

Communications Software Technical Committee

The ICC'24 Meeting
June 9, 2024 at 11.00 am (MDT)



Housekeeping

- Thank you for being here!
- Please provide your name, affiliation(s) and contact email in the link below
 - https://forms.gle/wDVJmeFFam34mTbA9
- [If you're yet to subscribe to the mailing list, we'll use the contact you provide through the chat to add you to the mailing list.]
- To avoid reverb and accidentals, we ask that you kindly keep your mics on mute unless you're interested in speaking
- Motions, seconds, approvals can be expressed by speaking or "thumbs up", but we
 ask that you also note them through the chat.





Agenda

- Approval of Agenda
- Welcoming Remarks and Overview of CommSoft
- Approval of GC'23 Minutes
- Website Considerations
- Update on e-Letter
- Update on Standards
- Update on ComSoc Student Competition
- Update on TC P&P Revisions
- Awards Subcommittee
 - 2023 Technical Achievement Awards
 - 2024 Awards Season
- Updates on SIGs
- Updates on Sponsored Symposia and Conferences
- Updates on DLP Nominations
- Other Business (if any), and Next Steps





Welcoming Remarks

- CommSoft TC mission
 - "... mission of this committee is to advance the state of the art in communications software and its various aspects and applications. It serves as the major forum for discussion among communications software professionals in both the communications and computer industries."
- Presence
 - https://commsoft.committees.comsoc.org/
- Members
 - 457 on the mailing list
 - 56 active members (as of GC'23)
 - · Please encourage membership and engagement
 - Work to involve industrial reps and expand diversity
 - Also, consider working with your local ComSoc Chapter





CommSoft Team

- Executives for current term (2023-2024)
 - Chair Abd-Elhamid M. Taha
 - Vice Chair Hassine Moungla
 - Secretary Moayad Aloqaily
- Special Interests Group Coordinator
 - Marwane Ayaida
- Newsletter EiCs
 - Aiman Erbad
 - Moayad Aloqaily
- Standards Liaison
 - Mohannad Alharthi
- Student Competition Program
 - Hyunbum Kim
- Website Administrators
 - Safa Otoum
 - Ouns Bouachir





Approval of Minutes



Location	Date and Time	Files		
ICC 2024	June 9, 2024, 11:00 – 12:30 (MDT)	presentation minutes		
Globecom 2023	December 6, 2023, 14:00-15:00 (MYT)	presentation minutes		
ICC 2023 (via Zoom)	May 11, 2023, 12:00-13:00 (EDT)	presentation minutes		

- Minutes posted on TC website shortly after meeting
- Access to prior meetings minutes and presentations is also possible through the website





Website Considerations

- Website Administrators
 - Safa Otoum
 - Ouns Bouachir
- Website maintained and with all TC news and updates posted (minutes, agendas, symposium information, ...)
- Open for suggestion on usability and ease of access





Updates on CommSoft TC e-Letter

Aiman Erbad and Moayad Aloqaily

- TC's E-Letter's can be found at the following link
- https://commsoft.committees.comsoc.org/eletter/
- We've been successfully generating an e-Letter twice a year
- Your engagement and contributions are necessary to the e-Letter's success!





TC P&P Update

- Feedback for the revisions have been sought from the TC members at large on September 9, 2023. Only supportive notes received.
- The revisions were then offered to the active members on October 8th for approval, and the revisions were approved.
- Approved by ComSoc TC on March 12, 2024
- Considerations
 - Alignment with most recent ComSoc bylaws and P&P
 - Review of the definition of "active member," emphasizing engagement and contribution as well as attendance
 - Recognizing positions for
 - Industry Liaison
 - WICE Rep
 - Policies for SIG creation, evaluation, and retirement
 - Review of awards





Awards Subcommittee (2023-2024)

- The following members have kindly agreed to serve on the TC's Awards Subcommittee for 2023-2024.
 - Jalel Ben-Othman (as chair)
 - Cheng Li (member)
 - Melike Erol-Kantarci (member)
 - Adlen Ksentini (member)
 - Hassine Moungla (member)
 - Eirini Eleni Tsiropoulou (member).
- Approved by TCB on October 25, 2023.





Technical Achievement Award 2023

- Coll for Nominations emailed to TC on Nov 20, 2023
- Deadline: December 15, 2023

Eligibility Criteria for Nominees

- Demonstrated significant and enduring contributions to communications software.
- Active participation in TC activities.
- Current membership in the IEEE Communications Society.

Nomination Package

- A one-page narrative outlining the nominee's meeting of the above criteria.
- Any relevant supporting documentation.
- Optional: Indication of support from other TC members.

Nomination Process

- Submit your nominations by <u>December 15th</u> directly to the TC's Awards Subcommittee. Please send a single email with the nomination package, ensuring to copy all subcommittee members.
 - Jalel Ben-Othman: jalel.ben-othman@univ-paris13.fr
 - Cheng Li: cheng_li_5@sfu.ca
 - Melike Kontarci: melike.erolkantarci@uottawa.ca
 - Aadlen Ksentini: adlen.ksentini@eurecom.fr
 - Hassine Moungla: hassine.moungla@parisdescartes.fr
 - Eirini Eleni Tsiropoulou: eirini@unm.edu





Technical Achievement Award 2023

		CIEEE Compunications Society	IEEE
IEEE CON	MUNICATION	S SOCIETY	
Communication	ns So <mark>ftware Tech</mark>	nical Commi	ttee
2023 TECHNIC	AL ACHIEVI	EMENT A	WARD
	PRESENTED TO		
Pa	ascal Lore	enz	
FOR CONTRIBUTIONS TO SO	FTWARE COMMUNICAT	TIONS IN WIRELESS	NETWORKS
Xuemin (Sherman) Shen, President, IEEE Communications Society		Thang, VP - Technical and Educational Activiti	<u>u</u>



Technical Achievement Award 2023





2024 Awards Seasons

- Four Awards
 - **Technical Achievement Award**: Recognizes outstanding technical contributions in Communications Software. Presented annually for remarkable advancements, innovations, or breakthroughs in software systems and technologies for communication networks.
 - **Student Achievement Award**: This award recognizes exceptional contributions by students to the field of Communications Software. Eligible contributions must have been made during the nominee's time as a student. Support evidence includes, but is not limited to, a thesis, publications, patents, or other forms of rigorous output that demonstrate the nominee's achievements in the previous year.
 - CommSoft TC Service Award: Honors exemplary service to the Communications
 Software Technical Committee. Presented annually to members who have
 demonstrated exceptional dedication, leadership, and contributions to the growth and
 success of the CommSoft TC.
 - **Test-of-Time Paper Award**: Recognizes influential research in Communications Software. Presented annually to authors of a selected paper published at least five years before the nomination, and in venues endorsed or overseen by the CommSoft TC, which has demonstrated enduring significance and impact on the theory or practice of software technologies in communication networks.
- Coll for Nominations to be emailed to TC on October 1, 2024
 - Details on eligibility, nomination package and nomination process to be detailed in awards announcement.
- Deadline: November 15, 2024



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Standards Liaison Update

Mohannad Alharthi (Liaison with ComSoc Standardizations Board)

Standards Liaison

- Reports to the TC on COM/SDB standardization activities, particularly those of interest to the TC area.
- Informs the COM/SDB about TC activities of interest.

ComSoc Standards Development Board (COM/SDB)

https://comsdb.standards.comsoc.org

- Supports standardization activities pertaining to all ComSoc technical fields
- Holds monthly meetings to follow up on working group activity

Participation

- > COM/SDB is soliciting participation from TC members with activities suitable for standardization.
- Reach out to any working group of interest to contribute https://comsdb.standards.comsoc.org/working-groups/





Standards Liaison Update

Mohannad Alharthi (Liaison with ComSoc Standardizations Board)

Sample of active SCs and projects (presented reports in recent COM/SDB meetings):

- MobiNet-SC
 - P1954: Self-Organizing Sepctrum-Agile Unmanned Aerial Vehicles Communications
 - P1920.2: Vehicle-to-Vehicle Communications for Unmanned Aircraft Systems
- NetSoft-SC
 - P1916.1: Standard for Software Defined Networking and Network Function Virtualization Performance
- EdgeCloud-SC
 - P1912: Standard for Privacy and Security Framework for Consumer Wireless Devices
 - P1935: Standard for Edge/Fog Manageability and Orchestration



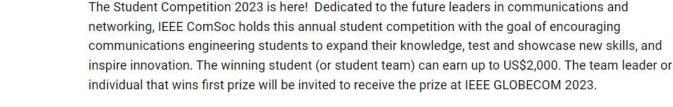


ComSoc Student Competition Update

- Liaison: Hyunbum Kim
 - Proctored and served as ambassador, selection committee
- IEEE ComSoc Student Competition
 - Led by Prof. Stefano Bregni
 - 73 projects were submitted (The submission number is new record!)
 - Those submissions were evaluated by selection committee
 - https://www.comsoc.org/membership/ieee-comsoc-student-competition

IEEE ComSoc Student Competition







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Updates on Special Interest Groups

Marwane Ayaida (SIGs Coordinator)

- The VP on Technical Committee confirmed the need that each TC has SIGs
- More precisely, TCB P&Ps states "Special Interest Groups (SIGs) help the TC foster the scientific and technological development in topical emerging technologies within the scope of the TC. SIGs may be created to promote activities in well-established technologies."





CommSoft TC SIGs

Marwane Ayaida (SIGs Coordinator)

- Special Interest Group on "ML and AI for Networking"
 - Lead: Dr. Melike Erol-Kantarci (Melike.erolkantarci@uottawa.ca)
- Special Interest Group on "Security in Communications Software"
 - Lead: Dr. Safa Otoum (Safa.Otoum@zu.ac.ae)
- Special Interest Group on "Big Data and Communication software"
 - Lead: Dr. Hassine Moungla (hassine.moungla@parisdescartes.fr)
- Special Interest Group on "Blockchains and Applications"
 - Lead: Dr. Moayad Aloqaily (maloqaily@xanalytics.ca)
- Special Interest Group on "Performances Evaluation"
 - Lead: Prof. Abdellatif Kobbane (<u>abdellatif.kobbane@um5.ac.ma</u>)
- Special Interest Group on "Communication software for Vehicular AdHoc Networks"
 - Lead: Prof. Hacene Fouchal (<u>Hacene.Fouchal@univ-reims.fr</u>)
- Special Interest Group on "NFV and SDN technologies"
 - Lead: Prof. Sudip Misra (<u>smisra.editor@gmail.com</u>)





ML and Al for Networking

Melike Erol-Kantarci (Lead)

- Dr. Erol-Kantarci received the 2023 Technical Achievement Award of the IEEE Technical Committee on Smart Grid Communications
- 2023 Best Journal Paper Award of the IEEE ComSoc CSIM for paper
 - "H. Zhou, Melike Erol-Kantarci, V. Poor, "Learning from Peers: Deep Transfer Reinforcement Learning for Joint Radio and Cache Resource Allocation in 5G RAN Slicing," in IEEE Transactions on Cognitive Communications and Networking, vol. 8, no. 4, pp. 1925-1941, December 2022"
- Dr. Erol-Kantarci Keynote on "Towards an Al-native 6G Is G for Generative?," IEEE ICC, Denver, June 2024.
- Last DL "Al-enabled Smart Grid Communications and Smart Cities," IEEE Distinguished Lecturer Series – IEEE ComSoc Galveston Bay Section Chapter, 18 December 2023.
- Panelist for "AI/ML in Networking Challenges and Opportunities," Talk title: "Towards 6G: G for Generative," IEEE Virtual Conference on Communications, November 2023.
- C. Fischione, F. Granelli, M. Erol-Kantarci, general co-chairs of IEEE International Conference on Machine Learning for Communication and Networking (ICMLCN) 2024
- C. Fischione, M. Erol-Kantarci, track cochairs, IEEE ICC, Selected Areas in Communications (SAC) - Machine Learning for Communications and Networking 2024



Talks, conferences and symposiums attracted large number of participants from the TC.





Security in Communications Software

Safa Otoum (Lead)





SIG on Big Data and Communication software

Head: Hassine Moungla

List of Invited Seminar Talks in 2024 hosted at Université Paris Cité

- "Intent-Based Management for Next-Generation Networks: an LLM-centric Approach") / Professor Adlen Ksentini – Eurecom, Université Paris Cité, , 19 June 2024, hybrid
- "6G Challenges: IA and DATA communication", Prof. Abdella Battou, NIST, USA, 18 July 2024, hybrid, Université Paris Cité.
- "The study on multi-source data fusion with Vehicular Edge Computing", Professor Liangjie Xu, Wuhan University, China, 10 July 2024, (hybrid)
- "Data Fusion in Vehicular Edge Computing", Professor Lin Hai, Wuhan University, China, 10 July 2024, (hybrid)





SIG on Big Data and Communication software

Head: Hassine Moungla

Conferences & workshop

- The 44rd IEEE International Conference on Distributed Computing Systems (ICDCS 2024), July 2024 in Jersey City, New Jersey, USA.
- IEEE GC 2024 and IEEE ICC 2025, Track Chair.
- The 10th BMW Summer School on AI, DATA Trust & Safety: Call for PhD Posters & Participation! taking place from **June 30th to July 5th**, 2024, at the picturesque Cloister of Fraueninsel on Lake Chiemsee, Bavaria, Germany.

Journals Open Call

- IEEE Communications Magazine Call for Papers AI for Communications and Communications for AI, Publication, Manuscript Submission Deadline 30 September 2024
- IEEE Communications Magazine Call for Papers Artificial Intelligence and Data Science for Communications, Periodically.
- IEEE JSAC, Special Issue: Zero Trust for Next-Generation Networking Paper Submission:
 19 June 2024
- IEEE Networking letter and TNSM SI in discussion.







Blockchains and Applications

Moayad Aloqaily (Lead)





Performance Evaluation

Abdellatif Kobbane (Lead)

 Invited Keynote Speaker: « Improving Wireless Communication Networks through Federated Learning»

The 4th International Conference on Innovative Research in Applied Science, Engineering and Technology - IRASET'2024, May 17, 2024, Fez, Morocco

- Executive chair of the 11th International Conference on Wireless Networks and Mobile Communications (WINCOM 2024) held in Leeds, UK, 23-25 July 2024.
- The 4th Winter School on Mean-Field-Type Game Theory (WSMFT 2024), ENSIAS, School of Engineering of Mohammed V University in Rabat, Morocco from 10 to 17 January, 2024
 - MFTG Winter School 2024 Distinguished Lecturer: Prof. Tembine Hamidou, TIMADIE co-Founder & Co-Chair and Professor at New York University
 - 300 participants in WSMFT 2024





Performance Evaluation

Abdellatif Kobbane (Lead)

Significant Publications

- ✓ <u>Abderrahime Filali</u>, <u>Boubakr Nour</u>, <u>Soumaya Cherkaoui</u>, Abdellatif Kobbane:
 Communication and Computation O-RAN Resource Slicing for URLLC Services Using Deep Reinforcement Learning. <u>IEEE Commun. Stand. Mag. 7(1)</u>: 66-73 (2023)
- ✓ <u>Safaa Berkani</u>, <u>Ihsane Gryech</u>, <u>Mounir Ghogho</u>, <u>Bassma Guermah</u>, Abdellatif Kobbane: Data Driven Forecasting Models for Urban Air Pollution: MoreAir Case Study. <u>IEEE Access 11</u>: 133131-133142 (2023)
- 11th International Conference on Wireless Networks and Mobile Communications (WINCOM). Leeds, July 23-25, 2024

Upcoming Events

- IFIP/IEEE* PEMWN 2024
 - The 13th International Conference on Performance Evaluation & Modeling in Wired and Wireless Networks (a CORE ranked conference), Agadir, Morocco, on Sept. 25-27
 - Invited Keynote Speaker: Al-enabled Resource Management for Next-Generation Networks
 - SMART TECHNOLOGIES FOR SUSTAINABILITY (ICST4S'2024), september, 26-27, 2024, Oujda, Morocco





Vehicular AdHoc Networks activities

Hacene Fouchal (Lead)

- Conference: Machine Learning for Networking (LNCS volume) to be held in Reims, France November 27-29, 2024. TPC chairs: S. Boumerdassi/H. Fouchal
- C-ITS Webinar "From Vision to Reality: C-ITS on the road » a serie of webinars about the deployment of C-ITS in Europe. Böhm Martin <u>Martin.Boehm@austriatech.at</u>
- Special Issue in Future Transportation are requested if you are interested https://www.mdpi.com/journalproposal/sendproposalspecialissue/futuretransp
- Two interesting Special issue on T-ITS:
 - Recent Advances in Safety and Reliability for Transportation Cyber-Physical Systems (T-CPS) DD October 1st, 2024
 - Intelligent Autonomous Transport System for 6G Network, DD October 1st, 2024
- Special issue in Vehicular Communications (Elsevier), <u>Computational Aspects of</u>
 <u>Vehicular Networks</u> (Guest editors: Youssef Iraqi, Issam Damaj, Nazim Agoulmine) DD:
 June 30, 2024





NFV and SDN technologies

Sudip Misra (Lead)

• The Special Interest Group (SIG) on "NFV and SDN Technologies" conducted its seventh edition of "**Webinar on Next Generation IoT**" on 15th February, 2024 [https://ieee-webinar.github.io/sdn_nfv/]



Webinar on Next Generation IoT



(Seventh Edition)

IEEE Communication Society
Technical Committee on Communications Software: Special Interest Group on "NFV and SD!"
Technologies"

Date: February 15, 2024 Time: 7:30 PM- 9:30 PM, Indian Time (IST)

- The webinar consisted of two talks from distinguished speakers
 - "IoT DNS Flooding Attacks and Mitigation Methods" by Professor Yang Xiao, IEEE Fellow
 - "Security Considerations for Ultrawideband (UWB) Ranging" by Dr. Giridhar D. (Giri) Mandyam Former Chief Security Architect Qualcomm
- The host of the talks were Dr. Arijit Roy, Dr. Ayan Mondal and Prof. Sudip Misra





NFV and SDN technologies

Sudip Misra (Lead)

- "The 2nd Workshop on AI/ML for Edge/Fog Networks", co-located with the IEEE GLOBECOM 2023, Kuala Lumpur, Malaysia, December 4-8, 2023, Chairs: Arijit Roy, Ayan Mondal, Sudip Misra, and Sidi-Mohammed Senouci
- "Communication Networks, Cloud computing and IoT Track, 3rd International Conference on Frontiers in Computing and Systems (COMSYS), 2023", Springer, Himachal Pradesh, Indian, October 17-18, Track Chairs: Manas Khatua, Sujoy Saha, Malay Kule, and Arijit Roy.
- **Dr. Ayan Mondal** organized a 7 Day High-End Workshop on "Internet of Things in Edge Cloud Continuum: Theory and Applications" where advances of IoT in NFV/SDN were discussed. Prof Sudip Misra and Dr. Arijit Roy were also invited speakers [https://www.iiti.ac.in/people/~ayanm/karyashala/].









7 Days High-End Workshop (Karyashala)

Internet of Things in Edge Cloud Continuum: Theory and Applications

May 25-31, 2024 SPEAKERS/LECTURES















Mashwaha.











Sponsored Symposia and Conferences

- CSSMA
 - GC'23 (Kuala Lumpur)
 - Hassine Moungla
 - ICC'24 (Denver)
 - Eric Renault
 - GC'24 (Cape Town)
 - Khalil Ibrahimi
 - ICC'25
 - Selection Pending
- Stats

CSSMA@	ICC 17	GC 17	ICC 18	GC 18	ICC 19	GC 19	ICC 20	GC 20	ICC21	GC21
Submissions	68	91	84	104	82	121	87	71	70	99
CSSMA@	ICC 22	GC 22	ICC 23	GC 23	ICC 24	GC 24				
Submissions	55	?	58	141	49	59				







CSM @GC'23 Final Stats – Hassine Moungla Sym. Chair

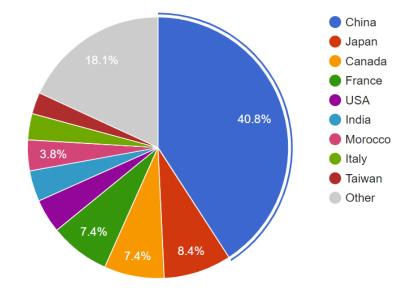
Conference	Accepted	Rejected	Withdrawn	Total under review, accepted and rejected	Total (incl. withdrawn)	Acceptance ratio (%, including revisions)
IEEE GC'23 - CSM Symposium	55	84	22	141	163	<mark>39</mark>

Author Types

Highest submission rate for CSM

Author distribution by country

Autor type	Pending	Accepted	Rejected	Withdrawn	
Student	0	41	55	1	3
Industry	1	3	7		1
Academia	1	11	22		8



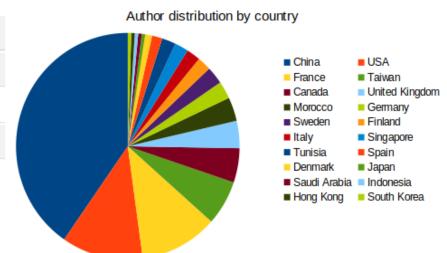




CSM @ICC'24 Final Stats – Eric Renault Sym. Chair

Conference	Pending (no manuscript)	Accepted	Rejected	Withdrawn	Total under review, accepted and rejected	1 1
IEEE ICC'24 - CSM Symposium 2024 IEEE International Conference on Communications (ICC): Communication Software and Multimedia Symposium	1	19	29	7	49	

Author type	Pending (no manuscript)	Accepted	Rejected	Withdrawn
student	0	7	9	4
academia	1	10	17	3
industry	0	1	2	0



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CSM @GC'24 Ongoing Stats – Khalil Ibrahimi Sym. Chair

onference	Active (has manuscript)	Pending (no manuscript)	Withdrawn	Total under review, accepted and rejected	
Globecom 2024 CSM 2024 IEEE Global Communications Conference: Communications Software and Multimedia	55	4	10	59	





SoftCOM: International Conference on Software, Telecommunications and Computer Networks

Dinko Begušić and Pascal Lorenz

- Scope
 - Agile Software Development, Communication Protocols, Telecommunications Services, Network Management, IoT, Mobile and Wireless Communications, Cloud Computing, 5G/B5G, AdHoc and Sensor networks, Vehicular Networks, Security and Privacy and more.
- SoftCOM'23
 - September 21-23, 2023, Split, Croatia
 - 31st Instance! "... marked a triumph of innovation and collaboration in telecommunications and computer networks. Esteemed academics and industry leaders united for insightful sessions and keynotes, addressing cutting-edge topics like Green Networking, IoT, and Robotics. The event also featured interactive workshops and a dynamic business forum with special events for students, all in the picturesque Adriatic setting. This conference not only celebrated technological advancements but also fostered a vibrant community eager to shape the future of ICT."
- SoftCOM'24
 - September 26-28, 2024, Split Bol (Island of Brac), Croatia
 - Deadline: June 17, 2024
- Calling on support for program committee members, and for submissions.





ISNCC: International Symposium on Networks, Computers and Communications (https://www.isncc-conf.org/)

Tarek Bejaoui

- Scope
 - Satellite Communications and Space Internet, Deep Space Exploration and Long-Distance Communication, AI & ML, IoE and Smart Cities, Industry 4.0 and the Factory of the Future, Data Science and Big Data Systems Engineering, 5G exploitation and 6G Vision, Trust, Security and Privacy, Cloud, Computing, Networking and Storage, Wireless and Mobile Networks, Antenna Systems, Propagation and RF Design, Signal Processing and Communication System Theory

ISNCC'23

- October 23-26, 2023, Doha, Qatar
- Accepted papers: 190 (Acceptance rate: 47 %) from 45 countries
- The exciting Technical Program included: 02 Tutorials / 06 Keynote Talks / 31 research Technical Sessions / 01 Industry Session / 01 Panel including Stakeholders from Industry and Academia

ISNCC'24

- October 22-25, 2024, Washington DC, USA
- Deadline: June 30, 2024
- Calling on support for program committee members, and for submissions.





Updates on DLP Nominations



Tamer ElBatt

Lecture Topics

- Machine Learning and Edge Intelligence: Key Enablers for Wireless and
 LeT.
- Edge Computing and Communications for Wireless and IoT
- · Content Caching in Wireless and Mobile Networks
- Exploiting Mobile Users' Profiles: Proactive Caching and Opportunistic Social Networks
- Green Wireless: Energy-efficiency and Harvesting in Wireless Networks

Egypt

Term effective through 31 Dec 2024



Nizar Zorba

Lecture Topics

- · UAVs for Small Cell HetNets
- · Enabling Technologies for Crowd Sensing and Management

Qatar

Term effective through 31 Dec 2025





Other Business

- How can we support you?
 - Applications for sponsoring conferences or SI proposals.
 - Application for membership elevations
 - ComSoc Distinguished Lecture Program (DLP) applications
 - Highlighting your work
 - Hosting webinars
- We rely on your support in ...
 - Reaching out to industrial ComSoc members
 - Increasing TC's diversity
 - Publicizing the TC
 - Supporting our flagship symposium
 - Engaging your local chapter



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Thank you!

See you at the GC'24 Meeting