IEEE Communications Society Technical Committee on Signal Processing & Computing for Communications Technical Committee (SPCC)

NEWSLETTER

Dear colleagues from ComSoc Signal Processing and Computing for Communications Technical Committee:

Welcome to the seventh issue of the SPCC Technical Committee Newsletter. It is conceived as a way to share important information for the members of the technical committee and to have some brief contact approximately every six months. We would like it to be a useful communication tool so it will be brief and at the same time open for everybody to contribute.

Please feel free to send us any piece of news that you believe can be of interest for our community.

Kindest regards,

Xiangwei Zhou

xwzhou@lsu.edu

SPCC TC Newsletter Editor

1. Contact information

The current officers of the SPCC TC between 2019-2020 are:

Chair:
Xianbin Wang
Western University

Standards Liaison:
George C. Alexandropoulos
National and Kapodistrian University of Athens

Vice Chair:
Jingxian Wu
University of Arkansas

Newsletter Editor:
Xiangwei Zhou
Louisiana State University

Secretary:
Ana Garcia Armada
University Carlos III of Madrid, Spain

Student Competition Representative:
Sinem Coleri Ergen
Koc Univeristy, Turkey

Please refer to our web page for further information:
http://spce.committees.comsoc.org/officers/

How to join SPCC Technical Committee and mailing list

Membership on the IEEE SPCC TC is open to all members of the IEEE Communications Society who share an interest in signal processing & computing for communications.

To join the SPCC, you simply subscribe to the SPCC mailing list by using the following link:

https://comsoc-listserv.ieee.org/cgi-bin/wa?SUBED1=spce&A=1

2. Message from the Chair

Dear SPCC Members,

First of all, we would like to thank you all for being part of the SPCC community, and for your dedicated contribution to its technical activities, particularly during the truly extraordinary times in 2020.

We are happy to report the exciting activities which our technical committee is involved in, from supporting various conferences in our areas, to organizing journal special issues and special sessions at conferences. We hope to further increase the number and type of activities, and for that we rely on your support. Please contact us with any ideas about new activities.

Due to the challenging situation caused by COVID 19, our TC meeting has been scheduled as a virtual meeting on July 29, 9:00am-11:00am.

Date: July 28, 2020 (Tuesday)
Time: 09:00 AM Eastern Daylight Time (US and Canada)
Join Zoom Meeting
https://zoom.us/j/92198769914?pwd=VWRoblNZU0VJVWJDWWNvS2EzaHI0dz09
Meeting ID: 921 9876 9914
Password: 151981
Please stay healthy and safe. We are looking forward to seeing you again at future in-person SPCC TC meetings at ICC and GLOBECOM.

Best regards,

Xianbin Wang

3. Committee meetings

Last SPCC TC meeting was held at IEEE Globecom, Waikoloa, HI, on December 12, 2019. The minutes are available here:

http://spce.committees.comsoc.org/meeting-reports/globecom-19/

Next SPCC TC meeting will be held at IEEE ICC, with the following agenda:

- Welcome & Introduction

- Approval of Meeting Minutes from Globecom 2019
- Technical Program Committee Reports
- SIG Activity Reports
- Standard Activities
- Newsletter
- Discussions & Other Business

4. Committee awards

The following two awards are granted on a yearly basis by the SPCC TC:

IEEE SPCC Technical Recognition Award

To recognize and encourage continuous and outstanding services to the technical activities sponsored and endorsed by the SPCC Technical Committee.

The 2019 Technical Recognition Award recipient is Prof. Naofal Al-Dhahir, University of Texas at Dallas.

IEEE SPCC Outstanding Service Award

The award recognizes members of the IEEE Communications Society who have made outstanding contributions to the technological advancement of signal processing for communications.

The 2019 Outstanding Service Award recipient is Prof. Ana Garcia Armada, Universidad Carlos III de Madrid.

Please find additional information here:

http://spce.committees.comsoc.org/awards/awards-by-laws-procedures/

and the list of past recipients:

http://spce.committees.comsoc.org/awards/

5. Conferences

Flagship conferences

- Next IEEE ICC will be held in Montreal QC, Canada, 14 - 18 June, 2021.

https://icc2021.ieee-icc.org/

SPCC sponsors this conference and appointed the following representatives:

George C. Alexandropoulos (Signal Processing for Communications Co-chair)

Jing Yang (Signal Processing for Communications Co-chair)

For the Signal Processing for Communications (SPC) symposium at ICC 2020, 110 papers have been submitted and each paper has been reviewed by at least 3 TPC members and their delegated reviewers. The number of accepted papers is 44 with 40% acceptance rate.

For the Wireless Communications (WC) symposium at ICC 2020, 365 papers have been submitted and each paper has been reviewed by least 3 TPC members and their delegated reviewers. The number of accepted papers is 147 with 40% acceptance rate.

- Next IEEE Globecom will be held in Taipei City, 7-11 December, 2020.

https://globecom2020.ieee-globecom.org/

SPCC sponsors this conference and appointed the following representatives:

Rui Dinis (Communication Theory)

Hai Lin (Signal Processing for Communications Co-chair)

Xiangwei Zhou (Wireless Communications Co-chair)

Other related conferences/special issues

SPCC sponsors the following conferences:

- 3rd International Conference on Advanced Communication Technologies and Networking (CommNet 2020)
  (Marrakech, Morocco, September 2020)
  SPCC representatives:
  o George K. Karagiannidis, Aristotle University of Thessaloniki, Greece
  o Mohamed-Slim Alouini, KAUST, Kingdom of Saudi Arabia
  o Faissal El Bouanani, Mohammed V University, Morocco

  www.commnet-conf.org/

- IEEE International Conference on Wireless for Space and Extreme Environments (WiSEE 2020)
  (Vicenza, Italy, October 2020)
  SPCC representatives:
  o Tarik Taleb, Aalto University, Finland
  o Telex M. N. Ngatched, Memorial University of Newfoundland
  o Xiangwei Zhou, Louisiana State University
  o Zhu Han, University of Houston

  https://attend.ieee.org/wisee-2020

- 14th International Conference on Signal Processing and Communication Systems (ICSPCS 2020)

(Adelaide, South Australia, December 2020)
SPCC representatives:
- o   Octavia Dobre, Memorial University of Newfoundland
- o   Takahiko Saba, Chiba Institute of Technology, Japan
- o   Tadeusz Wysocki, University of Nebraska, USA

https://www.dspcs-witsp.com/icspcs_2020/index.html

6. Standardization activities

SPCC TC welcomes its members to become part of the IEEE standard activities.
It also welcomes all volunteers from standardization groups to participate to the SPCC TC activities.

Updates on the three Technical Specification Groups (TSG) and their Working Groups (WGs) in 3rd Generation Partnership Project (3GPP) are available online:

- Radio Access Networks (RAN): Next meeting information and previous meeting reports and documents are available here. List of Tdocs
- Services & Systems Aspects (SA): Next meeting information and previous meeting reports and documents are available here. List of Tdocs
- Core Network & Terminals (CT): Next meeting information and previous meeting reports and documents are available here. List of Tdocs
- 3GPP Keywords and Acronyms
- 3GPP Latest Releases: Release 15, Release 16
- ETSI Standards Search

IEEE Virtual Reality and Augmented Reality Working Group

- IEEE P2048.1™ – Device Taxonomy and Definitions
- IEEE P2048.2™ – Immersive Video Taxonomy and Quality Metrics
- IEEE P2048.3™ – Immersive Video File and Stream Formats
- IEEE P2048.4™ – Person Identity
- IEEE P2048.5™ – Environment Safety
- IEEE P2048.6™ – Immersive User Interface
- IEEE P2048.7™ – Map for Virtual Objects in the Real World
- IEEE P2048.8™ – Interoperability between Virtual Objects and the Real World
- IEEE P2048.9™ – Immersive Audio Taxonomy and Quality Metrics User Interface
- IEEE P2048.10™ – Immersive Audio File and Stream Formats
- IEEE P2048.11™ – In-Vehicle Augmented Reality
- IEEE P2048.12™ – Content Ratings and Descriptors

IEEE DySPAN Standards Committee (DySPAN-SC)

IEEE 1900.1 Working group

IEEE 1900.2 Working group

IEEE 1900.3 Working group

IEEE 1900.4 Working group

IEEE 1900.5 Working group

IEEE 1900.6 Working group

IEEE 1900.7 Working group

IEEE 802 Standard

IEEE 802.1 Working group

IEEE 802.2 Working group

IEEE 802.3 Working group

IEEE 802.5 Working group

IEEE 802.11 Working group

IEEE 802.12 Working group

IEEE 802.15 Working group

IEEE 802.16 Working group

IEEE 802.17 Working group

IEEE 802.18 Working group

IEEE 802.19 Working group

IEEE 802.20 Working group

IEEE 802.21 Working group

IEEE 802.22 Working group

IEEE 1906.1-2015 - IEEE Recommended Practice for Nanoscale and Molecular Communication Framework

General Links

Latest IEEE-SA Standards Board Approvals

7. **Special Interest Groups**

SIG on Signal Processing Techniques in 5G Communication Systems

The SIG has worked in the following activities:

Published
- IEEE Wireless Communications, Special Issue on Intelligent Radio: When Artificial Intelligence Meets Radio Network, vol.27, no.1, Feb. 2020.

To appear

- IEEE Access, Special Section on Network Resource Management in Flying Ad Hoc Networks: Challenges, Potentials, Future Applications, and Way forward, to appear.
- IEEE Access, Special Section on Urban computing and intelligence, to appear.
- Springer Neural Computing and Applications Journal, Special Issue on Multi-access Edge Computing Enabled Internet of Intelligences, to appear.
- IEEE/CIC China Communications Journal, Special Issue on Quality of Experience for multimedia communications, to appear.

Submission closed
- IEEE Transactions on Industrial Informatics, Special Issue on IoT with Cognitive Computing.
- Journal of Communications and Networks Special Issue on Advances and Applications of Artificial Intelligence and Machine Learning for Wireless Communications.
- Elsevier Future Generation Computer Systems, Special Issue on "Computation Intelligence for Energy Internet".
- IEEE Vehicular Technology Magazine, Special Issue on "Mobile Edge Computing for Vehicular Networks".
- IEEE Network Magazine, Special Issue on "AI for Network Traffic Control".
- IEEE Communications Magazine, Special Issue on "Multi-Access Mobile Edge Computing for Heterogeneous IoT".
- IEEE Transactions on Industrial Informatics, Special Issue on "Blockchain for Industrial Internet of Things".
- IEEE Access, Special Issue on "Emerging technologies on vehicle to everything (V2X)".
- IEEE Transactions on Industrial Informatics, special issue on "Security and Privacy in Industry 4.0".
- IEEE JSAC, special issue on "Wireless Networks Empowered by Reconfigurable Intelligent Surfaces".
- IEEE Network Magazine, special issue on "Blockchain and AI for Beyond 5G Networks".
- IEEE Transactions on Industrial Informatics, Special Issue on "IoT with Cognitive Computing".
- IEEE Open Journal on Vehicular Technology (OJ-VT), Special Issue on "Machine Learning/Deep Learning for Wireless Communications".
- IEEE Transactions on Intelligent Transport Systems, Special Section on "Edge Intelligence of Internet of Vehicles".

Ongoing
- IEEE Wireless Communications Magazine, Special Section on "Edge Intelligence of Beyond 5G Networks", Deadline: 1 July 2020.
- IEEE Transactions on Cognitive Communications and Networking, "Intelligent Surfaces for Smart Wireless Communications", Deadline: 1 Sept 2020.
- IEEE Open Journal of the Communications Society (OJ-COMS), Special Issue on "Reconfigurable Intelligent Surface-Based Communications for 6G Wireless Networks", Deadline: 1 Sept 2020.

Other
- TPC Vice Chair, IEEE GLOBECOM 2022

- Area TPC Chair, IEEE INFOCOM 2021, 2020
- Co-Chair, IEEE ICC 2021 - Next-Generation Networking & Internet Symposium
- Track Co-Chair, IEEE CCNC 2021, Next Generation Protocols: MAC and Above Track, Las Vegas, NV, Jan. 2021
- Panel Chair, IEEE 2020 International Conference on Mobile Ad-hoc and Sensor Networks (IEEE MSN 2020), Tokyo, Japan, Dec. 2020
- Track Co-Chair, IEEE Vehicular Technology Conference Fall 2020, Track 3: Spectrum Management, Radio Access Technology, Heterogeneous Networks, Victoria, Canada, Sept. 2020
- General Chair, The 13th IEEE International Conference on Internet of Things (iThings 2020)
- Program Chair, IEEE ICME 2020
- GITC Advisor, IEEE ICC 2020
- Secretary, IEEE ComSoc Asia-Pacific Board

SIG on Signal Processing Techniques for Big Data in Wireless Networks

Proposed activity plan includes:
- Journal special issues: JSAC, IEEE Access, EURASIP WIN
- Conference workshops and special sessions: Globecom, ICC, WCNC, GlobeSIP

Technical scope of SIG includes:
- Low-dimensional and sparse signal representations in wireless systems
- Signal processing based on graphic models
- Advanced interference coordination techniques with cloud computing
- Distributed optimization algorithms over wireless networks
- Resource management (energy, storage, bandwidth, complexity, etc.)
- High-dimensional statistical learning for wireless signals
- Scalable and decentralized optimizations in ad hoc networks
- Randomized algorithms
- Bad data detection/Intrusion detection in sensor networks
- Security and privacy in big data
- Fundamental limits: convergence, consistency, robustness, and performance guarantees

More information about the SIGs may be found in our web page:
http://spce.committees.comsoc.org/special-interest-groups/