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Call for Papers—IEEE JOURNAL OF SELECTED TOPICS IN SIGNAL PROCESSING Special Issue on Perception Inspired Video Processing
The 39th International Conference on Acoustics, Speech, and Signal Processing (ICASSP) will be held in Florence, Italy, at the “Fortezza da Basso” Convention and Exhibition Centre on May 4-9, 2014 (www.firenzefiera.it). ICASSP is the World’s largest and most comprehensive technical conference focused on signal processing and its applications. The conference will feature world-class speakers, tutorials, exhibits, and thematic workshops. Topics include but are not limited to:

- Audio and acoustic signal processing
- Bio-imaging and signal processing
- Signal processing education
- Speech processing
- Imaging and technology tracks
- Information forensics and security
- Machine learning for signal processing
- Multimedia signal processing
- Sensor array and multichannel signal processing
- Design and implementation of signal processing systems
- Signal processing for communications and networking
- Image, video and multidimensional signal processing
- Signal processing theory and methods
- Spoken language processing
- Biological and biomedical signal processing

Place: Florence is one of the most renowned cities in the world, not only due to its location in the heart of Tuscany, but also because of its connection to the evolution of art, culture, and scientific thought. It is in this area that Leonardo da Vinci and Galileo Galilei made their groundbreaking discoveries during the Renaissance, paving the way to modern science. Now that signal processing has become the science behind a wide range of application areas, from wireless communications to speech processing, from bioinformatics to multimedia, it seems only right to hold the 2014 edition of ICASSP in this city of Culture.

Submission of Papers: Prospective authors are invited to submit full-length papers of up to four pages of technical content (including figures and references), with a possible extension to a fifth page containing only references. The selection of the best papers will be made by the ICASSP 2014 committee based on recommendations from the Technical Committees.


Tutorial and Special Sessions Proposals: Tutorials will be held on May 4 and 5, 2014. Brief tutorial proposals should include title, outline, contact information, biographies and selected publications for the presenter(s), and a description of the tutorial and material to be distributed to participants. Special session proposals should include title, rationale, session outline, contact information, and a list of invited papers. Please refer to the ICASSP 2014 website www.icassp2014.org for additional information.

Show & Tell: The 2014 edition of ICASSP is proud to bring back the S&T sessions. S&T offers the perfect stage for showcasing innovative ideas in all technical areas of interest of ICASSP. S&T sessions are expected to be highly interactive, involving, and very visible. Please refer to the ICASSP 2014 website www.icassp2014.org for additional information.

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IEEE Signal Processing Society
IEEE Journal of Selected Topics in Signal Processing

Special Issue on Visual Signal Processing for Wireless Networks

Recent development of mobile computing technology and wireless communications brought into focus a new paradigm of visual signal transmission via wireless channels. With the emergence of smartphones and continued growth of laptops, netbooks and tablets, there is a huge increase in a number of mobile devices able to support new video applications. However, conveying visual information to mobile devices over cellular or mobile broadband networks confronts many challenges, such as limited channel bandwidth, constrained computational and energy resources, high required quality and reliability, or tight latency requirements. This special issue is aiming at providing a platform for discussion on recent research in visual signal processing for wireless networks and possible emerging techniques with a potential to further improve the performance, or to lead to new solutions, algorithms or applications.

We invite original and unpublished research contributions relevant to the following areas:

- **Visual coding and transmission techniques for wireless transmission**
  Coding and transmission of visual (image, video or multiple view video) signals for wireless technology that take into account specific characteristics and requirements of modern wireless communications, such as time-varying channel constraints, streaming to clients with heterogeneous connectivity conditions, limited power consumption, guaranteed quality of reconstruction, user-interactivity and transmission latency.

- **Theoretical foundations**
  Contributions to theoretical foundations of visual signal processing for wireless communications. Specific topics of interest include distributed signal processing, compressive sensing and wireless visual sensor networks.

- **Adaptation of video coding algorithms to advanced wireless networks**
  Design of new visual compression, retrieval and recognition algorithms and adaptation and applications of existing ones to actual advanced wireless communication technologies and protocols, such as WiMAX, WLAN, MIMO, LTE, 4G and beyond.

- **Applications**
  Implementing the solutions from visual signal processing for wireless communications into specific applications, such as visual surveillance and monitoring, video-on-demand, free viewpoint television, mobile multimedia analytics, etc. Also, extensions to popular frameworks, such as smart cities, mass data sensing, sending and processing, machine-to-machine communications, health monitoring, smart grid and energy monitoring, environmental monitoring, transportation and traffic monitoring, biomedical applications, etc., with a focus on visual processing algorithms for wireless communications.

Prospective authors should visit [http://www.signalprocessingsociety.org/publications/periodicals/jstsp/](http://www.signalprocessingsociety.org/publications/periodicals/jstsp/) for information on paper submission. Manuscripts should be submitted using the Manuscript Central system at [http://mc.manuscriptcentral.com/jstsp-ieee](http://mc.manuscriptcentral.com/jstsp-ieee). Manuscripts will be peer reviewed according to the standard IEEE process.

Manuscript submission due: November 1, 2013
First review completed: February 1, 2014
Revised manuscript due: April 1, 2014
Second review completed: May 15, 2014
Final manuscript due: July 1, 2014

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CALL FOR PAPERS

IEEE JOURNAL OF SELECTED TOPICS IN SIGNAL PROCESSING
Special Issue on Signal Processing in Smart Electric Power Grid

The signal processing research community is poised to make important contributions to evolving the existing electric power grid into a smarter and greener grid. The nature of signal processing research deals with signals and is particularly adept at extracting information from noisy-contaminated signals emitting from dynamic and uncertain systems. The smart grid is a dynamic, time-varying system with many uncertainties, especially if integration of distributed renewable energy sources is included. The operation of smart grid will feature bi-directional digital communication, bi-directional power flow, and consumer empowerment with enhanced situation awareness. As such, adaptive signal processing, distributed detection and estimation, statistical signal processing, signal representation and data compression, machine learning, optimization methods, efficient computational algorithms, etc., will all prove to be important tools to make possible some of the important features envisioned for the smart grid – demand response, distribution automation, self-healing, improved security, etc.

This special issue will focus on novel theory and applications of signal processing research for smart grid. Papers that present novel research ideas, theory and applications are solicited on, but not limited to, the following topics:

- Power grid state estimation – novel methods and applications;
- Adaptive filters and statistical signal processing for smart grid;
- Distributed methods for smart grid – detection, estimation, forecasting;
- Sensor fusion, data analytics, data mining, and machine learning for smart grid;
- Demand response, load management and pricing;
- Security and privacy issues in smart grid;
- Forecasting models and methods for renewable generation and for loads;
- Impacts of large scale renewable energy integration;
- PHEV charging infrastructure and scheduling algorithms, V2G algorithms;
- Cyber-physical systems models for smart grid;
- Data compression, storage and transmission;
- Signal processing for smart appliances, smart meters, and sensors.

Guest Editors:
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Shalinee Kishore <skishore@lehigh.edu> Lehigh University, Bethlehem, PA, U.S.A.
Visa Koivunen <visa.koivunen@aalto.fi> Aalto University, Helsinki, FINLAND
Danilo Mandic <d.mandic@imperial.ac.uk> Imperial College, London, UK
Lang Tong <ltong@ece.cornell.edu> Cornell University, Ithaca, NY, U.S.A.

Schedule:
Manuscript due: October 1, 2013.
Revised Manuscript due: February 1, 2014.
Final Manuscript due: May 1, 2014.
Publication: 3rd Quarter, 2014.
Call for Papers
Journal of Selected Topics in Signal Processing

Special Issue on
Signal Processing for Situational Awareness from
Networked Sensors and Social Media

Situational awareness is of great interest in security/surveillance, disaster management, environmental monitoring, etc. At the same time, distributed data sources are common today and generate a wealth of information, e.g., surveillance cameras, smartphones, parking occupancy sensors, RFID (proximity) sensors. However, there exists a gap between the wealth of distributed information captured and the understanding of a scene where the sensors are located. The goal of this special issue is an attempt at bridging this gap by bringing together various signal processing methodologies associated with such data analysis. Since situational awareness methods in practice today often combine sensor measurements with information gleaned from social media, this issue will consider both these information sources.

Challenges in information processing from large sensor networks are many - from the use of single sensors adapting internal or external parameters, to the cooperation of multiple sensors in a networked manner. Also, the amount of data that needs to be analyzed can be prohibitive, leading to various “big data” challenges. These challenges are particularly acute for video data, the main surveillance modality today, due to its sheer volume. Recent technological developments have also led to more efficient and robust sensors that more tightly couple the acquisition and analysis phases (e.g., network cameras, smartphones). This requires the development of algorithms, ideally implemented close to the sensor and which are specifically tuned to the characteristics of the sensors. Seeking solutions to the above challenges cannot be done without considering the usage of resources, such as energy consumption, communication bandwidth, computational power, etc. Finally, a very recent data modality, that is likely to play a significant role in the future, comes from social media in the form of text, images, videos, and sound recordings. The fusion of social media data with traditional surveillance streams is an unchartered, but potentially fertile, territory.

This special issue proposal is innovative because it aims to bring together, in one publication, novel research from diverse areas of signal processing with the common goal of exploiting “high volume data” collected daily for more efficient situational awareness. We will encourage submissions describing different approaches, both in terms of the number of sensors (networked vs. single), their types (network cameras, smart phones, radar, social media, etc.), data processing methodologies, and application domains. The fusion of data captured by different sensors or different platforms will be of great interest for the proposed issue as well. In order to clearly differentiate this issue from others in JSTSP, papers submitted must have a significant contribution to advancing the state of the art in situational awareness. Work with a variety of sensor modalities is welcome, including novel multi-modal fusion techniques.

A list of topics follows, but we will encourage additional topics falling within the purview of situational awareness.  
- **Sensors**: Novel sensors, Sensing from mobile platforms (UAV, UGV, satellite, etc.), Beyond visual perception sensing (radar, hyperspectral, etc.)
- **Sensor networks**: Sensor network processing and control, Distributed detection, localization and tracking, Distributed machine learning for scene analysis, Multiagent coordination for wide-area coverage and analysis, Re-identification and network tracking, Network resource management, Information fusion over distributed sensor networks
- **System-level scene understanding**: Multi-modal fusion, Context-based object description and scene understanding, Event annotation, summarization and visualization, Inferring spatio-temporal, causal and contextual relations between events, Multimedia Analytics
- **Exploitation of social media for situational awareness**: Visual data analysis in large online repositories (e.g., YouTube, Instagram), Context analysis in social media (e.g., Twitter, Facebook, etc.), Fusion of sensor and social data


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- Camera-Ready Submission: December 31, 2013

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(OCTOBER 2013)

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The SAM Workshop is a major IEEE Signal Processing Society event devoted to sensor array and multichannel signal processing. The organizing committee invites the international community to present and discuss state-of-the-art developments in the field. SAM 2014 will feature plenary talks by leading researchers in the field as well as poster sessions with presentations by the participants.

Welcome to A Coruña! – The workshop will be organized in Hotel Hesperia Finisterre, located in the heart of A Coruña, Spain, a modern city looking out onto the Atlantic Ocean. A Coruña is an open city that embraces all its visitors with warmth and according to its motto “A Coruña is the city where nobody is a stranger”. It is blessed with a beach promenade that completely surrounds it, the Hércules Tower, which is a World Heritage site, and many local and regional attractions. The workshop will take place during the Midsummer Festival that will make SAM 2014 an unforgettable experience.

RESEARCH AREAS

Authors are invited to submit contributions in the following areas:

- Adaptive beamforming
- Array processing for biomedical applications
- Array processing for communications
- Blind source separation and channel identification
- Computational and optimization techniques
- Compressive sensing and sparsity-based signal processing
- Detection and estimation
- Direction-of-arrival estimation
- Intelligent systems and knowledge-based signal processing
- Microphone and loudspeaker array applications
- MIMO radar
- MIMO systems and space-time coding
- Multi-channel imaging
- Multi-sensor processing for smart grid and energy
- Non-Gaussian, nonlinear, and non-stationary models
- Performance evaluations with experimental data
- Radar and sonar array processing
- Sensor networks
- Synthetic aperture techniques
- Space-time adaptive processing
- Statistical modeling for sensor arrays
- Waveform diverse sensors and systems

Submission of papers – Full-length four-page papers will be accepted only electronically at www.gtec.udc.es/sam2014.

Special poster session proposals – They should be submitted by e-mail to the Technical Program Chairs and include a topical title, rationale, session outline, contact information, and list of invited speakers.

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IMPORTANT DATES

Special Session Proposals
November 29th, 2013

Submission of Papers
January 10th, 2014

Notification of Acceptance
February 28th, 2014

Final Manuscript Submission
March 28th, 2014

Advance Registration
April 18th, 2014

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