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

Meeting at ICC 2019

Place/Room: Shanghai, Level 2
Pudong Shangri-La Hotel
Date/Time: May 21, 2019, 4pm – 6pm
Shanghai

Mission

The Emerging Technical Committee (ETC) on Quantum Communications and Information Technology (QCIT) promotes all types of communications theory and engineering to foster quantum technology. Our field of interests start from the basic radio frequency technology, addresses aspects of control instrumentation, error correction, coding theory, system architecture, simulation, algorithms, and eventually applications. The committee will connect people from Industry and Academia by supporting conferences, symposia, technical sessions, publications, etc., where information is exchanged within the scope of interest of the QCIT-ETC.

Meeting Agenda

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

2. Welcome / Introduction I

QCIT-ETC Officers

Chair: Lajos Hanzo (U. of Southampton, UK)
Vice-Chair: Peter Mueller (IBM Zurich Research Lab, Switzerland)
Secretary: Andrea Conti (U. of Ferrara, Italy)
Standards and Media: Michael Ng (U. of Southampton, UK)

Membership: 400+

2. Welcome / Introduction II

The QCIT-ETC website:

- http://qcit.committees.comsoc.org/
- Two mail distribution lists:
- qcit@comsoc.org

  Internal announcements only

  ICC, Globecom, Committee meetings like today, Awards
- qcit-announce@comsoc.org

  CFP email distribution list

  Open to all signed-up members to distribute QCIT related CFPs

Sign-up: Send " join QCIT(-ANNOUNCE)" message to list@comsoc.org

Unsubscribe: Send "SIGNOFF QCIT" message to list@comsoc.org

3. Approval of Previous Meeting Minutes

The last QCIT meeting was held at IEEE Globecom 2018 in Abu Dhabi.

The meeting minutesand slides are published on the QCIT URL (use tab “Meetings”):

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

4. QCIT-ETC Awards

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. Report on ETC-TAC Meeting

As presented at Globecom 2018, the ETC reviewed the recertification reports carefully, and it was great seeing all the energetic activity within so many of the ETIs. Based on these reports and our discussions, the following decisions were made by the ETC.

Elevate to TC:
Smart Grid Communications
Molecular, Biological and Multiscale Communications

Continue as ETI for 2 years, re-evaluate then (possibly after 1 year):
Backhaul/Fronthaul Networking and Communications
Network Intelligence
Quantum Communications & Information Technology

Disband, no longer an ETI, mainly due to lack of recent/current activity:
IoT
SDN/NFV

5. Report on ETC-TAC Meeting

From ETC-TAC Meeting at Globecom 2018 - output of the recertification

Overall, our evaluation was positive. This is an important topic and has some very good people involved and is making good progress. We still think it is too early to discuss elevation to a full TC, however. We'd like to set a goal of doing this in 2 years, or even 1 year if you think activities can be ramped up a lot.

Some examples of things we'd like to see (and may be in progress already):

- More knowledge dissemination, including tutorials and accessible materials. A great idea could be to do a ComSoc Best Readings, and I think you might be doing one.
- Special issues (Magazine, JSAC, etc.)
- Broader membership, and activities by more members beyond the officers (also a breakdown of where these members are, industry vs. academia, etc.)
- Connections to communities beyond SP, e.g. 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. Report on Workshops & Conferences

Since last meeting:

5th edition of our Workshop on Quantum Communications and Information Technology (QCIT18) at IEEE ICC 2019, Shanghai

Other workshops and conferences reported in the minutes

7. Report on Keynotes & Invited Talks

Keynotes and Invited Talks reported in the minutes

At ICC 2019, tutorial TUT-06: *Quantum Internet: Wiring the Weirdness by* A.S. Cacciapuoti and M. Caleffi from University of Naples Federico II

There was the participation to Schools:

- "QCALL School of Quantum Communications Networks", Padova, Italy, 19-22 September 2018. URL http://www.qcall-itn.eu/sqcn/
- "Quantum Information for Developers 2018", Quantum computing school and Hackathon, ETH Zurich, 11-14 September 2018. URL https://qid.ethz.ch/

8. Report on Publications & Future Events

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 newly elected officers.

- Upcoming JSAC proposal for a special issue on *Advances in Quantum Communications, Computing and Cryptography*, by Soon Xin Ng, Lajos Hanzo, Peter Mueller, Andrea Conti, Gui-Lu Long, Akbar Sayeed, Jinhong Yuan

CfP: https://www.comsoc.org/publications/journals/ieee-jsac/cfp/advances-quantum-communications-computing-cryptography-and

Submission deadline: July 1, 2019

9. Standard 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)

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)

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)

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 Quantera

European Efforts:

- European Flagship Program on Quantum Technologies

11. Next QCIT-ETC Meeting & Workshop

The next IEEE ComSoc's Quantum Communications and Information Technology ETC (QCIT-ETC) meeting will be held at

IEEE Globecom 2019

December 9-13, 2019, Waikoloa, HI, USA

12. Adjourn

Technical presentation by Cacciapuoti and Caleffi on “Quantum Internet: Wiring the Weirdness”

Thank you for attending!