

Multispectral and Hyperspectral Imaging and Analysis

General Chairs:

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Diverse Applications, Common Approaches? Multispectral and Hyperspectral imaging methods are widely used in diverse applications including airborne and satellite remote sensing, biological microscopy, and diagnostic biomedical imaging systems. There has been a corresponding growth in algorithms and architectures for processing and analyzing multi- and hyper-spectral images, and there is abundant opportunity for researchers to learn image processing problems, approaches, insights, and algorithm designs from other areas. The goal of this symposium is to provide an opportunity for researchers to share insights across disciplines and application areas.

Impact: The impact of multi- and hyper-spectral imaging is already impressive. Satellite-based and airborne platforms are enabling remote sensing of changes, anomalies, and trends in agricultural, mineral, military, and civilian land-use patterns. Similarly, in the biomedical multi- and hyperspectral imaging methods are enabling the spatial distribution and dynamics of multiple molecular markers in a manner that preserves their relative spatial context, in living biological systems (in vivo or in vitro), and/or fixed tissue samples of biomedical interest (e.g., biopsies), and are finding applications in basic scientific discovery, drug screening, and biomolecular tissue profiling.

Invitation: Researchers in signal processing and diverse application domains are invited to submit their contributions. Topics of interest include, but are not limited to:

- **Imaging and Data Fusion:** Computational imaging methods, multi-sensor fusion, sensor modeling, Spectral & morphological unmixing algorithms, inpainting of multi-channel optical data, Super-resolution methods, characterization of uncertainty, fast computing methods.
- **Image Analysis Methods:** Image segmentation; object detection, characterization and tracking; detection of changes, anomalies and trends, traditional and deep machine learning methods, multiple instance learning; Subspace learning, Sub-pixel target recognition, active and transfer learning, low-power and resource constrained algorithms.
- **Remote Sensing Applications:** Applications of multispectral and hyperspectral imaging, multisensor fusion, and image analysis to remote sensing applications.
- **Biomedical Applications:** Applications of multispectral and hyperspectral imaging, multisensor fusion, and image analysis to biology and medicine.

Paper Submission: Prospective authors are invited to submit full-length papers (4-6 pages) 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. Accepted full length manuscripts will be indexed in 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 for lecture or poster sessions.

Key Dates:

- **June 17, 2018:** Paper submission due
- **Aug. 7, 2018:** Notification of Acceptance
- **Aug. 22, 2018:** Camera-ready paper due.

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