



Workshop on Satellite Mega-Constellations in the 6G Era (6GSatComNet'22)



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Important Dates

- ❖ Paper submission deadline:
January 20, 2022
- ❖ Notification of acceptance:
March 06, 2022
- ❖ Camera-ready papers:
March 15, 2022

Submission link

<https://edas.info/newPaper.php?c=28944&track=108911>

Webpage link

<https://icc2022.ieee-icc.org/program/workshops/ws-18-workshop-satellite-mega-constellations-6g-era-6gsatcomnet22>

Scope

There is rejuvenated interest in satellite communications & networking. Both the satellite and 3GPP industries aim at developing a seamlessly integrated one network. One main difference between the legacy satellite systems and the mega-constellations of the 6G era satellite system is the networking aspect with very high-speed inter-satellite links. For efficient operation, the network will have to be autonomous, intelligent, resilient, self-organizing & self-controlling to reduce the cost and risk of human intervention. Distributed decision making, fault recovery, resilience, and scalability are among the important features. These networks will rely on AI techniques at all levels: Ground operations, on-board operations, inter-satellite and satellite-to-ground links. The satellite mega-constellations in the 6G era will create unprecedented opportunities once the unprecedented challenges are addressed by the research community.

Topics

We seek original completed and unpublished work not currently under review by any other journal/magazine/conference. Topics of interest include, but are not limited to:

- Design and analysis of satellite mega-constellations
- Novel use-cases for satellite networks and integration with terrestrial networks
- HAPS (high altitude platform station) systems and HAPS constellations
- Integrated terrestrial-satellite networks, satellite – 5G/6G coexistence
- 3GPP 6G standardization with satellite communications as a native technology
- FSO (free space optical) communications for satellite networks; laser comm, laser links
- Satellite networks for enhanced localization, navigation and precision positioning
- Mobility/handover management in satellite networks
- Quantum key distribution (QKD) in satellite networks
- Computation offloading through/from satellite networks
- Edge computing and caching in satellite networks
- Topology management and routing in satellite networks
- Random access techniques for satellite networks
- Dynamic spectrum sharing in satellite networks
- Multicasting techniques in satellite networks
- MIMO, massive MIMO, advanced antenna architectures, and dynamic beamforming
- Interference avoidance and mitigation in satellite networks
- Physical layer security in satellite communications
- Security, privacy and authentication in satellite networks
- Testbeds for satellite networks and experimental studies
- AI/ML for satellite networks
- Simulation platforms for satellite networks
- IoT and M2M applications in satellite networks
- Advanced physical layer technologies for satellite communication

Paper Submission

The workshop accepts only novel, previously unpublished papers. The page length limit for all initial submissions for review is SIX (6) printed pages (10-point font) and must be written in English. All final submissions of accepted papers must be written in English with a maximum paper length of six (6) printed pages (10-point font) including figures. No more than one (1) additional printed page (10-point font) may be included in final submissions and the extra page (the 7th page) will incur an over length page charge of USD100. For more information, please see IEEE ICC 2022 official website: <https://icc2022.ieee-icc.org/authors>