Conference on Quantum Frontiers fosters collaboration between academia & industry

An International Conference on Quantum Frontiers and Fundamentals (QFF), 2020 was organised at Raman Research Institute (RRI), Bengaluru to bridge the gap between academia and industry by enabling sharing of latest research progresses in quantum computing and fostering collaboration opportunities between fundamental experts and growing product-based initiatives in this field. RRI is an institution of the Department of Science and Technology.

QFF 2020 brought together a synergy between fundamental studies and frontier applications, with equal weightage to both theoretical investigations and their experimental realizations. Secondly, with the rapid development of improved engineering techniques and fundamental approaches in secure quantum communication and computing, quantum-enabled technologies based on these progresses are becoming commercially available.

With 21st century being coined as the quantum age, the conference, which is currently a biennial event, is a significant step as quantum information technologies are rapidly gaining importance in fundamental research and from the industrial perspectives. For the first time in an international conference on quantum information in India, besides academia, there was also a considerable participation from few of the leading industries in this field.

The conference was attended by over 300 people spread over two days. It included national and international speakers, delegates from companies like Microsoft and Cambridge Quantum, academic delegates from the University of Science and Technology of China, guests from Central government ministries, such as Department of Science & Technology, ISRO and IAS. Young researchers in the field of quantum information science and contributory participants from other faculties also attended the programme.

One of the major attractions of the conference was the lecture of Prof. Jian Wei Pan, Chinese Quantum Physicist and academician of the Chinese Academy of Sciences and The World Academy of Sciences who is regarded as a father of quantum computing.

Other prominent dignitaries included Dr K. Kasturirangan, Member, RRI Trust, RRI Council, former Chairman, ISRO, Prof. N. Mukunda, former vice-president, Indian Academy of

Sciences, Shri R. Umamaheshwaran, Scientific Secretary, ISRO and Dr. K. R. Murali Mohan, Head, ICPS Division, DST.

The impact of quantum advantage over their classical counterparts, in the areas of secure quantum communication and other quantum-enabled technologies, was unanimously appreciated by the participants. More particularly, in a day dedicated to the discussion on the role of satellite-based approaches towards world-wide realization of quantum-enhanced communication security, it was pointed out by various international experts that the promotion and support of satellite-based efforts are crucial in fostering collaboration between various world-wide initiatives in this direction both among academia and industry.