

IEEE GlobalSIP

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6th IEEE Global Conference on
Signal and Information Processing

Anaheim, CA USA
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5G Satellite Networks: Signal Processing Applications and Challenges

General Chairs and TPC:

Ana Pérez-Neira (*CTTC/UPC, Spain*)

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5G systems are not only new protocols, but, more importantly, they embrace a new telecommunication infrastructure. As such, one of the challenges is to achieve a convergence between the terrestrial and the satellite segments. Simultaneously, in the past few years, many satellite operators have been upgrading and/or enlarging their constellations to deliver enhanced functionalities and higher frequency reuse, by means of V/HTS technology, and not only of geostationary orbits, but also non-geostationary ones. These new trends pose interesting challenges regarding new interference-limited scenarios and spectral efficient techniques. This symposium deals with innovative solutions on signal & information processing and optimization for:

- Air interface harmonization between terrestrial 5G and satellite systems
- Exploring and analysis of new bands (Q/V/W)
- Interference reduction schemes
- New waveforms
- Novel multiple access schemes
- Multiple narrow beam antennas
- New system architectures including GEO/MEO/LEO
- Payloads with onboard processing
- High Throughput Satellites (HTS) analysis
- Hybrid terrestrial/satellite solutions
- Scenarios for rural services/urban
- Delay sensitive and non-sensitive applications
- Emerging applications and services
- Efficient resource management
- Opportunistic and Cognitive Communications for spectrum sharing over satellite and 5G segments
- Network coding and multi-path offloading techniques for optimized backhauling

Paper Submission: Prospective authors are invited to submit full-length papers (up to 4 pages for technical content including figures and possible references, and with one additional optional 5th page containing only references) and extended abstracts (up to 2 pages, for paper-less industry presentations and Ongoing Work presentations) via the GlobalSIP 2018 conference website. Manuscripts should be original (not submitted/published anywhere else) and written in accordance with the standard IEEE double-column paper template. The accepted abstracts will not be indexed in IEEE Xplore, however the abstracts and/or the presentations will be included in the IEEE SPS SigPort. Accepted regular conference papers (4-5 pages) will be indexed in IEEE Xplore.

Important Dates:

- **June 29, 2018:** Paper submission due (EXTENDED)
- **Aug. 7, 2018:** Notification of Acceptance
- **Aug. 22, 2018:** Camera-ready paper due.

Key Note Speaker (see next page)

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5G Satellite Networks: Signal Processing Applications and Challenges

Keynote speaker: Muriel Medard

Cecil Green Professor of Electrical Engineering and Computer Science
Research Laboratory for Electronics
Massachusetts Institute of Technology (MIT)

Title: Network coding in satellites.



Bio: Muriel Médard is the Cecil H. Green Professor in the Electrical Engineering and Computer Science (EECS) Department at MIT and leads the Network Coding and Reliable Communications Group at the Research Laboratory for Electronics at MIT. She has co-founded three companies to commercialize network coding, CodeOn, Steinwurf and Chocolate Cloud. She has served as editor for many publications of the Institute of Electrical and Electronics Engineers (IEEE), of which she was elected Fellow, and she has served as Editor in Chief of the IEEE Journal on Selected Areas in Communications. She was President of the IEEE Information Theory Society in 2012, and served on its board of governors for eleven years. She has served as technical program committee co-chair of many of the major conferences in information theory, communications and networking. She received the 2009 IEEE Communication Society and Information Theory Society Joint Paper Award, the 2009 William R. Bennett Prize in the Field of Communications Networking, the 2002 IEEE Leon K. Kirchmayer Prize Paper Award and several conference paper awards. She was co-winner of the MIT 2004 Harold E. Edgerton Faculty Achievement Award, received the 2013 EECS Graduate Student Association Mentor Award and served as Housemaster for seven years. In 2007 she was named a Gilbreth Lecturer by the U.S. National Academy of Engineering. She received the 2016 IEEE Vehicular Technology James Evans Avant Garde Award, the 2017 Aaron Wyner Distinguished Service Award from the IEEE Information Theory Society and the 2017 IEEE Communications Society Edwin Howard Armstrong Achievement Award.