

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

NEWSLETTER

Issue 10 – November 2021

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

Welcome to the tenth 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 2020 and 2021 are:

Chair:

Xianbin Wang
Western University

Standards Liaison:

Richie Leo
ZTE Corporation, China

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:

Rui Dinis
Univ. Nova Lisboa, Portugal

SIG Coordinator:

Fang Fang
University of Durham, UK

Please refer to our web page for further information:

<http://spcc.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 and 2021.

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 types 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 next TC meeting has been scheduled as a virtual meeting on November 17th.

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 online, on July 13, 2021. The minutes are available here:

<https://spcc.committees.comsoc.org/meeting-reports/icc-21/>

Next SPCC TC meeting will be held online, with the following agenda:

- Welcome & Introduction
- Approval of Meeting Minutes from ICC 2021
- Technical Program Committee Reports
- SIG Activity Reports
- Standard Activities
- Newsletter
- Discussions & Other Business

4. Committee awards

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

IEEE SPCC Technical Recognition 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 recipient of the SPCC Technical Recognition Award 2020 is Prof. Rui Zhang.

IEEE SPCC Best Paper Award

The award recognizes members of the IEEE Communications Society who have made outstanding contributions in one paper in the technical areas that are of interest to SPCC. The SPCC Best Paper 2020 is awarded to: Shuai Wang, Rui Wang, Qi Hao, Yik Chung Wu, and H. Vincent Poor, "Learning Centric Power Allocation for Edge Intelligence," Proceedings of the IEEE International Conf. on Communications (ICC), June 2020.

IEEE SPCC Early Achievement Award

The award recognizes members of the IEEE Communications Society within 10 years since the award of their last degrees who have made outstanding contributions to the technological advancement of signal processing for communications. The recipients of the SPCC Early Achievement Award 2020 are Prof. Yuanwei Liu and Prof. Haijun Zhang.

IEEE SPCC Outstanding Service Award

To recognize and encourage continuous and outstanding services to the technical activities sponsored and endorsed by the SPCC Technical Committee. The recipient of the SPCC Outstanding Service Award 2020 is Prof. Xiangwei Zhou.

Please find additional information here:

<http://spcc.committees.comsoc.org/awards/awards-by-laws-procedures/>

and the list of past recipients:

<http://spcc.committees.comsoc.org/awards/>

5. Conferences

Flagship conferences

- Next IEEE GLOBECOM will be held in Rio de Janeiro, Brazil, December 4 - 8, 2022.

<https://globecom2021.ieee-globecom.org/>

SPCC sponsors this conference and appointed the following representatives:

Nan Zhao (Dalian University of Technology), Signal Processing for Communications Symposium

Miao Pan (University of Houston), Mobile & Wireless Networks Symposium

For the Signal Processing for Communications (SPC) symposium at GLOBECOM 2021, 127 papers have been submitted and have been reviewed by 110 TPC members. The number of accepted papers is 52 with 40.9% acceptance rate.

For the Wireless Communications (WC) symposium at GLOBECOM 2021, 264 papers have been submitted and have been reviewed by 238 TPC members. The number of accepted papers is 80 with 30.3% acceptance rate.

For the Selected Areas in Communication (SAC) symposium: Machine Learning for Communications track at GLOBECOM 2021, 187 papers have been submitted and each has been reviewed by at least three TPC members. The number of accepted papers is 73 with 39% acceptance rate.

- Next IEEE ICC will be held in Seoul, South Korea, May 16 - 20, 2022.

<https://icc2022.ieee-icc.org/>

SPCC sponsors this conference and appointed the following representatives:

Nan Yang (Australian National University), Signal Processing for Communications Symposium

Sinem Coleri (Koc University, Turkey), Wireless Communications Symposium

Liang Xiao (Xiamen University, China), Communication & Information System Security Symposium

Other related conferences/special issues

SPCC sponsors the following conferences:

- CommNet 2021, Hybrid Virtual/In-Person Conference, 3-5 December 2021

<http://www.commnet-conf.org/>

SPCC representatives:

George K. Karagiannidis, Aristotle University of Thessaloniki, Greece

Mohamed-Slim Alouini, KAUST, Kingdom of Saudi Arabia

Faissal El Bouanani, Mohammed V University, Morocco

- ITU Kaleidoscope 2021, Online, 6-10 December 2021

<https://www.itu.int/en/ITU-T/academia/kaleidoscope/2021/Pages/default.aspx>

SPCC representatives:

Ana Garcia Armada, Universidad Carlos III de Madrid, Spain

George Alexandropoulos, National & Kapodistrian University of Athens, Greece

Jingxian Wu, University of Arkansas, USA

- 2021 15th International Conference on Signal Processing and Communication Systems (ICSPCS), Online, 13-15 December 2021

https://dspcs-witsp.com/icspcs_2021/

SPCC representatives:

Octavia Dobre, Memorial University, Canada

Lajos Hanzo, University of Southampton, UK

Nan Yang, The Australian National University, Australia

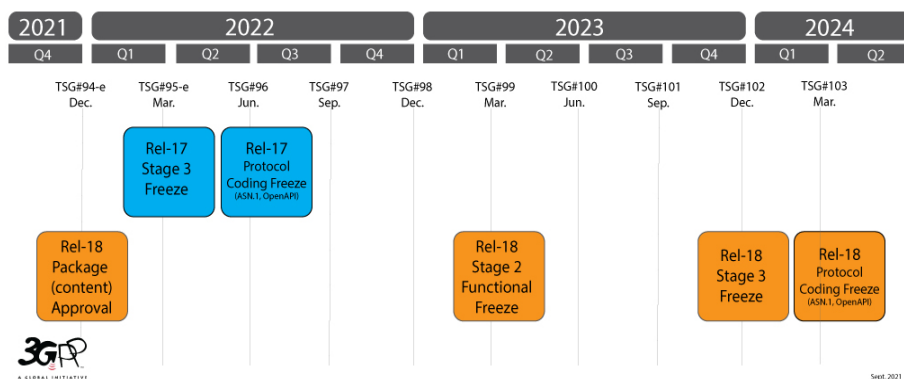
6. Standardization activities

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.

Hottest news:

- 3GPP Rel-18 workshop identified topics for the immediate and longer-term commercial needs for: 1) eMBB (evolved Mobile BroadBand); 2) Non-eMBB evolution; and 3) Cross-functionalities for both eMBB and non-eMBB driven evolution. Balance between eMBB and vertical applications is the goal.

- 3GPP timeline for new releases approved. Highlights: Release 18 work can only begin once Release 17 has reached its functional freeze date – the date from which only essential corrections to the specifications are permitted - in March 2022.



- IEEE SA launches IEEE 7000-2021 - IEEE Standard Model Process for Addressing Ethical Concerns During System Design to provide a clear methodology to analyze human and social values relevant for an ethical system engineering effort.

- World's first non-cellular 5G technology, ETSI DECT-2020, gets ITU-R approval. Released last year, the standard specifies decentralized technology which is designed for massive IoT networks.

- ETSI launches a new group on Reconfigurable Intelligent Surfaces (RIS). RIS is a new type of system node leveraging smart radio surfaces with thousands of small antennas or metamaterial elements to dynamically shape and control radio signals in a goal-oriented manner.

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](#). [The ftp of documents](#)
- [Services & Systems Aspects \(SA\)](#): Next meeting information and previous meeting reports and documents are available [here](#). [The ftp of documents](#)
- [Core Network & Terminals \(CT\)](#): Next meeting information and previous meeting reports and documents are available [here](#). [The ftp of documents](#)
- [3GPP Keywords and Acronyms](#)
- 3GPP Latest Releases: [Release 17](#), [Release 18](#)
- [ETSI Standards Search](#)

General Links on IEEE standard series

[Latest IEEE-SA Standards Board Approvals](#)

7. Special Interest Groups

[SIG on Orthogonal Time Frequency Space \(OTFS\)](#)

The SIG has the following activities:

- IEEE Milcom 2021 Tutorial on Orthogonal Time Frequency Space (OTFS) Modulation and Applications

- VTC 2021-Fall Workshop on High-mobility Wireless Communications and Applications
- IEEE VTC 2021-Fall Tutorial on OTFS Modulation for Robust Wireless Communication in Next Generation High Mobility Scenarios: From Invention to Practice
- IEEE ICCT 2021 Workshop on OTFS Modulation for Integrated Sensing and Communications
- 2+1 Online Event on OTFS (co-organized with ComSoc CTTC, <https://comt.committees.comsoc.org/>)

SIG on Signal Processing Techniques for Next Generation Multiple Access (NGMA)

The SIG has the following activities:

- Tutorial: “Application of NOMA in 6G Networks: Future Vision for Next Generation Multiple Access” by Y Liu, Z Ding, and DB da Costa at IEEE Globecom 2021.
- Tutorial: “Evolution of NOMA Toward Next Generation Multiple Access” by Y Liu and Z Ding at IEEE 5G world forum 2021.
- Tutorial: “Application of NOMA in 6G Networks: Future Vision and Research Opportunities for Next Generation Multiple Access” by Z Ding and Y Liu at IEEE VTC-fall 2021 and IEEE/CIC ICC 2021.
- Tutorial: “B5G: A New Frontier for Non-Orthogonal Multiple Access” by Z Ding, and Y Liu at 2021 EuCNC and 6G Summit.
- Tutorial: “Intelligent Massive NOMA for Next Generation Wireless Networks” by L Hanzo, Y Liu, and Z Ding at IEEE VTC-spring 2021.

SIG on REconFigurabLE Intelligent Surfaces for Signal Processing and CommunicatIONS (REFLECTIONS)

The SIG has the following activities:

- Workshop organization on Reconfigurable Intelligent Surfaces for future wireless communications at Globecom 2021.
- Participation to the special workshop on reconfigurable intelligent surfaces at ICC 2022.
- Tutorial: Reconfigurable Intelligent Surfaces for Future Wireless Communications, presented/to be presented at Globecom 2021, VTC 2021 Fall, PIMRC 2021.

SIG on Signal Processing Techniques in 5G Communication Systems

The SIG has the following activities:

- IEEE Wireless Communications Special Issue: Artificial Intelligence Enabled Internet of UAVs Communications (<https://www.comsoc.org/publications/magazines/ieee-wireless-communications/cfp/artificial-intelligence-enabled-internet>)

SIG on Signal Processing Techniques for Big Data and Wireless Edge Intelligence

The SIG has the following activities:

- Journal Special Issue
 - IEEE JSAC, Distributed Learning over Wireless Edge Networks
- Conference Activities
 - Co-chair the Emerging Technologies Track of the 18th IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS 2021)
 - Co-organize IEEE WCNC 2021, WS2: IEEE WCNC 2021 Workshop on Distributed Machine Learning for Future Communications and Networking
 - Co-organize IEEE INFOCOM 2021, FOGML: Distributed Machine Learning and Fog Network
 - Co-organize IEEE ICC2021, WS-14: 2nd Workshop on Edge Learning for 5G Mobile Networks and Beyond

More information about the SIGs may be found in our web page:

<http://spcc.committees.comsoc.org/special-interest-groups/>