

## REGISTRATION FORM

**5 Day AICTE Sponsored Workshop  
on  
"Quantum Computing and Quantum  
Cryptography"**

(June 07<sup>th</sup>, 2021 to June 11<sup>th</sup>, 2021)

Name of Participant-----

Dept :-----

Gender :-----

Designation:-----

Qualification:-----

Organization:-----

Mobile No.-----

Email:-----

I agree to abide by the rules and the regulations governing the Workshop.

Place:

Date: *Signature of the Participant*

Mr./Ms./Dr./\_\_\_\_\_ is a student/employee of our Institution and is permitted to attend the programme.

\_\_\_\_\_  
Signature of the Head of (applicant's) Institution and Seal

Place:

Date:

*Venue: ONLINE*

**Dept. of Information Technology  
NITK Surathkal  
Mangalore- 575025.**

*Address for Communication*

**Dr. Bhawana Rudra**

**Department of Information Technology  
National Institute of Technology, Karnataka  
Surathkal, Mangalore – 575 025**

*E-mail: [quantum.nitk.it@gmail.com](mailto:quantum.nitk.it@gmail.com)*

*Contact. Ph. 0824 – 247 3560*

### Course Contents

- How is Quantum Computing Different than classical computing?
- Quantum Computing Basics
- QuBits Practicals
- Quantum Machine Learning
- Quantum Computing architectures
- Design of Quantum Computing modules and its applications



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**COORDINATOR  
Dr. Bhawana Rudra**

*Dept. of Information Technology, NITK*



*Organized By*

**Department of Information Technology  
National Institute of Technology, Karnataka  
Surathkal, Mangalore – 575 025**

## About NITK Surathkal

NITK Surathkal is a premier institution engaged in imparting quality technological education and a broad range of research, development and consultancy activities. NITK has carved a niche for itself among the best technical institutes in India and is consistently ranked among the top 10 technological institutes.

## Department of Information Technology

Department of Information Technology was established in June 2000, The department offers undergraduate course B.Tech. in Information Technology, Post Graduate course M.Tech. in Information Technology, M.Tech. by (Research) and Doctoral Program (Ph.D) Current research activities of the department include Data Mining, Web services, Distributed Computing, Semantic Web Technology, Natural language Processing, Software Aging, Virtualization, Soft Computing, Wireless Sensor Networks, Computer Networks, Network and Cyber Security, Information Security, Internet of Things (IoT), Affective Computing, Big Data Analytics, Cloud/Edge/Fog Computing, Cloud Security, Databases, Healthcare Informatics, High Performance Computing, Information Retrieval, Social Multimedia/Social Network Analysis, Software Engineering, Blockchain Technologies, Future Internet Architecture, Mobile Software Engineering, Deep Learning Applications.

## How to Reach NITK Surathkal

NITK is located in Surathkal on the scenic shores of the Arabian Sea, about 20KM north of the city of Mangalore and is well connected by Air, Rail and Road. The nearest domestic/international airport is situated at Bajpe (about 10KM from Mangalore) and the nearest railway station is Surathkal (3 KM). The NITK Campus is situated right on National Highway NH66 with very good bus connectivity from Mangalore, Udupi etc.

## About the Program

A revolution in computing technology- 'Quantum computing' is the next big thing that is going to change the whole computing process as we know it today. Quantum Computers have the potential to be millions of times more powerful than today's most powerful supercomputers.

Quantum computers promise substantial speedups over conventional computers for many practical relevant applications such as quantum optimization, machine learning, cryptography, quantum simulation, systems of linear equations, and many more. While considered "dreams of the future" for a long time, recent years have shown impressive accomplishments as witnessed by the recent discussions on whether quantum advantage compared to classical devices has been achieved.

This Workshop aims to explore the huge potential that this cutting-edge technology holds. This workshop features invited talks by leading experts covering the broad range of the area including the physical realization of quantum computers, and the fundamentals of quantum computing, applications showing the benefits of the technology, as well as further challenges to deal with. This workshop also bring together researchers in quantum information science from physics, computer science and mathematics to provide an overview of the field to interested scientists, discuss the current state of the science, and inspire the next generation of researchers to pursue this topic.

## Objective of the Program

This program contains not only theory but hands-on sessions using QCA designer tool. The course is designed for theory, use-case demonstrations, and research oriented discussion, which shall be helpful in understanding the of the process and along with practical implementations.

### Course Deliverables:

This Program will provide an understanding of various methodologies, techniques, and tools related to Quantum Technology.

## Resource Persons

Experts from Industry, Academia, R&D Organizations will deliver expert talks to make participants aware of Quantum Computing along with various applications and Research Challenges along with Practical Sessions.

## General Information

- **Eligibility:** The programme is open to Faculty and Ph.D Students of AICTE approved Engineering and Technology Colleges.
- **Maximum Number of Participants:**80 (Selection on the basis of first come first served)
- **Registration Fee:** Nil.
- **Deadline:** Completed applications should reach the Coordinators on or before 01st June 2021.

E-mail the scanned copies of the filled and duly signed application form to "[quantum.nitk.it@gmail.com](mailto:quantum.nitk.it@gmail.com)"

Register using the following link <https://atalacademy.aicte-india.org/signup>

## Important Dates

Last Date for Receipt of Applications:

**01st June 2021**

Intimation of Selection by email:

**05th June 2021**