

Telecommunication Engineering Center (TEC) together with the Telecommunications Standards Development Society, India (TSDSI), Centre for Development of Telematics (C-DOT) and Institute of Electrical and Electronics Engineers (IEEE) Communications Society Delhi chapter are organising the First International Quantum Communication Conclave, bringing together the international experts in the domain, practitioners, start-ups, researchers and the scientific community. The objective is to exchange the state-of-the-art technologies, discuss implementation challenges and explore collaboration opportunities and networking. The Conclave highlights Quantum Key Distribution, Quantum Random Number Generator, Post Quantum Cryptography, Quantum Networks, Sensors, Advanced detectors, Quantum memory, Testbeds, Quantum communication Standards, Use cases, Implementation issues etc. The audience include Research community, Telecom Service providers, Start-up companies, Industries working on Quantum communication, Standard development organizations, Regulators & Policy makers, Defense, Fintech companies, Banks etc.



Sh. Ashwini Vaishnaw Hon'ble Minister of Communications, Railways and IT



Prof. Ajay Kumar Sood PSA to Govt.of India





Sh. K. Rajaraman Dr. S. Chandrasekhar Dr. Samir V Kamat Sh. Uma Shanker Secretary, DST



Sh. Devusinh Chauhan Hon'ble Minister of State for Communications



Chairman, DRDO



Sh. R.R. Mittar Sr. DDG and Head, TEC

Pandey Member(S), DoT



# DAY 1 - Monday, 27 March 2023

#### Trends in Quantum Technology



Dr. Rajkumar Upadhyay CEO, C-DOT



Prof. Mustafijur Rahman IIT Delhi



Prof. Bhaskaran Muralidharan IIT Bombay



Prof. Umakant D Rapol Project Director, QTF, IISER Pune

## Building a Quantum Network



Sh. Nixon Patel

CEO, QuLabs

Sh. Nilesh M. Desai Director, SAC, ISRO



Prof. Krishna Das IIT Madras

Dr. Samir V Kamat Chairman, DRDO



Prof. Kausik Majumdar IISc Bengaluru



Dr. Sadik Hafizovic, CEO, Zurich Instruments AG , Zurich, Switzerland

# Challenges and Prospects for Quantum Technology Development



### DAY 2 - Tuesday, 28 March 2023

#### **Quantum in Satellite Communication**



Sh. Sanjeev Agrawal Member(T), DoT



Sh. Dilip Singh Chief Product Officer, QNu Labs

## Security in the Quantum-Era



Prof. Urbasi Sinha Raman Research Institute

Sh. Tommi Lampila

Director of

Xiphera, Finland



Prof. R.P Singh Physical Research Laboratory, Ahmedabad

Sh. Atul Kumar Gupta

Group Leader, C-DOT



**Dr. Bruno Huttner** Director, ID Quantique, Geneva



Sh. G. Narendra Nath Joint Secretary, NSCS



Sh. Animesh Aaryan CEO, Taqbit Labs

# Standardization efforts on Quantum Technologies



Smt. Pamela Kumar

Sh. R.R. Mittar Sr. DDG and Head, TEC



Sh. Matthew Campagna Amazon Web Services Cryptography, United States



Prof. Anil Prabhakar IIT Madras



Sh. Prashant Chugh

Group Leader, C-DOT

Prof. C. M. Chandrashekar IISc, Bengaluru



Sh. Subhra Kanti Das

Head, Research & Technology, Thales

Dr. Dustin Moody NIST

### **Quantum Communication: Industrial Perspective and Use Cases**



Lt. General M.U. Nair



Sh. Pejman Panahi

Senior Director, ID Quantique,

Geneva

Prof. D. Janakiram Director, IDRBT

Smt. Shikha Srivastava

Director, Member Board,

C-DOT



Sh. Sunil Gupta CEO, QNu Labs



Sh. Pradeep Kumar EO, Qbit Labs



Sh. Satish Jamadagni **Reliance** Jio



Dr. Manjunath Iyer Wipro Limited



Dr. Dong-Hi SIM SK Telecom, South Korea



Sh. Abdul Kayum DDG, 6G Technologies, TEC

#### **ORGANIZING COMMITTEE**



**Telecommunication Engineering Centre** is a technical arm of Department of Telecommunications and responsible for formulation of standards, specifications, test procedures, service specifications and technical regulations for communication sector. TEC seeks to promote and ensure standardization in the telecom sector to ensure development of world class telecom network and smooth interconnection of individual networks. TEC actively participates in the meetings of standards development organizations, viz., ITU, ETSI, APT,

WRC, etc. and also interacts with other international forums, viz., 3GPP, ETSI, IETF, oneM2M, etc.



Centre for Development of Telematics (C-DOT) is an autonomous Telecom R&D Centre of Department of Telecommunications, Govt of India. Established in 1984, C-DOT has contributed significantly in indigenous design, development and production of telecom technologies especially suited to Indian conditions. In its initial years, C-DOT triggered a telecom revolution in rural India that was

responsible for all-round socio-economic development. Over the years, C-DOT has developed a large number of products of national and strategic importance in various Telecom areas such as Optical, Switching, Wireless, Security and Network Management. C-DOT is also contributing significantly in development of products in technologies such as M2M/IoT, 5G, AI and Quantum Security. In Quantum Security Vertical, C-DOT has developed Quantum Security products in the areas of Quantum Key Distribution (QKD) as well as Post-Quantum-Cryptography (PQC). C-DOT also has plans to increase its Quantum Communication Security products' portfolio in the upcoming years.



Telecommunications Standards Development Society, India (TSDSI), https://tsdsi.in is an autonomous, membership-based, standards development organization (SDO) for Telecom/ICT products and services in India. We develop standards for access, back-haul, and infrastructure systems, solutions, and services that best meet India-specific Telecom/ICT needs, based on research and

innovation in India. We work closely with global standards bodies to reflect Indian requirements into international telecom/ICT standards. TSDSI is carrying out a Study on Post-Quantum-Cryptography for 5G Networks [SI 78]. TSDSI has also initiated a Technology Roadmap Item Proposal (TRIP) Forum on Quantum Communications to identify opportunities for standardization.