



**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY
DESIGN AND MANUFACTURING,
KURNOOL.**

DEPARTMENT OF SCIENCES AND
THE QUANTUM CLUB OF IIITDM KURNOOL.

Presents you, Workshop On

QUANTUM COMPUTING

Sponsored by E&ICT Academy, NIT Warangal

A 7-DAYS ONLINE WORKSHOP



25th – 31st
January 2021.

*Certificate will be provided to all the active participants

ABOUT IIITDM KURNOOL



Indian Institute of Information Technology, Design & Manufacturing, Kurnool (IIITDMK) is the youngest among the five centrally funded IIT's. It is formed as a result of AP reorganization act and accorded the Institute of National Importance in 2017. The IIITDM Kurnool campus is located far away from the bustling life of the metropolis in the mineral-rich

mountain trails of the Rayalaseema region of Andhra Pradesh. The campus is situated atop a hill that oversees Kurnool city. The place offers a perfect environment to nurture a peaceful state of mind required to carry out research and other student activities.

OBJECTIVE OF THE WORKSHOP

The main objective of the present workshop is to introduce various aspects of quantum computing. The workshop aims at training learners interested to take up research and development activities in quantum technologies. The workshop covers important topics like quantum internet, quantum cryptography, quantum key distribution (QKD), etc.

We are conducting the workshop with a mix of Lectures and practical sessions for the engagement of the participants.

Our goal is to bring together bright minds to discuss topics that are idea-focused, and on a wide range of subjects, to foster learning, inspiration, and wonder-and provoke conversations that matter.



TOPICS TO BE COVERED

- Photonic quantum Science and Technologies
- Quantum Internet
- Bosonic quantum error correction
- Learning to compute with Nuclear Spin Qubits.
- Detection and characterization of quantum correlations on an NMR quantum information processor
- Linear Algebra for Quantum Computing
- Quantum Algorithms
- Quantum Information Processing and Teleportation
- Quantum Cryptography
- Quantum Materials



SPEAKER'S PROFILE

PROF. URBASI SINHA



Urbasi Sinha is a Professor in the Light and Matter Physics group at the Raman Research Institute, Bangalore. Her research interests broadly classify as photonic quantum science and technologies. She works on experimental and theoretical aspects of secure quantum communications, quantum computing, quantum optics as well as precision tests of quantum mechanics and quantum information processing. She is heading India's first project on satellite-based QKD: Quantum Experiments using Satellite Technology.

PROF. ANIL PRABHAKAR

Prof. Anil is the Founder of QuNu Labs, incubated by IIT Madras. He is a professor in the Dept of Electrical Engineering at IIT Madras. His current research interests in the areas of quantum technologies have applications in metrology, quantum communication, and quantum computing. He is a member of the Scientific Management Board for LIGO-India, to detect gravity waves, and the India-based Neutrino Observatory, and currently serves on the Editorial Boards for Scientific Reports (Nature) and the IEEE Transactions on Magnetics.



PROF. T S MAHESH



Prof. T S Mahesh currently works at the Department of Physics, Indian Institute of Science Education and Research (IISER), Pune. TSM does research in Quantum Information and NMR spectroscopy. In IISER Pune, TSM leads a vibrant research group focussing on various aspects of NMR quantum Computing

PROF. KAVITA DORAI

Prof. Kavita Dorai is a professor, Physical Sciences at IISER Mohali. She is an NMR spectroscopist whose research is poised at the interface of Physics and Biology. Her current research interests include NMR Quantum Computing, Diffusion Studies using Gradient NMR, NMR of Nanomaterials, NMR Methodology Development and Biomolecular Structure and Dynamics Determination.



SPEAKER'S PROFILE



PROF. S V M SATYANARAYANA

Prof S V M Satyanarayana is a professor in Dept of Physics, Pondicherry Central University. His areas of interest are Quantum Information Science, Quantum Teleportation, Foundations of Quantum Mechanics etc.

DR. MATTI SILVERI

Dr.Matti Silveri is a theoretical physicist focusing on quantum simulations, information, and devices based on superconducting circuits. His research methods combine analytic, numerical, and collaborative experimental approaches. He got his Ph.D. degree in 2013 from the University of Oulu. From 2013 to 2016, He was a Finnish academy researcher at Yale University. In 2016, he came to Oulu and Aalto as a Finnish academy researcher. Research Interests: Superconducting quantum devices, Quantum simulations, Many-body localization, Open quantum systems, Quantum information



DR. M. PREM LAXMAN DAS

Dr M.Prem Laxman Das has completed Ph.D. in Maths from Indian Statistical Institute. He works broadly in the domain of algorithmic aspects of algebra and number theory. In cryptology, his interests include cryptanalysis of public-key systems, pairing-based crypto with applications to cloud computing security, and aspects of post-quantum cryptography. He is currently executing a project on cryptography for MANETs funded by BEL.



DR. S. DILLI BABU

Dr. S. Dilli Babu is working as a Scientist at SETS. In his 12 years, he was part of various R&D projects in the field of hardware security. He received his B.E. degree from Anna University, Chennai. He has co-authored 10 publications at recognized conferences. His research interests include Post Quantum Cryptography, Quantum Key distribution, and lightweight block ciphers, and side-channel analysis attack and countermeasures. He is also a SANS GSec Certified Professional.



Inauguration By

Chief Guest

Special Guest



PROF. D V L N SOMAYAJULU

Director

IIITDM KURNOOL



PROF. R. B. V. SUBRAMAANYAM

Professor of Computer Science & Engineering

Chief Investigator, E&ICT Academy

NIT WARANGAL



DR. N SARAT CHANDRA BABU

Executive Director

SETS, CHENNAI

Eligibility

All Quantum Computing enthusiasts are welcome. Post Graduate, Ph.D., Faculty, and Industrial People.

Seats Available: 150

Limited Seats are available for students and Scholars. Seats will be allocated on a first come first serve basis

Registration Fee

Students & Faculty	Rs. 750 /-
Industrial Participants	Rs. 2250/-

For Registrations [Click Here](#)

Faculty Coordinators

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For Queries and more information, Check our website: [Click Here](#)