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**Scope**
Spaceflight involves critical sensing and communication in extreme environments such as planetary surfaces, space vehicles, and space habitats. The many challenges faced in space sensing and communication are extremely diverse and overlap significantly with those found in many terrestrial examples of extreme environments such as extreme hot or cold locations, extreme high- or low-pressure environments, critical control loops in aircraft and nuclear power plants, high-speed rotating equipment, oil/gas pipelines and platforms, etc. All of these environments pose significant challenges for radio-frequency or optical wireless sensing and communication and will require the application of a broad range of state of the art technologies in order to generate reliable and cost effective solutions. Although the specific challenges vary significantly from the environment to environment, many of the solutions offered by sensing, communication, and statistical signal processing technologies can be applied in multiple environments, and researchers focusing on space applications can benefit greatly from understanding the problems encountered and solutions applied in alternative environments.

This IEEE conference will bring together investigators from the National Aeronautics and Space Administration (NASA), the Canadian Space Agency (CSA), the European Space Agency (ESA), and other space agencies, along with aerospace and space defense industries and academic researchers, in an effort to understand and solve the emerging problems facing wireless sensing and communication in space and related extreme environments. Topics of interest include but are not limited to:

- Wireless sensors, systems, and networks
- Delay and disruption tolerant networks
- Network architectures, middleware integration, data management
- Big data processing and data fusion techniques
- Wireless privacy, security and routing techniques
- Localization, detection, classification and tracking methods
- Antenna design and processing
- Integrated vehicle systems and robotics
- RFID devices and systems
- Propagation modeling and channel description
- Optical communication systems
- Availability, certification, spaceflight qualification for wireless devices/systems
- Multi-carrier systems, spread spectrum techniques
- Cognitive radio networks, emerging technologies
- High speed, low latency, multi-stream data techniques (full-duplex, LTE, MIMO)

**Paper Submission Guidelines**
Full length research papers (6 pages) and poster abstracts (3 pages) are sought that address solutions to problems in all areas of wireless sensing and communication in space and extreme environments. Accepted and presented papers will be published in the conference proceedings and submitted to IEEE Xplore as well as other indexing databases.
IMPORTANT INFORMATION

Conference dates:
October 10th to 12th, 2017

Conference location:
Concordia University
Montréal, QC, Canada

Paper submission deadline:
July 1st, 2017

Acceptance notification:
August 1st, 2017

Early registration (US$495):
August 15th, 2017

IEEE PDF eXpress version:
September 1st, 2017

Workshops

Passive Wireless Sensor Technology Workshop (PWST)
Omar Torres
NADA LaRC, USA
George Studor
NADA JSC, USA

Space Solar Power (SSP)
Reza Zekavat
Michigan Tech University, USA
Darel Preble
Space Solar Power Institute, Georgia Tech, USA

Workshop on Massive Intelligent Sensor Systems (MISS’17)
Habib Rashvand
University of Warwick, U.K.
Gholamreza Alirezaei
RWTH Aachen University, Germany

Space-Terrestrial Inter-networking (STINT)
Juan Fraire
University of Cordoba, Spain
Edward Birrane
Germany Johns Hopkins University, USA

Special Sessions and Tutorials
Proposals for tutorials and special sessions should provide a 200-word summary.
For special sessions, additionally, please include the details of the invited papers.