

# Space Information Networks

## Call for Papers

### 1. Introduction/Overview

Space Information Networking (SIN) is the most critical infrastructure for human beings to explore and exploit the space. Through collaboration among the different platforms, such as geostationary Earth orbit (GEO) satellites, middle Earth orbit (MEO) satellites, low Earth orbit (LEO) satellites, manned and unmanned aircraft, SIN can achieve real-time acquisition, transmission, and processing of information, and becomes more and more important in both civilian and military applications. In the last decade, many Internet giants have proposed various space information networks development projects to aim at providing Internet access in anywhere, any place for everyone globally. Due to the unique features (i.e., high attitude, wide coverage, and line-of-sight transmission) of space platforms, SINs become more and more significant and indispensable to the applications of emergency rescue, navigation and positioning, spacecraft tracking and control, remote sensing, air traffic control, aviation/maritime communications, Internet of Things (IoT), and aerospace measurement. However, the development of SINs is limited by resources such as spectrum and orbit, because it is difficult to expand the space-time coverage by increasing the number of spatial nodes and improving the capabilities of nodes. What's more, most constructed satellite networks are locked down to a specific space mission, with isolated substrate infrastructure and network resources, which forbids interactions and cooperation among different networks. In order to fundamentally solve the problem of the SIN expansion and collaborative application, it is imperative to carry out research on basic theories and key technologies of SINs. Therefore, this workshop will attract a significant number of submissions of good quality.

The Workshop on "Space Information Networks" provides a forum for discussions of the theoretical foundations and original technical contributions of space information networks, by bringing together industry and academia, engineers and researchers. The workshop invites submissions of the unpublished work on the following topics (but not limited to):

- Architecture and key techniques of space information networks;
- Task planning and scheduling in space information networks;
- Networking of distributed satellite clusters;
- Onboard intelligent and automatic planning;
- Satellite communications and networks;
- Advance high-rate digital modems for space communications;
- OFDM and spread spectrum techniques for satellite communications;
- High altitude platform stations (HAPS) communications;
- Air traffic control and communications;

- Network function Virtualization in Satellite and Terrestrial 5G networks;
- Software-defined networking (SDN) applied to integrated 5G networks;
- Space optical wireless communications;
- Innovative services in space information networks, in particular for Internet of Things, remote sensing and telemetry applications

## **2. Workshop organizers:**

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## **3. Program committee members**

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