IEEE Communications Society Technical Committee on Smart Grid Communications

Tuesday, October 25, 2022 - 11:30 – 12:30 CET

Hybrid meeting at SmartGridComm 2022 - Singapore

Agenda – TC SGC Meeting – 25/10/2022

› Call to order

› Approval of the agenda

› Approval of previous meeting minutes (May 10, 2022)

› *TC structure and status*

› Reports on nominations, conferences and journals

› Report on SIGs activities

› Status of webinars organization

› Awards and nominations committee: announcement of 2022 award

› Any other business

› Adjourn

TC structure and status

Mission statement

- Support the IEEE Smart Grid Initiative

- Promote ComSoc's position in the development and promotion of smart grid related technologies

- Ensure that ComSoc members play a decisive technological role in smart grid communications, control, and computing

- Website: http://sg.committees.comsoc.org/

Officers 2022-23

› Chair:

– **Andrea Tonello**, University of Klagenfurt, Austria

› Vice Chairs:

– **Chris Develder**, Ghent University, Belgium

› Secretary

– **Kun Yang**, University of Essex, UK

› Appointed officers

– Industry Relations: **Alberto Sendin**, Iberdrola, Spain

– ComSoc TC-PLC Liaison: **Ralf Lehnert**, TU Dresden, Germany

– PES Liaison: **Antonello Monti**, RWTH Aachen University, Germany

– ComSoc TC News Letter Editor: **Andrea Tonello** (*ad interim*)

– Standards Liason: TBD

Member development

› 232 as of Dec. 2019 registered members

› 252 as of June 2020 - 259 as of January 2021 - 263 as of July 2021 - 265 as of November 2021 - 256 as of May 2022

› 273 as Oct. 2022 (increase of 17.5% from Dec. 2019)

› To become a member, sign up the TCSGC mailing list at https://comsoc-listserv.ieee.org/cgi-bin/wa?SUBED1=asgcc&A=1

  – A **member** must be a Comsoc member

  – Non ComSoc members can contribute as **collaborators**

  – To become a **voting member**, <u>attend at least two out of the last five TCSGC meetings</u>

  – TCSGC meetings are held twice a year at IEEE ICC and IEEE SmartGridComm

Nominations, conferences and journals

Nominations and representatives

▶ IEEE Globecom 2022 SGC track :   Chris Develder, Ghent Univ.

   – Submitted papers: 21 ; accepted papers: 8

▶ IEEE ICC 2023 SGC track :   Dejan Vukobratovic, Univ. of Novi Sad

   – Submission deadline Nov. 1, 2022

▶ IEEE Globecom 2023:   Biplab Sikdar, National University of Singapore

▶ IEEE ICC 2024 SGC track: Nomination made

Call for Nominations announced regularly via the TCSGC mailing list

If you are interested in being nominated, please contact one of the officers

IEEE SmartGridComm 2022

› **Location:** Singapore - **Dates:** 25-28 October 2022

› **Venue:** The event held hybrid. Physical portion held in Singapore University of Technology and Design (SUTD) campus

› **Organizers:** Sun Sumei (A*STAR), David Nicol (UIUC), Binbin Chen (SUTD)

› **Website:** https://sgc2022.ieee-smartgridcomm.org/

› Same week as Singapore International Energy Week (SIEW)
https://www.siew.gov.sg/

› **Number of papers accepted:** main conference (65) + workshop (6) = 71 in total

› **Number of papers submitted:** main conference (170) + workshop (12) = 182 in total

› **Acceptance rate:** main conference (38.2%), workshop (50%), overall (39%)

› **Number of registrants:** 137, on-site: around 60

Special issues – see also SIG reports

Current:

You may want to send information. The TC web site will also be updated.

Past in 2022:

‣ Special Issue of Energies on "Demand Side Management in Smart Grid" – *MDPI Energies*
Deadline for manuscript submissions: 31 August 2022
Guest co-editors: Dr. Thanasis G. Papaioannou
Link: https://www.mdpi.com/journal/energies/special_issues/Demand_Side_Management

‣ Pervasive, Efficient and Smart Signal Processing for IoT – *IEEE IoT Magazine*
Deadline for manuscript submissions: 30 July 2022
Guest co-editors: E. Veronica Belmega ,Domenico Ciuonzo, Mérouane Debbah, Lutz Lampe, Dinh-Thuy Phan-Huy, Tirza Routtenberg, Chau Yuen

Report on SIGs activities

Special interest groups

▸ **1. SIG Communications and Networks to Enable the Smart Grid**

  – Chair: Dejan Vukobratovic - University of Novi Sad

  – Vice Chair: Gregor Verbic - University of Sidney

▸ **2. SIG Cyber Security and Privacy for the Smart Grid**

  – Chair: Lalitha Sankar - Arizona State University

  – Vice Chair: György Dan – KTH

  – Vice Chair: Jinsub Kim- Oregon State Univ.

▸ **3. SIG Energy Storage and Electric Vehicles**

  – Chair: Hamid Nazaripouya - UC Riverside

  – Vice chair: Phuong Nguyen - TU Eindhoven

▸ **4. AI and Computational Intelligence**

  – Chair: Yan Zhang - University of Oslo

  – Vice-chair: Melike Erol-Kantarci - University of Ottawa

  – Vice-chair: Damla Turgut - University of Central Florida

▸ **Past SIGs**

  – SIG Big Data Management and Analytics

  – SIG ICT-Enabled Transactive Energy and Grid Economics

  – SIG Energy Internet and Energy System Integration

  – SIG Active Distribution Grids and Microgrids

  – SIG Smart Metering, Demand Response and Dynamic Pricing

SIG Communications and Networks to Enable the Smart Grid

Conferences:

- IEEE ICC 2023 SGC track – Chair Dejan Vukobratovic

- SmartGrdiComm – Comm. Symposium 11 accepted papers (2 sessions), and 1 special session in this domain.

Talks:

- Keynote speech by Dejan Vukobratovic on 5G Cellular Network for Massive IoT and Large-Scale Information Processing in Smart Grids at a regional IEEE conference in Mauritius (https://www.elecom2022.com/).

SIG Cyber Security and Privacy for the Smart Grid

Webinar in Spring 2023

- Topics:　　Cybersecurity Challenges for Grid Edge, DER, and IBR
- Venue:　　Virtual
- Format:　　Four 15-min presentations + 30-min panel discussion + 10-min Q&A
- Date:　　May 22, 2023 (tentative)
- Potential panelists:
  - Charalambos Konstantinou (Assistant Professor, KAUST)
  - Anna Scaglione (Professor, Cornell University)
  - Mohammad Shadmand (Assistant Professor, University of Illinois, Chicago)
  - Danish Saleem (National Renewable Energy Lab)

SIG: AI and Computational Intelligence

❯ **Keynotes and Invited Talks:**

- Y. Zhang, Keynote at IEEE VTC Fall'22, IEEE Workshop on Empowering Wireless Networks with Digital Twin, September 2022

- Y. Zhang, Keynote at IEEE VTC Spr'22, IEEE Workshop on Sustainable and Intelligent Green Internet of Things for 6G and Beyond, June 2022

- Y. Zhang, Keynote at IEEE ICC 2022, Workshop on Data Driven Intelligence for Networks and Systems (DDINS) , May 2022

- Y. Zhang, Keynote, 6G Alliance of Network AI (6GANA) , June 2022

- Y. Zhang, Invited talk, IEEE HPSR 2022, June 2022

- Y. Zhang, Invite talk, "Smart Grid Security and Privacy", the Council of European Energy Regulators cybersecurity workstream, April 2022

- M. Erol-Kantarci, Keynote on "Deep and Reinforcement Learning in 5G and 6G: New Horizons with Transfer Learning," IEEE Future Networks World Forum, Montreal, October 12th, 2022

❯ **Distinguished Lectures and Tutorials:**

- D. Turgut, "Communication, computation, and privacy trade-off in machine learning for smart environments," hosted by IEEE Egypt Section, September 15, 2022

- M. Erol-Kantarci, "Deep and Reinforcement Learning in 5G and 6G," hosted by EEE ComSoc Atlanta and Virginia Sections, 26 May 2022

- Y. Zhang, Tutorial, "Machine Learning and Optimization for Smart Grid", IEEE PES ISGT ASIA 2022

SIG: AI and Computational Intelligence

▸ Special Issues:

- Special Issue on ``Collaborative Intelligence for Green Internet of Things in the 6G Era'' in IEEE Transactions on Green Communications and Networking. To be published in December 2022. GEs: Celimuge Wu, Kok-Lim Alvin Yau, Zonghua Zhang, Shiwen Mao, Damla Turgut

- Special issue "Digital Twin for 6G Networks", IEEE Network Magazine, GE: Y. Zhang

- Special Issue on "6G the Next Frontier: Theories, Technologies and Applications" in Elsevier Computer Networks, 2022 (M. Erol-Kantarci)

- Special Issue on "AI for Open Programmable Virtualized Networks in 6G" in IEEE Wireless Communications, 2022 (M. Erol-Kantarci)

- Special Issue on "Integrated and autonomous network management and control for 6G time-critical applications", 2022 in ITU Journal (M. Erol-Kantarci)

▸ Conference organizational roles:

- D. Turgut, IoT & Sensor Networks Symposium Co-Chair, IEEE ICC 2022, May 16-20, 2022, Seoul, South Korea

- D. Turgut, Communication and Networking Symposium Co-Chair, IEEE SmartGridComm 2022, October 25-28, 2022, Singapore

- M. Erol-Kantarci, Wireless Communications Symposium Co-Chair, IEEE Globecom 2022, December 4-8, 2022, Rio de Janeiro, Brazil

- Y. Zhang, Program Chair, IEEE/ACM IWQoS 2022, Oslo, Norway

- Y. Zhang, Program Chair, IEEE ICCT 2022

- Y. Zhang, Symposium Chair, IEEE ICCC 2022

- Y. Zhang, General Chair, BlockSys 2022

Webinars

Webinars

❯ Idea: organize a series of webinars.

❯ **Objective:** engage more our community and offer some value

❯ **Focus on a specific topic** and last 1-1.5 hours (*talk or panel*)

  – Access will be remote

  – I would also offer free access

  – ComSoc staff can help in advertising them

❯ Webinars can be part of the SIG activities

  – 2 webinars/year. Each webinar will be organized by one of the four SIGs and cover a topic within the SIG scope

  – Engagement of industry would also be a good objective either by having a speaker from industry of seeking for industry colleagues to attend

Proposals

▸ Current proposals:

- **Status of PLC Standards and Research**. Organizers: Jose Antonio Cortes Arrabal, Andrea Tonello (end of 2022)

- **Cybersecurity Challenges for Grid Edge**, DER, and IBR. Organizers: Jinsub Kim, Lalitha Sankar, György Dan

▸ SIGs can send a brief proposal:
  - Title/topic of the webinar
  - Possible speaker/s
  - Date (indication of time period)

TCSGC Awards

TCSGC awards

› Two awards

  – Outstanding Service Award

  – Technical Achievement Award

› **Committee members**: Lutz Lampe (Chair), Chris Develder, Petar Popovski, Anna Scaglione, Christian Wietfeld

› Formed according to updated P&Ps: collected vote for approval and informed TEAC

› Term until December 2023

Technical Achievement Award 2022

The 2022 Technical Achievement Award goes to:

Prof. Yan Zhang

Congratulations !

Any other business ?

Next meeting

› ICC 2023

Thank you!