

November 14 - 16, 2017, Montreal, Canada

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## Symposium on Graph Signal Processing Call for Papers

### General Co-Chairs:

Antonio G. Marques, King Juan Carlos University  
Michael G. Rabbat, McGill University

### Technical Co-Chairs:

Gonzalo Mateos, University of Rochester  
Santiago Segarra, Massachusetts Institute of Technology

Understanding networks and networked behavior has emerged as one of the foremost intellectual challenges of the 21st century. From an engineering perspective, interest originated in the context of early electrical and communication applications, and it has rapidly increased due to the evolution of communication infrastructure from switching hierarchies to a network of peers. Social and economic networks running on top of a networked infrastructure have added a novel dimension to the pervasive presence of networks in our lives. A third dimension has emerged as the theory of network phenomena and processes is leveraged to further our understanding of the behavior of complex systems in domains across science and engineering. Often, networks have intrinsic value and are themselves the object of study. In other instances, the network defines an underlying notion of proximity and the main object of interest is a signal defined on top of the graph, i.e., data associated with the nodes or edges of the network. This is precisely the focus of graph signal processing, studying the interplay between the underlying network topology and features of signals defined on networks. This symposium aims to bring together researchers and practitioners of graph signal processing to discuss the latest advances in theory, methods, and applications, as well as open problems and challenges. Topics of interest include, but are not limited to:

- Graph signal representations
- Graph-based transforms
- Graph filters
- Network topology inference
- Prediction and learning on/over graphs
- Modeling and control of network processes
- Statistical graph signal processing
- Sampling and recovery of graph signals
- Signals in higher-order and multiplex graphs
- Non-linear graph signal processing
- Topological data analysis
- Uncertainty principles and other fundamental limits
- Graph-based image and video analysis
- Applications in wireless communications and sensor networks
- Applications in neuroscience and other biomedical fields
- Applications to social and economic networks

**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) or extended abstracts (up to 2 pages), for paper-less industry presentations and Ongoing Work presentations) via the GlobalSIP 2017 conference website. Manuscripts should be original (not submitted/published anywhere else) and written in accordance with the standard IEEE double-column paper template. Accepted full-length papers will be indexed on IEEE Xplore. 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 papers and abstracts will be scheduled in lecture and poster sessions.

### Important Dates:

- ❖ **May 15, 2017:** Paper submission deadline (regular and invited)
- ❖ **June 30, 2017:** Notification of Acceptance
- ❖ **July 22, 2017:** Camera-ready regular and invited papers due

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