IEEE Signal Processing Society

IEEE Signal Processing Magazine

Archived Past Issues

Inside Signal Processing E-Newsletter

March 2009

Highlights

- Society News: World changing SP research featured in IEEE 125th anniversary celebration; Forney honored by IEEE

- Conference News: ICASSP 2009 introduces Thematic Symposia; Call for E-News Correspondent; SPAWC 2009 Call for Participation

- Publication News: Special Issue opportunities; Best Paper nomination for Trans. on Multimedia

- TC News: Activity reports by Audio & Electroacoustics TC and Speech & Language Processing TC

- Chapter and DL News : Numerous SPS Distinguished Lectures around the world

- Tech Trends on hardware design for SP systems; Image Processing for Oil Sand Mining

- New PhD Theses, New Books, and Scholarship/Post-doc Opportunities

From the E-Newsletter Team:

The Inside Signal Processing E-Newsletter invites nominations and applications from ICASSP'09 attendees to serve as **E-News Correspondents** for ICASSP 2009. These E-News Correspondents will contribute stimulating articles to inform our readers of the conference programs at ICASSP 2009. Graduate students are welcome! Click here to learn more.

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 this link.

1. Society News

Emerging, World Changing Technologies from Signal Processing and SPS Members Featured in IEEE 125th Anniversary Media Event

In honor of its 125th anniversary, IEEE spotlighted seven technologies that it believes will have world changing implications on the way humans interact with machines, the world and each other. In this high-profile media event on "Embracing Human Technology Interactions" held on 10 March 2009 in New York City, a panel of technology experts discussed emerging technologies that they believe have the potential to change the world (see webcast). Two Signal Processing Society (SPS) members and IEEE Fellows, **Rangachar Kasturi** and **K.J. Ray Liu**, are among the seven featured panelists selected by IEEE.

Prof. Rangachar Kasturi of University of South Florida discussed world changing technologies of pattern recognition. Benefiting from a variety of disciplines including signal processing, computer vision, machine learning, and artificial intelligence, pattern recognition has evolved over the past decades. Today's pattern recognition technologies enable computers to detect and recognize vehicles, humans and objects from great distances and in challenging conditions, leading to quicker, more accurate detection of possible environmental, health or security threats.

Prof. K.J. Ray Liu of University of Maryland, College Park, discussed early cancer prediction through examining the interaction between an individual's genomic and proteomic signaling. Using signal processing, his team has developed an innovative model called "ensemble dependence" to characterize the behavior pattern of genes and determine if the patient is in the transition stage to develop cancer. This information will offer early prediction of whether an individual is in danger for developing cancer and allow for preventative treatment.

Signal Processing Society Member Honored by IEEE Donald G. Fink Prize Paper Award

The IEEE Donald G. Fink Prize Paper Award is being presented to SPS Member **G. David Forney, Jr.** and his coauthor Daniel J. Costello for their paper entitled, "Channel Coding: The Road to Channel Capacity," published in the Proceedings of the IEEE, Volume 95, Number 6, June 2007.

The IEEE Donald G. Fink Prize Paper Award was established by the IEEE Board of Directors in 1979. It is presented for the most outstanding survey, review, or tutorial paper published in the IEEE Transactions, Journals, Magazines, or in the Proceedings of the IEEE between 1 January and 31 December of the

preceding year. The award is named in honor of Donald G. Fink, distinguished editor and author, who was a Past President of the IRE, and the first General Manager and Executive Director of the IEEE.

2. Conference News

ICASSP 2009 Brings Fresh Technical Program Structure with Thematic Symposia and Overview Talks

ICASSP 2009 is around the corner! The 34th flagship conference of the IEEE Signal Processing Society on acoustics, speech, and signal processing will be held this year in Taipei, the capital of picturesque island of Taiwan. The striking landscape of magnificent mountains overlooking the beautiful Pacific Ocean is a fitting backdrop to what you can expect while attending ICASSP 2009.

The organizing committee of ICASSP 2009 has taken a fresh approach to the technical program structure. Multiple sessions of different types (plenary sessions, tutorials, special sessions, panels, and regular lecture/poster sessions) are thoughtfully grouped into common technical emphases or themes. Each grouping is called a **Thematic Symposium (TS)**. An Overview Talk (OT) session is developed to accompany each of the four Thematic Symposia on Signal Processing for 4G wireless (TS-1), Network Distributed Signal Processing (TS-2), Immersive Communication (TS-3), and Multimedia Search and Retrieval (TS-4). The OT aims at enhancing cross-disciplinary interaction and broaden education by bringing together the diverse innovations and discoveries into a comprehensive overview for each theme.

These symposia make up an expansive ICASSP 2009 program to meet the need of all who travel to Taipei for this innovative conference. Check out the Complete Program Flow and Conference at a Glance.

NEW! Call for E-News Correspondents for ICASSP 2009

Going to Taipei for ICASSP 2009? The Inside Signal Processing E-Newsletter invites nominations and applications from ICASSP'09 attendees to serve as **E-News Correspondents** for ICASSP 2009. These E-News Correspondents will contribute stimulating articles to inform our readers of the conference programs at ICASSP 2009. Graduate students are welcome!

Application is due on **10 April 2009** and should include name, affiliation, contact information, and a list of technical interests (referencing the ICASSP technical program tracks); links to writing samples, such as web blogs and articles, are encouraged. Please email applications in plaintext to Associate Editor Prof. Huaiyu Dai at <huaiyu_dai AT ncsu.edu> -- no attachment please.

IEEE SPAWC 2009 Call for Participation: June 21-24, 2009, Perugia, Italy

The 2009 IEEE International Workshop on Signal Processing Advances for Wireless Communications (SPAWC 2009) will be held in Perugia, Italy. As in previous years, this workshop will feature poster presentations and invited plenary talks on recent advances in signal processing for wireless communications, as well as for communications and networking in general.

Perugia is located in central Italy, in the region of Umbria, known as the "green heart of Italy". The historical center of Perugia combines scenic beauties with both medieval and modern architectural interests. A gala banquet will take place Monday evening in a historical villa, while Tuesday afternoon will feature a special tour of the Basilica of San Francesco d'Assisi in Assisi.

Signal Proc. Conferences: Call for Papers	Location	Date	Tutorial/Special Session	Submission Deadline
IEEE Conference on Sensors (SENSORS'09)	Christchurch, New Zealand	Oct. 25-28, 2009	April 30, 2009 (Tutorial)	March 31, 2009
IEEE Workshop on Signal Processing Systems (SiPS'09)	Tampere, Finland	Oct. 7-9, 2009		April 1, 2009
IEEE International Workshop on Machine Learning for Signal Processing (MLSP'09)	Grenoble, France	Sep. 2-4, 2009		April 3, 2009
IEEE Workshop on Statistical Signal Processing (SSP'09)	Cardiff, UK	Aug. 31 - Sep. 3, 2009		April 14, 2009
IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA'09)	New Paltz, NY	Oct. 18-21, 2009		April 15, 2009
IEEE International Workshop on Multimedia Signal Processing (MMSP'09)	Rio de Janeiro, Brazil	Oct. 5-7, 2009		April 17, 2009
First IEEE International Workshop on Information Forensics and Security (WIFS'09)	London, UK	Dec. 6-9, 2009		May 22, 2009
IEEE International Conference on Signal & Image Processing Applications (ICSIPA'09)	Kuala Lumpur, Malaysia	Nov. 18-19, 2009		June 15, 2009
IEEE Workshop on Automatic Speech Recognition and Understanding (ASRU'09)	Merano, Italy	Dec. 13-17, 2009		July 15, 2009

Upcoming Signal Processing Conferences	Location	Advanced Registration	Conference Dates
8th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN'09)	San Francisco, CA	March 31, 2009	April 13-16, 2009
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP'09)	Taipei, Taiwan		April 19-24, 2009
27th Picture Coding Symposium (PCS'09)	Chicago, IL	April 3, 2009	May 6-8, 2009
IEEE International Workshop on Genomic Signal Processing and Statistics (GENSIPS'09)	Minneapolis, Minnesota	TBA	May 17-21, 2009
2nd International Conference on Immersive Telecommunications (IMMERCOM'09)	Berkeley, CA	April 1, 2009	May 27-29, 2009
10th IEEE International Workshop on Signal Processing Advances for Wireless Communications (SPAWC'09)	Perugia, Italy	TBA	June 21-24, 2009
6th IEEE International Symposium on Biomedical Imaging (ISBI'09)	Boston, MA	May 1, 2009	June 28-July 1, 2009
IEEE International Conference on Multimedia and Expo (ICME'09)	Cancún, Mexico	TBA	June 28-July 3, 2009
16th International Conference on Digital Signal Processing (DSP'09)	Santorini, Greece	May 15, 2009	July 5-7, 2009
6th IEEE International Conference on Advanced Video and Signal based Surveillance (AVSS)	Genova, Italy	June 1, 2009	Sept. 2-4, 2009
IEEE International Conference on Ultra-Wideband (ICUWB'09)	Vancouver, CA	TBA	Sept. 9-11, 2009
IEEE International Conference on Image Processing (ICIP'09)	Cairo, Egypt	TBA	Nov. 7-11, 2009

3. Publication News

Call for Nomination of Best Paper Award - IEEE Transactions on Multimedia

The IEEE Transactions on Multimedia (T-MM) invites nominations for the Transactions Best Paper Award for 2009. If you have read a paper which you feel is of exceptional merit, please consider nominating it for the award. The nominations period is open until **28 March 2009**. Any paper published in T-MM in 2006, 2007, or 2008 is eligible.

Nominations should include: (1) nominator; (2) bibliographic information for the paper; and (3) a short statement of support (less than 500 words) explaining the rationale for the nomination. Please email nominations to Sheila Hemami, T-MM Editor in Chief, at <hemami AT ece.cornell.edu>, in plain text form (no attachments please).

Judging shall be on the bases of general quality, originality, subject matter, and timeliness. The winner will be announced at ICME 2009 in June.

Signal Processing Magazine Deadlines: http://www.ieee-spm.org/?i=cfp

- Special Issue on Convex Optimization for Signal Processing - Whitepaper Due 5 May 2009

- Special Issue on Medical Imaging - Whitepaper Due 1 June 2009

- Special Issue on Video Analytics for Surveillance: Theory and Practice - Whitepaper Due 1 July 2009

- Columns/Forums rolling submission deadlines

Special Issue Deadlines

Journal of Selected Topics in Signal Processing (website)

- Model Order Selection in Signal Processing Systems – Deadline: 20 April 2009
- Speech Processing for Natural Interaction with Intelligent Environments - Deadline: 3 July 2009
- Statistical Learning Methods for Speech and Language Processing - Deadline: 7 August 2009

IEEE Transactions on Audio, Speech, and Language Processing (website)

- Voice Transformation - Deadline: 1 April 2009

IEEE MultiMedia Magazine (website)

- Mobile and Ubiquitous Multimedia – Deadline: 15 May 2009

Recent Issues of SPS Sponsored and Co-sponsored Publications

Journal Title	Latest Issue	Contents (in PDF)	Xplore Link
IEEE Signal Processing Magazine • Special Section: Waveform-Agile Sensing and Processing • Feature articles on reverse engineering gene regulatory networks, signal fidelity measures beyond MSE, and behavior modeling and forensics.	vol. 26, no. 1	PDF	Html
IEEE Transactions on Audio, Speech, and Language Processing	vol. 17, no. 3	PDF	Html
IEEE Transactions on Image Processing	vol. 18, no. 4	PDF	Html
IEEE Transactions on Information Forensics and Security	vol. 4, no. 1	PDF	Html
IEEE Transactions on Signal Processing	vol. 57, no. 4	PDF	Html
IEEE Signal Processing Letters	vol. 16	Recent Articles Html	Html
IEEE Journal of Selected Topics in Signal Processing • Visual Media Quality Assessment	vol. 3, no. 2	PDF	Html
Journal Title	Latest Issue	Contents (in PDF)	Xplore Link
IEEE Transactions on Medical Imaging	vol. 28, no. 3	PDF	Html
IEEE Transactions on Mobile Computing	vol. 8, no. 4	PDF	Html
IEEE Transactions on Multimedia	vol. 11, no. 2	PDF	Html
IEEE Sensors Journal	vol. 9, no. 4		Html
IEEE Transactions on Wireless Communications	vol. 8, no. 2	PDF	Html
Computing in Science & Engineering Magazine	vol. 11, no. 2	PDF	Html
IEEE MultiMedia	vol. 15, no. 4		Html

4. TC News

Audio and Electroacoustics Technical Committee (AE TC)

The scope of the Audio and Electroacoustics Technical Committee essentially includes all aspects of the processing of audio signals: sound production, reception, transduction, analysis, enhancement, semantics and information processing, coding, synthesis, rendition, and perception. The AE TC's activities in the first months of 2008 mainly focused on the TC review, which provided a great opportunity for systematic self-assessment and directions to further improve the standing of the TC. Learn more about the AE TC from this in-depth report.

Speech and Language Processing Technical Committee (SLTC)

The Speech and Language Processing Technical Committee started 2009 with new leadership, a number of

newly elected members, a new editing team for the TC's Newsletter, and a new TC website. Learn more about the activity updates of the SLTC from this exclusive report.

5. Chapter News and Distinguished Lectures

Do you know? IEEE SPS provides travel support for local chapters to invite **SPS Distinguished Lecturers**. See a list of SPS 2008 and 2009 Distinguished Lecturers, and check each issue of the E-News for upcoming SPS Distinguished Lectures near you.

Chapter	Dates	SPS Distinguished Lectures
Argentina	6-April-2009	**Prof. Petar M. Djuric** (SUNY Stony Brook): "Simulation and Stochastic Analysis of Complex Biochemical Systems" and "The particle filtering methodology in signal processing", in Buenos Aires, at ITBA (Buenos Aires Institute of Technology) . Contact Chapter Chair Roxana Saint-Nom [saintnom AT gmail.com] for more information.
Chicago, IL	10-April-2009	by **Prof. Lang Tong** (Cornell University). Details to be announced. Contact Chapter Chair Dr. Dan Schonfeld [dans AT uic.edu] for more information.
Dallas, TX	25-March-2009	**Prof. Rama Chellappa** (University of Maryland, College Park): "Recent Advances in Face Recognition". See the announcement for more information.
Denver, CO	25-March-2009	**Prof. Petar M. Djuric** (SUNY Stony Brook): "The particle filtering methodology in signal processing". See the announcement for more information.
Hong Kong	27-28 April 2009	by **Prof. Nikos D. Sidiropoulos** (Technical University of Crete, Greece). Details to be announced. Contact Brian Mak [mak AT cse.ust.hk] for more information.
Japan	April 2009	by **Prof. Walter Kellermann** (University of Erlangen-Nuremberg, Germany). Details to be announced. Contact Akihiko Ken Sugiyama [aks@ak.jp.nec.com] for more information.
Princeton/ Central Jersey	2-April-2009	by **Prof. Charles Bouman** (Purdue University). Details to be announced. Contact Chapter Chair Dr. Hui Cheng [h.cheng AT ieee.org] for more information.
Princeton/ Central Jersey	12-May-2009	**Dr. Amy Rebman** (AT&T Labs-Research): "Monitoring Video Quality Inside a Network". See the announcement for event details.
Santa Clara Valley	22-June-2009	by **Prof. Sergios Theodoridis** (University of Athens, Greece). Details to be announced. See chapter web site for updates.
Turkey	11-April-2009	by **Prof. Renato De Mori** (Universite d'Avignon, France). Details to be announced. Contact Chapter Chair Yasemin Yardimci [yardimy AT ii.metu.edu.tr] for more information.
Washington	3-April-2009	**Prof. Charles Bouman** (Purdue University): "Model Based Imaging: In Search of the Free Lunch." At 2pm, University of Maryland, College Park. See the announcement for event details.
Chapter	Dates	Other Upcoming Events
Central Texas	19-March-2009	**Tom Cuthbert** (ClickForensics Inc.): "Click Quality: Ensuring Value for Growing Online Market." See chapter web site for more information.
Northern Virginia	25-March-2009	**Prof. Joseph Picone** (Mississippi State University): "Nonlinear Statistical Modeling of Speech." See the announcement for more information.

Northern Virginia & Washington	31-March-2009	**Prof. Ramesh Harjani** (University of Minnesota): "Software Defined Radios: The Semi-Analog Way." See the [announcement](#) for more information.
Santa Clara Valley	25-March-2009	**Dr. Hassan Yaghoobi** (Intel Corporation): "WiMAX Update: IEEE 802.16m and WiMAX Future." See the [announcement](#) for more information.
Singapore	April 2009	by **Prof. Louis Scharf** (Colorado State University) and by **Prof. Sheila Hemami** (Cornell University). Details to be announced. Contact Tan Yap Peng [EYPTan AT ntu.edu.sg] for updates.

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.

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6. Technical Initiatives, Trends, and Standards

Interested in learning **advances, challenges, and future trends in hardware design and implementation of signal processing systems**? Check out the expert opinions from the November 2008 **DPS Forum** of the IEEE Signal Processing Magazine.

Image Processing for the Oil Sands Mining Industry

In a world that is in increasing needs for energy to fuel its economic development, everyone is keenly aware of the world's tightening oil supply. However, few people know that the western Canadian province of Alberta has oil reserves of 174 billion barrels that is second only to Saudi Arabia. Alberta's oil is extracted from oil sands and requires technological innovation to improve efficiency, reduce cost, and minimize the environmental impact.

Motivated by the July 2008 report on the CNN's morning TV show "[American Morning](#)" about Alberta's oil sands, the "**In the Spotlight**" column of November 2008 issue of the IEEE Signal Processing Magazine featured an article by Hong Zhang that discusses contributions of image processing for oil sands mining.

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7. SP Education and Resources

DSP Tips and Tricks featured in the IEEE Signal Processing Magazine

- "Slope Filtering: An FIR Approach to Linear Regression" by C.S. Turner ([November 2008](#))

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8. New Ph.D. Theses

Weifeng Liu (University of Florida, USA):
"**Adaptive Filtering In Reproducing Kernel Hilbert Spaces**," August 2008.
Advised by Prof. Jose C. Principe

The theory of linear adaptive filters has reached maturity, unlike the field of nonlinear adaptive filters. This work developed systematically for the first time a class of on-line learning algorithms in reproducing kernel Hilbert spaces (RKHS). The reproducing kernel Hilbert space provides an elegant means of obtaining nonlinear extensions of linear algorithms expressed in terms of inner products using the so-called kernel trick. We presented kernel extensions for three well-known adaptive filtering methods, namely, the least-mean-square, the affine-projection-algorithms, and the recursive-least-squares, studied their properties and validated them in real applications.

Click here to access the thesis by the author.

Antoni Morell (Universitat Politècnica de Catalunya, Spain):
"**Convex Decomposition Perspective on Dynamic Bandwidth Allocation and Applications**," September 2008.
Advised by Prof. Gonzalo Seco-Granados

Traditional multiple access schemes have been designed either connection-oriented or contention-oriented. Modern systems, such as the digital satellite communications standard DVB-RCS or the broadband wireless access WiMAX, have implemented a multiple access technique where users request for transmission opportunities and receive grants from the network, therefore requiring dynamic bandwidth allocation (DBA) solutions. In this Ph.D. dissertation, we first explore the mathematical foundation through the convex optimization framework to coordinate the distinct layers of the OSI protocol stack as well as the distinct nodes within the network. We then propose a novel method of the coupled decomposition that shows significant improvement in terms of iterations needed to converge to the optimal solution, as well as other practical advantages including signaling reduction and no manual adjustment required. These fundamental results are successfully applied to the DBA mechanisms within the DVB-RCS and WiMAX framework.

Click here to access the thesis by the author.

Effrosyni Kokiopoulou (EPFL, Switzerland):
"**Geometry-aware Analysis of High-dimensional Visual Information Sets**," December 2008.
Advised by Prof. Pascal Frossard

This thesis proposes new methods for the analysis of visual pattern manifolds based on sparse geometric expansions and graph models. The thesis' contribution is three-fold; (i) it leverages the use of sparse representations towards invariance with respect to pattern geometric transformations as well as supervised dimensionality reduction, (ii) it proposes graph-based methods for pattern classification with multiple observations in both centralized and distributed environments and (iii) it designs fast consensus methods for distributed data analysis in multimedia sensor networks. This thesis work is the first one to solve optimally the image registration problem under transformations consisting of a synthesis of translation, rotation and scaling.

Click here to access the thesis by the author.

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 <alessandro.piva AT 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 <alessandro.piva AT 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.

9. New Books

Pattern Recognition, 4th Edition,
by Sergios Theodoridis and Konstantinos Koutroumbas, Elsevier, 2009.

Description from the publisher: This book considers classical and current theory and practice, of both supervised, and unsupervised and semi-supervised pattern recognition, to build a complete background for professionals and students of engineering. The authors have provided an up-to-date, self-contained volume encapsulating this wide spectrum of information. The very latest methods are incorporated in this edition: semi-supervised learning, combining clustering algorithms, and relevance feedback.

Visit the book's website for table of contents and ordering information.

Handbook of Biosensors and Biochips,
Edited by Robert S. Marks, David C. Cullen, Isao Karube, Christopher R. Lowe, and Howard H. Weetall, Wiley, 2007.

Description from the publisher: Biosensors and biochips are part of the huge and rapidly evolving areas of biomolecular and bioanalytical sciences. The market for biosensors and biochips is interdisciplinary and growing and has applications in a number of core research areas. With contributions from experts in the field, the Handbook of Biosensors and Biochips provides an essential reference, underpinning many of the applications used in medical diagnostics, environmental control and pharmaceutical and food industries. It presents an invaluable addition for those in both academia and industry.

Visit the book's website for more information.

Books Featured in Previous Issues [details]

Microscope Image Processing,
by Qiang Wu, Fatima Merchant and Kenneth Castleman, Elsevier, 2008.

Partial-Update Adaptive Signal Processing,
by Kutluyil Dogancay, Elsevier, 2009.

Advanced FPGA Design: Architecture, Implementation, and Optimization,
by Steve Kilts, Wiley-IEEE Press, 2007.

Image Fusion: Algorithms and Applications,
by Tania Stathaki, Elsevier, 2008.

A Wavelet Tour of Signal Processing: The Sparse Way, 3rd Edition
by Stephane Mallat, Elsevier, 2009.

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10. Research Opportunities

**PhD Scholarship on Neuroimaging based Brain Network Comparison
at The University of Groningen, The Netherlands**

The Institute for Mathematics and Computing Science of the University of Groningen has an opening for a 4-year PhD scholarship on brain network comparison. Brain imaging techniques such as MRI and EEG are useful to study brain structure and function. A topic of active interest is the comparison of brain networks under different experimental conditions, or comparison of networks between healthy and patient groups. The goal of this project is the analysis and visualization of brain connectivity networks, covering both fundamental methodologies and application studies. Fundamental problems to be addressed are: reconstruction and quantitative comparison of EEG/fMRI activation networks; network architecture under perturbation; integration of network exploration and analysis algorithms with graph visualization tools. The methods will be tested in application studies on aging and cognition.

Supervisors are Prof. dr. J.B.T.M. Roerdink (Computing Science) and Prof.dr.ir. N.M. Maurits (Neurology). Candidates should send their well motivated letter of application, a curriculum vitae, a list of courses and grades, a writing sample (e.g. Master's thesis), and the names and contact information of two referees to the email address at [j.b.t.m.roerdink AT rug.nl]. The deadline for applications is May 1, 2009. Visit this website for more details.

Research Position Featured in Previous Issue [details]

- Two Postdoctoral Research Fellowships in Signal Processing/Communications at The University of Newcastle, Australia

- Post-doctoral / Research Associate position in inverse imaging for semiconductor manufacturing at University of Hong Kong

- Ph.D. position in mathematical statistics - reliable detection of explosives and narcotics at Lund University, Sweden

- Post-doctoral research fellow on image quality assessment at University of Nantes, France

Job Posting Portals

http://careers.ieee.org/

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

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

Interested in advertising graduate scholarship, post-doc positions, or funding opportunities?
Please prepare a short text of the announcement (150-200 words) and visit the web submission site to enter your input. It is recommended to include the deadline or valid period of the announcement, and an URL for more information such as group/research description and detailed qualification expectation in English. Contact Associate Editor Prof. Alessandro Piva at <alessandro.piva AT unifi.it> if you have any questions. Note that advertisements on faculty and other full-time position are in the domain of IEEE job advertisement (http://careers.ieee.org/g/); the IEEE Signal Processing Magazine also provides opportunities for paid advertisement.

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Contributors of articles in this issue:

Giuseppe Di Fabbrizio (SLTC), Walter Kellermann (AE TC), and Geert Leus (SPAWC'09).

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 next issue is due April 5, 2009

Visit the web submission site to provide your input. Make sure that you include your name, affiliation, email and phone contact information. Contributions submitted by **April 5, 2009** 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 (alessandro.piva AT unifi.it)
   News and activities in local chapters and research groups (including new Ph.D. theses & research opportunities)

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

Li Deng, *SPM Editor-in-Chief*, Microsoft Research, Redmond, WA, USA (deng AT microsoft.com)

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

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In-Depth E-News Article

Activity Report from the Audio and Electroacoustics Technical Committee (AE TC)

by Walter Kellermann (TC Chair)

The scope of the Audio and Electroacoustics Technical Committee essentially includes all aspects of the processing of audio signals: sound production, reception, transduction, analysis, enhancement, semantics and information processing, coding, synthesis, rendition, and perception. The EDICS for the IEEE Transactions on Audio, Speech, and Language Processing provides further details, with the intent for a broad coverage of audio-related topics and emerging fields.

The AE TC's activities in the first months of 2008 mainly focused on the TC review, which provided a great opportunity both for systematic self-assessment and for a smooth hand-over of responsibilities from the previous chair, Michael Goodwin, to the new chair, Walter Kellermann. The very positive results of the TC review not only confirmed the appropriateness of the established TC policies, but also helped identify several ways to further improve the standing of the TC. Thanks to a major effort of TC member Patrick Naylor, a new AE-TC website was established within the IEEE SPS framework.

Numerous technical distinctions have been awarded to members of the AE TC in 2008. Jingdong Chen and Arden Huang were co-recipients of the prestigious SPS Best Paper Award. Michael Brandstein was elevated to IEEE Fellow. As a representative of the AE-TC, Walter Kellermann continued to serve as a Distinguished Lecturer for the SPS in 2008. Upon nomination from the AE-TC, TC member Shoji Makino was appointed as a Distinguished Lecturer for 2009-2010. Recently, the AE TC successfully nominated the paper "A Multipitch Analyzer Based on Harmonic Temporal Structured Clustering" by Hirokazu Kameoka, Takuya Nishimoto, and Shigeki Sagayama for a 2008 SPS Young Author Best Paper Award.

The AE TC has been actively involved in conference activities. Several TC members played leading roles in the two major workshops for acoustic signal processing in 2008: the Joint Workshop on Hands-free Speech Communication and Microphone Arrays (HSCMA'08) in Trento, Italy, which is co-sponsored by IEEE SPS and co-chaired by Walter Kellermann and Maurizio Omologo; and International Workshop on Acoustic Echo and

Noise Control (IWAENC'08), Seattle, WA, organized by Steve Grant and colleagues. For ICASSP 2009 to be held in Taipei, Taiwan, in April 2009, the AE TC has reviewed 184 papers, 84 of which will be presented in 4 lecture and 5 poster sessions. In addition, a special session chaired by Tomohiro Nakatani and Walter Kellermann will present new results on handling reverberant speech, one of the TC's core research areas.

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Activity Updates from the Speech and Language Processing Technical Committee

by Giuseppe Di Fabbrizio (SLTC Newsletter Editor)

The Speech and Language Processing Technical Committee (SLTC) started 2009 with new leadership. Steve Young (University of Cambridge, UK) has been elected to serve as TC Chair for a two-year term (2009-2010). Steve succeeds the outgoing chair, Roberto Pieraccini (SpeechCycle, Inc.). The SLTC would like to thank Roberto for his constant support and hard work, and look forward to a productive and exciting new mandate led by Steve. Also starting on January 2009, 14 SLTC members concluded their three-year term and 22 new members have been elected to join the TC for 2009-2011 (see here for details).

The SLTC thanks the contribution from Mike Seltzer, Stephen Cox, and Brian Mak, who completed their three-year terms as editors for the SLTC Newsletter in December 2008. The Winter 2009 SLTC Newsletter is the first edition produced by the next slate of editors, Jason Williams, Pino Di Fabbrizio, and Chuck Wooters. The Winter 2009 Newsletter is also the first issue on the IEEE Signal Processing Society (SPS) website. Based on the SPS web content management system, the new site brings a modern navigation interface and great tools for the editors to coordinate the editorial activities. Check out the latest newsletter featuring 11 articles and always up-to-date "Calls for Papers" and "Job Advertising" sections. Contributions are always welcome.

As ICASSP 2009 is quickly approaching, do not forget to customize your papers itinerary schedule at this link. This year's technical program is particularly rich and interesting, including thematic symposia to encourage collaborations across technical areas. Later this year, plan to attend the workshop on Automatic Speech Recognition and Understanding (ASRU 09) to be in Merano, Italy in December 2009.

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