



CommSoft TC

# COMMUNICATIONS SOFTWARE

Spring 2024

Communications Software Technical Committee

***Chair:*** Abd-Elhamid M. Taha

***Vice-Chair:*** Hassine Mouncla

***Secretary:*** Moayad Aloqaily

<https://commsoft.committees.comsoc.org/>



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# Links

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- TC Website  
<https://commsoft.committees.comsoc.org/>
- TC eLetters  
<https://commsoft.committees.comsoc.org/eletter/>
- TC SIGs  
<https://commsoft.committees.comsoc.org/sigs/>
- TC Mailing List  
<https://commsoft.committees.comsoc.org/mlist/>

# CommSoft Team

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## **Executives for the current term (2023-2024)**

Chair: Abd-Elhamid M. Taha

Vice Chair: Hassine MOUNGLA

Secretary: Moayad Aloqaily

## **Special Interests Group Coordinator**

Marwane Ayaida

## **Newsletter EiC**

Aiman Erbad

## **Standards Liaison**

Mohannad Alharthi

## **Student Competition Program**

Hyunbum Kim

## **Website Administrators**

Safa Otoum

Ouns Bouachir

# Approval of Minutes

IEEE.org | IEEE Xplore Digital Library | IEEE Standards | IEEE Spectrum | More Sites

**IEEE ComSoc** IEEE Communications Society  
**Communications Software Technical Committee**

HOME OFFICERS SIGS POLICIES & PROCEDURES MEETINGS MAILING LIST AWARDS E-LETTER ELECTIONS (2022)

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 the TC website shortly after the meeting
- Access to prior meeting 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, etc.)
- Open for suggestions 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 were 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)

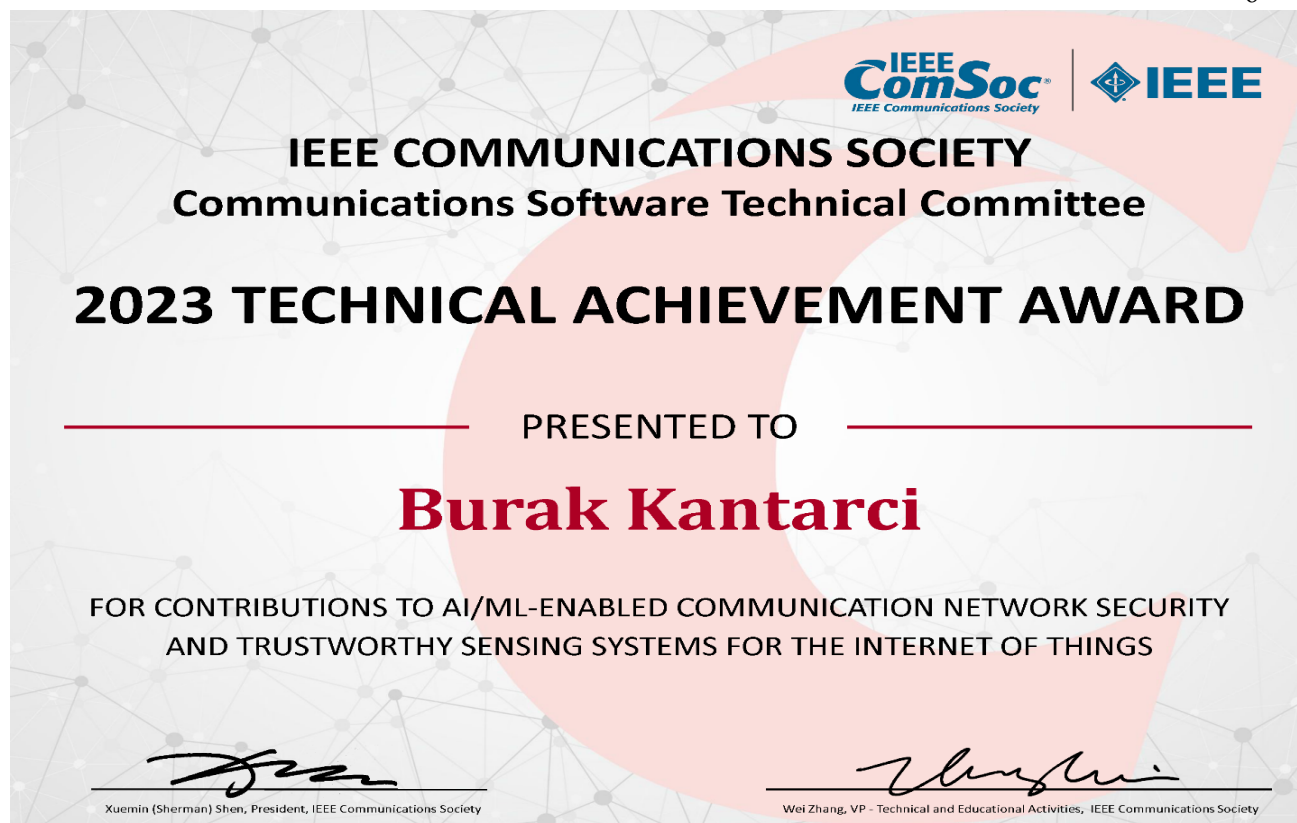
- The following members have kindly agreed to serve on the TC's Awards Subcommittee for 2023-2024.
  - Jalel Ben-Othman (as chair)
  - Cheng Li (member)
  - Melike Erol-Kantarci (member)
  - Adlen Ksentini (member)
  - Hassine Mounsla (member)
  - Eirini Eleni Tsiropoulou (member).
- Approved by TCB 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 December 15th 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](mailto:jalel.ben-othman@univ-paris13.fr)
      - Cheng Li: [cheng\\_li\\_5@sfu.ca](mailto:cheng_li_5@sfu.ca)
      - Melike Kontarci: [melike.erolkantarci@uottawa.ca](mailto:melike.erolkantarci@uottawa.ca)
      - Aadlen Ksentini: [adlen.ksentini@eurecom.fr](mailto:adlen.ksentini@eurecom.fr)
      - Hassine Moun gla: [hassine.moungla@parisdescartes.fr](mailto:hassine.moungla@parisdescartes.fr)
      - Eirini Eleni Tsiropoulou: [eirini@unm.edu](mailto:eirini@unm.edu)





## 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.

## 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/>

## 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



The Student Competition 2023 is here! Dedicated to the future leaders in communications and networking, IEEE ComSoc holds this annual student competition with the goal of encouraging communications engineering students to expand their knowledge, test and showcase new skills, and inspire innovation. The winning student (or student team) can earn up to US\$2,000. The team leader or individual that wins first prize will be invited to receive the prize at IEEE GLOBECOM 2023.



# 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](mailto:Melike.erolkantarci@uottawa.ca))
- Special Interest Group on “Security in Communications Software”
  - Lead : Dr. Safa Otoum ([Safa.Otoum@zu.ac.ae](mailto:Safa.Otoum@zu.ac.ae))
- Special Interest Group on “Big Data and Communication software”
  - Lead : Dr. Hassine Moun gla ([hassine.moungla@parisdescartes.fr](mailto:hassine.moungla@parisdescartes.fr))
- Special Interest Group on “Blockchains and Applications”
  - Lead : Dr. Moayad Aloqaily ([maloqaily@xanalytics.ca](mailto:maloqaily@xanalytics.ca))
- Special Interest Group on “Performances Evaluation”
  - Lead : Prof. Abdellatif Kobbane ([abdellatif.kobbane@um5.ac.ma](mailto:abdellatif.kobbane@um5.ac.ma))
- Special Interest Group on “Communication software for Vehicular AdHoc Networks”
  - Lead : Prof. Hacene Fouchal ([Hacene.Fouchal@univ-reims.fr](mailto:Hacene.Fouchal@univ-reims.fr))
- Special Interest Group on “NFV and SDN technologies”
  - Lead : Prof. Sudip Misra ([smisra.editor@gmail.com](mailto:smisra.editor@gmail.com))

## ML and AI 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 AI-native 6G – Is G for Generative?,” IEEE ICC, Denver, June 2024.
- Last DL - “AI-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.

## SIG on Big Data and Communication Software

Head: **Hassine Moun gla**

### *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).**

### **Conferences & workshop**

- The 44th 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.*

# 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.

## Significant Publications

- [Abderrahime Filali](#), [Boubakr Nur](#), [Soumaya Cherkaoui](#), [Abdellatif Kobbane](#): *Communication and Computation O-RAN Resource Slicing for URLLC Services Using Deep Reinforcement Learning*. [IEEE Commun. Stand. Mag.](#) **7(1)**: 66-73 (2023).
- [Safaa Berkani](#), [Ihsane Gryech](#), [Mounir Ghogho](#), [Bassma Guermah](#), [Abdellatif Kobbane](#): *Data Driven Forecasting Models for Urban Air Pollution: MoreAir Case Study*. [IEEE Access](#) **11**: 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 : AI-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 [Martin.Boehm@austriatech.at](mailto:Martin.Boehm@austriatech.at)
- 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 Vehiicular Communications (Elsevier), [Computational Aspects of Vehicular Networks](#) (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/](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 SDN 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 hosts of the talks were Dr. Arijit Roy, Dr. Ayan Mondal and Prof. Sudip Misra.
- “*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)

on

Internet of Things in Edge Cloud Continuum: Theory and Applications

May 25-31, 2024

SPEAKERS/LECTURES



Prof. Sudip Misra



Dr. Debasis Das



Dr. Somnath Dey



Dr. Surya Prakash



Dr. Bodhisatwa Mazumdar



Dr. Ranveer Singh



Dr. Aniruddha Singh  
Kushwaha



Dr. Arijit Roy



Dr. Satendra Kumar



Dr. Subhra Mazumdar



Dr. Dibendu Roy



Dr. Ayan Mondal  
(Coordinator)

## Sponsored Symposia and Conferences

- CSSMA
  - GC'23 (Kuala Lumpur)
    - Hassine Mouncla
  - ICC'24 (Denver)
    - Eric Renault
  - GC'24 (Cape Town)
    - Khalil Ibrahimi
  - ICC'25
    - Selection Pending
  - 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
  - General Chair: Aiman Erbad
  - 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
  - General Chair: Thabet Kacem and Tarek Bejaoui
  - 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 IoT
- 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