

[Magazine Main Page](#)

[Society News](#)

[Conference News](#)

[Publication News](#)

[TC News](#)

[Chapter and DL News](#)

[Initiatives & Trends](#)

[New Theses](#)

[New Books](#)

[Research Opportunities](#)

[In-Depth Reports](#)

[About the E-Newsletter](#)

[Submission Instruction](#)

[E-Newsletter Team](#)



IEEE Signal Processing Magazine

[Archived Past Issues](#)

Inside Signal Processing E-Newsletter

April 2008

[Society News](#)

[Conference News](#)

[Publication News](#)

[TC News](#)

[Chapter/DL News](#)

[Initiatives & Trends](#)

[PhD Theses](#)

[New Books](#)

[Research Opportunities](#)

Highlights of This Issue

- [Society News](#): Nominations open for SPS 2008 awards; IEEE launches MemberNet Directory
- [Conference News](#): Call for proposals to host MMSP 2010; Upcoming conference CFP and links
- [Publication News](#): Call for nominations of the IEEE Transactions on Multimedia Prize Paper Award
- [Chapter News](#): Upcoming Distinguished Lectures and chapter events around the world
- [Tech Trends/Standards](#): Compressive Sensing; Scalable Video Coding Extension of H.264
- [New PhD Theses](#), [New Books](#), and [Scholarship/Post-doc Opportunities](#)

[PDF Version](#)

From the E-News Team:

We thank all readers for their contributions and feedback in the past year and we look forward to your participation in the new year. Please share the Inside Signal Processing E-Newsletter with your colleagues by emailing and bookmarking <<http://enews.ieee-spm.org>> for current and archived issues. IEEE members may manage their subscription to email notification of the Inside Signal Processing E-Newsletter at <<http://ewh.ieee.org/enotice/options.php?LN=SP001>>.

1. Society News

Nominations Open for 2008 Major SPS Awards

The SPS Awards Board is now accepting nominations for 2008 major SPS awards. Each year, SPS honors outstanding individuals who have made significant contributions related to signal processing through the Society Award, the Technical Achievement Award, the Education Award, and the Meritorious Service Award. The Society also recognizes outstanding publications in SPS journals and magazines through Best Paper Awards, Young Author Best Paper Awards, Signal Processing Magazine Best Paper Award and Best Column Award. The deadline for all awards is **October 1, 2008**.

The award nominations, which are submitted to SPS Vice President-Awards and Membership, will be vetted by the appropriate [technical committees](#). Prospective nominators are encouraged to submit nominations well in advance of the deadlines. Detailed information and nomination forms of SPS awards can be found [online](#).

IEEE Launches MemberNet Online Directory

The IEEE has launched an online member directory designed to encourage peer-to-peer networking within IEEE membership. MemberNet is the first step in a series of next-generation capabilities that will encourage virtual collaborations between members with similar technical interests, regardless of geography.

While the basic member profile in memberNet contains every member's name and membership grade, each member can indicate by check mark what additional information they would like to also have appear. These may include technical interests, local Section, or IEEE Society affiliation. The memberNet directory, and its opt-in management, is accessible from [myIEEE](#). Check [here](#) for more information about IEEE memberNet.

[Back to Index](#)

2. Conference News

Call for Proposal to Host MMSP 2010

The [Technical Committee on Multimedia Signal Processing](#) invites proposals to host the IEEE International Workshop on Multimedia Signal Processing (MMSP) in 2010. Proposals are open to all regions, but to keep with the practice of regional rotation, preference will be given to proposals from Region 8 (Europe, Middle East, or Africa).

Check [here](#) for further details on the aspects that should be addressed by each proposal. The submission deadline is **September 10, 2008**. Please address inquiries and submit proposals to Dr. Anthony Vetro, MMSP-TC Chair, at <[avetro AT merl.com](mailto:avetro@merl.com)>.

Signal Proc. Conferences: Call for Papers	Location	Date	Tutorial/Special Session	Submission Deadline
IEEE Workshop on Multimedia Signal Processing (MMSP'08)	Cairns, Queensland, Australia	Oct. 8-10, 2008		May 2, 2008
IEEE Workshops on Machine Learning for Signal Processing (MLSP'08)	Cancún, Mexico	Oct. 16-19, 2008		May 5, 2008
9th International Conference on Signal Processing (ICSP'08)	Beijing, China	Oct. 26-29, 2008		June 15, 2008
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP'09)	Taipei, Taiwan	April 19-24, 2009	August 4, 2008	Sept. 29, 2008

Upcoming Signal Processing Conferences	Location	Advanced Registration	Conference Dates
IEEE/ACM Information Processing in Sensor Networks (IPSN'08)	St. Louis, MO		April 22-24, 2008
Symposium in Signal and Multimedia Processing (SMP) at 21st IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)	Niagara Falls, Canada		May 4-7, 2008
Joint Workshop on Hands-free Speech Communication and Microphone Arrays (HSCMA'08)	Trento, Italy		May 6-8, 2008
IEEE International Symposium on Biomedical Imaging (ISBI'08)	Paris, France		May 14-17, 2008
IEEE International Workshop on Genomic Signal Processing and Statistics (GENSIPS'08)	Phoenix, Arizona	TBA	June 8-10, 2008
1st International Workshop on Cognitive Information Processing	Santorini, Greece	April 30, 2008	June 9-10, 2008, 2008
IEEE International Conference on Multimedia & Expo (ICME'08)	Hanover, Germany	May 23, 2008	June 23-26, 2008
IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC'08)	Recife, Brazil	TBA	July 6-9, 2008
International Conference on Audio, Language and Image Processing (ICALIP'08)	Shanghai, China	May 1, 2008	July 7-9, 2008
International Symposium on Image/Video Communications (ISIVC'08)	Bilbao, Spain	July 5, 2008	July 9-11, 2008
Fifth IEEE Workshop on Sensor Array and Multi-Channel Signal Processing (SAM'08)	Darmstadt, Germany	TBA	July 21-23, 2008
International Workshop on Multimedia Security in Communication (MUSIC'08) in conjunction with CHINACOM 2008	Hangzhou, China	TBA	Aug. 25-27, 2008
10th International Workshop on Signal Processing for Space Communications (SPSC'08)	Rhodes Island, Greece	June 29, 2008	Oct. 6-8, 2008
IEEE Workshop on Signal Processing Systems (SIPS'08)	Washington, DC	July 31, 2008	Oct. 8-10, 2008
IEEE International Conference on Image Processing (ICIP'08)	San Diego, CA	TBA	Oct. 12-15, 2008

[Back to Index](#)

3. Publication News

Call for Nomination of 2008 Multimedia Prize Paper Award - IEEE Transactions on Multimedia

The nomination period of the 2008 IEEE Transactions on Multimedia (T-MM) Prize Paper Award is open until **May 4, 2008**. Any paper published in T-MM in 2005, 2006, or 2007 is eligible. Nominations should include the following information: (1) Nominator's name and contact information; (2) Bibliographic information for the nominated paper; (3) A short statement of support (less than 500 words) explaining the rationale for the nomination.

Judging shall be on the bases of general quality, originality, subject matter, and timeliness. The winner will be announced at ICME 2008 in June 2008.

Nominations should be sent to the T-MM Editor-in-Chief Sheila Hemami at <hemami AT ece.cornell.edu> in plain text form (no attachments please). More information about the award can be found at [this link](#).

Upcoming Deadlines for **Signal Processing Magazine**: <http://www.ieee-spm.org/?i=cfp>

- [Columns/Forums](#) rolling submission deadlines

Special Issue Deadlines of SPS Publications

Journal of Selected Topics in Signal Processing

- [Visual Media Quality Assessment](#) - Deadline: **30 April 2008**
- [DSP Techniques for RF/Analog Circuit Impairments](#) - Deadline: 1 June 2008
- [Advanced Signal Processing for GNSS and Robust Navigation](#) - Deadline: 1 July 2008

IEEE Transactions on Multimedia

- [Communities and Media Computing](#) - Deadline: 15 May 2008

Recent Issues of SPS Sponsored and Co-sponsored Publications

Journal Title	Latest Issue	Contents (in PDF)	Xplore Link
IEEE Signal Processing Magazine <ul style="list-style-type: none"> • Special Section on Compressive Sensing • Feature Article on Gaussianity 	vol. 25, no. 2	PDF	Html

Chapter	Dates	SPS Distinguished Lectures
Guadalajara, Mexico	7-8 Apr 2008	Prof. Walter Kellermann (University Erlangen-Nuremberg, Germany): "Tackling the Acoustic Front-end for Distant-Talking Automatic Speech Recognition", and "Acoustic Signal Processing for Next-Generation Multichannel Human/Machine Interfaces". Contact Chapter Chair Oscar Bugarian [obugarin AT dsprojects.com] for more information.
Central New England	9-Apr-2008	Prof. Rama Chellappa (University of Maryland, College Park). Contact Chapter Chair Joe Yeh [jyeh AT ll.mit.edu] for more information.
Washington	11-Apr-2008	Prof. Petar M. Djuric (SUNY Stony Brook): "The Particle Filtering Methodology in Signal Processing," 2pm at 1110 Kim Bldg, University of Maryland, College Park. See the announcement or contact [washington.sps AT ieee.org].
Central Texas	16-Apr-2008	Prof. Tsuhan Chen (Carnegie Mellon University): "Face Identification by Computer and by Human: Two sides of the Same Coin, or Not?" . At 6:30pm at University of Texas - Austin. See the chapter website for more information.
Houston	18-Apr-2008	Prof. Tsuhan Chen (Carnegie Mellon University). At 12pm at the Gilruth Center of NASA. Contact Tom Dillon at 281-483-5456 or [thomas.j.dillon AT nasa.gov].
Chicago	18-Apr-2008	Prof. Petar M. Djuric (SUNY Stony Brook): "Particle Filtering Methodology in Signal Processing". See the chapter website for more information.
Turkey	21-Apr-2008	Prof. Tsuhan Chen (Carnegie Mellon University): "Multiview Imaging." Contact Chapter Chair Yasemin Yardimci [yardimy AT ii.metu.edu.tr] for more information.
Chicago	25-Apr-2008	Dr. Amy R. Reibman (AT&T Research Labs): "Monitoring Video Quality Inside a Network" . See the chapter website for more information.
Denver, CO	8-May-2008	Prof. Rama Chellappa (University of Maryland, College Park): "Recent Advances in Face Recognition". Contact Joan Mitchell [joanm AT us.ibm.com] for more information.
Chapter	Dates	Other Upcoming Events
Dallas	11-Apr-2008	Prof. Moeness Amin (Villanova University): "Challenges in Through Wall Imaging." See detailed announcement .
Santa Clara Valley	14-Apr-2008	Dr. Tony Liu : "RF Systems Design: Fundamental Theory and WiMAX Examples." See chapter web site for more information.

If you are interested in organizing a new SPS chapter, or participating in activities in a SPS local chapter near you, please check out [Local Chapter Resources](#). Additional questions and comments can be addressed to the [SPS Chapters Committee](#).

[Back to Index](#)

6. New Initiatives and Trends

Compressive Sensing: Theory and Applications

The Shannon/Nyquist sampling theory underlies most sensing, signal acquisition, and analog-to-digital conversion protocols in use today. Over the last few years, an alternative sampling/sensing theory, known as "compressive sampling" or "compressed sensing", enables the faithful recovery of signals, images, and other data from what appear to be highly sub-Nyquist-rate samples. To find out how this is possible, check out the [Special Section on Compressive Sensing](#) in the IEEE Signal Processing Magazine March 2008 issue. This special section includes ten survey and tutorial articles, aiming to present the key ideas underlying the new compressive sensing theory as well as selected applications areas where the theory promises to have a significant impact.

Learn [Standards in a Nutshell](#) from the latest issue of the IEEE Signal Processing Magazine in March 2008 on "**The Scalable Video Coding Extension of the H.264/AVC Standard**" by H. Schwarz and M. Wien.

Interested readers may also check out the article from the [previous issue of E-Newsletter](#) on the adoption and application trends of H.264 video coding standards.

[Back to Index](#)

7. New PhD Theses

Mehrdad Fatourech (University of British Columbia, Canada):

"Design of a Self-paced Brain Computer Interface (SBCI) System Using Features Extracted from Three Neurological Phenomena," January 2008. Advised by Prof. Rabab K. Ward and Prof. Gary E. Birch.

Self-paced Brain computer interface (SBCI) systems allow individuals with motor disabilities to use their brain signals to control devices, whenever they wish. To improve the performance of SBCI systems, a novel SBCI is proposed that classifies features extracted from three neurological phenomena: Movement-related potentials, changes in the power of the Mu and Beta rhythms. We achieved an average true positive (TP) rate of 56.2% at the false positive (FP) rate of 0.1%. These results were found to be significantly lower than those achieved in other SBCI systems, where FP rates vary between 1-10%. We also show that the proposed SBCI achieves a good performance of TP of 51.8% and FP of 0.4% in the presence of eye movement artifacts. Further tests of the performance of the proposed system in a pseudo-online environment, shows an average TP rate of 48.8% at the FP rate of 0.8%.

We also proposed a framework for choosing a suitable evaluation metric for SBCI systems. This framework shows that Kappa coefficient is more suitable than other metrics in evaluating the performance during the model selection procedure.

Click [here](#) for more information about the thesis.

Interested in submitting or recommending a recent Ph.D. thesis?

Please prepare the following material and visit the [web submission site](#) to provide your input. Contact Associate Editor Prof. Alessandro Piva at <piva AT lci.det.unifi.it> if you have any questions.

- (1) thesis author's information (full name, contact, current affiliation, URL if available), Ph.D. granting institution, thesis advisor's name and contact information;
- (2) title, URL, and a short summary of the thesis (100-150 words); and
- (3) an email from the thesis advisor to Associate Editor at <piva AT lci.det.unifi.it>, confirming that the author has already successfully defended the Ph.D. thesis and that a final version of the thesis has officially been submitted according to the Ph.D. degree requirements of the author's institution.

[Back to Index](#)

8. New Books

Automatic Speech Recognition on Mobile Devices and over Communication Networks, edited by Z-H. Tan and B. Lindberg, Springer, 2008.

[Description from the publisher](#): The remarkable advances in computing and networking have sparked an enormous interest in deploying automatic speech recognition on mobile devices and over communication networks. This trend is accelerating.

This book brings together leading academic researchers and industrial practitioners to address the issues in this emerging realm and presents the reader with a comprehensive introduction to the subject of speech recognition in devices and networks. It covers network, distributed and embedded speech recognition systems, which are expected to co-exist in the future. It offers a wide-ranging, unified approach to the topic and its latest development, also covering the most up-to-date standards and several off-the-shelf systems.

Visit the book's [website](#) for more information.

A Software-Defined GPS and Galileo Receiver: A Single-Frequency Approach,

by K. Borre, D.M. Akos, N. Bertelsen, P. Rinder, and S.H. Jensen, Birkhauser Publishing, 2007.

Description from the publisher: Satellite navigation receivers are used to receive, process, and decode space-based navigation signals, such as those provided by the GPS constellation of satellites. There is an increasing need for a unified open platform that will enable enhanced receiver development and design, as well as cost-effective testing procedures for various applications. This book and companion DVD provide hands-on exploration of new technologies in this rapidly growing field.

Visit the book's [website](#) for more information.

Medical Imaging: Signals and Systems,

by Jerry L. Prince and Jonathan M. Links, Prentice Hall, 2006.

Description from the publisher: With signal processing as its foundation, this text covers the most important imaging modalities in radiology: projection radiography, x-ray computed tomography, nuclear medicine, ultrasound imaging, and magnetic resonance imaging. Organized into parts to emphasize key overall conceptual divisions, *Medical Imaging* is most appropriate for engineering students who have taken the prerequisite signals and systems courses as well as elementary probability.

An in-depth review is available in [SPM January 2008](#). Visit the [book's website](#) for detailed Table of Contents and ordering information.

Books Featured in Previous Issues [\[details\]](#)

Foundations and Applications of Sensor Management,

edited by A.O. Hero, D. Castañón, D. Cochran, and K. Kastella, Springer, 2008.

Adaptive Nonlinear System Identification: The Volterra and Wiener Model Approaches,

by Tokunbo Ogunfunmi, Springer, September 2007.

A First Course in Statistics for Signal Analysis, by W.A. Woyczynski, Birkhauser Publishing, 2006.

Embedded Signal Processing with the Micro Signal Architecture,

by Woon-Seng Gan and Sen M. Kuo, Wiley-IEEE, February 2007.

Linear Estimation and Detection in Krylov Subspaces, by G. K. E. Dietl, Springer, September 2007.

Robust Signal Processing for Wireless Communications, by F. A. Dietrich, Springer, November 2007.

Resource Allocation in Multiuser Multicarrier Wireless Systems,

by Ian C. Wong and Brian L. Evans, Springer, November 2007.

Click [here](#) to check out recent **Book Reviews** featured in the IEEE Signal Processing Magazine.

[Back to Index](#)

9. Research Opportunities

Postdoctoral Fellowship on Vision and Pattern Analysis Sabanci University, Istanbul, Turkey

The Vision and Pattern Analysis (VPA) Lab of Sabancı University (Istanbul, Turkey) invites applications for a Postdoctoral Fellowship in the area of signal processing for vehicular driving signals. The fellowship will support post-doctoral researchers who will work on driving signal analysis for the Drive-Safe project supported by National Planning Organization of Turkey. The project is a collaboration among three major universities (Sabancı University, Koc University, Istanbul Technical University) and three car companies (Fiat, Ford, Renault) in Turkey. The project involves using driving signals acquired from the vehicle in addition to visual and auditory signals to determine the fatigue and cognitive-load state of a driver. It also involves comparing real-world driving data with data collected from a simulator.

The researcher is expected to have some background in signal processing and/or pattern recognition areas. A familiarity with vehicular signals and data acquisition for vehicles is a plus. Applicants must have earned a Ph.D. degree from an accredited university. Please send a resume and a brief statement of purpose to Prof. Aytül Erçil <aytulercil AT sabanciuniv.edu> and Asst. Prof. Hakan Erdoğ•an <haerdogan AT sabanciuniv.edu>. Applications must be received by June 1st, 2008.

The VPA Lab has excellent facilities and has been involved in many international projects. Visit the lab's [website](#) for further information.

Ph.D. Research Assistantship and Postdoctoral Position in Multimedia Indexing Institut EURECOM, France

The Multimedia Communications Department of Institut EURECOM (Sophia Antipolis, France) invites applications for a Ph.D. Research Assistantship and a Postdoctoral position in multimedia indexing. The research topic is the study of automatic video and multimedia summarization. This will involve combinations of techniques for video analysis, segmentation, classification, annotation. In particular, we plan to combine region-based and local descriptor-based approaches through statistical and probabilistic models. Temporal modeling will also be studied, as will be links with other information coming from text and audio. More information on the group activity may be found on the [web site](#).

The candidate of the Ph.D. Research Assistantship should hold a Master degree in computer science or electrical engineering, with emphasis on image/video processing, computer vision, statistical modeling; and the candidate of the Postdoctoral position should hold a Ph.D. degree in these areas. Good programming skills in C or C++ are expected. Applicants should email a resume, letter of motivation, and all relevant information to Prof. Bernard Merialdo at <merialdo AT eurecom.fr>.

Institut EURECOM (<http://www.eurecom.fr>) is a graduate school and research center in communication systems founded in 1992 by EPFL (Swiss Federal Institute of Technology, Lausanne) and ENST (Ecole Nationale Supérieure des Télécommunications, Paris). It is located in Sophia-Antipolis, a major European technology park for telecommunications research and development in the French Riviera.

Research Position Featured in Previous Issue [[details](#)]

- PhD Scholarship on medical signal processing at Victoria University of Wellington, New Zealand
- Postdoctoral Position in digital forensics at Dartmouth College

Job Posting Portals

<http://careers.ieee.org/>

<http://jobs.phds.org/jobs/engineering/>

http://engineering.academickeys.com/seeker_job.php

[Back to Index](#)

About the Inside Signal Processing E-Newsletter

Since April 2007, the IEEE Signal Processing Magazine has introduced a new form of publication - the Inside Signal Processing E-Newsletter. This monthly electronic newsletter will complement the bi-monthly Magazine to serve the members in the IEEE Signal Processing Society (SPS). Through email notification and expanded coverage on its website, the E-Newsletter will provide members with timely updates on:

- society and technical committee news,
- conference and publication opportunities, new books, and Ph.D. theses,
- signal processing related research opportunities, and
- activities in industry consortiums, local chapters, and government programs.

The Inside Signal Processing E-Newsletter is a gateway to reach out to signal processing professionals around the world. We invite you to contribute and share your news with tens of thousands of SPS members through this monthly electronic publication with fast turn-around cycle. IEEE members may manage their subscription of the email notification of the E-Newsletter and related SPS announcements at [this page](#). Please bookmark <<http://enews.ieee-spm.org>> for current and archived issues of the Inside Signal Processing E-Newsletter.

Submission Instructions - Contribution for the May '08 Issue Due April 25, 2008

Visit the [web submission site](#) to provide your input. Make sure that you include your name, affiliation, and email and phone contact information. Contributions submitted by **April 25, 2008** will be considered for inclusion in the **next issue** of the Inside Signal Processing E-Newsletter. Please contact the Associate Editors of the corresponding sections as listed below if you have questions. Your comments and suggestions on the new submission system are welcome.

Contact Information of the E-Newsletter Team

Min Wu, *SPM Area Editor for E-Newsletter*, University of Maryland, College Park, USA (minwu AT umd.edu)

Huaiyu Dai, *Associate Editor*, North Carolina State University, Raleigh, USA (huaiyu_dai AT ncsu.edu)
Conference and publication news (including new books)

Pascal Frossard, *Associate Editor*, EPFL, Switzerland (pascal.frossard AT epfl.ch)
News and activities of SPS Technical Committees, industry consortiums and international standards

Alessandro Piva, *Associate Editor*, University of Florence, Italy (piva AT lci.det.unifi.it)
News and activities in local chapters and research groups (including new Ph.D. theses)

Mihaela van der Schaar, *Associate Editor*, University of California, Los Angeles, USA (mihaela AT ee.ucla.edu)
News and activities of SPS Technical Committees, industry consortiums and international standards

Nitin Chandrachoodan, *Digital Production Editor*, Indian Institute of Technology – Madras (nitin AT ee.iitm.ac.in)
Online submission and production system

Shih-Fu Chang, *SPM Editor-in-Chief*, Columbia University, New York, USA (sfchang AT ee.columbia.edu)

* Please replace "AT" in the email addresses with @.

[Back to Index](#)

Archived Past Issues of E-Newsletter

2008: [March'08](#) [January-February'08](#)

2007: [December'07](#) [November'07](#) [October'07](#) [August-September'07](#) [July'07](#) [June'07](#) [May'07](#) [April'07](#)

[Back to Index](#)

IEEE Signal Processing Magazine 2008 - Hosted by the e [Digital Video and Multimedia Lab](#) at [Columbia University](#)
Inside Signal Processing E-Newsletter Hosted by the [Communications and Signal Processing Labs](#) at [University of Maryland](#)