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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
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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 5th 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, biography 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.

IMPORTANT DEADLINES:
- Special Session and Tutorial Proposals: August 30, 2013
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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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- Chenyang Yang, Beihang University, China, CYYang@buaa.edu.cn
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Special Issue on Signal Processing for Social Networks
of the
IEEE Journal of Selected Topics in Signal Processing

Networks are fundamental to our modern world: they appear throughout science and society, and continue to grow in size, complexity and importance. Whenever entities and relationships between them are observed, a network is defined. As structural objects composed of nodes and links, networks play a strong and well-defined role across mathematics, science and engineering.

However, significant advances in mathematical knowledge and understanding are required if a holistic set of theory and methods is to be developed for signal processing on graphs and networks—particularly social networks. In this realm, an important byproduct of the emergence of on-line social media is the phenomenon that most things that are done on-line are recorded instantly: be it web-clicks, transactions, wall-posts on Facebook, tweets, or blogs. In the past year alone, 1.8 zettabytes ($10^{21}$) of data have been generated in this way. The access to this massive amount of social data presents a unique opportunity to the signal processing community.

As networks grow in size and complexity, the ability to analyze them using modern signal processing methods is at substantial risk of failing to keep pace. This special issue, “Signal Processing for Social Networks,” will focus on a core set of signal processing fundamentals for social networks, to provide both the necessary strong theoretical underpinnings and also the practical tools required to impact important practical applications.

Potential topics include, but are not limited to:

- Multi-agent estimation, detection and active decision-making in which agents communicate over (a possibly random) graph
- Handling, analysis, and visualization of “big data” from social networks
- Statistical signal processing and machine learning for social network data
- Detection and estimation theory with application to social networks
- Models and inference algorithms for information spreading in social networks
- Privacy and security & privacy preserving inference on user behavior from social network data
- Design, pricing and incentive mechanism for crowd-sourced system
- Data-driven policy making

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Schedule:

- Manuscript submission due: September 15, 2013
- First review due: December 1, 2013
- Revised manuscript due: January 15, 2014
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IEEE Journal of Selected Topics in Signal Processing
Special Issue on Signal Processing for Large-Scale MIMO Communications

Recently, large-scale or massive MIMO techniques have been proposed to tremendously improve the performance of wireless networks. For networks with massive MIMO, base stations are equipped with a very large number of antennas, possibly tens to hundreds of antennas communicating with multiple users on the same frequency band simultaneously. When the number of antennas grows very large or tends to infinity, the effects of noise and fast fading vanish and intra-cell interference can be mitigated using simple linear precoding and detection methods. Large-scale MIMO, therefore, is becoming an increasingly important technique for wireless communications. To practically implement such large-scale MIMO techniques, several critical issues must be addressed, such as channel estimation and efficient modulation design. In traditional MIMO systems, OFDM-based estimation and transmission is used. However, as the number of antennas at the base station grows large, the computational complexity of OFDM increases dramatically. Other practical issues, such as low-complexity precoding, detection algorithms and energy-efficient designs, should be investigated. In multi-cell large-scale MIMO systems, the pilot contamination issue is a bottle-neck. Efficient signal processing and scheduling schemes are needed to conquer this problem. Issues regarding cell size design and network planning should be also considered.

With large-scale MIMO systems, a number of paradigm-shifting technical approaches can be expected. This special issue will focus on signal processing issues for practical design of large-scale MIMO networks. The objective of this special issue is to bring together the state-of-art research results and industrial applications. Original contributions, which are previously unpublished and not currently under review by another journal, are solicited in relevant areas including (but not limited to) the following:

- Efficient channel estimation for large-scale MIMO systems
- Low-complexity modulation design for large-scale MIMO systems
- Practical precoding design for large-scale MIMO systems
- Effective detection algorithms for large-scale MIMO systems
- Mitigating pilot contamination in multi-cell large-scale MIMO systems
- Energy-efficient signal processing for large-scale MIMO systems
- Joint PHY-MAC layer transmission schemes for large-scale MIMO systems
- Distributed large-scale MIMO system design
- Practical network planning and optimization for large-scale MIMO systems
- Applications of large-scale MIMO techniques
- Metrics and methodologies for evaluating large-scale MIMO system performance
- Limitation of large-scale MIMO systems

Prospective authors should visit 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. Manuscripts will be reviewed via the standard IEEE process according to the following timetable:

- Manuscript submission due: September 15, 2013
- First review due: December 1, 2013
- Revised manuscript due: January 1, 2014
- Second review due: March 1, 2014
- Final manuscript due: April 1, 2014

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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:
Yih-Fang Huang <huang@nd.edu> University of Notre Dame, Notre Dame, IN, U.S.A.
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Lang Tong <ltong@ece.cornell.edu> Cornell University, Ithaca, NY, U.S.A.

Schedule:
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Revised Manuscript due: February 1, 2014.
Final Manuscript due: May 1, 2014.
Publication: 3rd Quarter, 2014.
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Title/Position Years in Current Position

Years in the Profession Since Graduation PE State/Province

Street Address

City State/Province Postal Code Country

4. EDUCATION

A baccalaureate degree from an IEEE recognized educational program assures assignment of “Member” grade. For others, additional information and references may be necessary for grade assignment.

B. Baccalaureate Degree Received

DegreeProgram/Course of Study

College/University Campus

State/Province Country Mo./Yr. Degree Received

C. Highest Technical Degree Received

DegreeProgram/Course of Study

College/University Campus

State/Province Country Mo./Yr. Degree Received

5. Full signature of applicant

6. DEMOGRAPHIC INFORMATION – ALL APPLICANTS -

Date Of Birth Day Month Year

| Male | Female |

7. CONTACT INFORMATION

Office Phone/Office Fax Home Phone/Home Fax

Office E-Mail Home E-Mail

8. 2013 IEEE MEMBER RATES

<table>
<thead>
<tr>
<th>IEEE DUES</th>
<th>16 Aug-28 Feb</th>
<th>1 Mar-15 Aug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence</td>
<td>Pay Full Year</td>
<td>Pay Half Year</td>
</tr>
<tr>
<td>United States</td>
<td>$185.00</td>
<td>$92.50</td>
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<tr>
<td>Canada (incl. GST)</td>
<td>$164.95</td>
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<tr>
<td>Canada (incl. HST to BC)</td>
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<tr>
<td>Latin America</td>
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<tr>
<td>Asia, Pacific</td>
<td>$144.00</td>
<td>$72.00</td>
</tr>
</tbody>
</table>

IEEE Dues (see pricing in Section 8)

IEEE Signal Processing Society Fees

$95.00

9. IEEE Membership Due (See pricing in Section 8)

IEEE Signal Processing Society Fees

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AMOUNT PAID WITH APPLICATION TOTAL

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Full signature of applicant using credit card

DATE

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[ ] Yes [ ] No

If yes, please provide the following information:

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IEEE Recruiter’s Member Number (Required):
Information for Authors

(Updated March 2012)

The IEEE TRANSACTIONS are published monthly covering advances in the theory and application of signal processing. The scope is reflected in the EDICS: the Editor’s Information and Classification Scheme. Please consider the journal with the most appropriate scope for your submission.

Authors are encouraged to submit manuscripts of Regular papers (papers which provide a complete disclosure of a technical premise), or Correspondences (brief items that describe a use for or magnify the meaning of a single technical point, or provide comment on a paper previously published in the TRANSACTIONS). Submissions/resubmissions must be previously unpublished and may not be under consideration elsewhere.

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IEEE World Forum on Internet of Things 2014
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APPLICATIONS, TECHNOLOGIES AND
SOCIETAL IMPACTS OF INTERNET OF THINGS

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Technologies:
- Sensor and Actuator Networks
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- NFC, EPCGlobal, and Short Range Evolution
- Constrained Devices and Gateways
- Energy and Power-Saving Technologies
- Routing and Control Protocols
- Architectures and Middleware, Heterogeneous Networks, Web of Things
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- Semantic Technologies

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Societal Impacts:
- Human Role in the IoT
- Social Aspects and Services
- Value Chain Analysis and Evolution Aspects
- New Human-Device Interactions for IoT, Do-It-Yourself
- Social Models and Networks
- New Value Chains Enabled by IoT and Impacts on Existing Ones
- Green IoT: Sustainable Design and Technologies
- Metrics, Measurements, and Evaluation of the IoT Sustainability and ROI
- Privacy and Security Concerns

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- Performance Modeling and Networks Technologies
- Performance Analysis
- Scalability, Reliability, and Robustness;
- Gaps Analysis for Future Research and Standardization
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- Manuscripts Due: August 31, 2013
- Acceptance Notification: November 30, 2013
- Camera-Ready Submission: December 31, 2013

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Important Dates for Tutorial and Special Session Submissions:
- Tutorial Proposals Due: August 31, 2013
- Special Session Proposals Due: July 12, 2013

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TECHNICAL PROGRAM

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.

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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