

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

### NEWSLETTER

Issue 15 – September 2024

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

Welcome to the fifteenth issue of the SPCC Technical Committee Newsletter. This newsletter is conceived as a way to share all the relevant information for the members of the technical committee and to have some brief and updated contact. Our aim is that it can be a useful communication tool, open for everybody to contribute.

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

Kindest regards,

Roberto Corvaja [roberto.corvaja@unipd.it](mailto:roberto.corvaja@unipd.it) SPCC TC Newsletter Editor

### Message from the Chair

Dear SPCC Members,

I would like to thank you all for being part of the SPCC community, and for your dedicated contribution to its technical activities.

The team of SPCC TC officers is excited with the opportunity to work with you towards the common goal of promoting technical activities on signal processing aspects of converged communications and computing systems.

In this issue of our Newsletter, we take the opportunity to report about the activities in which our technical committee is involved, from supporting various conferences in our areas, to organizing journal special issues and special sessions at conferences. We also have some new initiatives such as the SPCC student contest. We hope to strengthen collaborations and we are thankful for your membership and support. Please contact us with any ideas about new activities.

We are looking forward to seeing you again, remotely or (preferably) in-person, at future SPCC TC meetings.

Best Regards,

Ana Garcia Armada

## Contact information

The current officers of the SPCC TC between 2024 and 2025 are:

### Chair

Ana Garcia Armada  
University Carlos III of Madrid, Spain

### Vice Chair

Yuanwei Liu  
Queen Mary University of London, UK

### Secretary

Fang Fang  
Western University, Canada

### Standards Liaison

Richie Leo  
ZTE Corporation, China

### SIG Coordinator

Melda Yuksel, Middle East Technical  
University, Turkey

### WICE/YP Liaison

Leyi Zang  
ZTE Corporation, China

### Student Competition Representative

Rui Dinis  
University Nova Lisboa, Portugal

### Public Engagement & Social Networks Coordinator

Xidong Mu  
Queen Mary University of London, UK

### Newsletter Editor

Roberto Corvaja  
University of Padova, Italy

Please refer to our web page for further information:

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

The SPCC Technical Committee reports to the Technical Committees Board. Operation of the SPCC Technical Committee and coordination among TC members will be managed by the elected officers, i.e. TC Chair, TC Vice Chair and TC Secretary. Each term of elected Technical Committee officers is two years.

SPCC-TC has been successfully recertified for 2023-2024 with very positive feedbacks from Technical Committee/Industry Community Recertification Standing Committee about our accomplishments and the recommendation from the recertification committee to further increase the diversity of the TC membership, such as female members and industrial members.

### **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://spcc.committees.comsoc.org/join-us/>

## Committee meetings

- The Minutes of Technical Committee Meeting at ICC, held in person in Denver, on 2024 June 12, are available at

[SPCC ICC 2024 Minutes](#)

## SPCC student contest (new)

It is a **new TC innovation project** funded by IEEE ComSoc.

It is a contest for **student teams** that involves innovative ideas and proposals to provide an answer to a **technical challenge**, to be chosen from a set of possible proposed ones and the preparation of video to present the proposal.

- ▶ A jury of the IEEE SPCC TC will select the set of finalist teams and one winner team.
- ▶ An online workshop will be organized, where the finalists present their proposals.
- ▶ In a special in-person event at IEEE Globecom 2024, one student of the winning team will be invited to attend.

Important dates:

- **15 Sep 2024:** call for video content proposals closes
- **30 Sep 2024:** finalists are announced and invited to prepare for online workshop
- **Oct-Nov 2024:** online workshop, date to be determined on the base of the availability of speakers
- **8-12 Dec 2024:** event at GLOBECOM 2024

Please find additional information here:

<https://spcc.committees.comsoc.org/student-contest-information/>

## Social Media

Public Engagement & Social Networks Coordinator: **Xidong Mu**.

You are welcome to follow our SPCC-TC LinkedIn page and WeChat Public Accounts

- ▶ SPCC-TC **LinkedIn** Page  
<https://www.linkedin.com/company/ieee-comsoc-spcc-technical-committee/about/?viewAsMember=true>
- ▶ SPCC-TC **WeChat** Public Account (Scan the QR code to follow WeChat)



## Conferences

### TPC Reports on flagship conferences

#### **GLOBECOM 2023**

Last IEEE GLOBECOM 2023 has been held in Kuala Lumpur, Malaysia on December 4–8, 2023.

<https://globecom2023.ieee-globecom.org/>

SPCC sponsors this conference and nominated the following Symposium Co-Chairs:

- Lingjia Liu (Virginia Tech, USA) Signal Processing for Communications Symposium
- Fang Fang (Durham University, UK), Signal Processing for Communications Symposium
- Yuanwei Liu (Queen Mary University of London, UK), Communication Theory Symposium

For the **Signal Processing for Communications (SPC) symposium** at GLOBECOM 2023 the number of submissions was 173 and the number of accepted papers was 69, with an acceptance rate of 39.9%. There were 16 sessions.

For the **Communication Theory (CT) symposium** at GLOBECOM 2023 the number of submissions was 162 and the number of accepted papers was 64, with an acceptance rate of 39.5%. There were 9 oral sessions and 4 interactive sessions.

#### **ICC 2024**

Last IEEE ICC has been held in Denver, Colorado, on June 9–13 2024.

SPCC sponsors this conference and nominated the following Symposium Co-Chair:

- Yanjun Pan, University of Arkansas, US, Signal Processing for Communications Symposium
- F. Javier López Martínez, University of Malaga, Spain, Communications Theory Symposium
- Gaojie Chen, University of Surrey, UK, Wireless Communications Symposium

For the **Signal Processing for Communications (SPC) symposium** at ICC 2024, the number of submissions was 112 and the number of accepted papers was 43, with an acceptance rate of 38.4%. There were seven oral sessions and one interactive session.

For the **Communication Theory (CT) symposium** at ICC 2024, the number of submissions was 113 and the number of accepted papers was 45, with an acceptance rate of 39.8%. There were eight oral sessions and one interactive session.

For the **Wireless Communications (WC) symposium** at ICC 2024, the number of submissions was 237 and the number of accepted papers was 94, with an acceptance rate of 39.7%. There were sixteen sessions.

## Forthcoming flagship conferences

### **GLOBECOM 2024**

Next IEEE GLOBECOM will be held in Cape Town, South Africa, on 8–12 December 2024.

SPCC sponsors this conference and since now nominated the following Symposium Co-Chair:

- Yuanwei Liu, Queen Mary University of London, UK
- Zhijin Qin, Tsinghua University, China
- Qingqing Wu, Shanghai Jiao Tong University, China

For the **Signal Processing for Communications (SPC) symposium** at GLOBECOM 2024, the Co-Chairs are Zhijin Qin (Tsinghua University, China) (SPCCTC Representative) and Hima A Suraweera (University of Peradeniya, Sri Lanka). The submissions are 128, with an ongoing reviewing process, involving 101 TPC members.

For the **Selected Areas in Communication – Reconfigurable Intelligent Surfaces (SAC-RIS) track** at GLOBECOM 2024, the Co-Chair is Qingqing Wu (Shanghai Jiao Tong University, China) (SPCCTC Representative). The submissions are 74, with an ongoing reviewing process, involving 106 TPC members.

### **ICC 2025**

Next IEEE ICC will be held in Montreal, Canada, on 8–14 June 2025.

SPCC sponsors this conference and since now nominated the following Symposium Co-Chair:

- Dimitrie C. Popescu, Old Dominion University, Norfolk, VA, USA
- Lin Bai, Beihang University, China
- Hongxiang Li, University of Louisville, USA

### **GLOBECOM 2025**

Next IEEE GLOBECOM will be held in Taipei, Taiwan, on December 2025.

SPCC sponsors this conference and since now nominated the following Symposium Co-Chair:

- Zan Li, Xidian University (not selected)
- Hina Tabassum, York University (SPC)
- Jie Xu, University of Miami, USA (SPC)

## Other related conferences/special issues

SPCC sponsors the following conferences:

### **ICSPCS 2024**

<https://icspcs2024.io.pbs.edu.pl>

SPCC representatives: Tadeusz Wysocki, Octavia Dobre, Lajos Hanzo

### **2024 ITU Kaleidoscope**

Innovation and digital transformation for a sustainable world (ITU K-2024)

<http://itu.int/go/K-2024>

SPCC representatives: Ana Garcia Armada, Fang Fang, Richie Leo, Leyi Zhang

### **CommNet 2024**

International Conference on Advanced Communication Technologies and Networking

<https://www.commnet-conf.org/index.php>

SPCC representatives: Ana Garcia Armada, George K. Karagiannidis, Mohamed-Slim Alouini

## **Special Interest Groups**

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

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

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

Its aim is to provide a platform to bring together academic and industrial researchers in an effort to identify and discuss the major technical challenges, recent breakthroughs, and new applications related to OTFS.

### **[SIG on Signal Processing Techniques for Next Generation Multiple Access \(NGMA\)](#)**

Its mission is to provide a research and networking platform to collaborate, exchange ideas, and promote initiatives on advanced signal processing on Next Generation Multiple Access (NGMA) in wireless networks.

### **[SIG on REconfigurable Intelligent Surfaces for Signal Processing and CommunicatiONS \(REFLECTIONS\)](#)**

Its mission is to provide a research and networking platform to collaborate, exchange ideas, and promote initiatives on Reconfigurable Intelligent Surfaces for Signal Processing and Communications.

### **[SIG on Signal Processing Techniques in 6G Communication Systems](#)**

Its mission is to provide a research and networking platform to collaborate, exchange ideas, and promote initiatives on 6G Communication Systems.

### **Recent Activities**

- ▶ 17 January 2024: Interdisciplinary Centre for Security, Reliability and Trust, University of Luxembourg, Luxembourg City, Luxembourg. Research seminar: Simultaneous sensing and communications with full duplex MIMO and reconfigurable intelligent surfaces.
- ▶ 26 January 2024: Hexa-X II Workshop on 6G. Invited talk: The RIS potential for THz wireless applications: Feasibility study and open challenges.

- ▶ 6 March 2024: Department of Computer Science, KTH Royal Institute of Technology, Stockholm, Sweden. Research seminar: Hybrid reconfigurable intelligent surfaces: From efficient optimization to integrated sensing and communications.

### [SIG Son Signal Processing Techniques for Big Data and Wireless Edge Intelligence](#)

Its mission is to provide a platform to exchange ideas, initiate collaboration, and promote research activities that are broadly related to signal processing for big data and machine learning in wireless networks.

### [SIG on Near Field Communications for Next Generation Mobile Networks](#)

The main focus of this special interest group (SIG) is to bring together researchers from academia and industry to collaborate, exchange ideas, and promote initiatives with their latest research results and discuss the future research directions in the field of NF communication in 6G networks.

### **Recent and Planned Activities**

- ▶ 27 April 2024: Workshop about near field communications in Electronic Information Conference in China.  
Invited speakers Emil Björnson, Jianhua Zhang, Linglong Dai, Yuanwei Liu, Weidong Hu, Yajun Zhao, Chongwen Huang, Cunhua Pan.
- ▶ 24 May 2024: Workshop on Communications Technologies for THz communications in the 2nd National Terahertz Communication Technology Forum in China.  
Talks about near field communications in THz communications given by Linglong Dai, Chongwen Huang, and Cunhua Pan.
- ▶ 19–21 March 2024: Tutorial: Integrated Sensing and Communications: Fundamental Limits, Signal Design, and Emerging PHY Technologies.
- ▶ 11 April 2024: Department of Electronics Engineering, Chungnam National University, Daejeon, South Korea. Research seminar: Localization and sensing with multi-functional reconfigurable intelligent surfaces.
- ▶ 17 April 2024: Department of Information Engineering, Electronics, and Telecommunications, Sapienza University of Rome, Rome, Italy. Invited talk: Multi-RIS-empowered smart wireless networks: Capacity characterization and environment learning potential.
- ▶ 17 April 2024: 5GItaly conference, Rome, Italy. Keynote talk: The RIS technology for beyond 5G wireless: Modeling, optimization, and applications.
- ▶ 21–24 April 2024: IEEE Wireless Communications and Networking Conference (WCNC) Dubai, UAE--Tutorial: Integrated Sensing and Communications: Fundamental Limits, Signal Design, and Emerging PHY Technologies.
- ▶ 9–13 June 2024: IEEE ICC, Denver, USA. Tutorial: Full-Duplex MIMO for Simultaneous Communications and Sensing.
- ▶ 20 August 2024: Department of Information Engineering, Electronics, and Telecommunications, Chungnam National University, Daejeon, South Korea. Research seminar: Simultaneous communications and sensing with full duplex radios.

- ▶ 11 December 2024: IEEE International Symposium on Intelligent Signal Processing and Communication Systems, Kaohsiung, Taiwan. Keynote talk: Hybrid reconfigurable intelligent surfaces: From programmable signal reflections to distributed intelligent sensing.

## Standardization activities

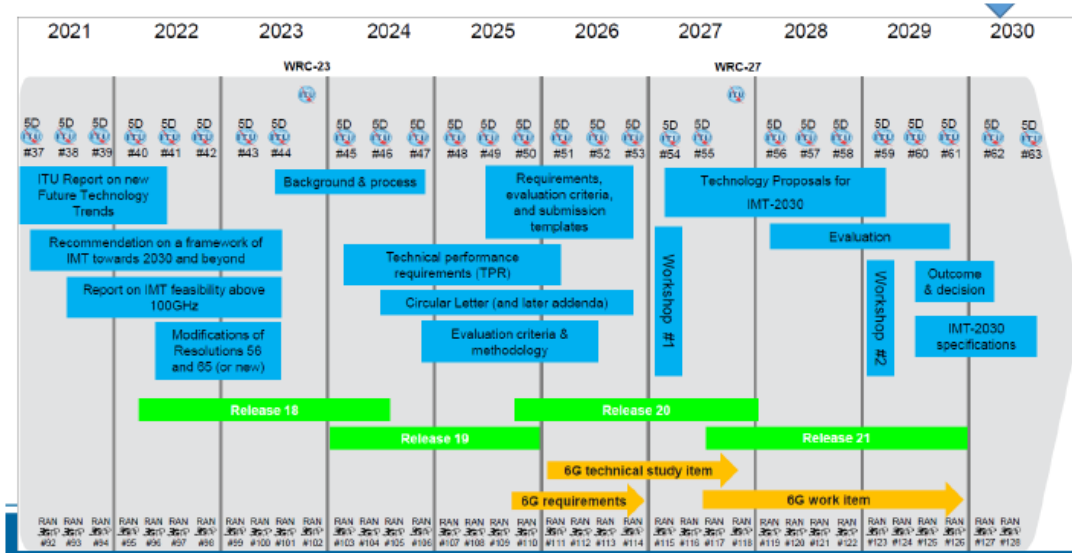
Standard development is critical for deployment of communication technologies and also has a complex interplay between the academic and industrial sectors. SPCC TC welcomes its members to become part of the IEEE standard activities. It also welcomes all volunteers from standardization groups to participate to the SPCC TC activities.

SPCC has our representative monitoring the most recent standard development: **Ruiqi (Richie) Liu**, ZTE Corporation

### 3GPP

- Radio Access Networks (RAN): Next meeting information and previous meeting reports and documents are available [here](#).
- Services & Systems Aspects (SA): Next meeting information and previous meeting reports and documents are available [here](#).
- Core Network & Terminals (CT): Next meeting information and previous meeting reports and documents are available [here](#).
- 3GPP Latest Releases: [Release 18](#), [Release 19](#)
  - There are currently several work items approved by 3GPP to be included in Release 19 and a list of WIs can be found [here](#).

### General 6G timeline



### Recent news in SDOs

- ▶ WRC-23 resolutions published
  - New bands for IMT: 3.3 - 3.8 GHz, 6.425 - 7.125 GHz, 10 - 10.5 GHz
  - arxiv paper “A vision and an evolutionary framework for 6G: Scenarios, capabilities and enablers” provides more info



- For full info, check “World Radiocommunication Conference 2023 (WRC-23) Provisional Final Acts,” Dec. 2023. [Online].
- ▶ 3GPP newsletters <https://www.3gpp.org/news-events/3gpp-newsletters>
- ▶ Some hot topics: UAV, ISAC, MEC, AI

## SPCC Student Activities

**Representative: Prof. Rui Dinis**, University Nova Lisboa, Portugal

The **ComSoc Student Competition** recognize students who demonstrate the capacity to improve the lives of people through the application of communication technology.

- **Eligibility:** A team led by a Student Member or Graduate Student Member of IEEE Communications Society
- **Award:** US\$ 2,000, First prize winner invited to receive the prize at IEEE GLOBECOM 2024.
- **Application deadline:** mid August  
Current applications are still under evaluation.
- **Details at:** <https://www.comsoc.org/membership/ieee-comsoc-student-competition>

## Committee awards

Nominations will be solicited by e-mail from the SPCC members and the SPCC Award Selection Committee will be responsible for the award selection process. The following 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 for outstanding contribution to the area of signal processing for communications.

- ▶ All nominations must be sent to the SPCC Secretary in PDF or text format **by September 30** of the year in which the award is to be given.
- ▶ Any person may nominate a candidate for the award, except the members of the SPCC Technical Recognition Award Selection Committee and ComSoc Board of Governors.

### Outstanding Services Award

- ▶ All nominations must be sent to the SPCC Secretary in PDF or text format **by October 15** of the year in which the award is to be given.
- ▶ A candidate is nominated by an **active member** of the SPCC and **seconded** by at least another active SPCC member.

### IEEE SPCC Best Paper Award

The award recognizes members of the IEEE Communications Society who have made outstanding contributions of one paper in the technical areas that are of interests to SPCC. It applies to papers published in SPCC-sponsored conferences during the past year, in which no less than half of the co-authors are SPCC members. It is nominated by SPCC members.

- ▶ All nominations must be sent to the SPCC Secretary in PDF or text format **by October 15** of the year in which the award is to be given.
- ▶ Any SPCC **active member** may nominate a candidate for the award, except the members of the SPCC Technical Recognition Award Selection Committee and ComSoc Board of Governors.

#### **IEEE SPCC Early Achievement Award**

The award recognizes members of the IEEE Communications Society who have achieved early career visibility through research and service to the SPCC community within 10 years since the award of their last degree. It is nominated by SPCC members.

- ▶ All nominations must be sent to the SPCC Secretary in PDF or text format **by October 15** of the year in which the award is to be given.
- ▶ Any SPCC **active member** may nominate a candidate for the award, except the members of the SPCC Technical Recognition Award Selection Committee and ComSoc Board of Governors.

Please find additional information here:

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