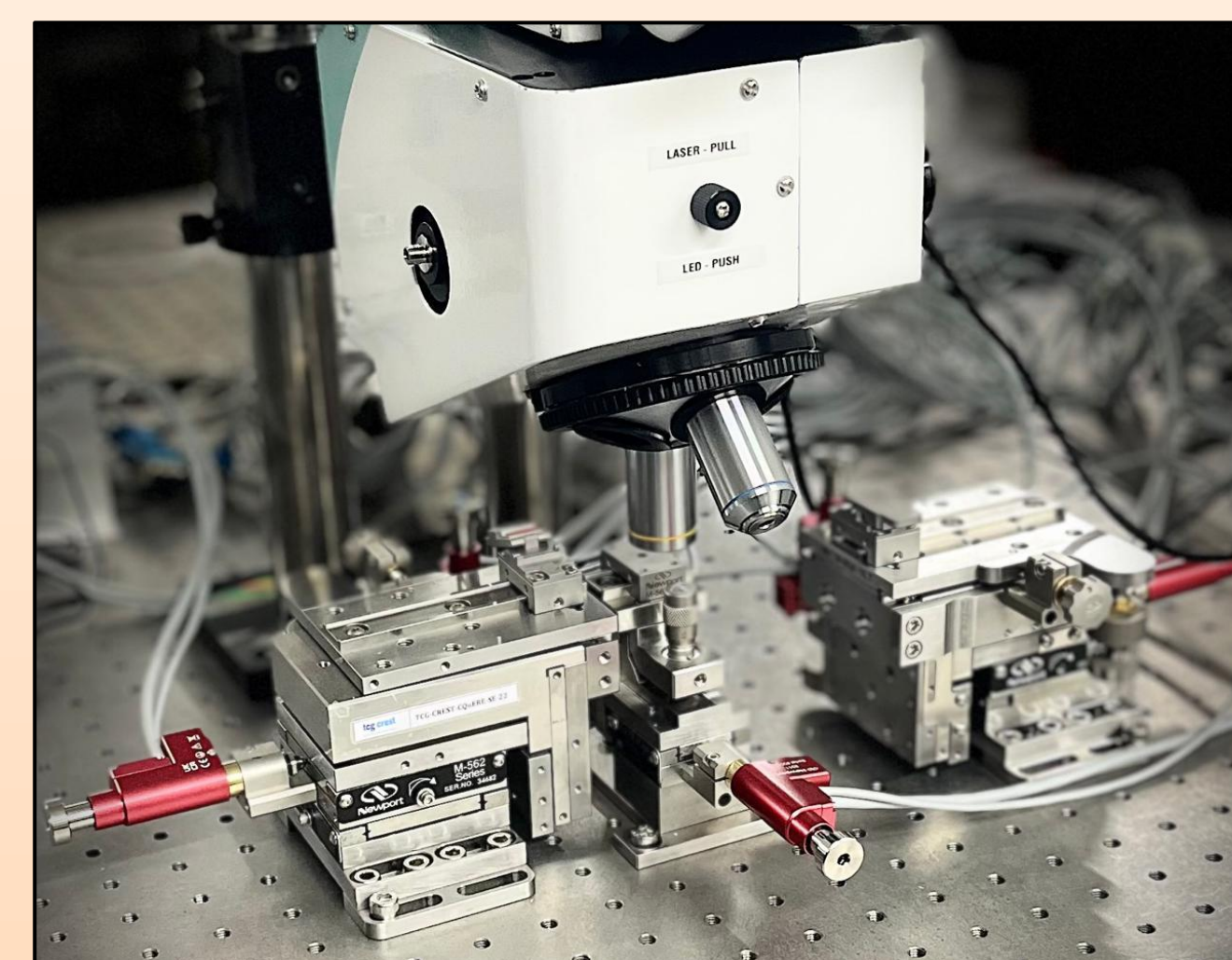
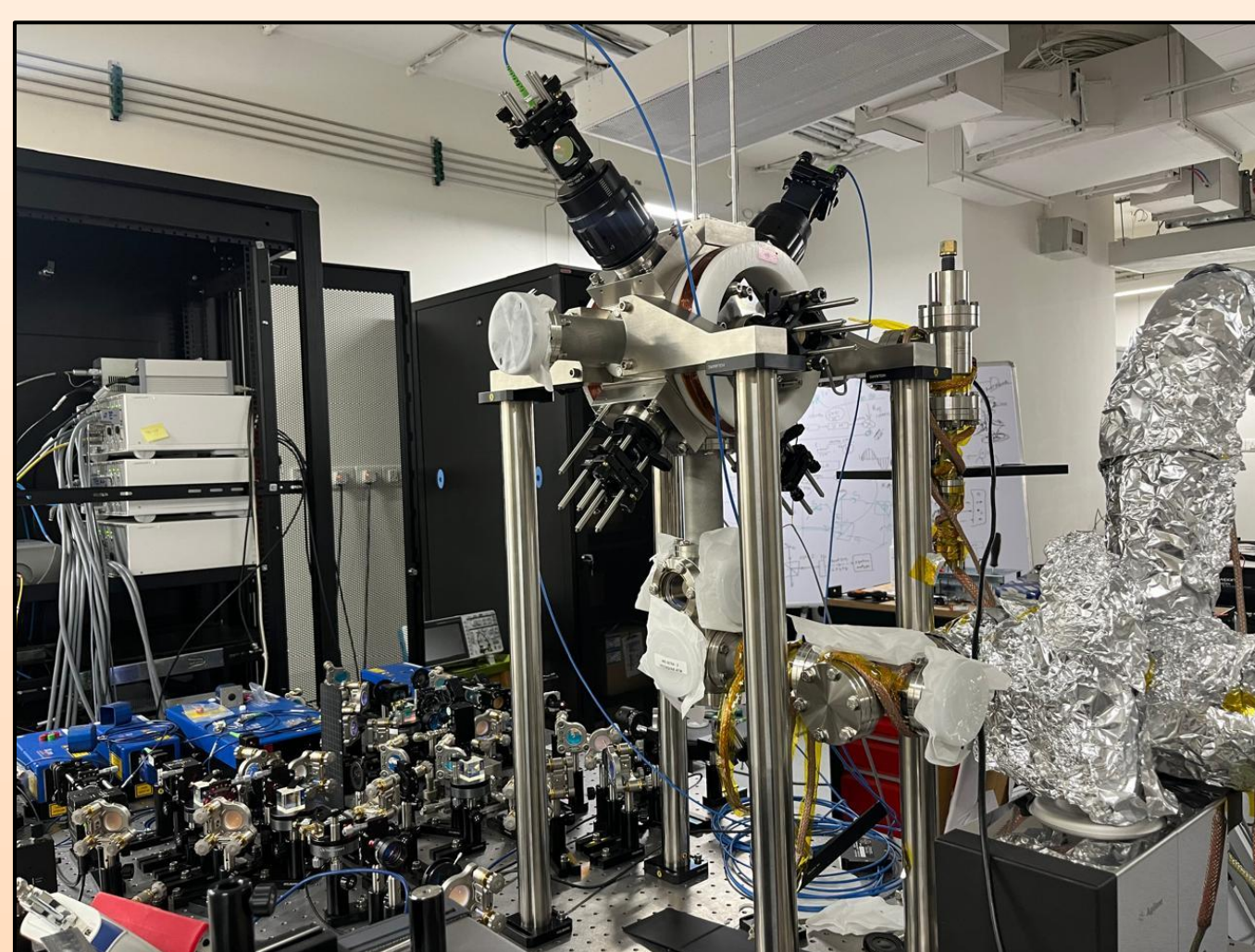
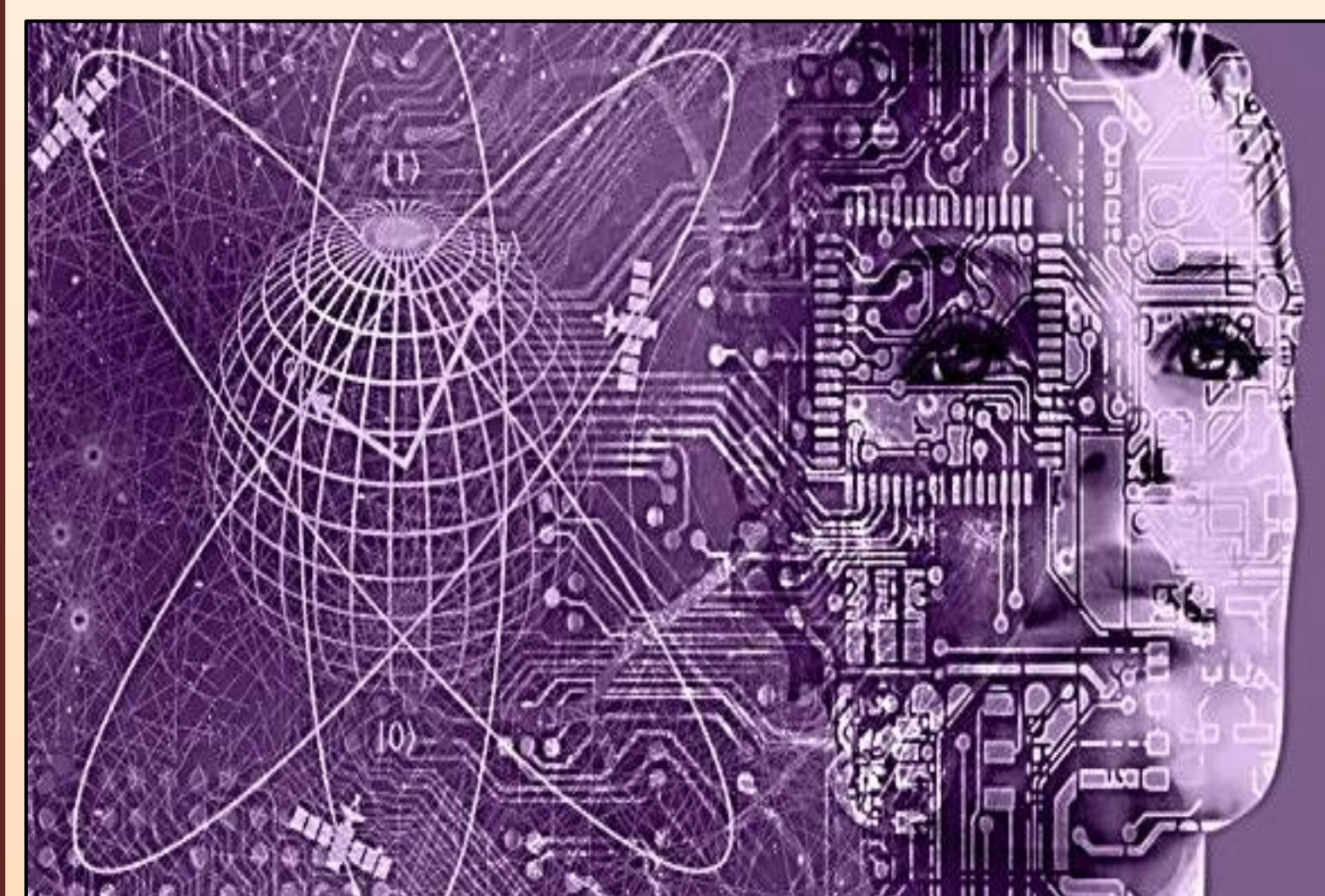


The year-long program comprises of three mini conferences and a major conference in addition to two expert talks every month. The inaugural expert speaker will be [Prof. David Wineland](#) (Physics Nobel Laureate) on January 20, 2025.



## THEME I : QUANTUM INFORMATION AND COMMUNICATION

Dates : March 31 – April 02, 2025

### TOPICS:

- Fundamentals of quantum information
- Quantum entanglement
- Quantum cryptography
- Quantum networks and communication
- Quantum channels
- Quantum key distributions

## THEME II : QUANTUM SENSING AND METROLOGY

Dates : June 11–13, 2025

### TOPICS:

- Novel phenomena for quantum sensing
- Sensors and devices for quantum metrology
- Atom-based quantum-enhanced sensors; cold atom interferometers, atomic clocks, atomic magnetometers, rydberg sensors
- Light-based sensors; quantum-enhanced imaging systems, quantum lidar, quantum radar
- Superconducting sensors
- Solid state quantum sensors; NV centers in diamond, quantum dots
- Quantum sensor-based microscopies and spectroscopies

## THEME III : QUANTUM COMPUTING AND ALGORITHMS

Dates : September 01–03, 2025

### TOPICS:

- Fundamentals of quantum computation
- Quantum computing hardware
- Quantum error correction and fault tolerant era algorithms
- Dynamics of many body quantum systems
- Fundamentals of quantum algorithms
- Variational quantum eigensolver (VQE) algorithms
- Hybrid quantum algorithm

## INTERNATIONAL CONFERENCE ON QUANTUM INFORMATION SCIENCE AND TECHNOLOGY (ICQIST– 2025)

Dates : December 08–11, 2025

### TOPIC CATEGORIES:

- Foundations of quantum science
- Quantum computing and simulations
- Quantum algorithms
- Quantum communications
- Quantum information theory
- Quantum sensing and metrology
- Quantum control and quantum engineering
- Quantum machine learning

### STEERING COMMITTEE:

- |                      |                     |
|----------------------|---------------------|
| ▪ Aditi Sen De       | ▪ Kae Nemoto*       |
| ▪ Nicolas Gisin      | ▪ Kenji Ohmori      |
| ▪ Hartmut Haefner    | ▪ Ujjwal Sen        |
| ▪ Guru Prasad Kar    | ▪ Urbasi Sinha      |
| ▪ Archan S Majumdar  | ▪ Vlatko Vedral     |
| ▪ Yasunobu Nakamura* | ▪ Harald Weinfurter |

\*: To be confirmed

### CONVENORS:

- Prof. Arun Kumar Pati
- Prof. Pankaj Agrawal

### LOCAL ORGANIZING COMMITTEE:

- |                          |                      |
|--------------------------|----------------------|
| ▪ Dr. Aishik Acharya     | ▪ Abhishek Bharadwaj |
| ▪ Dr. Shibdas Roy        | ▪ Midhun Murali      |
| ▪ Dr. Tanmoy Basu        | ▪ Akankshya Dash     |
| ▪ Dr. Snehal Mandal      | ▪ Suprava Sahoo      |
| ▪ Dr. Anju               | ▪ Ayan Kumar Ghosh   |
| ▪ Sudhindu Bikash Mandal |                      |

### 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>

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