IEEE COMMUNICATIONS SOCIETY

Radio Communications Committee (RCC)

IEEE ICC 2024

Denver, CO, USA

June 26, 2024 – Virtual

9:00 AM EST – 2:00 PM BST – 9:00 PM CST

Chair: Julian Cheng

Vice Chair: Enrico Paolini

Secretary: Mark Flanagan

Agenda

1. Welcome
2. Approval of Agenda
3. General Information about RCC
4. Approval of GC'23 RCC Meeting Minutes (available on the website)
5. Report on RCC Special Interest Groups (SIGs)
6. Report on Conference/Workshop/Standardization Activities
7. Report on ComSoc Student Competition
8. Report on RCC Activities
9. Call for Nominations for RCC Technical Recognition Award
10. Next RCC Meeting
11. Adjourn

RCC Mission

The IEEE Communications Society's Radio Communications Committee (RCC) is primarily interested in physical layer wireless communications. Its areas of interest include engineering aspects of **communication and localization systems, equipment, and operation with involvement in standardization, spectrum, and regulatory efforts.** Technologies considered span point-to-point, point-to-multipoint, multipoint-to-multipoint, mobile radio access, and adaptive diversity systems. The RCC sponsors and promotes technical publications, conferences, symposia, workshops, tutorials, and other related activities on the aforementioned aspects. The committee also assumes the proactive duty to nominate suitable candidates for Communications Society and IEEE awards, propose distinguished lecturer candidates, and endorse deserving candidates for the election to IEEE Senior Member and Fellow grade.

RCC – General Information

- **RCC Meetings**
  - Twice per year at ICC and Globecom
  - Open to all ComSoc members

- **Becoming an RCC Member**
  - Just subscribe to RCC mailing list: https://rc.committees.comsoc.org/mailing-list/
  - Current members: >1200

- **Becoming an *Active* RCC Member**
  - Need to attend at least 2 of 5 prior RCC meetings at ICC/Globecom
  - Need to provide significant service to RCC: past Officer of the TC; TC representative for IEEE ComSoc flagship conferences (ICC and Globecom); and recipients of TC award.

RCC Officers (2023-2024)

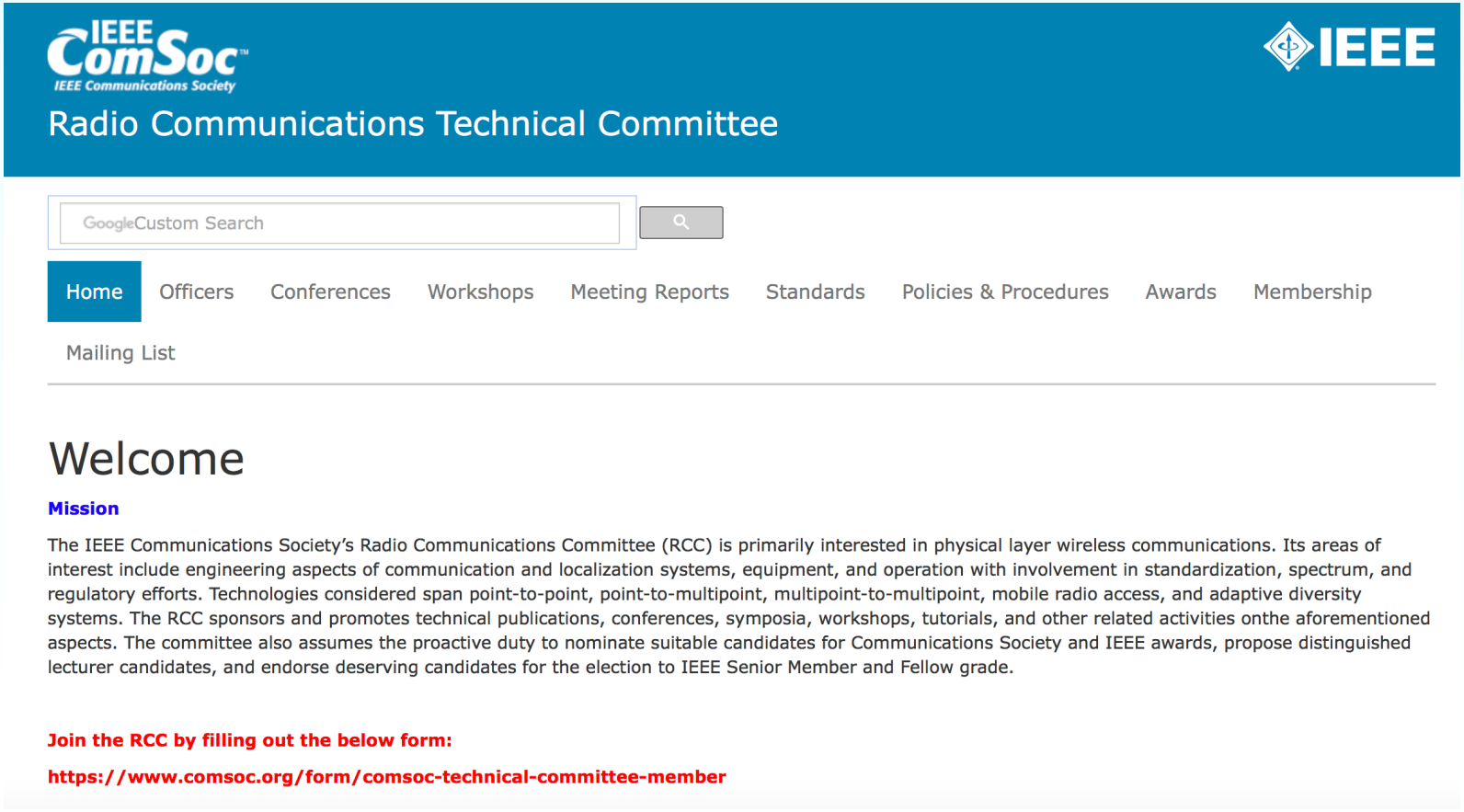
- **Chair: Julian Cheng**
  - University of British Columbia (UBC)
  - Email: julian.cheng@ubc.ca

- **Vice-Chair: Enrico Paolini**
  - University of Bologna
  - Email: e.paolini@unibo.it

- **Secretary: Mark Flanagan**
  - University College Dublin
  - Email: mark.flanagan@ieee.org

Approval of GC 2023 RCC Meeting Minutes

available at http://rc.committees.comsoc.org



Special Interest Groups (SIGs) in RCC

(SIG Websites: https://rc.committees.comsoc.org/sig)

- Wireless Localization. **Officers**: Stefania Bartoletti (Chair), Anna Guerra
- Propagation Channels for 5G and Beyond. **Officers**: Dajana Cassioli (Chair), Leyre Azpilicueta, Aniruddha Chandra
- Integration of Sensing and Communications. **Officers**: Tingting Zhang (Chair), Pan Cao, Qingqing Wu
- Terahertz Communications. **Officers**: Josep Jornet (Chair), Chong Han, Hina Tabassum, Gianni Pasolini
- Beyond Diagonal Reconfigurable Intelligent Surfaces. **Officers**: Bruno Clerckx (Chair), Ross Murch, Arman Shojaeifard, Marco Di Renzo, Eduard Jorswieck, Matteo Nerini

SIG: Wireless Localization

- Committees:
  - Chair: Stefania Bartoletti, University of Rome – Tor Vergata & CNIT
    stefania.bartoletti@uniroma2.it
  - Vice-chairs: Anna Guerra, IEIIT-CNR and CNIT
- Goal:
  - The goal of the SIG is to solicit the development of new positioning strategies that leverage the wealth of wireless communication technologies as well as of new location-aware procedures to enhance the efficiency of communication networks.

- Main Activities:
  - Organization of Workshops and Conferences
  - Coordination of Joint Publications, Special Issues
  - Selection and Advertisement of IEEE Best Readings

Please contact Chair and Vice-chair for your participation!
Check our updated website: https://sites.google.com/view/ieee-comsoc-rcc-sig-wloc

SIG: Wireless Localization

3rd Workshop on Synergies of Communication, Localization, and Sensing towards 6G

IEEE ICC 2024, Denver, CO, USA

- June 09-13 2024 // Denver, CO, USA
- Website: https://icc2024.ieee-icc.org/workshop/ws-05-3rd-workshop-synergies-communication-localization-and-sensing-towards-6g
- Co-Chairs:
  - Henk Wymeersch, Chalmers University of Technology, Sweden, henkw@chalmers.se
  - Harpreet Dhillon, Virgina Tech, USA, hdhillon@vt.edu
  - Stefania Bartoletti, CNR and CNIT, Italy, stefania.bartoletti@cnit.it
  - Liesbet Van der Perre, KU Leuven, Belgium, liesbet.vanderperre@kuleuven.be
  - George C. Alexandropoulos, National and Kapodistrian University of Athens, Greece, alexandg@di.uoa.gr

SIG: Wireless Localization

2nd Workshop on Near-field Communications, Localization, and Sensing
Denver, CO, USA

- June 09-13 2024 // Denver, CO, USA
- Website: https://icc2024.ieee-icc.org/workshop/ws-13-2nd-workshop-near-field-communications-localization-and-sensing
- Deadline: 20 January 2024
- Co-Chairs:
  - Haiyang Zhang, Nanjing University of Posts and Telecommunications, China
  - Anna Guerra, CNIT, National Research Council of Italy, Italy
  - Francesco Guidi, National Research Council of Italy, Italy
  - Nir Shlezinger, Ben-Gurion University, Israel
  - Yuanwei Liu, Queen Mary University of London
  - George C. Alexandropoulos, National and Kapodistrian University of Athens, Greece

SIG: Wireless Localization

Special Session on Signal Processing in Communications, Navigation and Sensing for Autonomous Systems

IEEE SiPS 2024, Boston, USA

- 4-6 November 2024 The Engine, Cambridge MA USA
- Website: https://ieee-sips.org/
- Deadline: July 31st

- Co-Chairs:
  - Siwei Zhang, German Aerospace Center (DLR), Germany
  - Anna Guerra, IEIIT-CNR and CNIT, Italy
  - Francesco Guidi, IEIIT-CNR and CNIT, Italy
  - Pau Closas, Northeastern University, USA.

SIG: Wireless Localization

IEEE INTERNET OF THINGS JOURNAL Special Issue on 6G Near-Field Technologies for The Internet of Things

- Website: https://ieee-iotj.org/special-issues/
- Deadline: November 30th, 2024
- Co-Chairs:
  - Haiyang Zhang, Nanjing University of Posts and Telecommunications, China;
  - Francesco Guidi, National Research Council of Italy, Italy;
  - Yuanwei Liu, Queen Mary University of London, United Kingdom;
  - A. Lee Swindlehurst, University of California, Irvine, USA;
  - Yonina C. Eldar, Weizmann Institute of Science, Israel.

SIG: Wireless Localization

Updating the Best Readings on Network Localization and Navigation

< Email template in your mailbox >

+30 proposed papers from RCC members

Editorial members:

- Santiago Mazuelas (BCAM)
- Yuan Shen (Tsinghua University)

SIG: Propagation Channels for 5G and Beyond

- **Committee**
  - Chair: Dajana Cassioli (University of L'Aquila, dajana.cassioli@univaq.it)
  - Vice-chair: Leyre Azpilicueta (UPNA, leyre.azpilicueta@unavarra.es)
  - Secretary: Aniruddha Chandra (NITD, aniruddha.chandra@ieee.org)

Website https://sites.google.com/view/ieee-comsoc-rcc-sig-prop5g

Mailing List https://listserv.ieee.org/cgi-bin/wa?SUBED1=SIG-PROP-5G

SIG: Propagation Channels for 5G and Beyond

- **Standardization Activities**
  - IEEE P1944 (https://cpadhoc.standards.comsoc.org/)
    - Standard for Channel Models of Wireless Systems
    - SIG: UAV and vehicular channels, Liaison: D. Cassioli
    - SIG: Site-specific channel models, Liaison: A. Chandra
  - IEEE P2982 (https://sagroups.ieee.org/2982/)
    - IEEE Recommended Practice for mmWave Channel Sounder Verification
    - Liaison: A. Chandra, D. Cassioli
    - Identify and correct shortcomings in channel sounder performance and/or post-processing techniques and give confidence that a given set of channel measurement data is suitable for inclusion in a pooled database.
  - NextG Channel Model Alliance (A. Molisch)
    - Monthly seminar on new use cases and repository for channel-sounding data

SIG: Propagation Channels for 5G and Beyond

- **Planned Activities**
  - Webpage for information exchange, pointing to new papers
  - Organization of tutorials and lectures
    - **SIG Tutorial Proposal** APS/URSI 2025
      - Propagation Measurements and Modeling: A Modern Approach for 6G Communications, by Christopher R. Anderson; Dajana Cassioli; Leyre Azpilicueta; Michael Walter (NTIA, USA; University of L'Aquila, Italy; Public University of Navarre, Spain; DLR, Germany) - *TBC*
  - Organization of workshops/symposia at ComSoc conferences
    - **SIG Workshop Proposal** VTC 2025, ICC 2025, GC 2025 *(TBD)*

SIG: Propagation Channels for 5G and Beyond

- **Seminar Series**

62 participants

91 participants

Next webinar

Fall 2024

Chong Han
UM-SJTU

SIG: Integration of Sensing and Communications (ISC)

- Committees:
  - Chair: Tingting Zhang (Harbin Institute of Technology, zhangtt@hit.edu.cn)
  - Vice-chair: Pan Cao (University of Hertfordshire, p.cao@herts.ac.uk)
  - Vice-chair: Qingqing Wu (Shanghai Jiao Tong University, qingqingwu@sjtu.edu.cn)
- Website: **https://sites.google.com/view/ieee-comsoc-rcc-sig-ilsac/home**
- Motivations:
  - The integrated sensing and communication (ISC) system to realize joint the environment sensing and communication, by sharing the same frequency, time and hardware.
  - Topics: Integration of comm and localization, radar detection and imaging, UWB, mobile network aided sensing, UAV sensing, comm. and control, etc.
  - We are also interested in the industrial collaborations, including the standard contributions, prototype implementations, etc.

Please contact Chair and Vice-chair for your participation!

SIG: Integration of Sensing and Communications (ISC)

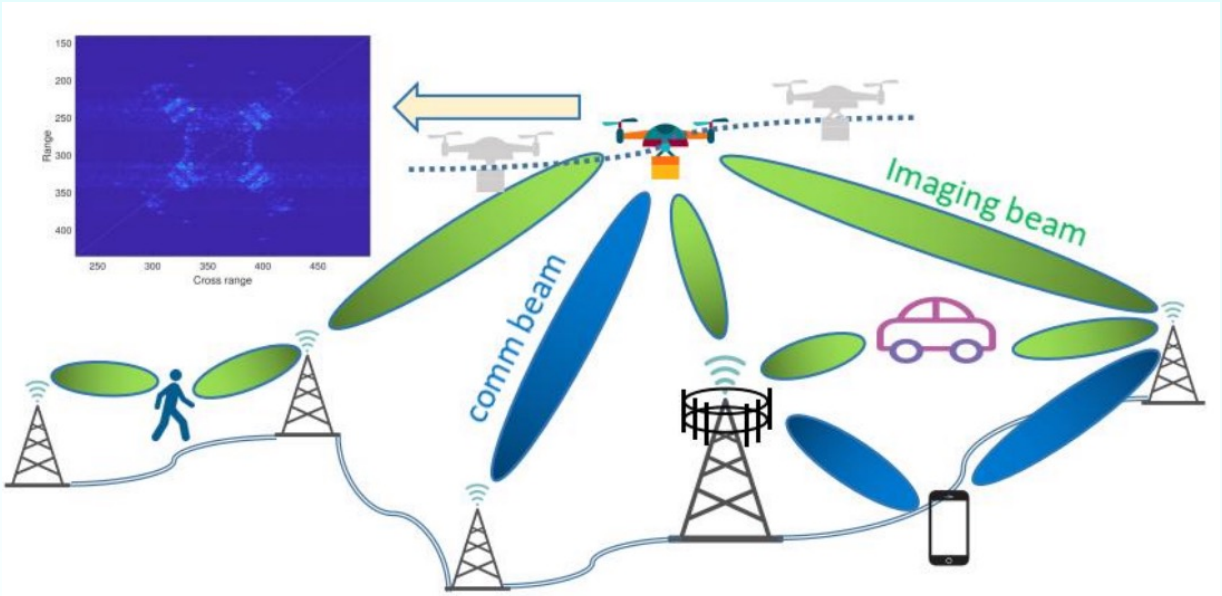
- Committees:
  - Chair: Tingting Zhang (Harbin Institute of Technology, zhangtt@hit.edu.cn)
  - Vice-chair: Pan Cao (University of Hertfordshire, p.cao@herts.ac.uk)
  - Vice-chair: Qingqing Wu (Shanghai Jiao Tong University, qingqingwu@sjtu.edu.cn)
- Website: **https://sites.google.com/view/ieee-comsoc-rcc-sig-ilsac/home**

Please contact Chair and Vice-chair for your participation!

SIG: Integration of Sensing and Communications (ISC)

- Past activities:
  - Panel discussion and workshop organization in main stream IEEE conferences (ICC, Globecom, WCNC, VTC, etc.)
  - Feature Topics on “Location Awareness for 5G and Beyond” in IEEE Communications Magazine.
  - Special Issue on “Integration of radar sensing, localization and communications (ISLC)” or related areas in several journals.
- Coming activities:
  - Workshops organization in main stream IEEE Conferences.
  - SI on several IEEE Journals.
- Other activities:
  - Maintain the best readings section on our website.
  - Organize ISC related seminars.

UK Federated Telecoms 6G Hubs



6G-DISCO Concept and Illustration (integrated imaging and comm)

Engineering and Physical Sciences Research Council

TITAN
PLATFORM DRIVING THE ULTIMATE CONNECTIVITY

6G-DISCO: DIStributed imaging and COMmunication for 6G cell-free massive MIMO

UK EPSRC Federated Telecoms 6G Hub Partnership Fund (awarded, 388K GBP) is led by Dr. Pan Cao, jointly worked with Queens University of Belfast, Partnershiped with UK Federated 6G Hub - TITAN (led by University of Cambridge).

EU 6G ISAC Consortium: 6G-PLANET

Consortium	
Partner	**Type**
Consorzio Nazionale Interuniversitario per le Telecomunicazioni	Research Center
Fundación IMDEA Networks	Research Center
InterDigital Europe Ltd.	Telco & IT Industry
VIAVI Solutions France SAS	Telco & IT Industry
Nokia Networks France	Telco & IT Industry
Samsung Research Institute UK	Telco & IT Industry
Ericsson Limited	Telco & IT Industry
Universitat Pompeu Fabra	University
Centralsupelec Paris-Saclay University	University
Technische Universität Dresden	University
The University of Hertfordshire Higher Education	University
ISRD SP Z O. O. (IS-Wireless)	SME
Nextworks	SME
Greenerwave	SME
One Source Consultoria Informatica LDA	SME
Telefónica Innovación Digital	Operator
British Telecom	Operator

6G-PLANET Concept & Visions: to develop Foundations, Proof of Concepts & Standarsiations on ISAC

6GSNS

European Commission

6G-PLANET: Physical Layer Advancements for multi-functional 6G NETworks

EU Horizon 6G call 3 (Budget: 8 million EURO), submitted in April 2024.

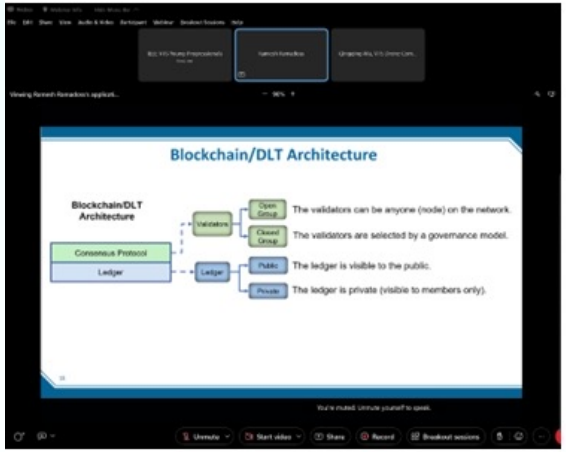
Univ of Hertfordshire (Dr. Pan Cao)

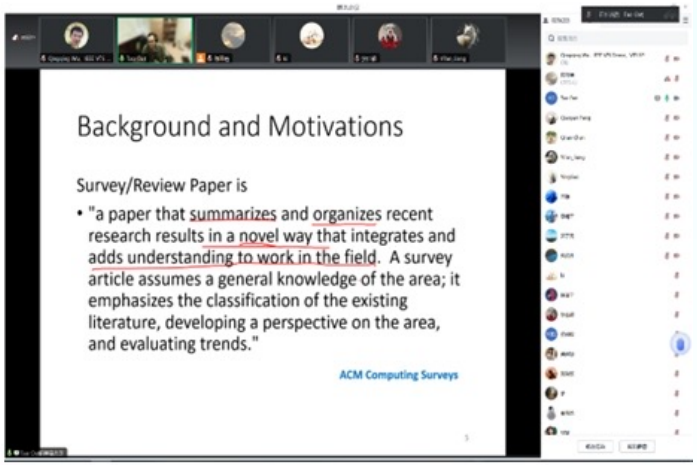
SIG: Integration of Sensing and Communications (ISC)

ISC Related Offline and Online Seminars, 2024

Host: Qingqing Wu

- Offline and Online seminars on technical issues and student membership development





Hybrid seminar on AI generated content
Speaker: IEEE Fellow, Dusit Niyato

100+ Audiences in total, Host: Qingqing Wu

SIG: Integration of Sensing and Communications (ISC)

Recent Results
IEEE VTC2024-Spring, Singapore

- 24-27 June 2024 Singapore
- Website: https://events.vtsociety.org/vtc2024-spring/authors/call-for-papers/
- Technical Program Committee Leadership:
  - Zeeshan Kaleem, COMSATS University Islamabad, Pakistan
  - Sinem Coleri, Koç University, Turkey
  - Qingqing Wu, Shanghai Jiao Tong University, China

SAC-RIS
IEEE Globecom 2024, Cape Town, South Africa

- 24-27 June 2024 Singapore
- Website: https://globecom2024.ieee-globecom.org/call-papers
- Symposium chair:
  - Qingqing Wu, Shanghai Jiao Tong University, China

SIG: Integration of Sensing and Communications (ISC)

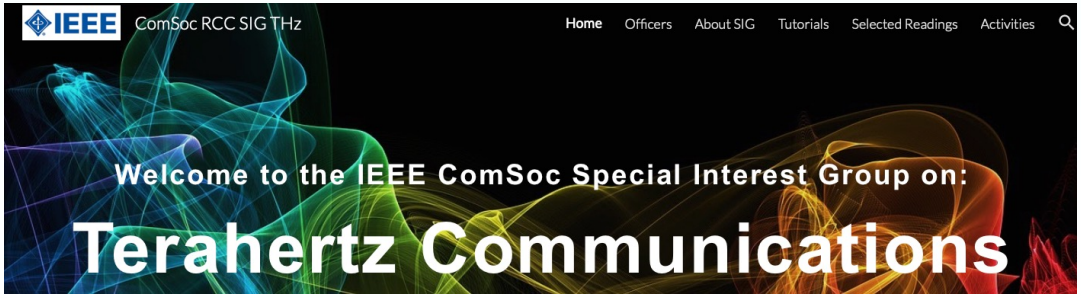
3rd International Workshop on Sensing Advances in Wireless Networks (SAWN)

VTC2024-FALL, Washington DC, USA

- 7-10 October 2024 in Washington DC, USA
- Website:https://events.vtsociety.org/vtc2024-fall/conference-sessions/call-for-workshops/w3-3rd-international-workshop-on-sensing-advances-in-wireless-networks-sawn/
- **Co-chairs:**
  - Husheng Li, Purdue University, USA
  - Pan Cao, University Hertfordshire, UK
  - Tingting Zhang, Harbin Institute of Technology, China

SIG: Terahertz Communications

- **Officers:**
  - **Chair:** Josep M. Jornet (Northeastern University, USA)
  - **Vice-chairs:**
    - Chong Han (Shanghai Jiao Tong University, China)
    - Gianni Pasolini (University of Bologna, Italy)
    - Hina Tabassum (York University, Canada)
- Established in June 2021
- Webpage: https://sites.google.com/view/ieee-comsoc-rcc-sig-thz/home



Please contact any of the officers or fill the registration form on the website for your participation!

SIG: Terahertz Communications

- **SIG Goals:**
  - To become the unifying forum of discussion for all the aspects relating to THz communications, from device technologies to radio propagation and communication systems design.
  - To provide a one-stop-shop for the wireless research community, where to find key resources and pointers to relevant THz materials, helping any researcher to join and contribute to this exciting field.
  - To organize convened sessions and workshops as well as special issues in IEEE conferences and journals.
  - To promote and support standardization activities on THz communications in 6G and beyond worldwide.

SIG: Terahertz Communications

- **Hosted Seminars (since June 2021, recent activities in blue)**
  - **12th** Seminar (July 19, 2023): "The Right Place for Millimeter and Terahertz Wave Utilization in Beyond 5G/6G," by **Prof. Iwao Hosako,** National Institute of Information and Communications Technology (NICT), Japan
  - **11th** Seminar (April 11, 2023): "The potential role of THz Communications in future 6G Networks," by **Prof. Thomas Kürner**, Technisch... ...rsität Braunschweig, Germany
  - **10th** Seminar (March 15, 2023): "Securit... ...ireless links," by **Prof. Daniel Mittleman**, Brown University, Pro...
  - **9th** Seminar (February 14... ...Link Analysis, ICs, Modules, Demonstrations," by ... ...a Family Endowed Chair in Electrical and Computer E... ...California, Santa Barbara
  - **8th** Seminar (Nove... ...Spectrum Sharing Challenges for Enabling Large Bandwidth Terahert... ...nications and Sensing Above 100 GHz in 6G," by **Prof. Michael J. Marcus & Josep M. Jornet**, Institute for the Wireless Internet of Things, Northeastern University, Boston, USA
  - **7th** Seminar (August 24, 2022): "THz seamless networks for 6G," by **Prof. Tetsuya Kawanishi**, Waseda University, Japan

A new webinar series for the Fall 2024 semester is going to be shortly announced.

SIG: Terahertz Communications

- **Knowledge Transfer (since June 2021, recent activities in blue)**

Tutorials/short courses:

- "Multiband Wireless Networks for 6G and Beyond – Modeling, Analysis, and Resource Allocation" at the IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'24), September, 2024, Valencia, Spain
- "Molecular Absorption Effect: A Double-edged Sword for Terahertz Wireless Communications," at the IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'24), September, 2024, Valencia, Spain
- "End-to-End Link Design at Sub-Terahertz and Terahertz Frequencies," RF BootCamp, IEEE MTT-S International Microwave Symposium, June 17, 2024.
- "Design and Optimization of NeXt Generation (XG) Multi-band RF/THz/Optical Networks," at the IEEE International Conference on Communications (ICC'24), 5-8 May, 2024, Denver, USA"
- "Coexistence and Spectrum Sharing Above 100 GHz: Opportunities, Challenges and Solutions," tutorial at the IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN), in Washington, DC, on May 13, 2024.
- "Near Field Terahertz Communications for 6G and Beyond: Challenges and Opportunities," tutorial at the IEEE Wireless Communications and Networking Conference (WCNC), in Dubai, United Arab Emirates, on April 21, 2024.

SIG: Terahertz Communications

- **Other Activities (since June 2021, recent activities in blue)**
  - **Special Issues:**
    - Terahertz Communications and Sensing for 6G and Beyond: How Far Are We? IEEE Wireless Communications (Publication: February 2024)
    - Electromagnetic Nanonetworks: From On-chip Communication to Wearable and Implantable Networks, IEEE JSAC (Publication: Fall 2024)
    - Advanced Signal Processing for Terahertz Communications in 6G and Beyond Networks, Special Issue in IEEE Journal on Selected Topics in Signal Processing (JSTSP), 2022
  - **IEEE ComSoc Best readings on THz Communications**
  - **Conferences and Workshop Organization**
    - Second National Symposium on Terahertz Communications (250+ attendees), May 22-24, 2024, Shanghai, China.
  - **Books/Books' chapters**
    - Terahertz communications, book chapter within the book "6G wireless systems: enabling technologies."

SIG: Terahertz Communications

- **Other Activities (since June 2021, recent activities in blue)**
  - **Symposia (lead organizer):**
    - SAC Track on Terahertz Communications, IEEE Globecom 2024
    - SAC Track on Terahertz Communications, IEEE Globecom 2023
    - Technical Symposia on Terahertz Communications for Future Networks, IEEE Future Networks World Forum, 2023
    - Fifth IEEE International Workshop on Terahertz Communications (TeraCom), in conjunction with IEEE ICC 2022
    - Sixth IEEE International Workshop on Terahertz Communications (TeraCom), in conjunction with IEEE Globecom 2022
  - **IEEE ComSoc Best readings on THz Communications**

SIG: Terahertz Communications

- **Planned Activities (continuing):**
  - Organize invited seminars (every three months)
    - Sponsor external related seminars (on a solicitation basis)
  - Organize workshop or symposia along with mainstream IEEE conferences
    - Sponsor external related workshops (on a solicitation basis)
  - Organize tutorials and panels along with mainstream IEEE conferences
  - Maintain and update the best readings sections

SIG: Beyond Diagonal Reconfigurable Intelligent Surface (BD-RIS)

- Committees:
  - Chair: **Bruno Clerckx**, Imperial College London, U.K. (b.clerckx@imperial.ac.uk)
  - Vice Chair: **Ross Murch**, The Hong Kong University of Science and Technology, Hong Kong
  - Vice Chair: **Arman Shojaeifard**, InterDigital, U.K.
  - Vice Chair: **Marco Di Renzo**, CentraleSupélec, France
  - Vice Chair: **Eduard A. Jorswieck**, Technical University of Braunschweig, Germany
  - Secretary: **Matteo Nerini**, Imperial College London, U.K.

- Webpage: https://sites.google.com/view/ieee-comsoc-rcc-sig-bdris

Please contact Chair and Vice-chairs for your participation!

SIG: Beyond Diagonal Reconfigurable Intelligent Surface (BD-RIS)

- Motivation:
  - Reconfigurable intelligent surface (RIS) is expected to be a key technology for 6G to efficiently enhance wireless communication performance.
  - The literature has so far developed and focused on RIS with a diagonal scattering matrix.
  - This SIG focuses on beyond diagonal RIS (BD-RIS), which is a generalization of conventional RIS whose scattering matrix is not restricted to being diagonal.

- Main Activities:
  - Organization of a Webinar Series
  - Organization of a Special Session in IEEE SPAWC 2024
  - Delivery of Keynotes, Tutorials, and Talks
  - Contribution in Standardization Group
  - Maintenance of the Webpage (including an up-to-date selection of best readings)

Please contact Chair and Vice-chairs for your participation!

SIG: Beyond Diagonal Reconfigurable Intelligent Surface (BD-RIS)

1st BD-RIS Webinar Series

- January – May 2024 // Zoom Meetings (Recorded)
- Website: https://sites.google.com/view/ieee-comsoc-rcc-sig-bdris/webinar-series
- Schedule:
  - Prof. Marco Di Renzo - Jan 10, 2024
  - Prof. Eduard A. Jorswieck - Jan 24, 2024
  - Dr. Yijie (Lina) Mao - Feb 07, 2024
  - Prof. Ross Murch - Feb 21, 2024
  - Dr. Arman Shojaeifard - Mar 06, 2024
  - Prof. A. Lee Swindlehurst - Apr 24, 2024
  - Dr. Shanpu Shen - May 08, 2024
  - Prof. Mohammed El-Hajjar - May 22, 2024

SIG: Beyond Diagonal Reconfigurable Intelligent Surface (BD-RIS)

Talks and Keynotes

- B. Clerckx, “Beyond Diagonal Reconfigurable Intelligent Surfaces: The Next Frontier for Smart Radio Environment?”, IEEE ComSoc-SPS Joint Workshop on ISAC at UCL, UK, May 2024.
- B. Clerckx and M. Nerini “Beyond Diagonal Reconfigurable Intelligent Surfaces: An Underpinning Technology for Emerging Smart Radio Environment and Wave Domain Processing,” University of Surrey, May 2024.
- B. Clerckx, “Beyond Diagonal Reconfigurable Intelligent Surfaces: The Next Frontier for Smart Radio Environment,” RISTA, April 2024.
- B. Clerckx, “Beyond Diagonal Reconfigurable Intelligent Surfaces: The Next Frontier for Smart Radio Environment,” COST INTERACT, Lisbon, Jan 2024.
- B. Clerckx “RISs 2.0: Beyond Diagonal Phase Shift Matrices,” IEEE CAMSAP 2023, Costa Rica, Dec 2023.
- B. Clerckx “RISs 2.0: Beyond Diagonal Phase Shift Matrices,” IEEE Communication Theory Workshop, Taiwan, July 2023.
- A. Zappone, “Active versus Passive RIS for Energy Efficiency,” TU Braunschweig, Germany, July 2023.
- M. Di Renzo, "Analysis and Optimization of RISs by Using Multiport Network Theory," SAL Symposium 2023.
- M. Di Renzo, "Analysis and Optimization of RISs by Using Multiport Network Theory," KAUST 6G Summit 2023.
- M. Di Renzo, "Analysis and Optimization of RISs by Using Multiport Network Theory," IEEE COMSOC 6G Technologies for Global Connectivity 2023.
- M. Di Renzo, "Analysis and Optimization of RISs by Using Multiport Network Theory," IEEE 6G Summit Singapore 2023.
- M. Di Renzo, "Analysis and Optimization of RISs by Using Multiport Network Theory," IEEE GLOBECOM Workshop “RIS-Empowered 3CLS” 2023.
- M. Di Renzo, "Towards Wave Domain Wireless Communications," IEEE GLOBECOM - Young Professionals - A View to the Future of Communications, 2023.
- M. Di Renzo, "Towards Wave Domain Wireless Communications,“ IEEE GLOBECOM - Workshop on Sustainable and Intelligent Green IoT for 6G, 2023.

SIG: Beyond Diagonal Reconfigurable Intelligent Surface (BD-RIS)

Tutorials in IEEE Conferences

- Bruno Clerckx and Marco Di Renzo, “Electromagnetic Signal and Information Theory: Beyond Diagonal Reconfigurable Intelligent Surfaces and Holographic Surfaces,” IEEE SPAWC 2024.
- Bruno Clerckx and Marco Di Renzo, “Electromagnetic Signal and Information Theory: Beyond Diagonal Reconfigurable Intelligent Surfaces and Holographic Surfaces,” IEEE WCNC 2024.
- Bruno Clerckx and Marco Di Renzo, “Future Multi-Antenna Signal Processing: Beyond Diagonal Reconfigurable Intelligent Surfaces and Holographic Surfaces,” IEEE ICASSP 2024.

Special Session in IEEE SPAWC 2024

- IEEE SPAWC 2024 "Beyond Diagonal Reconfigurable Intelligent Surfaces", organized by Bruno Clerckx and Matteo Nerini.
- https://spawc2024.org/special-sessions/

Conference Reports

- **ICC 2024**: Dajana Cassioli (M&WN), Imran Shafique Ansari (WC), Mark Flanagan (WC), Anna Guerra (SPC), Hongjian Sun (CR&AI-EN)
- **GC 2024**: Himal Suraweera (SPC), Yuan Shen (WC), Daniel Benevides da Costa (WC), Josep Jornet (SAC–THz)
- **ICC 2025**: Yuanwei Liu (CT), Yuan Shen (SPC), Cunhua Pan (WC), Mauro Biagi (WC)

ICC 2024 – Mobile & Wireless Networks

When: *June 09, 2024 – June 13, 2024* Where: *Denver, CO, USA*

Symposium: Mobile & Wireless Networks

Co-chairs:

Mohammed Atiquzzaman (University of Oklahoma, USA), Dajana Cassioli (University of L'Aquila, Italy), Weixiao Meng (Harbin Institute of Technology, China), Wen Sun (Northwestern Polytechnical University, China)

RCC representative: *Dajana Cassioli* (dajana.cassioli@univaq.it)

Total Submitted: 204 Avg number of reviews/paper: 4

Total Accepted: 69 Acceptance rate: 33.8%

#TPC members: 215 Avg number of reviews/TPC member: 3.48

ICC 2024 – Wireless Communications

When: *June 09, 2024 – June 13, 2024* Where: *Denver, CO, USA*

Symposium: Wireless Communications

Co-chairs:

Virginia Pilloni (University of Cagliari, Italy), Haibo Zhou (Nanjing University, China), Imran Shafique Ansari (University of Glasgow, UK), Mark Flanagan (University College Dublin, Ireland), Gaojie Chen (University of Surrey, UK)

RCC representatives: *Imran Shafique Ansari (imran.ansari@glasgow.ac.uk)*

Mark Flanagan (mark.flanagan@ieee.org)

Total Submitted: 237	Avg number of reviews/paper: 3.7
Total Accepted: 94	Acceptance rate: 39.7%
#TPC members: 287	Avg number of reviews/TPC member: 3.0

ICC 2024 – Signal Processing for Communications

When: *June 09, 2024 – June 13, 2024* Where: *Denver, CO, USA*

Symposium: Signal Processing for Communications

Co-chairs:

Yanjun Pan (University of Arkansas, USA), Hamid Jafarkhani (University of California Irvine, USA), Anna Guerra (National Research Council of Italy)

RCC representative: *Anna Guerra* (anna.guerra@cnr.it)

Total Submitted: 112 Avg number of reviews/paper: 3.6

Total Accepted: 43 Acceptance rate: 37%

#TPC members: 161 Avg number of reviews/TPC member: 3.5

ICC 2024 – Cognitive Radio & AI-Enabled Networks

When: *June 09, 2024 – June 13, 2024* Where: *Denver, CO, USA*

Symposium: Cognitive Radio & AI-Enabled Networks

Co-chairs:

Dola Saha (University at Albany, NY, USA), Hongjian Sun (University of Durham, UK)

RCC representative: *Hongjian Sun* (hongjian.sun@durham.ac.uk)

Total Submitted: 54	Avg number of reviews/paper: 3.7
Total Accepted: 19	Acceptance rate: 35.2%
#TPC members: 148	Avg number of reviews/TPC member: 3.19

GC 2024 – Signal Processing for Communications

When: *Dec. 08, 2024 – Dec. 12, 2024*

Where: *Cape Town, South Africa*

Symposium: Signal Processing for Communications

Co-chairs:

Zhijin Qin (Tsinghua University, China)

Himal A. Suraweera (University of Peradeniya, Sri Lanka),

RCC representative: *Himal A. Suraweera* (*himal@ee.pdn.ac.lk)*

Submissions: 128

TPC members: 101

Target avg number of reviews per TPC member: 4

Target avg number of reviews per paper: 3

GC 2024 – Wireless Communications

When: *Dec. 08, 2024 – Dec. 12, 2024*

Where: *Cape Town, South Africa*

Symposium: Wireless Communications

Co-chairs:

Yuan Shen (Tsinghua University, China), Daniel Benevides da Costa (King Fahd University of Petroleum & Minerals, Saudi Arabia), Qiang Ye (Dalhousie University, Canada), Yang Wang (University of Science and Technology of China), Ahmed Eltawil (King Abdullah University of Science and Technology, Saudi Arabia)

RCC representatives: *Yuan Shen* (*shenyuan_ee@tsinghua.edu.cn*)

Daniel Benevides da Costa (*danielbcosta@ieee.org*)

Submissions: 198

TPC members: 372

Target avg number of reviews per TPC member: 4

Target avg number of reviews per paper: 3

GC 2024 – SAC-Terahertz Communications

When: *Dec. 08, 2024 – Dec. 12, 2024*

Where: *Cape Town, South Africa*

Symposium: Selected Areas in Communications - Terahertz Communications

Chair: *Josep M. Jornet (Northeastern University, USA)*

RCC representative: *Josep M. Jornet* (*j.jornet@northeastern.edu*)

Submissions: 15

TPC members: 38

Target avg number of reviews per TPC member: 4

Target avg number of reviews per paper: 2

ICC 2025 – Communication Theory

When: *June 08, 2025 – June 14, 2025* Where: *Montreal, Canada*

Symposium: Communication Theory

Co-chairs:

Jie Xu (Chinese University of Hong Kong, China), Yuanwei Liu (Queen Mary University of London, UK), Y.-W. Peter Hong (National Tsing Hua University, Taiwan)

RCC representative: *Yuanwei Liu* (yuanwei.liu@qmul.ac.uk)

Expected number of submissions: 150

Target number of TPC members: 140

ICC 2025 – Signal Processing for Communications

When: *June 08, 2025 – June 14, 2025* Where: *Montreal, Canada*

Symposium: Signal Processing for Communications

Co-chairs:

Dimitrie C. Popescu (Old Dominion University, USA), Yuan Shen (Tsinghua University, China), Mojtaba Vaezi (Villanova University, USA)

RCC representative: *Yuan Shen* (shenyuan_ee@tsinghua.edu.cn)

Expected number of submissions:120

Target number of TPC members: 140

ICC 2025 – Wireless Communications

When: *June 08, 2025 – June 14, 2025* Where: *Montreal, Canada*

Symposium: Wireless Communications

Co-chairs:

Tianwei Hou (Western University, Canada), Lin Bai (Beihang University, China), Haixia Zhang (Shandong University, China), Cunhua Pan (Southeast University, China), Mauro Biagi (University of Rome "La Sapienza", Italy)

RCC representatives: *Cunhua Pan* (cpan@seu.edu.cn)

Mauro Biagi (mauro.biagi@uniroma1.it)

Expected number of submissions: 250

Target number of TPC members: 300

ComSoc Standards Board Technical Committee Liaisons Report

RCC Standard Liaisons Officer: *George Chrisikos (gchrisikos@ieee.org)*

- ComSoc SB Objective:
  - Discussion of IEEE/ComSoc Standards Development Projects
  - New Standardization Initiatives
  - Procedures
  - Operational Issues
  - In partnership with the IEEE-SA Standards Board

IEEE ComSoc Students Competition

- Submissions of recent years:
  - There were 72 in 2023 (68 in 2022, 53 in 2021, 54 in 2020, 51 in 2019).
- Sources of 2023:
  - The received projects were from over 20 countries around the world.
- Hot Topics of 2023:
  - **AI in communications**: 9 in 72 (AI for farming, AI for channel sensing, AI for academics, AI for Federated Learning).
  - **Internet of Things technology**: 8 in 72 (environment monitoring, smart farming, smart city, smart healthcare).
  - **Vehicular technology**: 4 in 72 (automation control, intelligent vehicle, intersection coordination).
  - **Radio positioning**: 4 in 72 (WiFi, UWB, wideband sound, cooperative localization).
  - **Communication for healthcare**: 4 in 72.
  - **Space communication**: 4 in 72

IEEE ComSoc Students Competition

- Process of IEEE Students Competition 2023:
  - Phase 1: The submitted projects were evaluated by 55 committee members in 5 aspects (Social Impact, Technical content, Originality, Practical Applicability and Results, Quality of presentation).

    Top 16 projects ranked got an **Honorary Mention**.
  - Phase 2: The 1st and 2nd Prizes winners were voted among the **16 projects** by committee members.
    - **First Prize**: Advancing Passenger Experience & Reliability of Autonomous Buses Through LiFi Technology.

      Maitha AlHammadi, Amna Ahmad, Sophia Nicole Jerez, and Aleena Lifiya

      University of Dubai, UAE
    - **Second Prize**: HUG Smart Sticker: Enhancing Personalized Intelligent Medication Management for Community-Dwelling Older Adults with an AIoT Intervention.

      Yuexing Hao, Zeyu Li

      Cornell University, USA

RCC Activities

- GC/ICC Symposia Chair Nomination
  - Call for nominations for ICC 2026 was sent out via RCC mailing list (deadline: June 5, 2024)
  - Self-nomination allowed
  - A ranked list was submitted to the ICC 2026 TPC Co-Chairs

Dear RCC members,

IEEE ICC 2026 will be held in Glasgow, UK. We are now seeking nominations for TPC symposium co-chairs for several symposia of RCC interest, including, for example, Wireless Communications (WC), Communication Theory (CT), Signal Processing for Communications (SPC).

Please note the following: Candidates who have chaired, or have been appointed to chair, 3 symposia in the 10 most recent ICC/GC conferences (i.e., from ICC 2020 through GLOBECOM 2025) may not be selected.

The nomination should include:

- the candidate's affiliation, email, and webpage (or biosketch);
- a list of all prior ICC/GLOBECOM symposia chaired or experiences in other major conferences;
- a ranked list of up to 3 symposia or tracks that he/she is qualified to chair;
- a statement that you have not chaired 3 symposia in the 10 most recent ICC/GC conferences (i.e., from ICC 2020 through GLOBECOM 2025).

RCC Activities

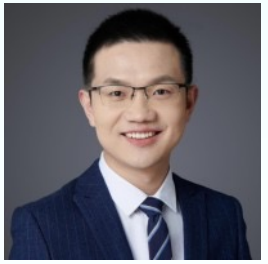
- ComSoc Technical Co-sponsorship Conference Endorsement
  - Conference should be relevant to the scope of RCC
  - RCC endorses a number of conferences every year
  - Please contact RCC officers for the support of RCC
- IEEE Fellowship Endorsement
  - Please contact RCC officers for the support of RCC
- ComSoc Distinguished Lecturer Nomination
  - Please contact RCC officers for the support of RCC
  - Selected DLs
    - Theodoros Tsiftsis, University of Thessaly, Greece (~Dec. 2025)
    - Qingqing Wu, Shanghai Jiao Tong University, China (~Dec. 2025)

RCC Activities - Seminar Series

- The IEEE Radio Communications Committee has launched a series of online seminars starting from July 2021, to give great opportunities to learn the recent outcomes on trending topics from outstanding researchers. The duration of each seminar is 35-40 minutes plus Q&A.
- Website: https://rc.committees.comsoc.org/rcc-seminar-series/

  - Upcoming RCC Seminars

    - Speaker: Prof. Qingqing Wu (Shanghai Jiao Tong University)
    - Date and time: July 16, 2024 at 2pm BST (London time)
    - Title: “Intelligent reflecting surface empowered 6G wireless networks”



    - Speaker: Prof. Yuan Shen (Tsinghua University)
    - Date: August 8 at 2pm BST (London time)
    - Title: “Cooperative localization and sensing for multi-agent systems”

Call for Nominations for RCC TR Award

Soliciting nominations for 2024 Technical Recognition Award (Deadline: Oct. 1)

The Radio Communications Committee (RCC) Technical Recognition Award aims to promote radio communications research and development activities in both the academic and industrial community. This award is established as part of the RCC activities in which research and development takes place in areas related to radio communications. The award recognizes members of the IEEE Communications Society (ComSoc) who have made outstanding contributions to the technological advancement of radio communications.

Past recipients:

2023- Andrea Conti
2022- Naofal Al-Dhahir
2021- George K. Karagiannidis
2020- Gerard J. Foschini
2019 - Andreas F. Molisch
2019 - Mérouane Debbah
2018 - Thomas Kailath
2018 - Arogyaswami J. Paulraj
2017 - Fumiyuki Adachi
2017 - Gordon L. Stüber
2016 - William C. Lindsey
2015 - Larry Greenstein
2014 - Vincent Poor
2013 - Lajos Hanzo
2012 - Desmond Taylor
2011 - Norman Beaulieu
2010 - Marco Chiani

Next RCC Meeting

The next RCC meeting will be at GLOBECOM 2024 in Cape Town, South Africa

THANK YOU AND SEE YOU THEN!

Officers' Contacts

Chair: Julian Cheng
The University of British Columbia, Canada
https://engineering.ok.ubc.ca/about/contact/julian-cheng/ https:/eweb/
E-mail: julian.cheng@ubc.ca

Vice Chair: Enrico Paolini
University of Bologna, Italy
https://sites.google.com/view/enrico-paolini/
E-mail: e.paolini@unibo.it

Secretary: Mark Flanagan
University College Dublin, Ireland
https://people.ucd.ie/mark.flanagan
E-mail: mark.flanagan@ieee.org

RCC Website:
http://rc.committees.comsoc.org

IEEE Communications Society (ComSoc) Standards Development Board (SDB)

❖**Approved standards:**

- IEEE 661-1979: IEEE Standard Method for Determining Objective Loudness Ratings of Telephone Connections
- IEEE 1902.1-2009: IEEE Standard for Long Wavelength Wireless Network Protocol
- IEEE 1329-2010: IEEE Standard Method for Measuring Transmission Performance of Speakerphones
- IEEE 269-2010: IEEE Standard Methods for Measuring Transmission Performance of Analog and Digital Telephone Sets, Handsets, and Headsets
- IEEE 269a-2012: IEEE Standard Methods for Measuring Transmission Performance of Analog and Digital Telephone Sets, Handsets, and Headsets – Amendment 1
- IEEE 1652-2016: IEEE Standard for Translating Head and Torso Simulator Measurements from Eardrum to Other Acoustic Reference Points

❖**Active projects:**

- P269-2019: Standard for Measuring Electroacoustic Performance of Communication Devices

Dynamic Spectrum Access Networks Standards Committee (DySPAN-SC)

❖ **Approved standards:**

- IEEE 1900.1-2008: IEEE Standard Definitions and Concepts for Dynamic Spectrum Access: Terminology Relating to Emerging Wireless Networks, System Functionality, and Spectrum Management
- IEEE 1900.2-2008: IEEE Recommended Practice for the Analysis of In-Band and Adjacent Band Interference and Coex. Between Radio Systs.
- IEEE 1900.4-2009: IEEE Standard for Architectural Building Blocks Enabling Network-Device Distributed Decision Making for Optimized Radio Resource Usage in Heterogeneous Wireless Access Networks
- IEEE 1900.4a-2011: IEEE Standard for Architectural Building Blocks Enabling Network-Device Distributed Decision Making for Optimized Radio Resource Usage in Heterogeneous Wireless Access Networks Amendment 1: Architecture and Interfaces for Dynamic Spectrum Access Networks in White Space Frequency Bands
- IEEE 1900.5-2011: IEEE Standard for Policy Language Requirements and System Architectures for Dynamic Spectrum Access Systems
- IEEE 1900.6-2011: IEEE Standard for Spectrum Sensing Interfaces and Data Structures for Dynamic Spectrum Access and Other Advanced Radio Communication Systems
- IEEE 1900.1a-2012: IEEE Standard Definitions and Concepts for Dynamic Spectrum Access: Terminology Relating to Emerging Wireless Networks, System Functionality, and Spectrum Management Amendment 1: Addition of New Terms and Associated Definitions
- IEEE 1900.4.1-2013: IEEE Standard for Interfaces and Protocols Enabling Distributed Decision Making for Optimized Radio Resource Usage in Heterogeneous Wireless Networks
- IEEE 1900.6a-2014: IEEE Standard for Spectrum Sensing Interfaces and Data Structures for Dynamic Spectrum Access and Other Advanced Radio Communication Systems – Amendment 1: Procedures, Protocols, and Data Archive Enhanced Interfaces
- IEEE 1900.6-2011/Cor 1-2015: IEEE Standard for Spectrum Sensing Interfaces and Data Structures for Dynamic Spectrum Access and Other Advanced Radio Communication Systems – Corrigendum 1
- IEEE 1900.7-2015: IEEE Standard for Radio Interface for White Space Dynamic Spectrum Access Radio Systems Supporting Fixed and Mobile Operation
- IEEE 1900.5.2-2017: IEEE Approved Draft Standard Method for Modeling Spectrum Consumption
- IEEE 1900.1-2019: IEEE Standard for Definitions and Concepts for Dynamic Spectrum Access: Terminology Relating to Emerging Wireless Networks, System Functionality, and Spectrum Management
- IEEE 1900.6b-2022: IEEE Standard for Spectrum Sensing Interfaces and Data Structures for Dynamic Spectrum Access and Other Advanced Radio Communication Systems Amendment 2: Spectrum Database Interfaces
- IEEE 1900.5.1-2020: IEEE Standard for Policy Language for Dynamic Spectrum Access Systems

❖ **Active projects:**

- P1900.2: Revision to IEEE Standard 1900.2-2008
- P1900.5: Revision to IEEE Standard 1900.5-2011P1900.5.1: Standard Policy Language for Dynamic Spectrum Access Systems
- P1900.5.2a: Spectrum Consumption Modelling Schema
- P1900.8: Machine Learning for RF Spectrum Awareness in DSA and Sharing Systems
- P1900.1: Revision to IEEE Standard 1900.1-2019P1900.6b: Standard for Spectrum Sensing Interfaces and Data Structures for Dynamic Spectrum Access and other Advanced Radio Communication Systems. Spectrum Database Interfaces Amendment.

Power Line Communication Standards Committee (PLC-SC)

❖Approved standards:

- IEEE 1775-2010: IEEE Standard for Power Line Communication Equipment – Electromagnetic Compatibility (EMC) Requirements – Testing and Measurement Methods – co-sponsored with the IEEE Power and Energy Society (PES) Power System Communications Committee (PSCC)
- IEEE 1901-2010: IEEE Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications
- IEEE 1905.1-2013: IEEE Standard for a Convergent Digital Home Network for Heterogeneous Technologies
- IEEE 1901.2-2013: IEEE Standard for Low Frequency (less than 500 kHz) Narrow Band Power Line Communications for Smart Grid Applications
- IEEE 2030.5-2013: IEEE Adoption of Smart Energy Profile 2.0 Application Protocol Standard
- IEEE 1905.1a-2014: IEEE Standard for a Convergent Digital Home Network for Heterogeneous Technologies Amendment 1: Support of New MAC/PHYs and Enhancements
- IEEE 1909.1-2014: IEEE Recommended Practice for Smart Grid Communications Equipment — Test Methods and Installation Requirements
- IEEE 1901.2a-2015: IEEE Standard for Low-Frequency (less than 500 kHz) Narrowband Power Line Communications for Smart Grid Applications – Amendment 1
- P1901.1-2018: Medium Frequency (less than 15 MHz) Power Line Communications for Smart Grid Applications
- IEEE 2030.5-2018: IEEE Standard for Smart Energy Profile Application Protocol
- IEEE 1901a-2019: IEEE Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications — Amendment 1: Enhancement for Internet of Things Applications
- IEEE 2413-2019: Standard for an Architectural Framework for the Internet of Things (IoT)
- IEEE 1901-2020: IEEE Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications
- IEEE 1901.1.1-2020: IEEE Standard Test Procedures for IEEE Std 1901.1(TM) for Medium Frequency (less than 15 MHz) Power Line Communications for Smart Grid Applications
- IEEE 1901b-2021: IEEE Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications — Amendment 2: Enhancements for Authentication and Authorization
- IEEE 2847-2021: DC Power Transmission and Communication to DC Loads

❖Active projects:

- P2030.5: Standard for Smart Energy Profile Application Protocol
- P2413.1: Standard for a Reference Architecture for Smart City (RASC)
- IEEE P1901c: Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications – Amendment 3: Enhanced Flexible Channel Wavelet (FCW) physical and media access control layers for use on any media
- IEEE P2893: Flexible Optical Service Unit (OSUFlex) of Optical Transport Network (OTN) in power systems
- IEEE P1547: Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces
- IEEE P1547.10: Recommended Practice for Distributed Energy Resources (DER) Gateway Platforms

Virtualized and Software Defined Networks and Services Standards Committee (NetSoft-SC)

❖**Approved standards:**

- IEEE 1903-2011: IEEE Standard for the Functional Architecture of Next Generation Service Overlay Networks (NGSON)
- IEEE 1903.1-2017: IEEE Approved Draft Standard for Content Delivery Protocols of Next Generation Service Overlay Network
- IEEE 1903.2-2017: IEEE Approved Draft Standard for Service Composition Protocols of Next Generation Service Overlay Network (NGSON)
- IEEE 1903.3-2017: IEEE Approved Draft Standard for Self-Organizing Management Protocols of Next Generation Service Overlay Network
- IEEE 1930.1-2022: Recommended Practice for Software Defined Networking (SDN) based Middleware for Control and Management of Wireless Networks

❖**Active projects:**

- P1913: Software-Defined Quantum Communication
- P1915.1: Standard for Software Defined Networking and Network Function Virtualization Security
- P1938.1: Standard for Software Defined Protocol and Functional Requirements for Improvement of the Signal-to-Noise Ratio (SNR) in Communications Channels
- P1950.1: Standard for Communications Architectural Functional Framework for Smart Cities
- P1951.1: Standard for Discovering and Intent Sharing between Smart City Component Systems
- P2784: Guide for the Technology and Process Framework for Planning a Smart City
- P1952: Resilient Positioning, Navigation, And Timing User Equipment
- P1943.1: Standard for Post-Quantum Network Security

Green ICT Standards Committee (GreenICT-SC)

◆**Active projects:**

- P1922.1: A method for calculating anticipated emissions caused by virtual machine migration and placement
- P1922.2: A method to calculate near real-time emissions of information and communication technology infrastructure
- P1923.1: Computation of energy efficiency upper bound for apparatus processing communication signal waveforms
- P1924.1: Recommended practice for developing energy efficient power-proportional digital architectures
- P1925.1: Energy Efficient Dynamic Line Rate Transmission System
- P1926.1: A Functional Architecture of Distributed Energy Efficient Big Data Processing
- P1927.1: Services Provided by the Energy-efficient Orchestration and Management of Virtualized Distributed Data Centers Interconnected by a Virtualized Network
- P1928.1: A Mechanism for Energy Efficient Virtual Machine Placement
- P1929.1: An Architectural Framework for Energy Efficient Content Distribution

Mobile Communication Networks Standards Committee (MobiNet-SC)

Approved standards:

- 1914.3-2018: IEEE Standard for Radio over Ethernet Encapsulations and Mappings
- 1914.1-2019: IEEE Standard for Packet-based Fronthaul Transport Networks
- IEEE 1920.1-2022: IEEE Trial-Use Standard for Aerial Network Communication

Active projects:

- P1914.3: Standard for Radio Over Ethernet Encapsulations and Mappings
- P1918.1: Tactile Internet: Application Scenarios, Definitions and Terminology, Architecture, Functions, and Technical Assumptions
- P1918.1.1: Haptic Codecs for the Tactile Internet
- P1920.2: Vehicle-to-Vehicle Communications for Unmanned Aircraft Systems
- P1931.1: An Architectural Framework for Real-time Onsite Operations Facilitation (ROOF) for the Internet of Things
- P1932.1: Licensed/Unlicensed Spectrum Interoperability in Wireless Mobile Networks
- P1954: Self-Organizing Sepctrum-Agile Unmanned Aerial Vehicles Communications
- P2061: Architecture for Low Mobility Energy Efficient Network for Affordable Broadband Access
- P2872: Standard for Interoperable and Secure Wireless Local Area Network (WLAN) Infrastructure and Architecture
- P2994: Security Assessment Framework for the Internet of Things (IoT) Application Deployments

Edge, Fog, Cloud Communications with IOT, Big Data Standards Committee (EdgeCloud-SC)

Approved standards:

- IEEE 1906.1-2015: IEEE Recommended Practice for Nanoscale and Molecular Communication Framework
- P1906.1.1-2020: Standard Data Model for Nanoscale Communication Systems
- P1934-2018: OpenFog Reference Architecture for Fog Computing
- IEEE 2410-2017: IEEE Standard for Biometrics Open Protocol Standard

Active projects:

- P1912: Privacy and Security Architecture for Consumer Wireless Devices
- P1934.1: Nomenclature and Taxonomy for Distributing Computing, Communications and Networking along the Things-to-Cloud Continuum
- P1935: Standard for Edge/Fog Manageability and Orchestration
- P1940: Standard Profiles for ISO 8583 Authentication Services

Access and Core Networks Standards Committee (AccessCore-SC)

Approved standards:

- IEEE 1904.1-Conformance01-2014: IEEE Standard for Conformance Test Procedures for Service Interoperability in Ethernet Passive Optical Networks, IEEE Std 1904.1(TM) Package A
- IEEE 1904.1-Conformance02-2014: IEEE Standard for Conformance Test Procedures for Service Interoperability in Ethernet Passive Optical Networks, IEEE Std 1904.1(TM) Package B
- IEEE 1904.1-Conformance03-2014: IEEE Standard for Conformance Test Procedures for Service Interoperability in Ethernet Passive Optical Networks, IEEE Std 1904.1(TM) Package C
- IEEE 1904.1-2017: IEEE Standard for Service Interoperability in Ethernet Passive Optical Networks (SIEPON)
- IEEE 1904.2-2021: IEEE Standard for Control and Management of Virtual Links in Ethernet-based Subscriber Access Networks
- IEEE 1910.1: IEEE Standard for Meshed Tree Bridging with Loop Free Forwarding

Active projects:

- P1904.4: IEEE Standard for Service Interoperability in 25 Gb/s and 50 Gb/s Ethernet Passive Optical Networks
- P1941.1: IEEE Recommended Practice for Internet Grades of Service in Rural Areas
- P1942.1: IEEE Standard for Massive MIMO Architectural Framework

Unmanned Aerial Vehicles Communications Standards Committee(COM/AerCom-SC)

❖Approved standards:

- IEEE1937.1-2020: Standard of Interface Requirements and Performance Characteristics of Payload Devices in Drones
- IEEE1936.1-2021: Standard for Drone Applications Framework
- IEEE1939.1-2021: Standard for a Framework for Structuring Low Altitude Airspace for Unmanned Aerial Vehicle (UAV) Operations

❖Active projects:

- P1936.2: Photogrammetric technical requirements of civil light and small UAS for power grid survey and design
- P1937.3: Protocol for the Flight Data Transmission of Civil Unmanned Aerial Vehicle Based on BeiDou Short Message
- P1937.6: Standard for Unmanned Aerial Vehicle Light Detection and Ranging(LiDAR) remote sensing operation
- P1937.7: Standard for the Unmanned Aerial Vehicle polarimetric remote sensing method for earth observation applications
- P1937.8: Functional and Interface Requirements for Unmanned Aerial Vehicles' Cellular Communication Terminals
- P1937.9: Requirements for External Power and Power Management Interfaces for Unmanned Aerial Vehicle
- P1920.1: Aerial Communications and Networking Standards
- P1920.2: Standard for Vehicle to Vehicle Communications for Unmanned Aircraft Systems

ComSoc Co-Sponsored Active Projects

- P2413.1: Standard for a Reference Architecture for Smart City (RASC) – Standards Committee: BOG/CAG/IoT Architecture; Co-sponsoring Committee: COM/PLC
- P1920.2: Standard for Vehicle to Vehicle Communications for Unmanned Aircraft Systems – Standards Committee: VT/ITS/V2V for Unmanned; Co-sponsoring Committee: COM/MobiNet-SC
- P2048: Standard for Metaverse: Terminology, Definitions, and Taxonomy – Standards Committee: CTS/MSC/MWG; Co-sponsoring Committees: SSIT/SC, C/SAB, SMC/SC, COM/SDB, EMB/Stds Com