



Third IEEE Workshop on

## **Quantum Communications and Information Technology (QCIT'17)**

<http://qcit.committees.comsoc.org/qcit17-workshop/>

At IEEE Globecom'17, Singapore, 4-8 December 2017

<http://globecom2017.ieee-globecom.org>

The scope of this dedicated workshop is to explore the opportunities for application of communications theory and technologies to quantum technology and its applications. The workshop is the annual main event of ComSoc's Emerging Technical Committee on Quantum Communications and Information Technology (ETC-QCIT).

Over the last decade, a wide variety of experimental quantum communications and processing devices has been invented and used for fundamental demonstrations in laboratories. Results confirm feasibility of real applications in quantum communications and information related fields. Recently one can observe upcoming applications in areas like a quantum communications, quantum sensors and random number generators which are partially even commercially available. Companies and governments started to spend significant amounts of funding in research and development of quantum technologies. However, the step from quantum technology based devices to real systems running a communications or information processing task has not completed yet. Moreover, many problems show opportunities to contribute with knowhow, technologies and engineering out of the communications area. The following topics are crucial to the development of future quantum technology based systems:

- Algorithms and applications complexity
- Analysis of classical vs quantum software
- Coding theory
- Coherent routers, repeaters and converters
- Communications and information theory
- Devices and circuits
- Entanglement distillation
- Error correction
- Experimental results and demonstrations
- Interconnection and complexity theory
- Metrology for quantum systems
- Modeling and simulation
- Network coding
- Photonic communications technology
- Processing and systems architecture
- Quantum electro-dynamics
- Quantum information theory
- Quantum key distribution
- Quantum sensors
- Quantum-algorithms and applications
- Remote state preparation
- RF based programming and algorithms
- RF technology and control
- Signal processing for quantum control

It is the aim of this workshop to connect people from academia and industry to discuss about theory, technology and applications and exchange ideas to move efficiently forward in research, engineering and development of this exciting area.

#### **Submission info for camera-ready manuscripts**

Original and unpublished regular papers are solicited from the above-mentioned areas. Regular papers have a length of 4 to 6 pages with an optional payable 7th page. All manuscripts will be peer reviewed and published in the workshop proceedings and after presentation in IEEE Xplore. Templates for the manuscripts can be downloaded from:

[http://www.ieee.org/conferences\\_events/conferences/publishing/templates.html](http://www.ieee.org/conferences_events/conferences/publishing/templates.html)

The formatted manuscript should be electronically submitted as pdf via EDAS:

<https://edas.info/newPaper.php?c=23835>

Further information is available in the Globecom 2017 webpages:

<http://globecom2017.ieee-globecom.org>

#### **Important dates:**

Manuscript submission due date:	8. July, 2017 (extended)
Notification date:	1. September, 2017
Final manuscript due date:	1. October, 2017
Conference date:	4.-8. December, 2017

#### **Workshop organizers**

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