

Organizing Committee

Chief Patron:

Sardar Taranjit Singh, Founder & Managing Director, JIS Group

Patron:

Mr. Simarpreet Singh, Director, JIS Group

Ms. Manpreet Kaur, Director, JIS Group

Advisory Committee:

Dr. Neeraj Saxsena, Pro-chancellor, JIS University

Prof. Swarup Kumar Mitra, Principal, GNIT

Dr. Adish Chakraborty, Registrar, GNIT

Dr. Goutam Sen, IIT, Kharagpur

Prof. Chandan Kumar Sarkar, Jadavpur University

Prof. Sadhan Kumar Ghosh, Jadavpur University

Prof. Utpal Biswas, Kalyani University

Prof. Rajib Chakraborty, Calcutta University

Prof. Guru Prasad Subash Chandra Mishra, NIT, Raipur

Core Committee

All Faculty Members, CSE & ECE Department

All Laboratory Instructors, CSE & ECE Department

About Us

Guru Nanak Institute of Technology is instituted with a vision to empower the aspiring professionals with the technological knowledge and professional expertise under the aegis of JIS Group Educational Initiatives in the year 2003. This technical campus offers undergraduate and postgraduate courses under MAKAUT (Formerly known as WBUT) and the programmes CSE, ECE, FT, and EE are NBA Accredited. The Institute is approved by AICTE and accredited by UGC, NAAC and located in one of the prime locations in North Kolkata near Sodepur. The Institute offers latest technology oriented courses as per industry trends and nurtures creativity, innovations and research initiatives both at faculty and student levels to enrich and enhance the teaching learning process. It is 1st Private Engineering College In West Bengal that secured NAAC A+ Accreditation.

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GNIT

JIS GROUP
Educational Initiatives

AICTET Training and Learning (ATAL) Academy sponsored



One Week Faculty Development Program (FDP) on

Quantum Computing and Nanotechnology: Synergy and Future Prospects

3rd-8th February 2025

Program Coordinator:

Dr. Sunipa Roy, Associate Professor & HOD, Electronics & Communication Engineering

Co-coordinator:

Dr. Ipsita Saha, Associate Professor, Department of Computer Science & Engineering

Organized by

Guru Nanak Institute of Technology
157/F, Nilgunj Road, Panihati, Sodepur,
Kolkata-700114

 <http://gnit.ac.in>

About ATAL Academy

AICTE Training & Learning Academy (ATAL Academy) facilitates through trainings and workshops to up-grade the knowledge and skills of faculty members of AICTE approved Institutions, Research Scholars, PG Scholars, Participants from Govt., Industry and staff of host institution.

Event Details

The event includes:

- 10 Technical sessions @ 2.5 hours/session with Q&A session.
- Candidates would be eligible to receive a certificate up on achieving at least 70% cumulated weightage in the following aspects in the weightage mentioned.
- Attendance – min. 80% is essential. 100 % attendance carries weightage 20%.
- One assessment carries weightage 10%
- Page Article Summary/Team - (Team & Individual)- weightage is 30%
- Output of practical sessions- (Individual)-weightage 15 %.
- Report of Industrial visit- (Team)-weightage 10%
- Reflection Journal - (Individual)-weightage 15%

Objective

This FDP aims to explore the synergistic relationship between quantum computing and nanotechnology and elucidate the future prospects arising from their integration. This objective encompasses:

- Understanding the foundational principles of quantum computing and nanotechnology.
- Investigating the intersecting domains where quantum computing and nanotechnology converge.
- Analyzing the potential synergies, including advancements in computation, sensing, and material science.
- Assessing the current state-of-the-art research and technological developments in quantum computing and nanotechnology.
- Identifying challenges and opportunities for further integration and collaboration between the two fields.
- Envisioning future applications and breakthroughs enabled by the combined capabilities of quantum computing and nanotechnology.
- Providing insights into the implications for various sectors such as healthcare, energy, telecommunications, and beyond.
- Proposing strategies for interdisciplinary collaboration and research initiatives to leverage the synergies between quantum computing and nanotechnology for societal benefit and technological advancement.

Course Content

- Quantum Machine Learning
- Quantum devices and Qubits: Future of nano electronics and computation
- Characterization of Novel Bio material for Nano based Medical Imaging using Quantum Dots
- Implications of Quantum Technology on Security
- Research Methodology
- Quantum algorithm and its applications to heat transfer
- Quantum Computing Approach to Brain-Computer Interfacing
- Quantum Technologies and its applications
- Quantum tunneling based Nano sensors using 2D materials.
- Quantum Teleportation

Resource Persons

Academicians from premier institution like IITs, NITs, central universities and experts from Industries as well as R&D Organizations having expertise in Quantum and Nano domain are invited as Resource Person for this program