IEEE COMMUNICATIONS SOCIETY
Radio Communications Committee (RCC)

IEEE GLOBECOM 2022
Rio de Janeiro, Brazil

November 29, 2022
9:00 AM EST – 2:00 PM GMT – 10:00 PM CST

Chair: Jemin Lee

Vice Chair: Julian Cheng

Secretary: Enrico Paolini

Agenda

1. Welcome
2. Approval of Agenda
3. General Information of RCC
4. Approval of ICC'22 RCC Meeting Minutes (available on the website)
5. Conferment of 2022 IEEE ComSoc RCC Technical Recognition Award
6. Report on RCC Special Interest Groups (SIGs)
7. Report on Conference/Workshop/Standardization Activities
8. Report on Communication Technology May Change the World Student Competition
9. Report on RCC Activities
10. Introduction of New RCC Officers' Candidates
11. Next RCC Meeting
12. 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

o **RCC Meetings**

- Twice per year at ICC and Globecom
- Open to all ComSoC members

o **Becoming RCC Member**

- Just subscribe to RCC mailing list: https://rc.committees.comsoc.org/mailing-list/
- Current members: 1243+

o **Becoming *Active* RCC Member**

- Need to attend (physically present or by telephone) 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 (2021-2022)

o **Chair: Jemin Lee**

- Sungkyunkwan University (SKKU)
- Email: jemin.lee@skku.edu

o **Vice-Chair: Julian Cheng**

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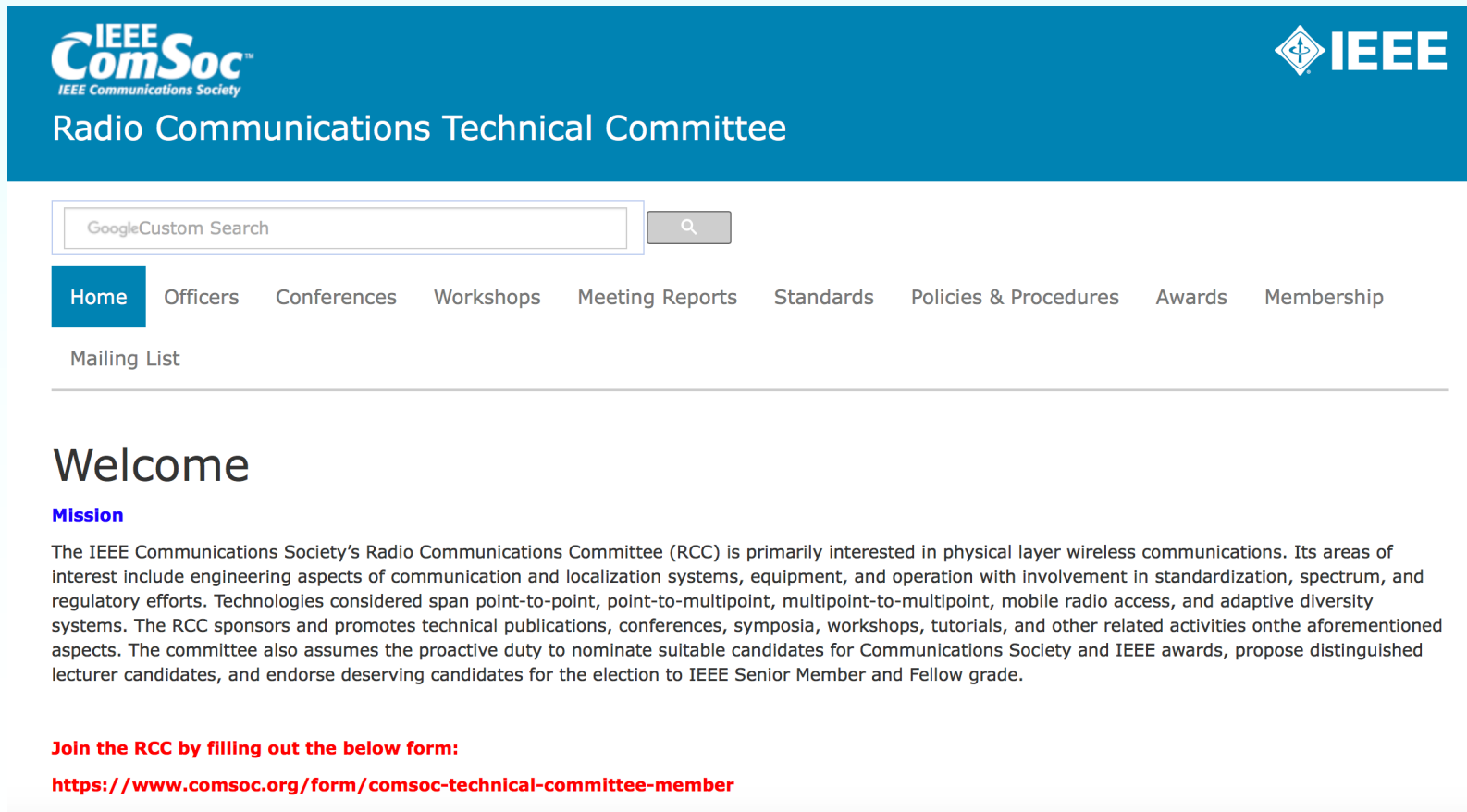- Email: julian.cheng@ubc.ca

o **Secretary: Enrico Paolini**

- University of Bologna
- Email: e.paolini@unibo.it

Approval of ICC 2022 RCC Meeting Minutes

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

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Radio Communications Technical Committee

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Mailing List

Welcome

Mission

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Join the RCC by filling out the below form:

https://www.comsoc.org/form/comsoc-technical-committee-member

2022 IEEE ComSoc RCC Technical Recognition Award

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.

Award Committee (2021-2022):
- Hanna Bogucka (Chair)
- Jack Winters
- Marco Chiani
- Hyundong Shin
- Julian Cheng

Conferment of

2022 IEEE ComSoc RCC Technical Recognition Award

Naofal Al-Dhahir
for outstanding contributions to radio communication systems

IEEE COMMUNICATIONS SOCIETY
Radio Communications Technical Committee

2022 TECHNICAL RECOGNITION AWARD

PRESENTED TO

Naofal Al-Dhahir

FOR OUTSTANDING CONTRIBUTIONS TO RADIO COMMUNICATION SYSTEMS

Xuemin (Sherman) Shen, President, IEEE Communications

Wei Zhang, VP - Technical and Educational Activities, IEEE Communications

Special Interest Groups (SIGs) in RCC

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

- Wireless Localization (Chair: Stefania Bartoletti)

- Propagation Channels for 5G and Beyond (Chair: Andreas Molisch)

- Integration of Sensing and Communications (Chair: Tingting Zhang)

- Terahertz Communications (Chair: Hina Tabassum)

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; Javier Prieto, U. of Salamanca

- 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-chairs for your participation!

SIG: Wireless Localization

1st Workshop on Synergies of Communication, Localization, and Sensing towards 6G
IEEE ICC 2022, Seoul, South Korea

- Co-Chairs:
  - Henk Wymeersch, Chalmers University of Technology, Sweden, henkw@chalmers.se
  - Stefania Bartoletti, CNR and CNIT, Italy, stefania.bartoletti@cnit.it
  - Liesbet Van der Perre, KU Leuven, Belgium, liesbet.vanderperre@kuleuven.be
  - Angeliki Alexiou, University of Piraeus, Greece, alexiou@unipi.gr, aalexiou@ieee.org
  - George C. Alexandropoulos, National and Kapodistrian University of Athens, Greece, alexandg@di.uoa.gr

- Keynote speakers and panelists from Industry and Academia
- Organized in collaboration with several H2020 projects https://www.locus-project.eu/ieee-icc-2022-workshop/

SIG: Wireless Localization

Workshop on Localization and Sensing with Intelligent Surfaces for 6G Networks
IEEE VTC-Spring 2022 Workshop

- June 19-22 2022 // Helsinki, Finland

- Co-Chairs:
  - Benoit Denis (CEA-LETI, France); e-mail: benoit.denis@cea.fr
  - Ahmed Elzanaty (Univ. of Surrey, UK); e-mail: a.elzanaty@surrey.ac.uk
  - Anna Guerra, (CNR & Univ. of Bologna, Italy); e- mail: anna.guerra@ieiit.cnr.it
  - Francesco Guidi (CNR, Italy); e-mail: francesco.guidi@ieiit.cnr.it
  - Yuan Shen (Tsinghua University, China); e-mail: shenyuan_ee@tsinghua.edu.cn

SIG: Wireless Localization

2nd Workshop on Synergies of Communication, Localization, and Sensing towards 6G
IEEE ICC 2023, Rome, Italy

- 28 May - June 01 2023 // Rome, Italy

- Website: https://icc2023.ieee-icc.org/workshop/ws-13-workshop-synergies-communication-localization-and-sensing-towards-6g

- Co-Chairs:
  - Henk Wymeersch, Chalmers University of Technology, Sweden, henkw@chalmers.se
  - Stefania Bartoletti, CNR and CNIT, Italy, stefania.bartoletti@cnit.it
  - Liesbet Van der Perre, KU Leuven, Belgium, liesbet.vanderperre@kuleuven.be
  - Angeliki Alexiou, University of Piraeus, Greece, alexiou@unipi.gr, aalexiou@ieee.org
  - George C. Alexandropoulos, National and Kapodistrian University of Athens, Greece, alexandg@di.uoa.gr

SIG: Wireless Localization

Workshop on Near-Field Localization and Communication for 6G
IEEE ICC 2023, Rome, Italy

- 28 May - June 01 2023 // Rome, Italy

- Website: https://icc2023.ieee-icc.org/workshop/ws-10-workshop-near-field-localization-and-communication-6g

- Co-Chairs:
    - Haiyang Zhang, Nanjing University of Posts and Telecommunications, China
    - Anna Guerra, National Research Council of Italy, Italy
    - Francesco Guidi, National Research Council of Italy, Italy
    - Nir Shlezinger, Ben-Gurion University, Israel

SIG: Wireless Localization

Wiley-IEEE Book: "Positioning and Location-based Analytics in 5G and Beyond"

- Expected Publication mid-2023
- Several RCC members authoring and editing
- Initiative of the European Project LOCUS

Best Readings on Network Localization and Navigation

List of papers (w/commentary and hyperlinks) online.

Editorial members:

- Michael Buehrer (Virginia Tech),
- Santiago Mazuelas (BCAM),
- Yuan Shen (Tsinghua University)

Call for suggestions! You will receive an email right after the meeting

SIG: Propagation Channels for 5G and Beyond

- Committees
    - Chair: Andreas Molisch (USC, molisch@usc.edu)
    - Vice-chair: Dajana Cassioli (University of L'Aquila, dajana.cassioli@univaq.it)

    -> Update the Committee's composition soon

- Motivation:
    - Propagation channels are basis on which systems are designed and tested
    - Need to account for new deployment scenarios and frequency ranges
    - 5G and B5G have many scenarios that are insufficiently covered (e.g., mm-wave V2V, UAV channels, THz, Cloud-RAN channels, factory IoT channels,….)

- Goals for SIG:
    - Establishment of webpage for information exchange, pointing to new papers
    - Organization of tutorials and lectures
    - Organization of workshops/symposia at ComSoc conferences

    Please contact Chair and Vice-chair for your participation!

SIG: Propagation Channels for 5G and Beyond

- Contribution/liaising with standardization groups

  - **Liaison with NIST mmWave channel alliance** (A. Molisch): ongoing

    - Main activity of alliance: comparison of different high-resolution parameter extraction methods; work on "best practices" for sounder calibration.

  - **Liaison with new ComSoc level group for standardization of channel models** for Beyond 5G. Please contact A. Molisch for participation

    - Organized in 6 different subgroups associated with one of the most relevant use cases for today's channel modeling activities ()
    - Typically, the subgroups organize monthly remote meetings

  - **Liaison with the IEEE SA WG P2982 on Millimeter-Wave Channel Sounder Verification** (D. Cassioli). The standard recommends methods for verifying millimeter-wave channel sounder performance based upon comparison of processed channel measurement data to either theory or an artifact having known characteristics. Such measurement data may be collected in situ, under controlled conditions or by comparison to a reference measurement. The verification results may be used to: 1) identify and correct shortcomings in channel sounder performance and/or post-processing techniques or 2) give confidence that a given set of channel measurement data is suitable for inclusion in a pooled database.

SIG: Propagation Channels for 5G and Beyond

- Upcoming activities:

  - Unfortunately, we didn't find volunteers to organize the ICC 2023 Workshop. Still considering a **contribution to ICC 2023** – the only open call is for **TECHNICAL PANEL PROPOSALS** – deadline December 13th, 2022 – **call for panel participants**

  - plan for **THE GLOBECOM 2023 WORKSHOP ON WIRELESS PROPAGATION CHANNELS FOR 5G AND B5G**

    - **Call for workshop organizers**

      - Chair: ??, AFFILIATION

      - Steering committee (ex officio): A. Molisch (USC)??, D. Cassioli (Univ. l'Aquila)??

      - Following the first two successful workshop editions at Globecom 2020 and ICC 2022

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 (University of Macau, qingqingwu@um.edu.mo)
- 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 and comm., 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 (University of Macau, qingqingwu@um.edu.mo)
- Website: **https://sites.google.com/view/ieee-comsoc-rcc-sig-ilsac/home**

ComSoc   RCC-SIG-ILSAC   Home   Call for Papers   Best Readings   Meeting & Events   Officers   Mail List   Job Ad

SPECIAL INTEREST GROUP (SIG):
INTEGRATION OF LOCALIZATION,
SENSING AND COMMUNICATIONS (ILSAC)

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

SIG: Integration of Sensing and Communications (ISC)

- Recent activities:
    - Special Issue on "Integration of radar sensing, localization and communications (ISLC)" on EURASIP Journal on Wireless Communications and Networking (**Nov. 30, 2022**);
    - Half day workshop on "Localization and Sensing with Intelligent Surfaces for 6G Networks" on 2022 VTC Fall, 8 submissions, 5 accepted papers.
- 1st International Workshop on Sensing Advances in Wireless Networks (SAWN) (**coming soon**),
    - **Steering Committee**: Xianggen Xia (University of Delaware), Andreas Molisch (USC) and Moe Win (MIT)
    - **Chairs**: Husheng Li (Purdue), Pan Cao, Tingting Zhnag, Kaibin Huang (HKU) and Zhu Han (University of Houston)
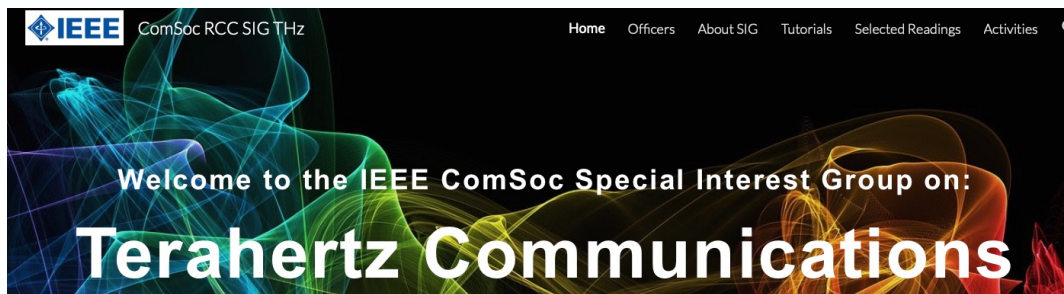
SIG: Terahertz Communications

o **Officers:**

- ▪ **Chair:** Hina Tabassum (York University, Canada)
- ▪ **Vice-chairs:**
  - ▪ Chong Han (Shanghai Jiao Tong University, China)
  - ▪ Josep M. Jornet (Northeastern University, USA)
  - ▪ Gianni Pasolini (University of Bologna, Italy)
- ▪ **Media chair:** Arjun Singh (SUNY Polytechnic Institute, USA)

o Established in June 2021

o 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

o **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

o **Hosted Seminars (June 2021 – November 2022)**

- Inaugural Seminar (August 11, 2021): "TeraHertz Band Communication: An Old Problem Revisited for 6G Wireless Systems," by **Prof. Ian F. Akyildiz**, TRUVA Inc.

- 2nd Seminar (November 17, 2021): "6G Wireless and THz Communications," by **Dr. Wen Tong**, CTO Huawei Wireless.

- 3rd Seminar (January 13, 2022): "Towards Extreme Bandwidth Communications," by **Prof. Mohamed Slim Alouini**, King Abdullah University of Science and Technology (KAUST)

- 4th Seminar (March 3, 2022): "Towards Reliable THz Wireless Connectivity: The role of Directional Links and Reconfigurable Intelligent Surfaces," by **Prof. Angeliki Alexiou**, University of Piraeus, Greece

- 5th Seminar (June 29, 2022): "Joint Terahertz (THz) Communications & Sensing: Future Applications and Key Technology," by **Prof. Zhi Chen**, University of Electronic Science and Technology of China (UESTC), China

SIG: Terahertz Communications

o **Hosted Seminars (June 2021 – November 2022)**

- 6th Seminar (July 27, 2022): "Stochastic Modeling for Scattering at THz Band and Preliminary Channel Characterization in Potential Scenarios of THz Communications," by **Prof. Ke Guan**, Beijing Jiaotong University, China

- 7th Seminar (August 24, 2022): "THz seamless networks for 6G," by **Prof. Tetsuya Kawanishi**, Waseda University, Japan

- 8th Seminar (November 2, 2022): "Spectrum Sharing Challenges for Enabling Large Bandwidth Terahertz Communications 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

SIG: Terahertz Communications

o **Knowledge Transfer (June 2021 – November 2022)**

- **Tutorials/short courses:**
  - "Coexistence of RF, Millimeter, TeraHertz, and Optical Communications Networks" IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (IEEE PIMRC), September 2022.
  - "Terahertz Communications for 6G and Beyond: Challenges, Advances and Future Directions," Tutorial at the 2022 IEEE 95th Vehicular Technology Conference: IEEE VTC, June 2022.
  - "Terahertz Communications for 6G and Beyond: Opportunities, Recent Advances, and Future Research Trends", 2022 IEEE Wireless Communications and Networking Conference (IEEE WCNC), April 2022.
  - "Enabling Terahertz Communications for 6G Era," IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (IEEE PIMRC), September 2021.
  - "Terahertz Communications for 6G and Beyond Era," IEEE 94th Vehicular Technology Conference: (IEEE VTC), September 2021.

SIG: Terahertz Communications

o **Other Activities (June 2021 – November 2022)**

- **Special issue:**
    - Advanced Signal Processing for Terahertz Communications in 6G and Beyond Networks, Special Issue in IEEE Journal on Selected Topics in Signal Processing (JSTSP), 2022

- **Workshops (lead organizer):**
    - 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 (Upcoming)

o **Sixth IEEE International Workshop on Terahertz Communications (TeraCom), in conjunction with IEEE Globecom 2022**

> ■ **2 Keynote speakers (live!):**
>> ■ Jose Siles, NASA Jet Propulsion Laboratory
>> ■ Mark Cudak, Principal Research Specialist, Nokia, USA

> ■ **4 technical sessions (13 papers, acceptance rate of 44%)**

> You can still register!!! Join us!

o **Terahertz Communications for 6G and Beyond: How Far Are We?" Tutorial at IEEE Global Communications (IEEE Globecom) December 2022.**

o **IEEE Globecom 2023 – SAC Track on THz Communications**

SIG: Terahertz Communications

o **Planned Activities (continuing):**

- Organize invited seminars (every three months)
  - Sponsor external related seminars (on a solicitation basis)
- Organize workshop 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 section
- Logo creation to sponsor certain events

Conference Reports

- **GC 2022**: Theodoros Tsiftsis (WC), Enrico Paolini (CT)

- **ICC 2023**: Chun-Hung Liu (M&WN), Dajana Cassioli (C&ISS), Yik-Chung Wu (SPC), Haesik Kim (CT), Sudharman Jayaweera (CR&AI-EN)

- **GC 2023**: Zehui Xiong (M&WN), Giovanni Geraci (WC), Chong Han (SAC–THz)

GC 2022 – Wireless Communications

When: *Dec. 04, 2022 – Dec. 08, 2022*   Where: *Rio de Janeiro, Brazil*

Symposium: *Wireless Communications*

Co-chairs*: Melike Erol-Kantarci (University of Ottawa, Canada), Haixia Zhang (Shandong University, China), Theodoros Tsiftsis (Jinan University, China), Sami Muhaidat (Sami Muhaidat), Haibo Zhou (Haibo Zhou)*

RCC representatives: *Theodoros Tsiftsis (theo_tsiftsis@jnu.edu.cn)*,

Haixia Zhang (haixia.zhang@sdu.edu.cn)

Total Submitted: 336   Avg number of reviews/paper: ~4

Total Accepted: 134   Acceptance rate: 39.9%

#TPC members: 419   Avg number of reviews/TPC member: ~3

44 papers presented in-person (9 in-person sessions)

90 papers presented virtually

GC 2022 – Communication Theory

When: *Dec. 04, 2022 – Dec. 08, 2022*   Where: *Rio de Janeiro, Brazil*

Symposium: Communication Theory

Co-chairs*: Mark Flanagan (University College Dublin, Ireland), Ayfer Ozgur (Stanford University, USA), Enrico Paolini (University of Bologna, Italy)*

RCC representative: *Enrico Paolini* (e.paolini@unibo.it)

Total Submitted: 99   Avg number of reviews/paper: ~4

Total Accepted: 39   Acceptance rate: 39.4%

#TPC members: 146   Avg number of reviews/TPC member: 2.7

18 papers presented in-person (4 in-person sessions)

21 papers presented virtually

ICC 2023 – Mobile & Wireless Networks

When: *May 28, 2023 – Jun. 01, 2023*   Where: *Rome, Italy*

Symposium: Mobile & Wireless Networks

Co-chairs*: Chin-Tser Huang (University of South Carolina, USA), Carla Fabiana Chiasserini (Politecnico di Torino, Italy), Nizar Zorba (Qatar University, Qatar), Chun-Hung Liu (Mississippi State University, USA)*

RCC representative: *Chun-Hung Liu* (chliu@ece.msstate.edu)

Total # Submissions: 227   Target avg number of reviews per TPC member: 3

TPC members: 236   Target avg number of reviews per paper = 3.5

ICC 2023 – Communication & Information System Security

When: *May 28, 2023 – Jun. 01, 2023*   Where: *Rome, Italy*

Symposium: Communication & Information System Security

Co-chairs*: Abderrahim Benslimane (CERI/LIA University of Avignon, France), Dajana Cassioli (University of L'Aquila, Italy), Kuan Zhang (University of Nebraska-Lincoln, Omaha, NE, USA)*

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

Total # Submissions: 279   Target avg number of reviews per TPC member: 6

TPC members: 155   Target avg number of reviews per paper = 3

ICC 2023 – Signal Processing for Communications

When: *May 28, 2023 – Jun. 01, 2023*   Where: *Rome, Italy*

Symposium: *Signal Processing for Communications*

Co-chairs: *George C. Alexandropoulos (National and Kapodistrian University of Athens, Greece), Yik-Chung Wu (The University of Hong Kong), Junqing Zhang (University of Liverpool, UK)*

RCC representative: *Yik-Chung Wu* (ycwu@eee.hku.hk)

Total # Submissions: 128   Target avg number of reviews per TPC member: 4

TPC members: 162   Target avg number of reviews per paper = 4

ICC 2023 – Communication Theory

When: *May 28, 2023 – Jun. 01, 2023*   Where: *Rome, Italy*

Symposium: *Communications Theory*

Co-chairs*: Haesik Kim (VTT), Chia-Han LEE (NYCU), and Yansha Deng (KCL)*

RCC representative(s): *Haesik Kim* (haesik.kim@vtt.fi)

Total # Submissions: 125   Target avg number of reviews per TPC member: 5 (max 6)

TPC members: 125   Target avg number of reviews per paper = 4

ICC 2023 – Cognitive Radio & AI-Enabled Networks

When: *May 28, 2023 – Jun. 01, 2023*   Where: *Rome, Italy*

Symposium: *Cognitive Radio & AI-Enabled Networks*

Co-chairs*: Sudharman Jayaweera (University of New Mexico), Lei Zhang (University of Glasgow)*

RCC representative: *Sudharman Jayaweera* (jayaweera@unm.edu)

Total # Submissions: 63   Target avg number of reviews per TPC member: 4 to 6 (max)

TPC members: 132   Target avg number of reviews per paper = 4

GC 2023 – Mobile & Wireless Networks

When: *Dec. 04, 2023 – Dec. 08, 2023*   Where: *Kuala Lumpur, Malaysia*

Symposium: Mobile & Wireless Networks

Co-chairs:

Abdallah Shami (The University of Western Ontario, Canada), Abdel-Hamid Taha (Alfaisal University, Saudi Arabia), Miao Pan (University of Houston, USA), Zehui Xiong (Singapore University of Technology and Design, Singapore)

RCC representative: *Zehui Xiong* (zehui_xiong@sutd.edu.sg)

Expected number of submissions: ~200 (based on 2022 statistics)

Number of TPC members that have accepted to serve: N.A.

Target number of TPC members: ~250 (based on 2022 statistics)

GC 2023 – Wireless Communications

When: *Dec. 04, 2023 – Dec. 08, 2023*   Where: *Kuala Lumpur, Malaysia*

Symposium: Wireless Communications

RCC representative: *Giovanni Geraci* (giovanni.geraci@upf.edu)

Expected number of submissions: ~350 (based on previous editions)

Number of TPC members that have accepted to serve: N/A

Target number of TPC members: ~350

GC 2023 – SAC-Terahertz Communications

When: *Dec. 04, 2023 – Dec. 08, 2023*   Where: *Kuala Lumpur, Malaysia*

Symposium: Selected Areas in Communications - Terahertz Communications

Co-chairs: *Chong Han (Shanghai Jiao Tong University, PRC)*

RCC representative: *Chong Han* (chong.han@sjtu.edu.cn)

Expected number of submissions: 45

Number of TPC members that have accepted to serve: 30

Target number of TPC members: 45

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 Students Competition
'Communication Technology May Change the World'

RCC representative: *Tingting Zhang*

- Submissions: Totally 68 in 2022 (53 in 2021, 54 in 2020, 51 in 2019, 33 in 2018).

- The received projects are from 24 countries around the world. (21 from India, 8 from China, 5 from Pakistan, 4 from Kenya and Russia, 3 from US, Spain, Italy and Ecuador, respectively.)

- Hot Topics:

  - Intelligent Transportations and Autonomous Vehicles: 9 in 68 (automation control, traffic signal control, intersection coordination,).

  - AI in Communications: 7 in 68 (AI for farming, AI for channel sensing, AI for signal processing in MIMO system).

  - Internet of Things: 6 in 68 (environment monitoring, smart farming, smart city, smart healthcare).

  - Radio positioning: 4 in 68 (WiFi, UWB, Ultrasonics, Navigation Systems) .

  - Reconfigurable Intelligent Surface: 3 in 68

IEEE Students Competition
'Communication Technology May Change the World'

- Review Process:

  - Phase 1: The submitted projects were evaluated by 55 committee members, in following 5 aspects: Social Impact, Technical content, Originality, Practical Applicability and Results, Quality of presentation.

    - Top 14 projects entered the second round review, and got a Honorary Mention.

  - Phase 2: The 1st and 2nd Prizes was voted among the 14 projects by committee members.

    - First Prize: The Owl: An Accessible Immersive Telepresence System for the Future of Human Communication, Gonzalez Diego, Universidad Carlos III de Madrid, Spain

    - Second Prize: Internet of Bodies: Digital Holistic Healthcare, Alamoudi Abeer, KAUST, Saudi Arabia

RCC Activities

o **GC/ICC Symposia Chair Nomination**

- Call for nomination for GC 2024 has been sent out via RCC mailing list (by Nov 29, 2022, *TODAY*)
- Self-nomination is allowed

[RCC] IEEE GC 2024 - Call for Nominations for symposium TPC co-chairs (by Nov. 29, 2022)

To: rcc@comsoc.org <rcc@COMSOC.ORG>

Dear RCC members,

IEEE GC 2024 will be held at Cape Town, South Africa. We are now seeking nominations for TPC symposium co-chairs for several symposia of RCC interest, including Wireless Communications (WC), Communication Theory (CT), Signal Processing for Communications (SPC), and Cognitive Radio and AI-Enabled Networks.
Please find the list of all symposia and SAC tracks planned for IEEE ICC 2024 in the attached file.

Please note that any candidate that has chaired, or has been selected to chair, 3 symposia from GC'21 through ICC'24 may not be selected. Moreover, we may not select any candidate that is also chairing a symposium for ICC'24.

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
  - Nomination deadline will be around September 2023.
  - Please contact RCC officers for the support of RCC
  - Selected DLs
    - Giovanni Geraci, University Pompeu Fabra (~Dec. 2022)
    - Bruno Clerckx, Imperical College London (~Dec. 2022)
    - *No result yet for DLs starting from 2023*

RCC Activities - ComSoc TC Newsletter

o The Technical Committee Newsletter is a new initiative of the IEEE ComSoc

o Quarterly published newsletter

o Aims at becoming a venue to describe all activities carried out in the framework of the several ComSoc TCs and to acknowledge the hard work of the volunteers

o First issue (October 2022) now online

o RCC contributor: Enrico Paolini

o If you would like to report an initiative you carried out in the context of the RCC or RCC-SIG, please contact e.paolini@unibo.it

IEEE Communications Society   October 2022

IEEE COMSOC TC NEWSLETTER

IEEE ComSoc Technical Committees: Educate, promote and accelerate the technological advancements in communications and networking

https://tc.boards.comsoc.org/tc-newsletter/

Call for Nominations for RCC Award

Soliciting nominations for 2023 Outstanding Service Award (March 1, 2023)

Soliciting nominations for 2023 Early Achievement Award (March 1, 2023)

- Recognize members of the RCC who have achieved early career visibility in the field through research and service, and who
  - have participated in the RCC (e.g., attended RCC meetings, served RCC in a significant capacity, been member of the TPC for ICC/GLOBECOM)
  - are within 10 years of their Ph.D.

- **Past recipients**

  - 2022 Jesep Miquel Jornet "Terahertz Communications"
  - 2021 Emil Björnson "Wireless Communications with Physically Large Antenna Arrays"
  - 2020 Harpreet Dhillon "Random Networks on Lines: Stochastic Geometry for Vehicular Systems"
  - 2019 Mehdi Bennis "Ultra-Reliable and Low-latency communication in 5G and Beyond"
  - 2018 Santiago Mazuelas "Probabilistic processing of complex data"
  - 2018 Walid Saad "Unmanned Aerial Vehicles for Wireless Networking: An Overview"

RCC Officers Election (2023-2024)

o Nomination and Election (N&E) Committee

  ▪ ComSoC P&P

    .... the TC establishes an ad-hoc Nomination and Election (N&E) Committee, made up of Active Members of the TC. The <u>N&E Committee consists of past chairs and other TC members assigned by the current TC Chair</u> and the number of the N&E Committee members should be from three to five. The N&E Committee is <u>chaired by the current TC Chair</u>. The purpose of the N&E Committee is to offer candidate names for officer positions. It is desirable that the N&E Committee identifies at least two candidates for each officer position.

  ▪ Nomination and Election (N&E) Committee of 2022 RCC Election

    • Chair: Jemin Lee

    • 2 Past Chairs: Andrea Giorgetti, Yuan Shen

    • 1 Active Member: Jack Winters

RCC Officers Election (2023-2024)

o ## ComSoc P&P - Election

.... For each elected office, there must be <u>at least two candidates on the ballot.</u> If there are not enough nominations, the TC N&E Subcommittee shall identify additional candidates. Only TC voting members are eligible to run as elected TC Officer.

o ## Selected candidates for officers positions (*alphabetical order*):

Chair

- **Dr. Julian Cheng**, *University of British Columbia, Canada*
- **Dr. Santiago Mazuelas**, *Basque Center for Applied Mathematics, Spain*

Vice-chair

- **Dr. Enrico Paolini**, *University of Bologna, Italy*
- **Dr. Gianni Pasolini**, *University of Bologna, Italy*

Secretary

- **Dr. Mark Flanagan**, *University College Dublin, Ireland*
- **Dr. Tingting Zhang**, *Harbin Institute of Technology, China*

Candidate for Chair

Julian Cheng

University of British Columbia, Canada

- Bio:

  Julian Cheng received his B. Eng. from U of Victoria (Canada) and Ph.D. from U of Alberta, both in electrical engineering. He is now a Professor in the School of Engineering at The University of British Columbia (Okanagan campus), Canada. His research interests lie in wireless communication theory, optical wireless communication, and location technologies. Dr. Cheng served as the President of the Canadian Information Theory Society (2017-2021) and the electrical engineering program chair (2019-2021). As well, Dr. Cheng volunteered on the editorial board for several ComSoc journals, including IEEE Transactions on Communications, IEEE Transactions on Wireless Communications, and IEEE Communications Letters.

  For the past four years, he served both as the secretary and vice-chair for the IEEE ComSoc radio communication committee (RCC). Dr. Cheng became a student member of IEEE in 1997, and he was also recently elevated to IEEE Fellow grade (Class of 2023). If elected, Dr. Cheng will seek new and active special interest groups that are of interest to the RCC community.

- Website: https://apsc.ubc.ca/faculty/julian-cheng
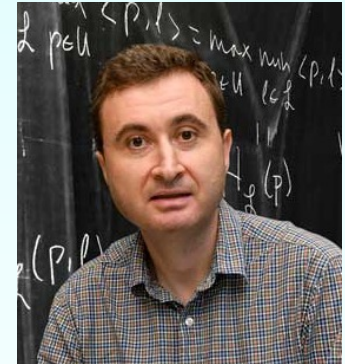
Candidate for Chair

Santiago Mazuelas

Basque Center for Applied Mathematics, Spain

- Bio:

    Santiago Mazuelas received the Ph.D. in Mathematics and Ph.D. in Telecommunications Engineering from the University of Valladolid, Spain, in 2009 and 2011, respectively.

    Since 2017 he has been Ramon y Cajal Researcher at the Basque Center for Applied Mathematics (BCAM). Prior to joining BCAM, he was a Staff Engineer at Qualcomm Corporate Research and Development from 2014 to 2017. He previously worked from 2009 to 2014 as Postdoctoral Fellow and Associate in the Wireless Information and Network Sciences Laboratory at the Massachusetts Institute of Technology (MIT).

    Dr. Mazuelas was Area Editor for the IEEE Communications Letters from 2017 to 2022, and served as Technical Program Vice-chair at the 2021 IEEE Globecom as well as Symposium Co-chair at the 2014 IEEE Globecom, the 2015 IEEE ICC, and the 2020 IEEE ICC.

- Website: https://smazuelas.wordpress.com/

Candidate for Vice-Chair

Enrico Paolini

University of Bologna, Italy

- **Bio:**

    Enrico Paolini (SM-IEEE) received the Ph.D. degree in electrical engineering from the University of Bologna in 2007. He is currently an Associate Professor of Telecommunications with the University of Bologna. His research interests include massive access for 6G, joint sensing and communications, radar tracking, channel coding.

    He is the current RCC secretary. He served as TPC co-chair (RCC representative) for IEEE GLOBECOM 2022-CT and IEEE GLOBECOM 2019-CT, as Editor for IEEE Transactions on Communications (2015-2020) and IEEE Communications Letters (2012-2015), and as general co-chair of the 2020 IEEE Information Theory Workshop and the 2018 IEEE European School of Information Theory.

    He has served as secretary for the IEEE ComSoc RCC since January 2021, becoming familiar with the several activities carried out along with their procedures. If elected, he will put this experience at the service of the committee, working with the chair and the secretary to further the committee objectives, stimulate scientific activities in the fields of radio communication and localization, promote inclusion and involvement of young scholars in the committee activities.

- **Website:** https://sites.google.com/view/enrico-paolini/

Candidate for Vice-Chair

Gianni Pasolini

University of Bologna, Italy

- Bio:

    Gianni Pasolini received the M.Sc. degree in telecommunications engineering and the Ph.D. degree in electronic engineering and computer science from the University of Bologna, Italy, in 1999 and 2003, respectively. He is an Associate Professor at the Department of Electrical, Electronic and Information Engineering of the University of Bologna, where he has taught several courses in the area of telecommunications since 2003.

    He has been RCC representatives within the TPC of several conferences. In 2018-2020, he was vice-chair of the joint Italian ComSoc/VTS Chapter. Currently, he is vice-chair of the RCC SIG on Terahertz Communications and Associate Editor for the IEEE Open Journal of the Communications Society.

- Website: https://www.unibo.it/sitoweb/gianni.pasolini/cv-en /
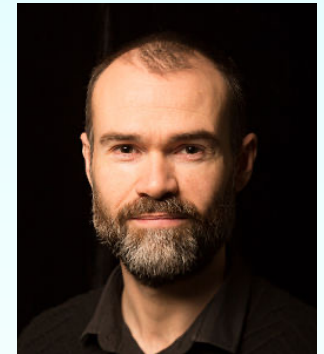
Candidate for Secretary

Mark Flanagan

University College Dublin, Ireland

- Bio:

    Mark Flanagan received the B.E. and Ph.D. degrees in electronic engineering from University College Dublin (UCD), Dublin, Ireland, in 1998 and 2005, respectively.

    He is currently an Associate Professor with the School of Electrical and Electronic Engineering, UCD. His research interests broadly span wireless communications, coding and information theory, and signal processing.

    During the period 2012-2021 he served in the roles of Editor, Senior Editor and Executive Editor for IEEE Communications Letters. He is currently serving as an Editor for IEEE Transactions on Communications. He served as TPC Co-Chair for the Communication Theory Symposium at IEEE ICC 2020 and as TPC Co-Chair of the Workshop on Reconfigurable Intelligent Surfaces for Future Wireless Communications at IEEE ICC 2021. He is serving as TPC Co-Chair for the Communication Theory Symposium at IEEE GLOBECOM 2022. He is also serving as the Vice-Chair for the Special Interest Group on Reconfigurable Intelligent Surfaces of the Signal Processing and Computing for Communications (SPCC) Technical Committee of the IEEE Communications Society.

- Website: http://eeng.ucd.ie/mark/

Candidate for Secretary

Tingting Zhang

Harbin Institute of Technology, China

- Bio:

    Tingting Zhang (M'12) received the B.S. (with honors), M. S. and Ph.D. degrees in electronic engineering from Harbin Institute of Technology (HIT), Harbin, China, in 2003, 2005 and 2009, respectively. In 2012 to 2014, he was with the Department of Electronic Engineering, USC, as a visiting scholar.

    He is currently a Professor with Harbin Institute of Technology, Shenzhen. His main research interests include wireless localization, integration of sensing and communication, and autonomous vehicle navigation and control, etc. Dr. Zhang serves as the Editor and Guest Editor of many international journals, such as IEEE Communications Magazine, Frontiers in Communications and Networks, etc. He also serves as organizer and TPC member for several international conferences. He received the Outstanding Postdoctoral Award of HIT, Shenzhen Graduate School in 2011. He also received Shenzhen High Level Talent Program award in 2012.

Voting Timelines and Procedures

o **Voting Timelines:**

- Selected nominees are announced: Nov. 29
- Voting starts (election ballots to be sent out): Dec. 1
- Voting ends: Dec. 8
- Election report to be sent to TC Director and VP-TEA for approval: Dec. 12
- Approved results to be announced: Within December or Early January

o **Email Voting Procedure**

- Voting members will receive an email for voting by tomorrow
- Please send your voting by REPLY to ALL N&E Committee Members

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Please choose no more than ONE candidate for each position by placing "O" before the name of your choice.

Chair (Vote for no more than one):
[ ] Dr. Julian Cheng, University of British Columbia, Canada
[ ] Dr. Santiago Mazuelas, Basque Center for Applied Mathematics, Spain
----
Vice-Chair (Vote for no more than one):
[ ] Dr. Enrico Paolini, University of Bologna, Italy
[ ] Dr. Gianni Pasolini, University of Bologna, Italy

Secretary (Vote for no more than one):
[ ] Dr. Mark Flanagan, University College Dublin, Ireland
[ ] Dr. Tingting Zhang, Harbin Institute of Technology, China
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Voting Member List (Total 98 Members)

Fist Name	Surname	Fist Name	Surname	Fist Name	Surname	Fist Name	Surname	Fist Name	Surname
Ahmed	Elzanaty	Fakhar	Zaman	Hsiao-Hwa	Chen	Mérouane	Debbah	Tingting	Zhang
Alberto	Rabbachin	Flavio	Morselli	Hyundong	Shin	Mubashir	Rehmani	Theodoros	Tsiftsis
Andrea	Conti	Francesco	Guidi	Ian	Oppermann	Moe Z.	Win	Thomas	Kailath
Andrea	Giorgetti	Fulvio	Babich	Imran	Shafique Ansari	Neelesh B.	Mehta	Umberto	Spagnolini
Andreas F.	Molisch	Fumiyuki	Adachi	Istvan	Frigyes	Nicolò	Decarli	Velio	Tralli
Andreas	Springer	George	Chrisikos	Jack	Winters	Norman	Beaulieu	Vincent	Chan
Aniruddha	Chandra	George	Karagiannidis	Jemin	Lee	Octavia	Dobre	Walid	Saad
Anna	Guerra	Gerard J.	Foschini	Jiangzhou	Wang	Oliver	Holland	Watcharapan	Suwansantisuk
Arumugam	Nallanathan	Gianni	Pasolini	John	Boe	Paul	Lemson	William C.	Lindsey
Chenhao	Qi	Giovanni	Geraci	Josep M.	Jornet	Pen	Cao	Xingqin	Lin
Chi-han	Lee	Gordon L.	Stüber	Julian	Cheng	Robert A.	Sholtz	Yan	Zhang
Chong	Han	H. Vincent	Poor	Keke	Hu	Rose	Hu	Yanxiang	Jiang
Chun-Hung	Liu	Haesik	Kim	Kun	Yang	Rui	Dinis	Yik-Chung	Wu
Dajana	Cassioli	Haixia	Zhang	Lajos	Hanzo	Santiago	Mazuelas	Yiqing	Zhou
Daniel	Benevides da Costa	Hanying	Zhao	Marco	Chiani	Saw Nang	Paing	Yu	Wang
Dania	Marabissi	Hanna	Bogucka	Mark	Flanagan	Stefania	Bartoletti	Yuan	Shen
Davide	Dardari	Harpreet	Dhillon	Martin	Meyers	Stefano	Guerrini	Zehui	Xiong
Emil	Bjornson	Henk	Wymeersch	Medhi	Bennis	Steven	Platt	Zhenyu	Liu
Enrico	Paolini	Hesham	ElSawy	Mehmet	Ulema	Sudharman	Jayaweera		
Ertugrul	Basar	Hina	Tabassum	Melike	Erol-Kantarci	Tianhao	Liang		

Next RCC Meeting

The next RCC meeting will be scheduled in ICC 2023, Rome, Italy

THANK YOU AND SEE YOU THEN!

Officers Contacts

Chair: Jemin Lee
Sungkyunkwan University (SKKU), Korea
https://sites.google.com/site/jeminleeweb/
E-mail: jemin.lee@skku.edu

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

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

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

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 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

❖ **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
- P1900.6b: 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

❖ **Active projects:**
- P1913: Software-Defined Quantum Communication
- P1915.1: Standard for Software Defined Networking and Network Function Virtualization Security
- P1916.1: Standard for Software Defined Networking and Network Function Virtualization Performance
- P1917.1: Standard for Software Defined Networking and Network Function Virtualization Reliability
- P1921.1: Software-Defined Networking (SDN) Bootstrapping Procedures
- P1930.1: Recommended Practice for Software Defined Networking (SDN) based Middleware for Control and Management of Wireless Networks
- 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

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

❖**Active projects:**
- P1918.1: Tactile Internet: Application Scenarios, Definitions and Terminology, Architecture, Functions, and Technical Assumptions
- P1918.1.1: Haptic Codecs for the Tactile Internet
- P1920.1: Aerial Communications and Networking Standards
- 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
- 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

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)

◆ **Active projects:**

- P1904.2: Management Channel for Customer-Premises Equipment Connected to Ethernet-Based Subscriber Access Networks
- P1911.3: HDBaseT 5Play
- P1910.1: Meshed Tree Bridging with Loop Free Forwarding

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