

WiSEE 2013

**IEEE International Conference
on Wireless for Space and
Extreme Environments**
Baltimore, Maryland
November 7–9, 2013

 **IEEE**
<http://sites.ieee.org/wisee>

Organizing Committee

Ali Abedi	General Co-Chairs	University of Maine, USA
Richard Barton		NASA Johnson Space Center
Amir Aghdam	Executive Co-Chairs	Concordia University, Canada
Charles Rubenstein		Pratt Institute, USA
Nezih Mrad	Industry	Dept of National Defense, Canada
Chirag Warty		Ahilya Technologies, USA
Pascal NSame	Program	IBM, USA
George Studor		NASA Johnson Space Center
Shirley Tseng	Keynotes	IEEE COMSOC and AIAA
Jeff Hayden		NASA programs, USA
Peter Fuhr	Panels	Oak Ridge National Lab, USA
Ian Verhappen		ISA Communications Division
Jacqueline Hines		ASR&D Corp, USA
Jean-Francois Dufour	TPC Co-Chairs	European Space Agency
Stephen Braham		Simon Fraser University
Raymond Wagner		NASA Johnson Space Center
Anader Benyamin	Publicity	Concordia University, Canada
Habib Rashvand	Workshops	University of Warwick
Ronald Brown	Publications	Telecom Consultant, USA
Hossein Roufارشbaf	Venue	George Mason University, USA
Joel Castro	Secretary	University of Maine, USA
Esam Obiedat	Registration	Comm Scope /Andrew Corp.
Susanna Spinsante	Webmaster	Univ. Politecnica d. Marche, Italy

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 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.

Areas of Particular Interest

Papers and posters are sought that address solutions to problems in all areas of wireless sensing and communication in space and extreme environments related to spaceflight, including but not limited to the following:

- Low-power active wireless sensors, systems, and networks
- Passive wireless sensors, systems, and networks
- RFID devices and systems
- Protocols and architectures for delay and disruption tolerant networking
- Network architectures, middleware integration, and data management
- Cognitive radio networks
- Localization and tracking over wireless links
- Antenna design, smart antennas, beam-forming, and multiple-antenna techniques
- Propagation modeling for planetary surfaces and complex multipath environments
- Wireless and cyber security
- Optical communication systems
- Availability, certification, and spaceflight qualification for wireless devices and systems
- Integrated vehicle systems

Financial Co-sponsors



Important Dates Paper/poster submission (**Firm Deadline**)....July 1, 2013
Acceptance notification.....Sep 1, 2013
Final Paper submission and Registration.....Oct 1, 2013

Only accepted and presented papers will be considered for inclusion at IEEE Xplore Digital library.

In cooperation with CSA, ESA, NASA

Technical Program Committee

Jacqueline Hines	ASR&D Corp, USA	TPC Co-Chairs
Jean-Francois Dufour	European Space Agency (ESA)	
Stephen Braham	Simon Fraser University, Canada	
Mauricio daCunha	University of Maine, USA	UFFC
Donald Malocha	University of Central Florida, USA	
Leo Reindl	Imtek/Freiburg, Germany	
Charalabos Skianis	University of the Aegean, Greece	COMSOC CSIM TC
Christos Verikoukis	CTTC, Spain	
Fotis Lazaarakis	NCSR 'Demokritos', Greece	
Davide Dardari	University of Bologna, Italy	COMSOC RCC TC
Andrea Conti	University of Ferrara, Italy	
Oliver Holland	Kings' College London, UK	
R. Mouli Chandramouli	Stevens Inst. Of Technology, USA	COMSOC CN TC
K. P. (Suba) Subbalakshmi	Stevens Inst. Of Technology, USA	
Honggang Zhang	Zhejiang University, China	
Paul Hartmann	RFSAW, USA	CRFID TC
Manos Tentzeris	Georgia Inst. of Tech, USA	
Daniel Engels	IEEE CRFID	
Habib Rashvand	University of Warwick, UK	IET WSS
David Michelson	Univ. of British Columbia, Canada	APS/ URSI
Marc Seibert	NASA HEOMD Strategic Analysis	NASA
Patrick Fink	NASA Johnson Space Center	
William Cy Wilson	NASA Langley Research Center	
Prakash Narayan	ISR, University of Maryland, College Park, USA	International Expert Review Panel
Sennur Ulukus	ISR, University of Maryland, College Park, USA	
Miao Yu	ISR, University of Maryland, College Park, USA	
Yunfeng Zhang	ISR, University of Maryland, College Park, USA	
Marian Codreanu	CWC, University of Oulu, Finland	
Nezih Mrad	Dept of Defense, Canada	
Chirag Warty	Ahilya Technologies, USA	
Susanna Spinsante	Univ. Politecnica d. Marche, Italy	
Kevin Gifford	University of Colorado, USA	
Anader Benyamin	Concordia University, Canada	
Jean-Dominique Decotignie	Centre Suisse d'Electronique et de Microtechnique, Switzerland	
Domenico Ciuonzo	Seconda Universita' di Napoli, Italy	
Amir Ajorlou	Concordia University, Canada	
Jalal Habibi	Concordia University, Canada	
Eric William Pritchard	Somerset Sciences, UK	
Alessandro Puiatti	Univ. of Applied Sciences, Switzerland	
Rafael Perez-Jimenez	Univ. de Las Palmas de Gran Canaria, Spain	
Walid Zibideh	Qualcomm Inc, USA	
Khaled Al Mahgoub	Trimble Navigation, USA	
Seyed Reza Zekavat	Michigan Technological University, USA	

Technical Co-Sponsors:

