

The background of the slide is a dark blue gradient with a white network diagram. The diagram consists of numerous small circular nodes connected by thin white lines, forming a complex, interconnected web that resembles a fiber optic network or a data mesh. The nodes are distributed across the entire slide, with a higher density in the lower-left and central areas.

Transmission, Access and Optical Systems (TAOS) TC

Online TC Meeting before Globecom 2024

November 26, 2024

Walter Cerroni – TAOS TC Chair 2023-2024

Attendance and TC Mailing List

- Please register your attendance at this meeting
 - Link to attendance form will be pasted periodically in the chat during the meeting
- If you are interested in getting involved in TAOS TC activities, please subscribe to the mailing list (if you have not done so already)
 - <https://taos.committees.comsoc.org/contact-us/>
 - or give your consensus in the attendance form

Welcome and Introductions

TAOS TC Officers for the 2023-2024 Term

**Chair**

Walter Cerroni
Department of Electrical, Electronic and Information Engineering "G. Marconi"
University of Bologna
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47521 Cesena (FC) - Italy
Tel. +39 0547-339209
e-mail: wcerroni@ieee.org

**Vice Chair**

Mauro Biagi
Department of Information Engineering, Electronics and Telecommunications
University of Rome "Sapienza"
Via Eudossiana, 18
00184 Rome - Italy
Tel. +39 06-44585856
e-mail: mauro.biagi@uniroma1.it

**Secretary**

Murat Yuksel
Department of Electrical and Computer Engineering
University of Central Florida
4328 Scorpius Street,
Orlando, FL 32816-2362, USA
Tel. +1 407-8234181
e-mail: murat.yuksel@ucf.edu

**Standards Liaison**

Jaafar Elmirghani
Department of Engineering
King's College London
Strand, London, WC2R 2LS, United Kingdom
e-mail: Jaafar.Elmirghani@kcl.ac.uk

Agenda

1. Welcome and Introductions
2. Approval of the Meeting Agenda
3. Approval of the ICC 2024 Meeting Minutes (available online)
4. Conferences and Activities Update
5. Update on TC Restructuring Process
6. TAOS TC Secretary Election and 2025-2026 Term Officers
7. Any Other Business
8. Adjourn

Approval of the ICC 2024 Meeting Minutes

- Available on the TAOS TC website
 - <https://taos.committees.comsoc.org/meetings/>



**Technical Committee on
Transmission, Access, and Optical Systems (TAOS)
Meeting Minutes (draft)**

Authors:	Walter Cerroni, Mauro Biagi, and Murat Yuksel
Date/Time:	Tuesday, June 11, 2024 (7:30-9am MST)
Meeting Location:	During ICC 2024 – Denver, CO, USA and online meeting
Officers:	Walter Cerroni, Chair, walter.cerroni@uniibo.it Mauro Biagi, Vice Chair, mauro.biagi@uniroma1.it Murat Yuksel, Secretary, murat.yuksel@ucf.edu

Meeting agenda:

1. Welcome and Introductions
2. Approval of the ICC 2024 Meeting Agenda
3. Approval of the Globecom 2023 Meeting Minutes (available online)
4. Conferences and Activities Update
5. TAOS TC Recertification Outcome
6. Update on TC Restructuring Process
7. Upcoming Elections of TAOS TC Secretary
8. TC Campaign Video Project
9. TAOS TC 2023 Awards
10. Short Presentations by Award Recipients
11. Any Other Business
12. Adjourn

The meeting was called to order at 7:30am.

Conferences and Activities update

Sponsored ICC/Globecom Symposia

- TAOS TC has consistently sponsored two symposia:
 - Symposium on Green Communications Systems and Networks (GCSN)
 - Symposium on Optical Networks and Systems (ONS)
- Our TC always seeks to coordinate with Symposium TPC Co-Chairs
 - Track hot and emerging topics relevant to GCSN and ONS
 - Help writing the CfP
 - Help finding TPC members
 - Stimulate new ideas

Conferences and Activities update

Sponsored ICC/Globecom Symposia – Chairs nominated by TAOS

- IEEE ICC 2024 (Denver, CO, USA, 9–13 June 2024)
 - GCSN: Hamed Ahmadi (U. York, UK)
 - ONS: Lutz Lampe (U. British Columbia, Canada)
- IEEE Globecom 2024 (Cape Town, South Africa, 8–12 December 2024)
 - No nominations sent
- IEEE ICC 2025 (Montreal, Canada, 8–12 June 2025)
 - GCSN: Daniel K. C. So (U. Manchester, UK)

Conferences and Activities update

Sponsored ICC/Globecom Symposia – Chairs nominated by TAOS

- IEEE Globecom 2025 (Taipei, Taiwan)
 - ONS: Ali Khalighi (Fresnel Institute, France)
- IEEE ICC 2026 (Glasgow, UK) - nominated on May 30, 2024
 - GCSN: Antonio Cianfrani (U. Molise, Italy) + Walter Cerroni (U. Bologna, Italy)
 - ONS: Chedlia Ben Naila (Nagoya University, Japan) + Mauro Biagi (U. Rome “La Sapienza”, Italy)
- IEEE Globecom 2026 (Macau)
 - GCSN & ONS nominations ongoing: deadline Nov. 30, 2024

Conferences and Activities update

Sponsored ICC/Globecom Symposia – Report

- IEEE ICC 2024 (Denver, CO, USA, 9–13 June 2024)
- GCSN: Hamed Ahmadi (U. York, UK)
 - 84 papers submitted
 - 36 papers accepted (43%)
 - 6 oral sessions:
 - Federated Learning for Green Comm., Security and Privacy in Green Comm., RIS for Green Comm., Signal Processing for Green Comm., AI for Green Networks, Performance Optimization for Green Networks
 - 1 interactive session
 - 1 paper won one of the ICC 2024 BPAs:
 - *Power-Managed Data Centers for Sustainable Computing*
Emi Zeger, Nicholas Bambos, and Mert Pilanci
- ONS: Lutz Lampe (U. British Columbia, Canada)
 - 53 papers submitted (1 reviewed separately)
 - 21 papers accepted (39%)
 - 4 oral sessions:
 - LiFi and FSO Communication Systems; Core Networks; Signal Processing for Visible Light Communication; Quantum, Metro, and Access
 - 1 interactive session
 - 3 papers nominated for ICC 2024 BPA
 - 1 paper won one of the ICC 2024 BPAs:
 - *Secret Key Generation in Multi-Mode Fiber Channels: Channel Measurements and Achievable Rates*
Pin-Hsun Lin et al.

Conferences and Activities update

Sponsored ICC/Globecom Symposia – Report

- IEEE Globecom 2024 (Cape Town, South Africa, 8–12 December 2024)
- GCSN: Sabita Maharjan (University of Oslo, Norway), Yuan Wu (University of Macau, Macau, China) - not nominated by TAOS
 - 100 submitted papers
 - 40 accepted papers (40%)
 - 7 oral sessions (35 papers):
 - Energy-Efficient Networks, AI for Sustainable Networks, Green Communications, Semantic Communication, UAV-Assisted Green Networks, Sustainable Communications, Energy Harvesting
 - 1 interactive session (5 papers)
 - Papers nominated for Globecom 2024 BPA: unknown
- ONS: Anny Zheng (Google LLC, USA), Xiaoliang Chen (Sun Yat-sen University, China) - not nominated by TAOS
 - 63 submitted papers
 - 25 accepted papers (39.7%)
 - 4 oral sessions (20 papers):
 - Visible Light and Ultraviolet Communications and Networks; Fiber/FSO Communication Systems; Optical Network Design and Security; AI for Optical Networks / Optical Networks for AI
 - 1 interactive session (5 papers)
 - 2 papers nominated for Globecom 2024 BPA

Conferences and Activities update

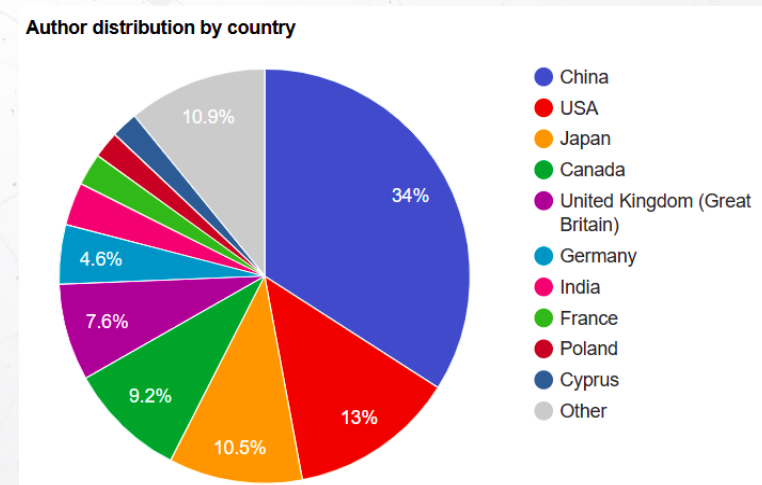
Sponsored ICC/Globecom Symposia – Report

- IEEE ICC 2025 (Montreal, Canada, 8–12 June 2025)
- Paper submission deadline expired on **November 8th, 2024**
- Acceptance notification planned for **January 17th, 2025**
- GCSN: Daniel K. C. So (U. Manchester, UK)
 - 118 papers submitted
 - Top 5 topics:
 - 1. Energy efficient communications, computing and networking
 - 2. Energy efficiency in 5G and beyond
 - 3. Green Internet of Things
 - 4. Green machine learning and AI
 - (=4) Green management of communication networks
 - Top 5 countries: China, Canada, UK, India, USA
- ONS: Francesco Musumeci - not nominated by TAOS (Politecnico di Milano, Italy)
 - 56 papers submitted
 - Top 5 topics:
 - ⑩ 1. Visible light communications and networks
 - ⑩ 2. Optical network control and management
 - ⑩ 3. Optical network architectures, design, and performance evaluation
 - ⑩ 4. Free-space optical (FSO) communications and networks
 - ⑩ 5. AI and ML for optical systems and networks

Conferences and Activities update

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 - 3. Green Internet of Things
 - 4. Green machine learning and AI
 - (=4) Green management of communication networks
 - Top 5 countries: China, Canada, UK, India, USA
- ONS: Francesco Musumeci - not nominated by TAOS (Politecnico di Milano, Italy)
 - 56 papers submitted
 - Author distribution by country
 - China 34%
 - USA 13%
 - Japan 10.5%
 - Canada 9.2%
 - United Kingdom (Great Britain) 7.6%
 - Germany 4.6%
 - India 4.6%
 - France 4.6%
 - Poland 4.6%
 - Cyprus 4.6%
 - Other 10.9%

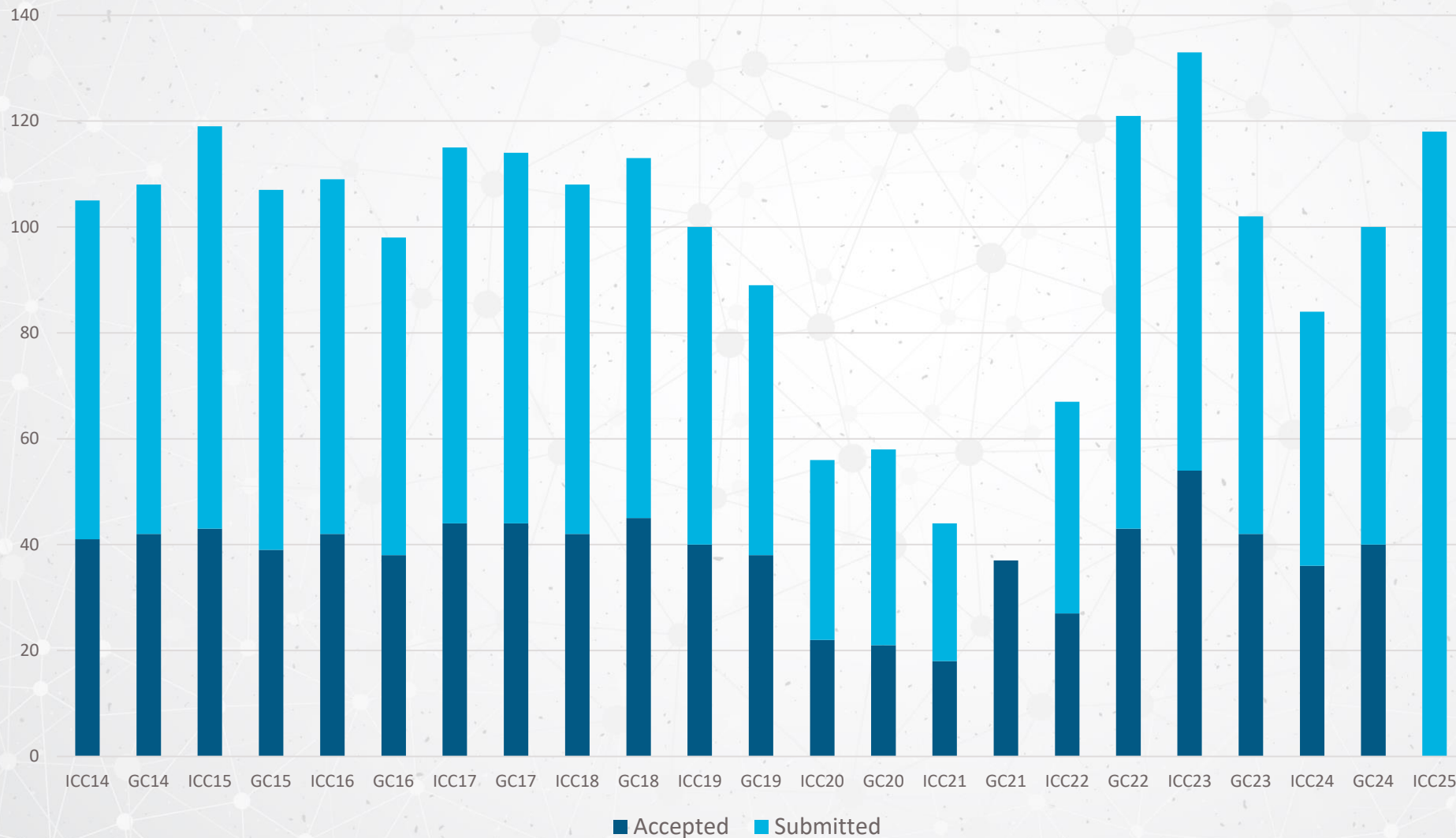


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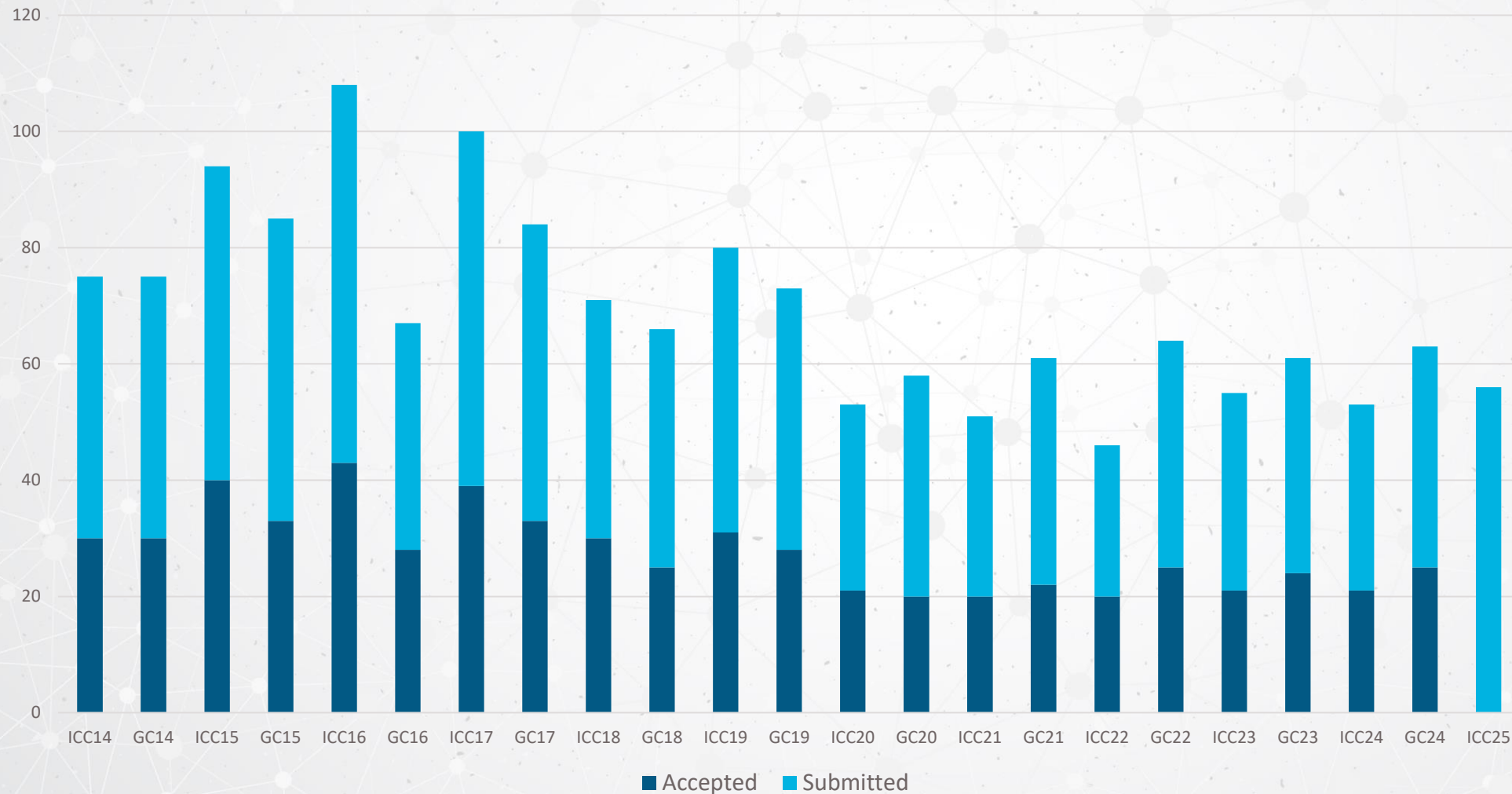
Conferences and Activities update

Sponsored ICC/Globecom Symposia – GCSN Statistics



Conferences and Activities update

Sponsored ICC/Globecom Symposia – ONS Statistics



Conferences and Activities update

Other Events

- TAOS TC technically endorses other events
 - Either co-located w/ ICC and Globecom, or stand-alone
 - Support for IEEE ComSoc Technical Co-sponsorship
- For event endorsement requests, please contact the TAOS officers
 - <https://taos.committees.comsoc.org/activities/endorsement/>

Update on TC Restructuring Process

TC Restructure Timeline (2024-2025)

2024

- Establish Ad Hoc Committee
- Engage in further consultations with each TC to determine a viable pathway that aligns with the new structure.
- Revise ComSoc Procedures and Policies (P&P) and submit it for the approval at BoG 2
 - Two in-person meetings were held (April, Sept.) and 3-4 online meetings

2025

- Adopt the new structure for TC in accordance with the revised P&P
- Guide the current TC through the transition to the new TC or TWG
- Complete the restructuring of the TC by December 2025

Update on TC Restructuring Process



Reorganization of ComSoc Technical Communities Ad Hoc Committee (2024-2025)

Chair | Wei Zhang

Voting Members

Periklis Chatzimisios

Luis Correia

Ekram Hossain

Rose Hu

Cheng Li

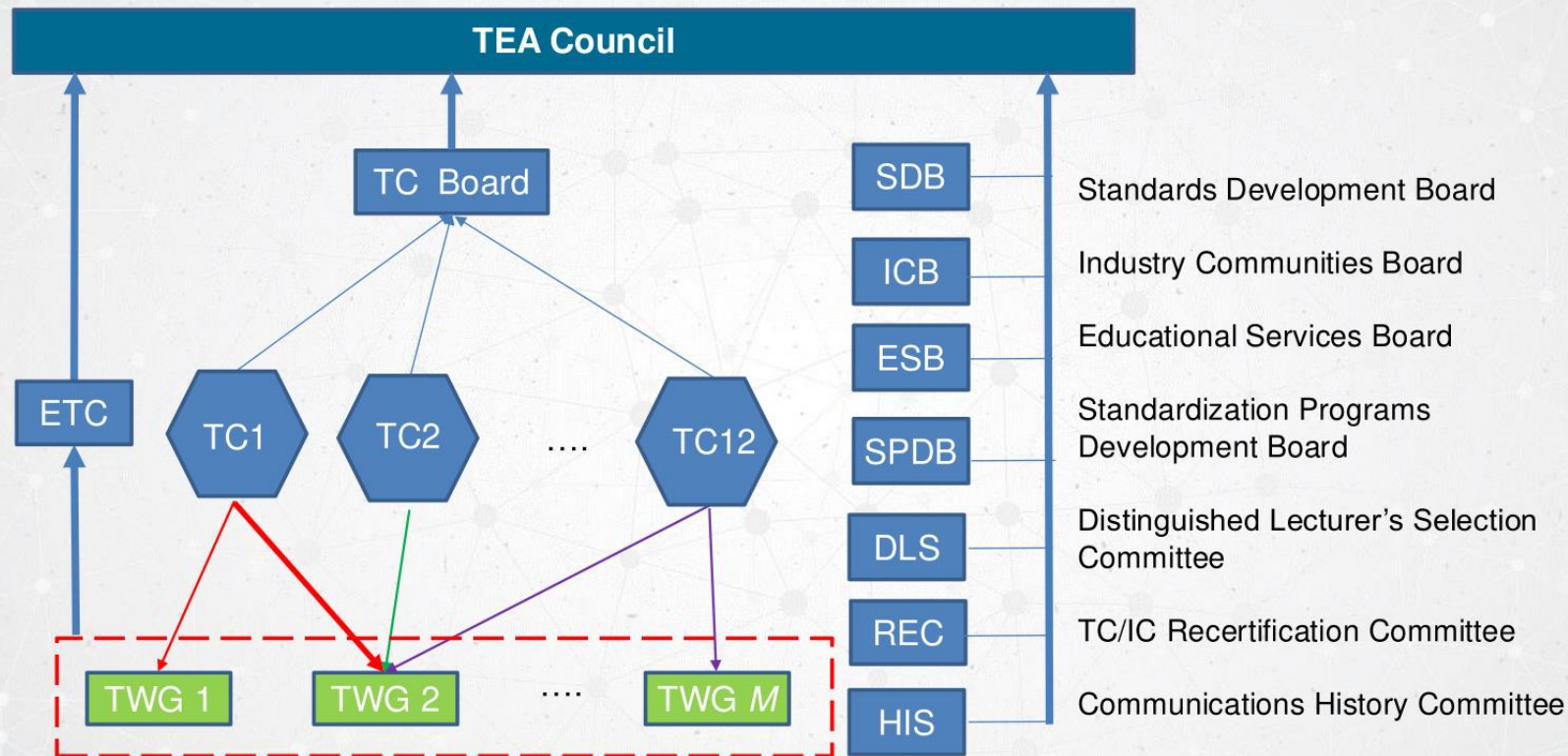
Shiwen Mao

Zhisheng Niu

Angela Yingjun Zhang

Update on TC Restructuring Process

New TC Structure



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12 TCs are determined according to ICC/GC Symposia in BoG2 of 2023.

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Update on TC Restructuring Process

New TC vs New TWG

Functions	New TC	New TWG
Technical Scope	Comprehensive in a technical field	Focus in a specialized Topic
Election	yes	yes
Sponsor conferences, workshops	yes	yes
Nominate DLs	yes	yes
Nominate ICC/Globecom Co-chairs	for Symposium	for SAC
Establish Awards	TC Award	TWG Award
TEA Funding	yes	yes
Promote industry/standards activities	yes	yes
Promote educational activities	yes	yes
Increase diversity of YP & student members	yes	yes
10 Recertification	by Recertification Committee	by ETC




Update on TC Restructuring Process

Establishment

Pending approval: draft proposal.

New TC	New TWG (replacing ETI and SIG)
<ul style="list-style-type: none"> In December 2023, ComSoc BoG approved 12 TCs to be established in the new TC structure. Currently, there are 26 existing TCs. Some of these TCs will be transformed into 12 new TCs either by retaining the current structure or by merging with other TCs. The remaining TCs will be restructured as Technical Working Groups (TWGs). The scope of 12 new TCs requires to be re-defined. In the future, a new TC shall be approved by the BoG only if it has minimal overlap in the scope with the existing TCs. 	<ul style="list-style-type: none"> Application is needed for the establishment of TWGs. A TWG shall identify a TC as its Core TC and determine the technical areas at the application phase. Prior to the establishment of a new TWG, prospective volunteers are recommended to consult with the Emerging Technology Committee (ETC) Chair. ETC will review and make decisions on applications for the establishment of new TWGs and will provide feedback to the applicants within one month.

Update on TC Restructuring Process

26 ComSoc TCs

- Big Data
- Cognitive Networks
- Communication Theory
- Communications & Information Security
- Communications Quality and Reliability
- Communications Software
- Communications Switching & Routing
- Communications Systems Integration & Modeling
- e-Health
- Green Communications & Computing
- Information Infrastructure & Networking
- Internet
- Internet of Things, Ad Hoc & Sensor Networks
- Molecular, Biological and Multi-Scale Communications
- Multimedia Communications
- Network Operations & Management
- Optical Networking
- Power Line Communications
- Radio Communications
- Satellite & Space Communications
- Signal Processing and Computing for Communications
- Smart Grid Communications
- Social Networks
- Tactile Internet
- **Transmission, Access, & Optical Systems**
- Wireless Communications

Update on TC Restructuring Process

12 ICC/GC Symposia

1. Cognitive Radio and AI-Enabled Networks
2. Communication and Information Systems Security
3. Communication QoS, Reliability and Modeling
4. Communications Software and Multimedia
5. Communication Theory
6. **Green Communications Systems and Networks**
7. IoT and Sensor Networks
8. Mobile and Wireless Networks
9. Next-Generation Networking and Internet
10. **Optical Networks and Systems**
11. Signal Processing for Communications
12. Wireless Communications

Update on TC Restructuring Process

12 ICC/GC SAC Tracks planned for Globecom 2026

1. Aerial Communications
2. Big Data
3. Cloud/Edge Computing, Networking, and Data Storage
4. E-Health
5. Integrated Sensing & Communications
6. Machine Learning for Communications & Networking
7. Molecular, Biological, and Multi-Scale Communications
8. Quantum Communications and Information Technology
9. Reconfigurable Intelligent Surfaces & Smart Environments
10. Satellite and Space Communications
11. Smart Grid Communications
12. Social Networks

Update on TC Restructuring Process

Election

Pending approval: draft proposal.

New TC	New TWG (replacing ETI and SIG)
<ul style="list-style-type: none"> The officers of a TC/TWG consist of one Chair, 1 to 3 Vice Chairs, and one Secretary. The term of office is for 2 years. Diversity in TC officers is strongly encouraged. An election for all positions of TC/TWG officers must be held every 2 years. There must be at least two candidates for each elected officer position. An individual cannot hold the position of Chair for more than one technical unit (TC, TWG) concurrently. The term limit for serving as an elected officer in the same position of a TC/TWG is capped at two consecutive terms. 	
<ul style="list-style-type: none"> An election for all positions of TC officers must be held every 2 years. The organization of TC elections is managed by the TC Nominations & Elections Subcommittee, and the corresponding election report must be submitted to the TC Board Director and VP TEA for final approval. 	<ul style="list-style-type: none"> TWG officers may be appointed by the ETC at the foundation of the group. After the first 2 years of the TWG, an election for all positions of TWG officers must be held every 2 years. The organization of TWG elections is managed by the TWG Nominations & Elections Subcommittee, and the corresponding election report must be submitted to the Chair of the Core TC for final approval and to the TC Board Director for information.

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TAOS TC Secretary Election and 2025-2026 Officers

- The term for the current slate of officers will end on December 31, 2024
- Per TAOS Policies and Procedures (P&Ps):
 - On completion of the term, the TAOS Chair retires, the Vice-Chair steps up to the position of Chair, the Secretary steps up to Vice-Chair and a new Secretary is elected
 - TC officers (Chair, Vice-Chair, and Secretary) are elected for two-year terms
 - Candidates for these positions are ComSoc members nominated by the TAOS Steering Committee
- **Slate of officers for the 2025-2026 term**
 - Chair: Mauro Biagi (University of Rome "La Sapienza", Italy)
 - Vice-Chair: Murat Yuksel (University of Central Florida, USA)
 - Secretary: to be elected
 - Any other position: to be appointed (or re-appointed, if current one can serve again)
- **Eligibility and voting is restricted to Active TAOS TC Members**
 - Individuals that have attended (physically or virtually) **two or more of the prior five** regularly scheduled TC meetings

TAOS TC Secretary Election and 2025-2026 Officers

- Call for expressions of interest was sent to all Active Members on Sept. 25
- Two candidates running for TAOS TC Secretary were nominated by the TAOS TC Steering Committee, which acts as TC Nomination and Elections Subcommittee, as per our P&Ps
- **Chedlia Ben Naila**, Nagoya University, Japan
- **Abdelmoula Bekkali**, Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain

TAOS TC Secretary Election and 2025-2026 Officers

- The list of Active Members will be updated considering the participation in this meeting
- Voting will be done electronically, following the procedure established by ComSoc P&Ps
 - The TC Chair sends email to electors announcing that the election for the open position is to take place via email vote, including in the email the names of the candidates and short bios
 - The electors are asked to reply with their vote to the designated Meeting Secretary no later than 7 days after the window to cast their vote starts
 - The list of eligible voting members is sent to the Meeting Secretary who will tally the votes and announce to the Chair the results of the election
 - The voting window starts 24 hours after the question is e-mailed and closes 7 days later or until the number of returned votes is sufficient to determine the outcome of the vote
 - A motion conducted via email passes if it receives a majority (simple or 2/3, depending on the motion type) of all of the voting members of the assembly

Any Other Business

- TAOS TC 2024 Best Paper Awards to be selected and announced by email in the next few weeks
- Please feel free to raise any questions on discussion points from this meeting or other topic/issues
- Feel free to follow up with any comments at any time via email to the TAOS TC Officers
 - wcerroni@ieee.org
 - mauro.biagi@uniroma1.it
 - murat.yuksel@ucf.edu



Adjourn

Thank you!