

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

Meeting at Globecom 2022

Room: *Virtual*

Date/Time: November 23, 2022, 9am – Noon EDT

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. Welcome and Opening
2. Invitation to ICC 2023 and IEEE Quantum Week 2022
3. QCIT Talks
4. Approval of Previous Meeting Minutes
5. Report on ETC Meeting
6. Report on Workshops & Conferences
7. Report on Tutorials, Keynotes & Invited Talks
8. Report on Publications & Future Events
9. Standards Liaison
10. New Business Items
11. Next QCIT-ETC Meeting
12. Adjourn

1. 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: 450+

1. 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

2. ICC 2023 / IEEE Quantum Week 2022

Next Quantum Track at SAC Symposium

Rome, Italy, May 28 – June 1 2023

Track Chair: Prof. Mohsen Razavi, University of Leeds, UK

CfP available at <https://icc2023.ieee-icc.org/sites/icc2023.ieee-icc.org/files/symposium-cfps/Revised%20ICC2023-CFP-SAC-QCIT.pdf>

Invitation to participate to the IEEE Quantum Week 2022

September 18–23, 2022 in Broomfield, Colorado -

<https://qce.quantum.ieee.org/2022/>

3. QCIT Talks

An Ad Hoc QCIT Workshop

- Balint Koczor, “Will quantum error mitigation achieve practical advantage?”
- Yifeng Xiong, “Quantum Error Mitigation Relying on Permutation Filtering”
- Osvaldo Simeone, “Quantum machine learning: An introduction”

4. Approval of Previous Meeting Minutes

The most recent QCIT meeting was held at IEEE ICC 2022.

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

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

5. Report on ETC-TAC Meeting

Nothing relevant before this meeting

6. Report on Workshops & Conferences

Since last meeting:

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7. Report on Keynotes & Invited Talks

Keynotes and Invited Talks reported in the minutes

Since the last meeting:

Some QCIT members will be presenting their fundamental research at the 4th International Symposium on Quantum Physics and Quantum Information science (Theme: Advances in Fundamental Quantum Information science Research), Beijing, China – Nov 30 Dec. 1, 2022 <http://qpqis.baqis.ac.cn/2022>

Organized by Prof. Gui-Lu Long

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.

- The QCIT ETC has contributed to the formation of the new IEEE-level Open-Access journal, namely the IEEE TRANSACTIONS ON QUANTUM ENGINEERING;
- A new IEEE ComSoc Communications Magazine Special Section has been proposed and it is under consideration by the EIC;
- IEEE Network Special Issue on Quantum Communications and Networking

<https://www.comsoc.org/publications/magazines/ieee-network/cfp/quantum-communications-and-networking>

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 \(bushsf@research.ge.com\)](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)

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

The QCIT ETC is contributing to the IEEE-level Quantum Initiative:
<https://quantum.ieee.org/about>

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

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 ICC 2023

12. Adjourn

Thank you for attending!