

# **IEEE Communications Society Quantum Communications and Information Technology - ETC (QCIT-ETC)**

**Meeting held at IEEE Globecom 2019**

December 12, 2019

11am – 1pm

Waikoloa, HI, USA

## **Meeting Minutes**

Minutes taken by: Andrea Conti

## Participants

The total of participants was 21, as listed at the end of this document.

### 1. Welcome / Introduction

The Chair Lajos Hanzo opened the meeting at 11am.

The 4 founding members are: Lajos Hanzo, Andrea Conti, Michael Ng, and Peter Mueller.

All participants introduce themselves and reported on their interest in the field of quantum communications and information technology.

The Chair presented the agenda as below

1. Approval of the Agenda
2. Welcome / Introduction
3. Approval of Previous Meeting Minutes
4. QCIT-ETC Awards
5. Report on ETC Technical Activity Council Meeting
6. Report on Workshops & Conferences
7. Report on Keynotes & Invited Talks
8. Report on Publications & Future Events
9. Standards Liaison
10. New Business Items
11. Next QCIT-ETC Meeting
12. Adjourn

The QCIT-ETC website is <http://qcit.committees.comsoc.org/>

There are two e-mail distribution lists (450+ members):

- [qcit@comsoc.org](mailto:qcit@comsoc.org)

for internal announcements only (e.g., ICC, Globecom, Committee meetings like today, and Awards)

- [qcit-announce@comsoc.org](mailto:qcit-announce@comsoc.org)

for CFP email distribution list. It is open to all signed-up members to distribute QCIT related CFPs

Sign-up: Send “join QCIT(-ANNOUNCE)” message to [list@comsoc.org](mailto:list@comsoc.org)

Unsubscribe: Send “SIGNOFF QCIT” message to [list@comsoc.org](mailto:list@comsoc.org)

## 2. Approval of the Agenda

The agenda was approved.

## 3. Approval of Previous Meeting Minutes

The minutes of previous meeting (held at ICC 2019 in Shanghai) circulated via QCIT website were approved.

## 4. QCIT-ETC Awards

The information related to this point are the same of previous meeting as reported below.

The QCIT-ETC award program will start as soon as we receive approval from the ETC TAC.

Acting Awards Committee Chair is the elected QCIT-ETC Chair. Members of the Awards Committee will be the Awards Committee Chair, three QCIT officers, one external member.

Calls for nominations as defined in the QCIT-ETC Policies & Procedures will be sent out via our distribution list. For details, see QCIT URL:

<http://qcit.committees.comsoc.org/>

## 5. Reports on ETC-TAC Meeting

From the previous ETC-TAC Meeting:

Overall, our evaluation was positive. This is an important topic and has some very good people involved and is making good progress. ETC-TAC still thinks it is too early to discuss elevation to a full TC, however.

In response to its request, a special issue on IEEE JSAC, the first in the IEEE Communications Society, has been organized. At the same time, the membership is growing.

We also aim to have a stronger connection with communities including sensing and computing and possibly physics or information theory

We'd love to see this ETI become the key hub of knowledge and information for the quantum communications field.

## 6. Reports on Conferences

A report on the Fifth QCIT Workshop at Globecom 2019, was given. Two sessions and one keynote speech by Prof. Robert Malaney "Improving QKD for entangled states with low squeezing via non-Gaussian operations" were organized.

This was followed by a brief discussion on other special sessions organized after that at other conferences.

Please use the QCIT-ANNOUNCE distribution list to send your CFPs and report your conferences, workshops, sessions, etc.

If you are looking for IEEE ComSoc support for your event, please ask anyone of the officers.

## 7. Reports on Keynotes and Invited Talks

The new following keynotes and invited talks have been given by QCIT members:

- Keynote lecture on Quantum communications at ISWCD'19 Oulu, Finland

URL: [http://iswcs2019.org/keynote\\_speakers.html](http://iswcs2019.org/keynote_speakers.html)

- IEEE Signal Processing Society Webinar

URL: <https://rc.signalprocessingsociety.org/webinars/SPSWEB00373.html>

- ICC 2019 Tutorial TUT-06: “Quantum Internet: Wiring the Weirdness” by A.S. Cacciapuoti and M. Caleffi from University of Naples Federico II

## 8. Reports on Publications

It was encouraged to submit papers at the QCIT workshop that will be held during Globecom 2019. Submissions will be handled via EDAS and you will receive other updates in the near future.

The JSAC Special Issue (submission deadline July 1<sup>st</sup>, 2019) on

*Advances in Quantum Communications, Computing and Cryptography*, by Lajos Hanzo (advisor), Soon Xin Ng, Andrea Conti, Gui-Lu Long, Peter Mueller, Akbar Sayeed, Jinhong Yuan

received 63 submissions, out of which 19 paper were accepted for publication. It was a great success for the first special issue on this topic by the IEEE Communications Society

Please use the QCIT-ANNOUNCE distribution list to send your CFPs and report your special issues, book chapters, and so on.

QCIT is actually looking for a member who would be willing to serve in the position of an Appointed Representative of Publications.

If you are interested, please contact the officers.

## 9. Standards Liaison

The QCIT-ETC is supporting standards work within the field.

IEEE SA - 1913 - Software-Defined Quantum Communication

<http://standards.ieee.org/develop/project/1913.html>

IEEE SA - 1913 - Software-Defined Quantum Communication IEEE.org IEEE Xplore Digital Library IEEE Standards.

Liaison: [Steven Bush \(bushsf@research.ge.com\)](mailto:bushsf@research.ge.com)

IEEE SA - 7131 - Standard for Quantum Computing Performance Metrics & Performance Benchmarking

<http://standards.ieee.org/develop/project/7131.html>

IEEE SA - 7131 - Standard for Quantum Computing Performance Metrics & Performance Benchmarking IEEE.org IEEE Xplore...

Liaison: [Peter Mueller \(pmu@zurich.ibm.com\)](mailto:pmu@zurich.ibm.com)

IEEE SA - 7130 - Standard for Quantum Computing Definitions

<http://standards.ieee.org/develop/project/7130.html>

IEEE SA - 7130 - Standard for Quantum Computing Definitions IEEE.org IEEE Xplore Digital Library IEEE...

Liaison: [Peter Mueller \(pmu@zurich.ibm.com\)](mailto:pmu@zurich.ibm.com)

## 10. New Business Items

NAE report <https://www.nap.edu/catalog/25196/quantum-computing-progress-and-prospects>

### Worldwide Large Regional Programs

US IARPA and others

China Secure Backbone

EU Flagship and Quanterra

### European Efforts:

European Flagship Program on Quantum Technologies

## MEETING TECHNICAL TALKS

Brief technical presentations were given as listed below.

- Chen-Fu Chiang, Aaron Gregory, SUNY Poly, “Quantum Walk on Dimensionality Reduced Complete Bipartite Graphs with k Edges Removed”
- Stefano Guerrini, University of Ferrara, “Quantum Pulse Position Modulation with Photon-Added Coherent States”
- Hung Do, University of New South Wales, “Teleportation of a Schrodinger’s Cat State via Satellite-based Quantum Communication”
- Andy Schreier, University of Oxford, “Polarization Calibration Scheme in the Practical Handheld Free Space Quantum Key Distribution System”

## 9. Next QCIT-ETC Meeting

Next QCIT ETC meeting will be held at IEEE ICC 2020.

## 10. Adjourn

The meeting was adjourned at 1 pm.

## Participants QCIT Meeting

Name	Affiliation	Email
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