

ABOUT THE INSTITUTE:

Indian Institute of Information Technology Ranchi is an Institute of National Importance by an act of parliament with the Hon'ble President as a visitor of the Institute. IIIT Ranchi is funded by the Ministry of Education (MoE), Government of India, and HTE & SD, Government of Jharkhand along with the industry partners Central Coalfield Limited (CCL), Tata Consultancy Services (TCS) and Tata Technologies. IIIT Ranchi is part of the Government of India's initiative to set up new Indian Institutes of Information Technology (IIITs) on a Public Private Partnership Model. The major objective was to set up a model of education, which can produce best-in-class human resources in IT and harnessing the multidimensional facets of information technology in various domains. IIIT Ranchi is offering two Under undergraduate programs, B.Tech (Honours) Computer Science and Engineering and B. Tech (Honours) Electronics and Communications Engineering, M.Tech, and Ph.D. programs. IIIT Ranchi is committed to academic excellence and good governance. Presently, the areas of expertise of the departments are broadly in Microwaves & Antenna, Optical Communication and Photonics, Communication Engineering, Digital Signal and Image Processing, VLSI, Software Engineering, Data Science, Bio- informatics, IoT, Machine Learning, and Artificial Intelligence. For more information, please visit <https://iiitranchi.ac.in/>.

WHO CAN ATTEND

The workshop is open to all faculty members, Ph.D. scholars, PG Scholars of the central/State institutes/private academic institutions/colleges/universities, and central laboratories who are interested in Quantum Computing.

OUR SPEAKERS:

Internationally acclaimed faculty members from premier institutions like IITs, NITs, IIITs, CSIR labs, Central Universities, and abroad.

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Chairman, BoG-IIIT, Ranchi Jharkhand

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ORGANIZING COMMITTEE

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National Workshop
on

Quantum Computing and Information Technology (QCIT 2023)

--Under National Quantum Mission (NQM) --

6th – 7th October 2023

(Friday – Saturday)

(Hybrid Mode)



ORGANIZED BY

**Indian Institute of Information
Technology Ranchi**

Ranchi-834010, Jharkhand

INDIA

www.iiitranchi.ac.in

*"Future of Quantum Computation and Demystifying
the Nature of Consciousness"*

REGISTRATION DETAILS

- A **certificate** shall be issued to the participants on successful completion of the workshop,
- **Interested candidates** should fill out the **google form** at the earliest

Registration Fees

Category	Offline-mode	Online-mode
Student	INR 3000/-	INR 500/-
Faculty/ Industry	INR 5000/-	INR 2000/-

NOTE: Lodging (Limited to 25 students participants only) and food (for all participants) are included in the registration fee.

Scan for Registration



https://docs.google.com/forms/d/e/1FAIpQLSfarOw7bKa1OGRmx44LTa1SabXMPiCoHygot6pMOna76Q7CWQ/viewform?usp=sf_link

IMPORTANT DATES

Last date for Registration
(for offline mode) : 30 Sept. 2023
Email to selected participants : 01 Oct. 2023
Workshop Dates : 06-07 Oct. 2023

Bank Details for Registration Fee Payment

Bank Name: SBI Namkum

Name: Indian Institute of Information Technology Ranchi

Account Number : 39114253842

IFSC Code : SBIN0009011

CIF NO : 90500315570

MICR CODE : 834002017

OBJECTIVES OF THE COURSE:

- To understand the basics of Quantum Computing and Information.
- To explore new algorithms for quantum computers and new quantum communication.
- To harness the laws of quantum mechanics to solve problems too complex for classical computers.
- To develop efficient quantum algorithms for several basic problems.
- To understand the basics of quantum sensing and metrology.
- Hands-on-tutorial on programming software.
- To provide a platform for researchers and students to network and exchange ideas with peers and experts.
- To promote collaboration and partnerships among academia, industry, and government in the field of quantum computing.
- To inspire and motivate the next generation of quantum computing researchers and professionals.

COURSE TOPICS:

- **Quantum Computing Basics** - Concepts, Circuits and algorithms
- **Quantum Machine Learning and AI**
- **Quantum Computing and Optimization** - This vertical will cover computation and optimization-based applications of Quantum Computing.
- **Quantum Computing implementation using QISKIT**
- **Quantum Sensing** - This vertical will present works that utilize quantum phenomena for precise measurements.
- **Quantum NLP**
- **Quantum Accelerator and HPC-QC integration** - This vertical will cover accelerating quantum simulations using High-performance computing and other methods and hybrid High-Performance Computing and Quantum Computation.
- **Quantum Technology for Strategic Sector** - This vertical will discuss applications of Quantum Technologies that can potentially address the needs of the strategic sector.

**We hope that QCIT 2023 will scientifically
stimulate all participants**

DISCOVER RANCHI:



Tagore Hill

It is located in Morabadi, 3 kms away from central Ranchi, Tagore Hill is a favorite picnic spot for locals and tourists alike.

Jonha Water Falls

Also known as the 'Gautamdihara', Jonha Falls is approximately 40km from Ranchi. Here, nature seems to have carved a flight of stairs out of stone for the water to walk down.



Hundru Water Falls

It is 45km from Ranchi. One of the most famous tourist spot, Hundru falls is created on the course of Subarnarekha river.

Dasam Water Falls

It is 40km from Ranchi, The Dassam fall is a natural cascade across the Kanchi river, A tributary of the Subarnarekha River. The water falls from a height of 44 meters (144ft).



Patratu Valley

Patratu Valley is located 35 km away from Ranchi city which is known for its panoramic view and twisting-twirling roads.