

# Communication Software Technical Committee

Thursday May 5<sup>th</sup>, 2022

# Agenda

- ▶ Welcome and Introduction by the TC Chair
- ▶ Approval of minutes for meetings at GC21
- ▶ SIG Activities
- ▶ Virtual Seminar Series
- ▶ Updates on e-Letter
- ▶ TC endorsed conferences
- ▶ Next CommSoft TC meeting
- ▶ Miscellanies

## Welcome and Introduction by the TC Chair

- ▶ 2~3 Minutes
- ▶ Kindly state your name, affiliation and email in the chat
  - e.g., First Last, Good University, first.last@gooduniversity.edu



# Chair's Welcome, and Member Introductions

## ▶ Mission

- “The 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 of the communications and computer industries.”

## ▶ Executives for the current term (2021-2022)

- **Chair** Abdellatif Kobbane
- **Vice-Chair** Abd-Elhamid Taha
- **Secretary** Hassine Moun gla

**IEEE  
ComSoc**  
*CommSoft TC*

## Approval of minutes for meetings at GC21

- ▶ Minutes were posted on the website

# Update on Website

▶ Editor: Hassine Moun gla

▶ Website

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

## Special Interest Groups (SIGs)

- ▶ 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

## *Coordinator – Marwane Ayaida*

- ▶ Special Interest Group on “ML and AI for Networking”
  - Coordinator : Dr. Melike Erol-Kantarci ([Melike.erolkantarci@uottawa.ca](mailto:Melike.erolkantarci@uottawa.ca))
- ▶ Special Interest Group on “NFV and SDN technologies”
  - Coordinator : Prof. Sudip Misra ([smisra.editor@gmail.com](mailto:smisra.editor@gmail.com))
- ▶ Special Interest Group on “Security in Software Communication”
  - Coordinator : Dr. Éric Renault ([eric.renault@esiee.fr](mailto:eric.renault@esiee.fr))
- ▶ Special Interest Group on “Big Data and Communication software”
  - Coordinator : Dr. Hassine Moun gla ([hassine.moungla@parisdescartes.fr](mailto:hassine.moungla@parisdescartes.fr))
- ▶ Special Interest Group on “Blockchains and Applications”
  - Coordinator : Dr. Moayad Aloqaily ([malogaily@xanalytics.ca](mailto:malogaily@xanalytics.ca))
- ▶ Special Interest Group on “Communication software for Vehicular AdHoc Networks”
  - Coordinator : Prof. Hacene Fouchal ([Hacene.Fouchal@univ-reims.fr](mailto:Hacene.Fouchal@univ-reims.fr))
- ▶ Special Interest Group on “Performances Evaluation”
  - Coordinator : Dr. Abdellatif Kobbane ([abdellatif.kobbane@um5.ac.ma](mailto:abdellatif.kobbane@um5.ac.ma))



# SIG on ML and AI for Networking

*Head: Melike Erol-Kantarci*

- ▶ Career news: Dr. Erol-Kantarci is dual appointed as Chief Cloud RAN AI\ML Data Scientist at Ericsson and University of Ottawa starting Jan 2022.

## **Delivered 2 keynotes and 1 tutorial (since Dec. 2021)**

- “The Nexus of AI and Wireless: A Sneak Peek into 6G,” Ericsson Research Day in Turkey, December 2021.
- “AI-Enabled Wireless Networks: A Vision for 6G,” 10th IFIP/IEEE International Conference On Performance Evaluation And Modeling In Wired And Wireless Networks, November 2021.
- Tutorial on “AI-enabled Optimization in Virtualized Wireless Networks: An Open RAN Perspective,” IEEE Globecom, December 2021.

# SIG on ML and AI for Networking

*Head: Melike Erol-Kantarci*

## **Delivered 2 IEEE ComSoc Distinguished Lectures**

- “Deep and Reinforcement Learning in 5G and 6G,” IEEE Distinguished Lecturer Series – IEEE ComSoc Oregon Chapter, 27 April 2022
- “Deep and Reinforcement Learning in 5G and 6G,” IEEE Distinguished Lecturer Series – IEEE ComSoc Bangalore Chapter, 8 January 2022

## **Guest editorships and conferences**

- Guest Co-Editor for the SI on “Integrated and autonomous network management and control for 6G time-critical applications” (ITU Journal) – Deadline:4 June 2022
- Guest Co-Editor for the SI on “AI for Open Programmable Virtualized Networks in 6G” IEEE Wireless Communications Magazine, 2021 – Deadline February 2022
- Symposium Chair in IEEE GLOBECOM, Wireless Communications, 2022
- Track chair in IEEE CCNC, AI/ML in Communications and Networking, 2023

# SIG on NFV and SDN technologies

*Head: Sudip Misra*

## Conference organization:

- ▶ **Workshop Co-Chair**, IEEE GLOBECOM 2021 Workshop “SIGNIS: Softwarized Next Generation Networks for IoT Services Workshop”, December 2021 (**Sudip Misra & Arijit Roy**).
- ▶ **Workshop General Chair** on AI/ML for Edge/Fog Networks co-located with the IEEE INFOCOM 2022 (**Sudip Misra and Arijit Roy**).

## Short courses/Invited talks/Tutorials/Other activities:

- ▶ **Tutorial Talk**: Topic: Sensors-as-a-Service for Internet of Things, IEEE Globecom, Madrid, Spain / Hybrid: In-Person and Virtual Conference, 2021, TC SIG Member: **Arijit Roy and Sudip Misra**
- ▶ **Expert Talk in Webinar**: Topic: Sensors-Cloud for Internet of Things, IEEE(CSI) SBC, SKIT Jaipur, Rajasthan , India (Online), 2022 , TC **SIG Member: Arijit Roy**

# SIG on NFV and SDN technologies

*Head: Sudip Misra*

## International Webinars:

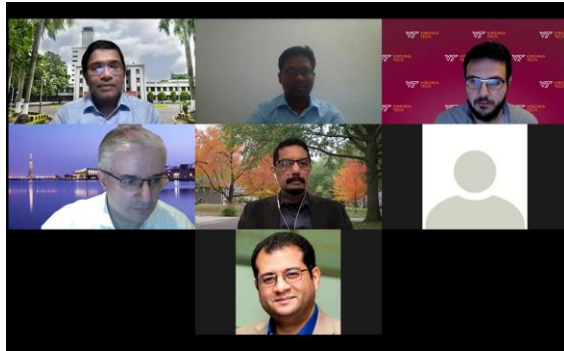
- ▶ **3rd Webinar on Healthcare IoT**, Jointly Organized by: IEEE Communication Society Technical Committee on eHealth: Special Interest Group on "IoT for eHealth" and Technical Committee Green Computing and Communications: Special Interest Group on "Pandemics". (December 1, 2021). **Host: Sudip Misra, Arijit Roy and Ayan Mondal**
- ▶ **4th Webinar on Healthcare IoT**, Jointly Organized by: IEEE Communication Society Technical Committee on eHealth: Special Interest Group on "IoT for eHealth" and Technical Committee Green Computing and Communications: Special Interest Group on "Pandemics". (January 14, 2022). **Host: Sudip Misra, Arijit Roy and Ayan Mondal**

# SIG on NFV and SDN technologies

*Head: Sudip Misra*

SIG organized International Webinars:

- ▶ **1st, 2nd and 3rd Webinar on Next Generation IoT**, organized by IEEE Communication Society Technical Committee on Communications Software: Special Interest Group on "NFV & SDN Technologies, (November-December-January) **Host: Sudip Misra, Arijit Roy and Ayan Mondal**



# SIG on NFV and SDN technologies

*Head: Sudip Misra*

## Journal special issue organization:

- ▶ **Special Issue on** “IoT-based solutions for mitigation of COVID-19 and similar epidemics”, Smart Health, Elsevier, **Guest Editors: Arijit Roy, Sudip Misra and others**
- ▶ **Guest Editor**, IEEE Journal on Selected Areas in Communications, Edge-Based Wireless Communications Technologies to Counter Communicable Infectious Diseases”, 2021-2022 (**Sudip Misra**)

## Honours/Awards:

- ▶ **Prof. Sudip Misra** has been elevated to the rank of *Fellow of IEEE*
- ▶ **Dr. Arijit Roy** has been awarded the prestigious IEEE TCSC Outstanding Ph.D. Dissertation Award 2021

# SIG on NFV and SDN technologies

*Head: Sudip Misra*

## Other activities:

- ▶ **Abdulhalim Dandoush** has launched a new collaboration between ESME (his department) and L2S at CentraleSupélec, (University of Paris Saclay) about to evaluate and optimize E2E latency within V2X MEC-assisted network through scalable SDN based resource allocation or scheduling algorithms

# SIG on NFV and SDN technologies

*Head: Sudip Misra*

## Relevant publications:

- ▶ R. Tapwal, P. K. Deb, **S. Misra** and S. K. Pal, "Amaurotic Entity-Based Consensus Selection in Blockchain-Enabled Industrial IoT," in IEEE Internet of Things Journal (DOI: 10.1109/JIOT.2021.3131501).
- ▶ N. Saha, **S. Misra**, S. Bera "Q-Flag: QoS-Aware Flow-Rule Aggregation in Software-Defined IoT Networks", IEEE Internet of Things Journal (Manuscript ID: ID IoT-10584-2020.R2; Accepted on September 11, 2021).
- ▶ M. Tiwari, I. Maity and **S. Misra**, "LOAN: Latency-Aware Task Offloading in Association-Free Social Fog-IoV Networks," 2021 IEEE Global Communications Conference (GLOBECOM), Madrid, Spain, December 7-11, 2021.
- ▶ N. Ahmed, **A. Roy**, **A. Mondal**, **S. Misra** "SDN-Based Link Recovery Scheme for Large-Scale Internet of Things", IEEE HPSR 2021, , Paris, France, June 7-9, 2021 (Invited Paper)
- ▶ **K. Sarkar**, **S. Misra** and M.S. Obaidat, "xDIoT: Leveraging Reliable Cross-domain Communication Across IoT Networks", Accepted in CQRM symposium at IEEE ICC 2022



# SIG on NFV and SDN technologies

*Head: Sudip Misra*

## Relevant publications:

- ▶ Ons Fares, **Abdulhalim Dandoush** and Nadjib AITSAADI. OPR: SDN-based Optimal Path Routing within Transit Autonomous System Networks. Accepted in NGNI Symposium, IEEE ICC 2022

# SIG on Security

*Head: Éric Renault*

# SIG on Blockchains and Applications

Head: Moayad Aloqaily

## ► Upcoming Calls

- The Fourth International Conference on Blockchain Computing and Applications (BCCA 2022)
  - SEPTEMBER 5-7, 2022 – SAN ANTONIO, TEXAS, USA
  - Submission deadline: **May 5th, 2022 (Possible Extension)**
  - <http://intelligenttech.org/BCCA2022/>
  - WORKSHOP Call → Park Nohpill and Cuneyt Akcora
- Information Processing and Management Conference
  - Emerging Information Processing and Management Paradigms: Edge Intelligence, Federated Learning, and Blockchain (VSI: IPMC2022 EMERGING)
  - <https://www.elsevier.com/events/conferences/information-processing-and-management-conference>
  - IF: 6.222

SPONSORS:



**INFORMATION PROCESSING  
& MANAGEMENT  
CONFERENCE 2022**

Xiamen, China  
20-23 October 2022

# SIG on Blockchains and Applications

*Head: Moayad Aloqaily*

## ► Upcoming Calls

- IEEE INTERNATIONAL CONFERENCE ON BLOCKCHAIN AND CRYPTOCURRENCY (ICBC 2023)
- 1-4 MAY 2023 | DUBAI, UAE
- [HTTPS://ICBC2023.IEEE-ICBC.ORG/](https://icbc2023.ieee-icbc.org/)



### General Co-Chairs:

**Burkhard Stiller**, University of Zurich, Switzerland  
**Adel Ben Mnaouer**, Canadian University Dubai, UAE

### Technical Program Co-Chairs:

**Moayad Aloqaily**, MBZUAI, UAE  
**Laura Ricci**, University of Pisa, Italy  
**Vinayaka Pandit**, IBM India Research Lab, India

# SIG on Blockchains and Applications

*Head: Moayad Aloqaily*

## ► Other Calls

- RECENT ADVANCES ON BLOCKCHAIN FOR NETWORK AND SERVICE MANAGEMENT, IEEE TNSM
  - SALIL KANHERE (LEAD), UNSW SYDNEY, AUSTRALIA
  - [HTTPS://WWW.COMSOC.ORG/PUBLICATIONS/JOURNALS/IEEE-TNSM/CFP/RECENT-ADVANCES-BLOCKCHAIN-NETWORK-AND-SERVICE-MANAGEMENT](https://www.comsoc.org/publications/journals/ieee-tnsm/cfp/recent-advances-blockchain-network-and-service-management)
- INTELLIGENT BLOCKCHAIN FOR FUTURE COMMUNICATIONS AND NETWORKING: TECHNOLOGIES, TRENDS AND APPLICATIONS, IEEE JSAC
  - HUAWEI HUANG, SUN YAT-SEN UNIVERSITY, CHINA AND SALIL KANHERE
  - [HTTPS://WWW.COMSOC.ORG/PUBLICATIONS/JOURNALS/IEEE-JSAC/CFP/INTELLIGENT-BLOCKCHAIN-FUTURE-COMMUNICATIONS-AND-NETWORKING](https://www.comsoc.org/publications/journals/ieee-jsac/cfp/intelligent-blockchain-future-communications-and-networking)
  -

# SIG on Big Data and Communication software

*Head: Hassine Moun gla*

- ▶ Delivered 2 invited talks on Data and Communication software in 2021
  - Invited talk at Huawei France
  - Invited talk at Institut Polytechnique de Paris. France
  - Invited talk at B.I.T. China
  - Invited talk at University of Tlemcen, Algeria
  - Invited talk at Capital Normal University. China
- ▶ Appointed as a guest editor Elsevier Future Generation Computer Systems journal
  - Special Issue on “Information-Centric Network enabler Communication for Internet of Things and communication software ”.
- ▶ Elsevier journal
  - Special Issue on “Communication software big data analytic beyond 5G and 6G, ”. Postponed for July 2022.

# SIG on Big Data and Communication software

*Head: Hassine Moun gla*

- ▶ IEEE HPSR 2021 - TPC chair
- ▶ IEEE GLOBECOM 2021 - Symposium Chair for CSSMA.
- ▶ IEEE GLOBECOM 2023 - Symposium Chair for CSSMA.
- ▶ IEEE CAMAD 2022 – Chairing & Organization
- ▶ Workshop around Big Data, AI, IoT, Vehicular Communications and Communication software in junction with the IEEE GLOBECOM 2022.
  
- ▶ Will feed active members in the SIG Big Data and Communication software to participate in the CommSoft TC Webinar Series
- ▶ Call for Interest, Track organization on areas of joint interest between the Data and Communication software SIG and endorsed conferences. (Not yet finalized).

# SIG on Vehicular AdHoc Networks activities

*Head: Hacene Fouchal*

- ▶ SI on Recent Advances in E-Mobility in IEEE VT Magazine, **DL: July 8.**
- ▶ Connected Vehicles Series (CVS), a fixed annual special issue in IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, **DL October 31st**  
([http://www.it.is.tohoku.ac.jp/~tvt/vtjournal/SI/SS\\_CV.pdf](http://www.it.is.tohoku.ac.jp/~tvt/vtjournal/SI/SS_CV.pdf))
- ▶ Special Issue "Future Intelligent Vehicular Networks Toward 6G" in MDPI Future Internet, **DL May, 31st**



# SIG on Vehicular AdHoc Networks activities

*Head: Hacene Fouchal*

- ▶ The end of the EU project C-Roads (on connected vehicles) was december 2021. Its output: a set of specifications on use cases, on secured communications and best practices for the software developement on vehicles.
- ▶ **SI "Cooperative-Intelligent Transport Systems: New Challenges » on MDPI Applied Science is extended until October 20, 2022.**

([https://www.mdpi.com/journal/applsci/special\\_issues/Cooperative\\_Intelligent\\_Transport\\_Systems](https://www.mdpi.com/journal/applsci/special_issues/Cooperative_Intelligent_Transport_Systems))

# SIG on Performances Evaluation

*Head: Abdellatif Kobbane*

- ▶ **Hybrid Seminars:** **Rachid El-Azouzi** from University of Avignon France

Thursday April 14, 2022 at 12:00 p.m. at the Grand Amphi at ENSIAS, Morocco  
« Approximation Algorithms and Near-Optimal Heuristics for Coflow Scheduling »

- ▶ **Invited Keynote Speaker :** « Flexible resources management in 5G mobile networks »

Second Edition of The International Workshop on New Services and Networks WNSN'22  
during **March 16-17, 2022, Khroubga, Morocco**

# SIG on Performances Evaluation

*Head: Abdellatif Kobbane*

▶ Significant publications:

- Filali, A., Mlika, Z., Cherkaoui, S., Kobbane, A. « **Dynamic SDN-based Radio Access Network Slicing with Deep Reinforcement Learning for URLLC and eMBB Services** » ***IEEE Transactions on Network Science and Engineering, 2022***
- Abouaomar, A., Cherkaoui, S., Mlika, Z., Kobbane, A. « **Service Function Chaining in MEC: A Mean-Field Game and Reinforcement Learning Approach** », ***IEEE Systems Journal 2022***

# SIG on Performances Evaluation

*Head: Abdellatif Kobbane*

## - Upcoming event

- School in AI and Game theory applied to communication networks in **next december**
- Hybrid seminar series in **June and October**
- WINCOM 2022  
**October 26 – 29, 2022 // ENSIAS, Rabat, Morocco**

<https://www.wincom-conf.org>

(Submission deadline 15 May)

There will be an extension of the deadline 2 to Three weeks

- Innovation projects and demo (Demo-IP)
- Invited Keynote speaker at Workshop WCOS University Ibn Tofail, Kenitra, in June 2022

## Virtual Seminar Series

- ▶ **Rachid El-Azouzi** from University of Avignon France, Thursday April 14, 2022 at 12:00 p.m. at the Grand Amphi at ENSIAS, Morocco « Approximation Algorithms and Near-Optimal Heuristics for Coflow Scheduling »
- ▶ Webinar on Sensors-Cloud for Internet of Things, IEEE(CSI) SBC, SKIT Jaipur, Rajasthan , India (Online), 2022 , TC **SIG Member: Arijit Roy**
- ▶ Webinar on Healthcare IoT, (December 1, 2021). Host: Sudip Misra, Arijit Roy and Ayan Mondal
- ▶ **Webinar on Healthcare IoT**, (January 14, 2022). **Host: Sudip Misra, Arijit Roy and Ayan Mondal**

# eLetter – Fall 2022

*Moayad Aloqaily and Aiman Erbad*

## TC Endorsed Conferences

- ▶ Communication Software, and Multimedia symposium (CSSMA), ICC 2022
  - **Submissions: 55**
- ▶ Communication Software, and Multimedia symposium (CSSMA), GC2022
  - **Submissions: ?**

# CSSMA Considerations

▶ Submissions trend GC 19 onward ...

CSSMA@?	ICC 17	GC 17	ICC 18	GC 18	ICC 19	GC 19	ICC 20	GC 20	ICC21	GC21	ICC 22	GC22
Submissions	68	91	84	104	82	121	87	71	70	99	55	?

▶ We need to put more efforts to increase the submission number



## TC Endorsed Conferences

- ▶ CommSoft TC is seeking **highly motivated** candidates to be nominated as symposium chairs for CSM and NGNI
- ▶ The TC has one chair for CSM, and may nominate one chair for the NGNI symposium

## TC Endorsed Conferences

- ▶ ICC'23, Rome (Nomination)
  - ▶ Ahmed Refaey, Hyunbum Kim, Mervat Abu-Elkheir for CSM symposium
  - ▶ Hassine Moun gla, Najah Abu Ali, Sudip Misra for NGNI symposium
  - ▶ Mohamed El Kamili for IoT & Sensor networks symposium
- ▶ GC'23, (Nomination)
  - ▶ Hassine Moun gla for CSM symposium (confirmed)

**Curent open call for ICC 24**

# TC endorsed conferences

- ▶ WINCOM 2022, Rabat, Morocco
- ▶ WIMOB 2022, Thessaloniki, Greece
- ▶ CITS 2022, Athens, Greece

# Next CommSoft TC meeting

## Election Secretary position

- ▶ The TC officers organizes the election for the secretary position before GC22 meeting
  - P&P rules: Secretary->Vice-chair,Vice-chair->Chair
  
- ▶ Ad hoc nomination committee (for election)
  - Chair: Adlen Ksentini former chair of the TC
  - Members:
    - Cheng Li
    - Jalel Ben-Othman
  
- ▶ Active members will receive an invitation to vote

# Next CommSoft TC meeting

- ▶ Technical Achievement
  
- ▶ Call for IEEE COMMSOFT Technical Achievement Award is open

# Miscellanies