



# "Quantum Computing and Communications: New Paradigm"



Organised by

*Department of Computer Science and Engineering,*

*SRM University-AP, Andhra Pradesh jointly with CDAC, Bengaluru*



Registration Link:

[https://bitly.com/SRMAP\\_CSEFDP](https://bitly.com/SRMAP_CSEFDP)

**Registration FREE | Certificate of participation to the participants who attend all the sessions.**



**December 27-31, 2021**

## About the University

SRM University-AP, Andhra Pradesh is a multi-stream research intensive university established in 2017 with a focus on diverse fields from Engineering to Sciences and Liberal Arts to Management. Dept. of Computer Science and Engineering aims to impart quality and value-based education to the students/researchers to meet the growing challenges in the industry. The students carry out multidisciplinary research to solve societal problems using state of the art technology.

## About the Programme

Quantum computing is one of the most significant scientific breakthroughs of the century. It is a new disruptive paradigm based on the principles of quantum mechanics to solve problems in various fields of science that are beyond the possibilities of classical computing infrastructures. Despite, lot of theoretical research and hardware implementations, application of quantum computing in solving computational problem is yet to be explored. In future, a new generation of quantum technologies will drive the development of disruptive devices, services and systems which will primarily impact imaging and computing of intractable problems, as well as enhance network security.

SRM Univesristy-AP is conducting the FDP on "Quantum Computing and Communications: New Paradigm" jointly with CDAC, Bengaluru. The FDP aims to provide a comprehensive idea of quantum computing, its applications and research opportunities. Eminent speakers will provide insightful discussion on quantum computing, quantum information, quantum engineering, artificial intelligence, and machine learning. Faculty members, postdoctoral researchers and PhD students from various reputed institutions are the target audience for the FDP.

## Objective and Outcomes

During this FDP participant will:

1. Broaden their definition of quantum computing.
2. Get an overview of the quantum networks, quantum information processing etc.
3. learn about practical implementations of various algorithms on quantum computer.
4. Develop machine learning models using quantum computer.



## Speakers



**Prof San Murugesan**

Director and Principal Consultant,  
BRITE Professional Services & Adjunct Professor,  
University of Western Sydney



**Prof Konstantin E Dorfman**

East China Normal University



**Prof Monica Aggarwal**

IIT Delhi



**Prof Vimal Bhatia**

Discipline of Electrical Engineering,  
IIT Indore



**Dr Sridharan R**

Senior Director & HoD, Centre for  
Development of Advanced Computing, Bengaluru



**Dr Indranil Chakrabarty**

IIIT Hyderabad



**Dr Natarajan Venkatachalam**

Scientist, Society for Electronic  
Transactions and Security,  
CIT Campus, Chennai



**Dr Asvija**

Centre for Development of Advanced  
Computing, Bengaluru

## Industrial Collaboration



**Sandeep Deb**

Chief Technology Officer,  
Larsen and Toubro Infotech



**Sudeep Satheesan**

Head - Labs & COE,  
Firstsource Solutions Limited

## Schedule

Date	Session 1 (9.30 AM – 11 AM)	Session 2 (11.30 AM – 1 PM)
27-12-2021	Prof San Murugesan <b>Topic:</b> Introduction to Quantum Computing	Dr Sridharan R <b>Topic:</b> Quantum Computing and Research Scope
28-12-2021	Dr Natarajan Venkatachalam <b>Topic:</b> Quantum Network	Dr Asvija <b>Topic:</b> Quantum Network
29-12-2021	Prof Vimal Bhatia <b>Topic:</b> Quantum Secured Future Optical Networks	Prof Konstantin E Dorfman <b>Topic:</b> Multi-Dimensional Optical Sensing with Quantum Light
30-12-2021	Prof Monica Aggarwal <b>Topic:</b> Quantum Machine Learning	Sandeep Deb <b>Topic:</b> Hands on - IBM Quantum Computer
31-12-2021	Sudeep S <b>Topic:</b> Hands on - IBM Quantum computer	Dr Indranil Chakrabarty <b>Topic:</b> Quantum Conditional Entropy: A resource

## Programme Coordinators

**Dr Dinesh Reddy**, Assistant Professor, Computer Science and Engineering, SRM University-AP

**Dr Ashu Abdul**, Assistant Professor, Computer Science and Engineering, SRM University-AP

**Dr Priyanka**, Assistant Professor, Computer Science and Engineering, SRM University-AP

## Contact

[dineshreddy.v@srmmap.edu.in](mailto:dineshreddy.v@srmmap.edu.in)

[ashu.a@srmmap.edu.in](mailto:ashu.a@srmmap.edu.in)

[priyanka.s@srmmap.edu.in](mailto:priyanka.s@srmmap.edu.in)