

# COMMUNICATIONS SOFTWARE SPRING 2023

COMMUNICATIONS SOFTWARE TECHNICAL COMMITTEE

## CommSoft TC

Chair: Abd-Elhamid M. Taha Vice-Chair: Hassine Moungla Secretary: Moayad Aloqaily

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



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# Links

• 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/

## Awards/Distinctions

### Certificate of appreciation and Excellence

K. Dev received the 2022 IEEE Communication Society Outstanding Young Researcher Award for Europe, Middle-East, and Africa (EMEA) Region.



**K. Dev** received the 2022 Irish Research Council Research Ally Prize

	The Irish Research Council
	Research Ally Prizes 2022
3	The Irish Research Council is delighted to present this certificate to
	Dr Kapal Dev
	in recognition of their Research Ally Prize 2022 award.
1	The Research Ally Prizes honour the positive role of mentors, supervisors, research officers and support staff in the Irish higher
	education and research system. The Irish Research Council is proud to celebrate the Research Allies that support and sustain the
	research community in Ireland across all career levels.
	x. Collinen

K. Dev received the excellent Reviewer 2022 from IEEE ComSoc journal "IEEE Transactions on Network Science and Engineering

### Popular Articles

 K. Dev paper titled "Survey on 6G Frontiers: Trends, Applications, Requirements, Technologies and Future Research" is among the 5th most popular article in IEEE Open Journal of the Communications Society from last 18 months.

Link to the paper: https://ieeexplore.ieee.org/document/9397776

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		Madhusanka Liyana	-								
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## **Editorial Appointments**

- E. Erbad has Joined as an Advisory Board Member at the Air Institute https://air-institute.com/team. The AIR Institute is a private non-profit research organization, aimed at the promotion and development of scientific research in the field of computer science and artificial intelligence. The AIR Institute comprises a multidisciplinary team of researchers who work to promote innovation in the field of information technology, computer science, artificial intelligence and information and communication technologies (ICT).
- M. H. Rehmani appointed as an Associate Editor for IEEE Transactions on Cognitive Communication and Networking (TCCN).
- M. H. Rehmani appointed as an Area Editor (Wireless Communications) for IEEE Open Journal of Communications Society (OJCOM)

ComSoc

## **Special Interest Groups Activities**

The CommSoft TC currently has the following active SIGs. TC's SIG Coordinator is M. Ayaida.

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

#### SIG on NFV and SDN technologies Coordinator: Sudip Misra

The TC SIG Members S. Misra, A. Roy and A. Mondal together engaged and hosted the fifth edition webinar on Next Generation IoT held on February 27, 2023

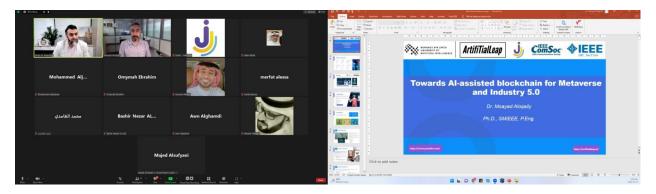


- The webinar invited three notable speakers, Professor Saurabh Bagchi from Purdue University, Professor Minlan Yu from Harvard School of Engineering and Applied Science and Professor Martin Reisslein from Arizona State University to speak on exciting and frontier topics on Next Generation IoT.
- > Talks were delivered on the following three topics:
  - Quick configuration in cloud computing
  - Accelerating Data-Intensive Applications with Network Offloading
  - o Navigating the Virtualization World Towards 6G: Agility and Reliability
  - The webinar saw active participation from various student members, researchers and other members and was conducted efficiently

#### SIG on Blockchains and Applications:

#### Coordinator: Moayad Aloqaily

M. Aloqaily delivered keynote on: Towards AI-assisted blockchain for Metaverse and Industry 5.0 environments". Jeelaidm



M. Aloqaily delivered a keynote on "Large-scale data analytics and blockchain technologies for secure energy services", MegaData, May 2023



M. Aloqaily participated in a panel discussion in IEEE ICBC 2023 about "CBDCS - Will They Ever Happen? When? In What form?", Dubai, May 2023



#### SIG on Performances Evaluation Head: Abdellatif Kobbane

- IEEE 5G/6G Blockchain Cybersecurity Digital Trust Summit March 8, 2023 at ENSIAS, Mohammed V University in Rabat, Morocco
- ➢ Invited speakers :
  - L. Ladid, Founder & President, IPv6 Forum, Title: IPv6-based 5G-6G, IoT, Cloud Computing and Blockchain
  - O. Vaughan, Director, Research, nChain, UK Title: Digital Trust: Using Blockchain to increase PKI Security
  - S. Gupta, Chair, India IPV6 Forum and Blockchain for Productivity Forum, IPv6 Hall of

Famer, Title: IPv6 based Blockchain-Enhancing Security and P2P Communication

- M. Aloqaily, R&D Manager, MBZUAI, UAE, Title: Cybersecurity
- S. Krco, Chief Executive Office- DuvaNet, Vice President, IoT Forum, Title: Building transparent paths from vineyards and fish farms to shops and consumers
- H. Alkhzaimi, Director of Center of Cyber Security in New York University Abu Dhabi, UAE Title: Cybersecurity4
- Safa Otoum, Assistant Professor, CTI, Zayed University, United Arab Emirates Title: Realizing Health 4.0 in Beyond 5G Networks
- Piyoosh Palan, Managing Director Cybersecurity, Maritemex, Title: Blockchain and Cyber Security Considerations for Smart Cities
- Jean-Pierre Bienaimé, Chairman, Ubiquity Consulting Title: 5G World Forum
- Principal Officer, European Commission Title: **5G for CAM**
- Rick Kuhn, Computer Scientist in the Computer Security Division at NIST, Title: Redactable DLT with Hyperledger Fabric
- Bernard Duval, Director Research, MITACS, Montreal, Canada Title: Blockchain cybersecurity in Canada
- Selcuk Uluagac, Florida International University, Miami, FL, USA Title: Security and Privacy of IoT Apps and Devices
- Abdellah Shami, Professor of Electrical and Computer Engineering, Western University, Ottawa, Canada, Title: AI-Based Network Automation: Security Threats, Challenges, and Potential Solutions
- Lawrence Hughes , Expert in IPv6 & PKI. IPv6 Hall of Famer Title: Third Internet: IPv6 & PKI
- Open call : The 10<sup>th</sup> International Conference on Wireless Networks and Mobile Communications (WINCOM 2023)

**Deadline** : June 30, 2023 | **When :** 26 to 28 October 2023 | **Where :** Turkey Istanbul Technical University | **website** : <u>https://www.wincom-conf.org</u>

- Seminar: professor Selcuk Uluagac, Florida International University Miami, FL, USA.Title: "Security and Privacy of IoT Apps and Devices", ENSIAS, Mohammed V University in Rabat, When: December, 14, 2022
- > Upcoming event:
  - October 2023, WINCOM2023
  - November 2023: Game theory school

#### SIG on Security *Head: Safa Otoum*

- > IEEE 5G/6G Blockchain Cybersecurity Digital Trust Summit March 8, 2023 Rabat
  - Talk title: (Blockchain- supported Federated Learning for Trustworthy 5G/6G Networks.)
- IEEE International Conference on Blockchain and Cryptocurrency, May 1-5, 2023, Dubai, United Arab Emirates. *Role: Finance and registration co-chair*.
- > Secure Systems Research Center (SSRC)- Summit.

Proposal on (Securing Next-Generation Networks of the UAE and its allies against the ever-present cybersecurity threats using futuristic technologies and intelligent systems)



#### Upcoming Conferences:

 Co-chair in *Communication and Information System Security* IEEE Global Communications Conference, 4–8 December 2023, Kuala Lumpur, Malaysia

COMMUNICATION AND INFORMATION SYSTEM SECURITY



## SIG on ML and AI for Networking *Head: Melike Erol-Kantarci*

- Industry Keynote on "Paving the Road To 6G The Role of Automation & AI," Fierce Wireless, November 2022.
- Industry Whitepaper: M. Iovene, L. Jonsson, D. Roeland, M. D'Angelo, G. Hall, Melike Erol-Kantarci, J. Manocha, "Defining AI native: A key enabler for advanced intelligent telecom networks", February 2023 [Online]: <u>https://www.ericsson.com/49341a/assets/local/reportspapers/white-papers/ai-native.pdf</u>
- > Invited talk on "AI and Automation in B5G and 6G," Kanata North R&D Council, April 2023.
- Panelist for "Openness and programmability in the RAN," Wireless World Research Forum (WWRF), March 2023.
- > Associate Editor of IEEE Transactions on Communications since January 2023
- Guest editor for Special Issue on "Data Sets for Machine Learning in Wireless Communications and Networks" in IEEE Communications Magazine, to be published in 2023
- Guest editor for Special Issue on "Open RAN: a New Paradigm for Open, Virtualized, Programmable, and Intelligent Cellular Networks" in IEEE JSAC, to be published in 2023
- > Track chair for IEEE CCNC, AI/ML in Communications and Networking, 2023
- > Track chair for IEEE EuCNC & 6G Summit, Radio Access and Softwarisation (RAS), 2023

## SIG on Vehicular AdHoc Networks activities *Head: Hacene Fouchal*

- IEEE Open Journal on Vehicular Technology, Special Issue on Advanced Aerial Mobility, Deadline: May 15.
- > Open Call for Papers on Connected and Automated Vehicles
  - On IEEE Vehicular Technology Magazine at <u>https://www.ieeevtc.org/vtmagazine/cfp-cav.php</u>
- IEEE Future Networks Special Issue on 6G Technologies and Applications, Deadline : July, 1st.
- > Open Call for Papers in MDPI-Vehicles: <u>https://www.mdpi.com/journal/vehicles</u>

## Ongoing Research Project

- A. Dandoush is the French coordinator of the submitted European project : HORIZON-KDT-JU-2022-2-RIA-Topic-1, Proposal title: Digital Open Meta Edge Sovereignty
- E. M. Amhoud PI was granted the Excellence in Africa research grant (720.000 USD) for a joint research project between UM6P Morocco and EPFL Switzerland entitles " Machine learning for

energy efficient IoT Networks". The project has a 5 years duration.

- H. Moungla works on a new project: "Extreme-scale Urban Mobility Data Analytics as a Service" Start date: 1 January 2023, End date: 31 December 2025
- T. ElBatt awarded a research grant in March 2023: "Developing Low-cost IoT health monitoring and scalable Machine Learning technologies for digital health in Africa". Funded by the AFRETEC Network. Lead Institution: The American University in Cairo, Egypt. Co-lead Institutions: Carnegie Mellon University, USA and University of the Witwatersrand (Wits), South Africa

## Past Events

### **Conferences and Workshops**

A. Dandoush has served as the publication co-chair of the 1st international conference on Innovation and Technological Advances for Sustainable Development (ITAS),

When: March 1-3 ,2023 | Where: Qatar | Website: https://conference.udst.edu.qa



"The 6G Wireless Networks and Applications Training School" in Morocco When: May 18<sup>th</sup>, 2023 | website: <u>https://sites.google.com/view/um6p-cs-ml-training-school/home?authuser=0</u>

The 6th International Workshop on Intelligent Transportation and Autonomous Vehicles Technologies (ITAVT 2022) in conjunction with NOMS2023

When: 08-12 MAY, 2023 Where: Miami, Florida | Website: https://icnetlab.org/ITAVT2023/index

<text>

WELCOME TO THE 6TH INTERNATIONAL WORKSHOP ON INTELLIGENT TRANSPORTATION AND AUTONOMOUS VEHICLES TECHNOLOGIES (ITAVT2023)

IMPORTANT DATES

Full paper submission: January 15, 2023

**Moayad Aloqaily**, xAnalytics Inc., Ottawa, Canada **Öznur Özkasap**, Koç University, Istanbul, Turkey

IEEE International Conference on Blockchain and Cryptocurrency When: 1-5 May 2023 | where Dubai, United Arab Emirates



## Talks

E. Erbad delivered a keynote at the Symposium of Next Generation Artificial Intelligence, The Ministry of Transport, Communications and Information Technology in the Sultanate of Oman, Muscat, Mar 19th, 2023.

IEEE Communications Software Technical Committee

- E. Erbad delivered a keynote on "Efficient and Privacy Preserving Distributed Inference in IoT Systems" in the International Conference on Cyber Warfare and Security (ICCWS 2022), National Centre for Cyber Security (NCCS) at Air University Islamabad, Islamabad, Dec 7th, 2023. https://www.nccs.pk/Conference/ICCWS-2022-Keynotes
- A. Dandoush will give a talk entitled: "Aether: open source 5G Connected Edge platform for enabling critical enterprise IoT application", during the MUFRAMEX IoT workshop scheduled to take place on May 22 and 23 at our university, the USPN (Universit'e Sorbonne Paris Nord), VilletaneuseCampus, France.

link: https://www-l2ti.univ-paris13.fr/wp-content/uploads/2023/03/MUFRAMEX-IoT.pdf

- Invited Seminar Talks in 2023 Université Paris Cité / Data Intelligence Institute of Paris:
  - "The Four Elements of Tensor Graph Mining & Learning", Prof. E. (Vagelis)
     Papalexakis, University of California Riverside (USA), 15 June 2023 at 9:30am
    - "Computing Shapley Values as Explanation Scores in Data Management and Machine Learning", Prof. L. Bertossi, SKEMA Business School (Canada), 17 May 2023 at 4pm, hybrid
    - "Big OLAP Data Cube Compression Algorithms in Column-Oriented Cloud/Edge Data Infrastructures", Prof. A. Cuzzocrea, University of Calabria (Italy), CNR (Italy), Universite Paris Cite (France), 4 May 2023 at 2pm, hybrid
    - "Data Virtual Machines", Prof. D. Chatziantoniou, Athens University of Economics and Business (Greece), 23 March 2023 at 2pm, hybrid
- Marojevic and his team delivered couple of tutorials on O-RAN/Open AI Cellular this year, one at IEEE CCNC 2023 in Las Vegas and the other at IEEE ICIT 2023 in Orlando. The slides and videos are available for view and download from

https://docs.google.com/presentation/d/170\_iPjL45wUajXuz81NB\_N\_TNNhTlEqc/edi t?usp=share\_link&ouid=107476755077484493104&rtpof=true&sd=true



## **Special Issues**

IEEE Networking Letters Call for Papers - Special Issue on Networking Enablers for 6G Use Cases – Paper Submission: 31 January 2023

### **Conferences and Workshops**

K. Dev Serving as Main Track Chair for "Symposium on Spectrum Management in Future Networks" in conjunction with 2023 IEEE Future Networks World Forum, 13-15 November 2023, Baltimore, MD, USA.

ieee Fut wor	ture	Netwo	òrks™	IEEE Future Networks World Forum 13–15 November 2023 // Baltimore, MD, USA Imagining the Network of the Future						
HOME	ABOUT	COMMITTEES	AUTHORS	CALL FOR PROPOSALS	PROGRAM	REGISTRATION	HOTEL / TRAVEL	PATI		
S14: SYMPOSIUM ON SPECTRUM MANAGEMENT IN FUTURE NETWORKS										
IMPORTANT DATES Symposium Paper Submission: 21 July 2023 Symposium Paper Acceptance Notification: 1 September 2023 Camera-Ready Submission: 15 September 2023										
	• Na • Ka		d, University er Technolog	r of Central Florida, USA jical University, Ireland jity, Canada						

E. Erbad is the General Chair and A. Dandoush is serving as the TPC co-chair in the 10th International Symposium on Networks, Computers and Communications @ ISNCC'23

When: Oct 2023 | Website: https://www.isncc-conf.org/calls/call-for-papers



 E. Erbad is the program chair of the International Wireless Communications & Mobile Computing Conference (IWCMC 2022)
 When: May 30 - June 3, 2022 | Website: <u>https://iwcmc.org/2022/symposia/</u> E. Erbad is the Symposium Chair of the Smart and Cognitive Cities and Communities (SCCC) Symposium @ IWCMC 2023

When: June, 2023 Website: https://iwcmc.org/2023/



The 43rd IEEE International Conference on Distributed Computing Systems (ICDCS 2023), When:18 July -21 July, 2023 | Where: Hong Kong, China | Website: <u>https://icdcs2023.icdcs.org/</u>



 2023 - IEEE 10th International Conference on Wireless Networks and Mobile Communications (WINCOM),

When: 26 to 28 October 2023 | Where: Turkey | Website: <u>https://www.wincom-conf.org/WINCOM\_2023/</u>



K. Ibrahimi Chair of the second edition of the International Workshop on COmputing Sciences (WCOS'22)

**When:** June 20, 2022 | **Where**: the Faculty of Sciences, Kenitra, Morocco | **Website**: <u>https://fs.uit.ac.ma/the-second-edition-of-the-international-workshop-on-computing-sciences-wcos22-program/</u>

> T. AlBatt is serving as a Publicity Co-chair of the 48th IEEE LCN 2023.

When: October 2-5, 2023 | Where: Daytona Beach, Florida, USA | Website: https://www.ieeelcn.org/

International Conference on Intelligent Metaverse technologies and Applications (iMeta 2023) When: 18-20 September 2023 | Where: Tartu, Estonia | Website: <u>https://imeta-conference.org/</u> Submission Deadline: June 20, 2023



The 5<sup>th</sup> International Conference on Blockchain Computing and Application (BCCA 2023) in Conjunction with Kuwait Fintech and Blockchain Summit 2023

When: 24–26 October, 2023 Where: Kuwait City, Kuwait | Website: <u>https://bcca-conference.org/</u> Submission Deadline: June 15, 2023



#### > IEEE CyberSciTech / PICom / DASC / CBDCom 2023

When: 14–17 November, 2023 Where: Abu Dhabi, UAE | Website: <u>https://icnetlab.org/cyberscience2023/index.html</u>
Submission Deadline: July 1, 2023

IEEE CyberSciTech / PICom / DASC / CBDCom 2023					
Abu Dhabi,	UAE				
13-17 Nov, 2023 - Physical Conference *	Important dates				
Co-Located Conferences	Workshop/SS Proposal Due: May 15, 2023 Workshop/SS Proposal Notification: May 17, 2023				
The 8th IEEE Cyber Science and Technology Congress (CyberSciTech 2023)	Main Conference Papers Paper Submission Due: 1 July, 2023 Authors Notification: 15 September, 2023				
The 21st IEEE International Conference on Pervasive Intelligence and Computing (PICom 2023)	Camera-ready Submission: 30 September, 2023 Workshop/Special Session Papers				
The 21st IEEE International Conference on Dependable, Autonomic & Secure Computing (DASC 2023)	Submission Due: July 15, 2023 Author Notification Due: September 15, 2023 Camera-ready Submission: September 30, 2023				
The 9th IEEE International Conference on Cloud and Big Data Computing (CBDCom 2023)	Special Issues				

#### IEEE IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom) 2023

When: 4–7 July 2023 Where: Istanbul, Turkey | Website: https://blackseacom2023.ieee-blackseacom.org/



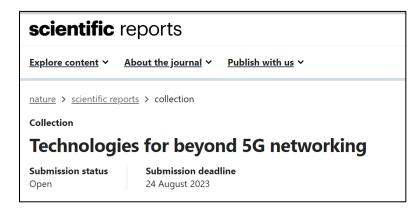
### **Special Issues**

K. Dev is the lead guest editor in special issue titled "Open Radio Access Networks: Architecture, Challenges, Opportunities, and Use Cases in Vehicular Networks" in IEEE Transactions on Vehicular Technology.

**Deadline:** 31 May 2023 | **Website:** <u>https://vtsociety.org/files/ieeevts/2023-02/ORAN-SI-CFP-IEEE-</u> TVT2023\_Updated.pdf

K. Dev is the Guest editor in special issue titled "Technologies for beyond 5G networking" in Scientific Reports".

Deadline: 24 August 2023 | Website: https://www.nature.com/collections/ighhaddjbi



IEEE Open Journal of the Communications Society Call for Papers - Resource-Efficient Collaborative Deep Learning over B5G/6G Networks –

**Deadline**: 30 June 2023 | **Website**: <u>https://www.comsoc.org/publications/journals/ieee-</u> ojcoms/cfp/resource-efficient-collaborative-deep-learning-over-b5g6g



IEEE Transactions on Network and Service Management Call for Papers - Networks, Systems and Services Operations and Management through Intelligence

Deadline: 30 May 2023

M. U. Hassan, M. Amjad, and M. Rahmani organize a Special Issue in Frontiers in Communications and Networks journal. The topic is : "Blockchain based Smart Grid: A Leap in the Future"

**Deadline:** 30 June 2023 | **Website:** <u>https://www.frontiersin.org/research-topics/55105/blockchain-based-smart-grid-a-leap-in-the-future</u>



Special issue on "Security of Emerging Virtual Environments: Metaverse and Extended Reality", Ad hoc.

**Deadline**: May 26, 2023 | **Website**: <u>https://www.journals.elsevier.com/ad-hoc-networks/call-for-papers/security-of-emerging-virtual-environments-metaverse-and-extended-reality</u>

Guest editors: Moayad Aloqaily, Ouns Bouachir, Lewis Tseng, Giancarlo Fortino,

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	Security of Emerging Virtual Environments: Metaverse and Extended Reality