IEEE

**Circuits and Systems
Society**

Annual Report of the Digital Signal Processing (DSP) Technical Committee 2012-2013

Chairman: Prof. Moncef Gabbouj
Secretary: Prof. Dr. Wei-Ping Zhu
Past-Chairman: Prof. Yong Lian

Introduction
The Digital Signal Processing Technical Committee (DSP TC) of the IEEE Circuit and Systems Society has been very active in 2012-2013. The following report highlights the members' activities in various areas of interest to CASS community. The members participated actively in ISCAS 2012 as well as ISCAS 2013; the latter activities are detailed in section 2. They have been involved in various capacities in a large number of conferences listed in section 3. Eight books/book chapters have been authored by members of the TC as detailed in section 4. A total of 35 plenary and invited lectures in international conferences, workshops, universities and industries, have been given by members of the TC as outlined in Section 5. Sections 6 and 7 of the report summarize the various editorial and IEEE services carried out by members of the TC. The DSP TC technically co-sponsored many conferences and workshops, the full list is provided in section 8. Additional activities carried out by members of the TC are highlighted in section 9. Finally, the report ends with news from members of the TC and prestigious distinctions obtained in 2012-2013. We are proud of all the distinctions and awards received by the members. In particular, we wish to congratulate Kai-Kuang Ma who has recently been elevated to IEEE Fellow, and Tokunbo Ogunfunmi who was appointed Distinguished Lecturer for IEEE Circuits and Systems Society for 2012-2013. Congratulations!

1   DSP TC Meeting

The 2012 DSP TC Annual Meeting was held at the COEX Convention Center, Seoul, South Korea on Wednesday May 23, 2012, during the 2012 IEEE International Symposium on Circuits and Systems, Seoul, South Korea. The minutes of the meeting contain a detailed report of the items discussed and decisions taken during the meeting as well as the list of attendees.

2   2013 IEEE ISCAS 2013

IEEE ISCAS 2013 is held during May 19-22, 2013, in Beijing, China. Moncef Gabbouj, Wei-Ping Zhu and Tapio Saramäki served as the DSP Track Co-Chairs. The Review Committee Members of the DSP Track involved the following members of the DSP TC:

Oscar Au, M. Chakraborty, Lim Yong Ching, Linda DeBrunner, Karen Eguiazarian, Moncef Gabbouj, Oscar Gustafsson, Xinping Huang, Gwee Bah Hwee, Håkan Johansson, Izzet Kale, Lina Karam, Masayuki Kawamata, Ted Kok, H.K. Kwan, Raija Lehto, Zhiping Lin, Wu-Sheng Lu, Kai-Kuang Ma, Pramod Kumar Meher, Yoshikazu Miyanaga, Truong Nguyen, Behrouz Nowrouzian, Tokunbo Ogunfunmi, Soontorn Oraintara, Tapio Saramaki, Wan-Chi Siu, Akira Taguchi, David Tay, Chien-Cheng Tseng, Yajun Yu, Wei-Ping Zhu.

Non-DSP TC member reviewers also helped out. They include Drs. Faouzi Alaya Cheikh, Amel Ben Azza, Azeddine Beghdadi, Fehmi Chebil, Shaikh A. Fattah, Lazhar Khriji, Aggelos Pikrakis, S. M. Mahbubur Rahman, Corneliu Rusu, Bertram Shi, Ioan Tabus, Mejdi Trimeche, and Yao Wang. Most DSP sessions at ISCAS 2013 are chaired by members of the DSP TC. We are grateful for the DSP TC members mentioned above and the non-members who helped with the review of papers submitted to the DSP track of ISCAS 2013. In the DSP track, 163 papers were submitted, of which 80 papers have been accepted and allocated to 12 oral and 4 poster sessions with 5 papers, each. This corresponds to roughly 50% acceptance rate in the DSP track.

3   Other conferences where DSP TC members were involved

- OC Au, Technical Program Committee, IEEE Int. Sym. On Multimedia (ISM), Anaheim, CA, USA. (Also Best Paper Award Chair).
- OC Au, Technical Program Committee, Packet Video Workshop (PV), San Jose, CA, USA, 2013.
- OC Au, Technical Program Committee, Int. Sym. On Visual Communication and Image Processing (VCIP), Kuching, Malaysia, 2013.
- OC Au, Technical Program Committee, APSIPA Annual Summit and Conference (ASC), Tainan, Taiwan, 2013. (Also Track Chair)
- OC Au, Technical Program Committee, Pacific-rim Symposium on Image and Video Technology (PSIVT), Guanajuato, Mexico, 2013.
- OC Au, Technical Program Committee, IEEE Int. Workshop on Multimedia Signal Processing (MMSP), Sardinia, Italy, 2013.
- OC Au, Technical Program Committee, IEEE Int. Symposium of Image, Signal Processing and Analysis (ISPA), Trieste, Italy, 2013.
- OC Au, Technical Program Committee, IEEE Int. Conf. on Image Processing (ICIP), Melbourne, Australia, 2013.
- OC Au, Technical Program Committee, IEEE Int. Conf. on Signal Processing, Communications and Computing (ICSPCC), Dalian, China, 2013.
- OC Au, Technical Program Committee, IEEE Int. Conf. on Cyber, Physical and Social Computing (CPSCOM), Beijing, China, 2013.
- OC Au, Technical Program Committee, IEEE Int. Conf. on Multimedia and Expo (ICME), Melbourne, Australia, 2013.
- OC Au, Technical Program Committee, IEEE China Summit & International Conference on Signal and Information Processing (ChinaSIP), Beijing, China, 2013. (Also Panel Chair)
- OC Au, Technical Program Committee, IASTED Int. Conf. on Signal and Image Processing (SIP), Banff, Canada, 2013.
- OC Au, Technical Program Committee, IEEE Image, Video and Multidimensional Signal Processing Workshop (IVMSP), Seoul, Korea, 2013.
- OC Au, Technical Program Committee, European   Workshop on Visual Information Processing (EUVIP), Paris, France, 2013.
- OC Au, Technical Program Committee, IEEE Int. Sym. On Circuits and Systems (ISCAS), Beijing, China, 2013. (Also Demo Chair)
- OC Au, Technical Program Committee, IEEE Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP), Vancouver, Canada, 2013. (Also Track Chair)
- OC Au, Technical Program Committee, Pacific-rim Conference on Multimedia (PCM), Singapore, Singapore, 2012.
- OC Au, Technical Program Committee, SIGGRAPH Asia, Singapore, Singapore, 2012.
- OC Au, Technical Program Committee, IEEE Int. Workshop on Information Forensics and Security (WIFS), Guangzhou, China, 2012.

- OC Au, Technical Program Committee, Int. Conf. on Signal Processing, Image Processing and Pattern Recognition (SIP), Jeju, Korea, 2012.
- OC Au, Technical Program Committee, APSIPA Annual Summit and Conference (ASC), Hollywood, CA, USA, 2012. (Also Panel Chair)
- OC Au, Technical Program Committee, Int. Sym. On Visual Communication and Image Processing (VCIP), San Diego, CA, USA, 2012. (Also Panel Chair)
- OC Au, Technical Program Committee, 3DTV Conference (3DTV-CON), Zurich Switzerland, 2012.
- OC Au, Technical Program Committee, IEEE Int. Workshop on Multimedia Signal Processing (MMSP), Banff, Canada, 2012.
- OC Au, Track Chair/Technical Program Committee, IEEE Int. Conf. on Image Processing (ICIP), Orlando, FL, USA, 2012. (Also Special Session Chair)
- OC Au, Technical Program Committee, Int. Conf. on Signal Processing and Multimedia Application (SIGMAP), Rome, Italy, 2012.
- OC Au, Technical Program Committee, IEEE Int. Conf. on Multimedia and Expo (ICME), Melbourne, Australia, 2012.
- OC Au, Technical Program Committee, IEEE Int. Conf. on Audio, Language and Image Processing (ICALIP), Shanghai, China, 2012.
- OC Au, Technical Program Committee, IAST Int. Conf. on Signal and Image Processing (SIP), Honolulu, Hawaii, USA, 2012.
- OC Au, Technical Program Committee, IEEE Int. Sym. On Circuits and Systems (ISCAS), Seoul, Korea, 2012.
- OC Au, Technical Program Committee, Picture Coding Symposium (PCS), Krakow, Poland, 2012.
- OC Au, Technical Program Committee, Packet Video Workshop (PV), Munich, Germany, 2012.
- OC Au, Technical Program Committee, Int. Conf. on Communications (ICT), Jounieh, Lebanon, 2012.
- OC Au, Technical Program Committee, IEEE Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP), Kyoto, Japan, 2012.
- OC Au, Technical Program Committee, IEEE Int. Conf. on Emerging Signal Processing Applications (ESPA), Nevada, USA. 2012
- Mrityunjoy Chakraborty was the TPC co-chair at the Asia Pacific Signal and Information Processing Association (APSIPA) Annual Summit and Conference at LA during December 3-6, 2012, where he also organized a special session (along with the DSP TC member, Prof. Tokunbo Ogunfunmi) "Recent Advances in Sparse and Nonlinear Adaptive Signal Processing".
- Tian-BoDeng, IEEE ISCIT'12 Technical Program Committee (TPC) Member
- Linda DeBrunner, Publicity Chair and Steering Committee, Asilomar Conference on Signals, Systems, and Computers
- Moncef Gabbouj, Technical Program Chair, 5th International Symposium on Communications, Control and Signal Processing, ISCCSP 2012, *Rome, Italy, 2-4 May* 2012
- Moncef Gabbouj, Member of the Steering Committee, 11th International Content Based Multimedia Indexing Workshop (CBMI 2013), 17 and 19 June 2013, Veszprém, Hungary
- Moncef Gabbouj, member of TPC, 4th European Workshop on Visual Information Processing, 10-12 June 2013, Paris, France.
- Moncef Gabbouj, Program Committee (Area Chair), 18th Scandinavian Conference on Image Analysis, Espoo, Finland, 17-20 June, 2013.
- Moncef Gabbouj, International Program Committee member, International Conference on Digital Signal Processing, DSP 2013, Santorini, Greece, 1-3 July 2013.

- Moncef Gabbouj, TPC member, 2013 IEEE Symposium Series on Computational Intelligence, 16-19 April, 2013, Singapore.
- Mohsin Jamali, Technical Program Committee Chair, International Conference on Multimedia Signal Processing & Communication Technologies
- Håkan Johansson, Member of the Program Committee of the International Symposium on Image and Signal Processing and Analysis (ISPA), 2012 and 2013.
- Håkan Johansson, Member of the Technical Program Committee of the IEEE GLOBECOM conference, 2012 and 2013.
- Håkan Johansson, Member of the Technical Program Committee of the Signal Processing and Applications (SPA) track of Mosharaka International Conference on Communications and Signal Processing (MIC-CSP), 2012.
- Håkan Johansson, Member of the Technical Program Committee of the IEEE International Conference on Communications (ICC), 2012 and 2013.
- Håkan Johansson, Member of the Technical Program Committee of the First IEEE International Conference on Communications in China: Signal Processing for Communications (ICCC'12 - SPC), 2012.
- Håkan Johansson, Technical Program Committee Reviewer for the IEEE Symposium on Industrial Electronics and Applications, 2012.
- Håkan Johansson, Member of the Technical Program Committee of the IEEE Wireless Communications and Networking Conference (WCNC), 2013.
- Ted Kok, Technical Program Committee, 2012 IEEE Electron Device and Solid State Circuit Conference
- Ted Kok, Review Committee Member of 2012 IEEE International Conference on Image Processing 2012
- Ted Kok, Technical Program Committee, IEEE International Conference on Electronics, Circuits, and Systems 2012
- Ted Kok, Tutorial Speaker at 2012 IEEE Electron Device and Solid State Circuit Conference, "CMOS Voltage Reference"
- Ted Kok, Tutorial Speaker at 2012 International Conference on Signal processing, Communications and Computing, "Precoder-Equalizer Communication Systems"
- H. K. Kwan, Technical Program Committee Member, Signal Processing Track, International Conference on Multimedia, Signal Processing and Communication Technologies (IMPACT 2013), Aligarh, India, 23-25 November 2013.
- H. K. Kwan, Program Committee Member, IEEE International Conference on Intelligent Control and Information Processing (ICICIP 2013), Beijing, China, 9-11 June 2013.
- H. K. Kwan, Program Committee Member, ISCB Great Lakes Bioinformatics Conference (GLBIO 2013), Carnegie Mellon University and University of Pittsburgh, Pittsburgh, Pennsylvania, USA, 14-16 May 2013.
- H. K. Kwan, Program Committee Member, Third IEEE International Conference on Information Science and Technology (ICIST 2013), Yangzhou, Jiangsu, China, 23-25 March 2013.
- H. K. Kwan, Constantinides International Workshop on Signal Processing (CIWSP 2013), Imperial College, London, UK, 25 January 2013.
- H. K. Kwan, Review Committee Member, Digital Signal Processing Track, IEEE International Symposium on Circuits and Systems (ISCAS 2013), Beijing, China, 19-23 May 2013.
- H. K. Kwan, ICACI 2012: Program Committee Member, Fifth IEEE International Conference on Advanced Computational Intelligence (), Nanjing, China, 18-20 October 2012.
- H. K. Kwan, International Program Committee Member, North America Simulation Technology Conference (NASTEC 2012), Digipen Institute of Technology, Redmond, USA,

16-18 August 2012.

- H. K. Kwan, Program Committee Member, International Conference on Neural Information Processing (ICONIP 2012), Doha, Qatar, 26-29 November, 2012.
- H. K. Kwan, International Program Committee Member, 13th WSEAS International Conference on Neural Networks (NN 2012), "G. Enescu" University, Iasi, Romania, 13-15 June 2012
- H. K. Kwan, Program Committee Member, Great Lake Bioinformatics Conference (GLBIO 2012), University of Michigan - Ann Arbor, Michigan, USA, 15-17 May 2012.
- H. K. Kwan, Program Committee Member, International Symposium on Neural Networks (ISNN 2012), Shenyang, China, 11-14 July 2012.
- H. K. Kwan, Review Committee Member, Digital Signal Processing Track, IEEE International Symposium on Circuits and Systems (ISCAS 2012), COEX, Seoul, South Korea, 20-23 May 2012.
- Pramod Kumar Meher, Technical Program Committee Member of the 18th IEEE International Conference on Parallel and Distributed Systems (ICPADS 2012) for the track "Multicore Computing and Parallel/Distributed Architecture", Singapore, 3-5, December, 2012
- Pramod Kumar Meher, Review Committee Member of 2012 IEEE International Symposium on Circuits and Systems, (ISCAS'12), Seoul, Korea, May-June 2012.
- Pramod Kumar Meher, Technical Program Committee Member of the 25th IEEE International SoC Conference (SOCC), Niagara Falls, New York, USA, 12-14 September, 2012.
- Pramod Kumar Meher, Track Chair of "Digital Circuits, Computer Arithmetic, Embedded Electronics and System Architectures" Track for the 55th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS 2012) Boise, Idaho, USA, 5-8 August 5-8, 2012.
- Yong Lian, General Chair, 19th Asia and South Pacific Design Automation Conference (ASP-DAC'2014), Jan 2014, Singapore
- Yong Lian, Steering Committee Member, 2013 IEEE Life Science Grand Challenges Conference, Dec. 2013, Singapore
- Yong Lian, Technical Program Committee Member, the IEEE Asian Solid-State Circuits Conference (A-SSCC'2013), Nov. 2013, Singapore.
- Yong Lian, Technical Program Committee Member, the 10th International Conference on ASIC (ASICON'2013), Oct. 2013, Shenzhen, China.
- Yong Lian, Technical Program Committee Member, the 39th European Solid-State Circuits Conference, ESSCIRC 2013, Sept. 2013, Bucharest, Romania.
- Yong Lian, Technical Program Co-Chair, 2013 IEEE Symposium on Circuits and Systems (ISCAS'2013), May 2013, Beijing, China.
- Yong Lian, Co-Chair of International Advisory Committee, 2013 IEEE MTT-S International Microwave Workshop Series on RF and Wireless Technologies for Biomedical and Healthcare Applications, Aug 1-3, 2013, Singapore.
- Yong Lian, Track Chair, 2012 IEEE International Conference on Electronics, Circuits, and Systems (ICECS 2012), Dec 9-12, Seville, Spain.
- Yong Lian, International Liaison, 2012 IEEE Biomedical Circuits and Systems Conference, Nov 28-30, Hsinchu, Taiwan.
- Yong Lian, Technical Program Committee Member, the 38th European Solid-State Circuits Conference ESSCIRC'2012, September 17-21, 2012, Bordeaux, France.
- Yong Lian, Technical Program Committee Member, the 9th International Conference on ASIC (ASICON 2011), October 25-28, 2011, Xiamen, China.
- Daniel Lun, Review Committee Member, 2012 Visual Communications and Image Processing, San Diego, 2012.

- Daniel Lun, Review Committee Member, 2012 IEEE Int. Symposium on Circuits and Systems, Seoul, 2012.
- Daniel Lun, Technical Program Member, 2013 Constantinides International Workshop on Signal Processing, UK, 2013.
- Daniel Lun, Technical Co-chair, 2015 APSIPA ASC, Hong Kong, 2015.
- Yoshikazu Miyanaga, Tutorial co-Chair, IEEE International Conference on Acoustics, Speech, and Signal Processing 2012 (IEEE ICASSP 2012), March 25-30, 2012, Kyoto, Japan.
- Yoshikazu Miyanaga, General Chair, IEICE International Technical Conference on Circuits/Systems, Computers and Communications 2012 (IEICE ITC-CSCC 2012), July 15 - 18, 2012, Sapporo, Japan.
- Yoshikazu Miyanaga, General co-Chair, International Symposium on Communications and Information Technologies (ISCIT 2012, IEEE), Gold Coast, Australia, October 2 - 5, 2012.
- Yoshikazu Miyanaga, International Advisory Board Member, TPC Track Chair, IEEE TENCON 2012, Cebu, Philippines, November 19 – 22, 2012.
- Yoshikazu Miyanaga, General co-Chair, 2011 International Symposium on Multimedia and Communication Technology (ISMAC 2013), Holiday Inn, Bangkok, Thailand, February 4 - 5, 2013.
- Yoshikazu Miyanaga, Honorary Chair, The International Electrical Engineering Congress 2013 (iEECON2013), Chiangmai, Thailand, March 13 – 15, 2013.
- Yoshikazu Miyanaga, Honorary Chair, International Symposium on Communications and Information Technologies (ISCIT 2013, IEEE), Samui Island, Thailand, September 4 – 6, 2013.
- Tokunbo Ogunfunmi, Co-organized an invited special session titled "Speech Processing and Speech Recognition" and contributed to a special session titled "Voice Coding" at the 2012 IEEE Asilomar Conference on Signals, Systems and Computers, Asilomar, CA, Nov. 2012
- Tokunbo Ogunfunmi, Co-organized and chaired an invited special session titled "Recent Advances in Sparse and Nonlinear Speech Processing and Speech Recognition" at the 2012 APSIPA Conference, Hollywood, CA, Dec. 2012
- Akira Taguchi, Special Session co-Chair, IEEE International Conference on Acoustics, Speech, and Signal Processing 2012 (IEEE ICASSP 2012), March 25-30, 2012, Kyoto, Japan.
- Akira Taguchi, Technical Program co-Chair, IEEE Region 10 Humanitarian Technical Conference 2013 (IEEE R10-HTC2013), Aug. 26-29, Sendai, Japan
- Akira Taguchi, General Chair, 2013 International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS 2013, IEEE), Okinawa, Japan, November 12-15, 2013.
- David Tay served as a Review Committee Member for 2012 IEEE International Conference on Image Processing (ICIP 2012);
- David Tay, Program Committee Member of the 2012 5th International Congress on Image and Signal Processing (CISP 2012), 16-18 October 2012, Chongqing, China;
- David Tay, Review Committee Member 2012 International Conference on Multimedia and Signal Processing (CMSP'12), 7-9 December, Shanghai, China.
- Thanos Stouraitis, General co-chair, ISCCSP 2014, May 2014, Athens , Greece
- Prof. Wei Xing Zheng served as a Technical Program Committee Member of the 24th Chinese Control and Decision Conference (CCDC'2012), Taiyuan, Shanxi, China, May 2012.
- Prof. Wei Xing Zheng served as an International Program Committee Member of the 16th IFAC Symposium on System Identification (SYSID'2012), Brussels, Belgium, July 2012.
- Prof. Wei Xing Zheng served as an International Program Committee Member of the 2012 International Conference on Intelligent Control and Information Processing (ICICIP 2012), Dalian, China, July 2012.
- Prof. Wei Xing Zheng served as a Technical Program Committee Member of the 31st Chinese Control Conference (CCC'2012), Hefei, China, July 2012.

- Prof. Wei Xing Zheng served as an International Program Committee Member of the 2012 IEEE International Conference on Automation and Logistics (ICAL'2012), Zhengzhou, China, August 2012.
- Prof. Wei Xing Zheng served as an International Program Committee Member of the 2nd Australian Control Conference (AUCC'2012), Sydney, Australia, November 2012.
- Prof. Wei Xing Zheng served as a Program Committee Member of the 51st IEEE Conference on Decision and Control (CDC'2012), Maui, Hawaii, USA, December 2012.
- Prof. Wei Xing Zheng serves as a Technical Program Committee Member of the 25th Chinese Control and Decision Conference} (CCDC'2013), Guiyang, Guizhou, China, May 2013.
- Prof. Wei Xing Zheng serves as an International Program Committee Member of the 9th Asian Control Conference (ASCC'2013), Istanbul, Turkey, June 2013.
- Prof. Wei Xing Zheng serves as a Program Committee Member of the 32nd Chinese Control Conference (CCC'2013), Xi'an, Shaanxi, China, July 2013.
- Prof. Wei Xing Zheng serves as a Program Committee Member of the 3rd IFAC International Conference on Intelligent Control and Automation Science (ICONS'2013), Chengdu, Sichuan, China, September 2013.
- Prof. Wei Xing Zheng serves as a Technical Program Committee Member of the 3rd Australian Control Conference (AUCC'2013), Perth, Australia, November 2013.
- Prof. Wei Xing Zheng serves as an Organizing Committee Member of the 47th IEEE International Symposium on Circuits and Systems (ISCAS'2014), Melbourne, Australia, June 2014.
- Prof. Wei Xing Zheng serves as Special Sessions Co-Chair of the 47th IEEE International Symposium on Circuits and Systems (ISCAS'2014), Melbourne, Australia, June 2014.
- Wei-Ping Zhu served as Track Chairs for IEEE International NEWCAS Conference, 16-19 June 2013, Paris, France,
- Wei-Ping Zhu served as Track Chairs for IEEE International Conference on Electronics, Circuits and Systems (ICECS), 9-12 December 2012, Seville, Spain.
- Wei-Ping Zhu served on Technical Program Committees of IEEE Wireless Communications and Networking Conference, 7-10 April 2013, Shanghai, China,
- Wei-Ping Zhu served as TPC member for Wireless Communication and Signal Processing, 25-27 October 2012, Huangshan, China
- Wei-Ping Zhu served as TPC member for the International Congress on Image and Signal Processing, 16-18 Oct 2012, Chongqing, China.

4 Books and Book Chapters

- Serkan Kiranyaz, Turker Ince and Moncef Gabbouj, *Multidimensional Particle Swarm Optimization for Machine Learning and Pattern Recognition*, Springer, In Press (due 28 June 2013)
- Serkan Kiranyaz and Moncef Gabbouj, Content-Based Management of Multimedia Databases, LAP LAMBERT Academic Publishing, 2012.
- Turker Ince, Serkan Kiranyaz and Moncef Gabbouj, "A Generic and Patient-Specific Electrocardiogram Signal Classification System," Chapter 4, pp. 79-99, in ECG Signal Processing, Classification and Interpretation, Adam Gacek, Witold Pedrycz (Eds), Springer-Verlag London Limited, 2012.
- Jani Nurminen, Hanna Silen, Victor Popa, Elina Helander and Moncef Gabbouj, "Voice Conversion," in Speech Enhancement, Modeling and Recognition - Algorithms and Applications, ISBN 979-953-307-620-0, S. Ramakrishnan, Ed., Intech 2012.

- Serkan Kiranyaz, Murat Birinci and Moncef Gabbouj, "Perceptual color descriptors," In *Perceptual Digital Imaging: Methods and Applications*, R. Lukac, Ed., CRC Press, Taylor & Francis, pp.319-358, September 2012.
- A. Eghbali and Håkan Johansson, "Reconfigurable multirate systems in cognitive radios" in Foundation of Cognitive Radio Systems, S. Cheng, Ed., ISBN 978-953-51-0268-7, 2012, 22-page book chapter.
- Håkan Johansson and Oscar Gustafsson, "Two-rate based structures for computationally efficient wide-band FIR systems," in Digital Filters and Signal Processing, Eds. F. P. Garcia Marquez and N. Zaman, 2013, 24-pages book chapter.
- Håkan Johansson, "Sampling and quantization", E-Reference Signal Processing, Elsevier, to appear in 2013, 77-page book chapter.

5   Plenary Sessions, Keynote Speakers, Invited Lectures

- O.C. Au, on "Can we get more than 1-pixel resolution out of 1 pixel?" a keynote in the Information Technology and Applications Conference (ITAC 2012), Jun. 2012, Hsinchu, Taiwan, China.
- O.C. Au, on "Can we get more than 1-pixel resolution out of 1 pixel?", a keynote in the 4th International Conference on Digital Home (ICDH 2012), 23-25 Nov. 2012, Guangzhou, China.
- OC Au, Can we get more than 1 pixel resolution out of 1 pixel?, 7 Aug. 2012, National Tsing Hua University, Hsinchu, Taiwan, China.
- OC Au, Can we get more than 1 pixel resolution out of 1 pixel?, 6 Aug. 2012, Academia Sinica, Taipei, Taiwan, China.
- OC Au, Can we get more than 1 pixel resolution out of 1 pixel?, 6 Aug. 2012, National Taiwan University, Taipei, Taiwan, China.
- OC Au, Multimedia compression and application, 9 Jun. 2012, Hong Kong Polytechnic University, Hong Kong.
- OC Au, Multimedia magic: Can we get more than 1 pixel resolution out of 1 pixel?, 30 May. 2012, Hong Kong University of Science and Technology, Hong Kong..
- OC Au, Latest development on next generation video coding standard (HEVC), 25 May. 2012, Tongji University, Shanghai, China.
- OC Au, Can we get more than 1 pixel resolution out of 1 pixel?, 9 Feb. 2012, Santa Clara University, San Jose, CA, USA.
- Moncef Gabbouj, keynote speaker at IC3INA 2013: International Conference on Computer, Control, Informatics and its Applications, Jakarta, Indonesia on November 19th-20th, 2013.
- Moncef Gabbouj, Content-Based Image Retrieval Using MD-PSO Kernel Classifiers, invited lecture at New York Polytechnic University, 29th September 2011.
- Moncef Gabbouj, "Extracting Intelligence from Data," invited lecture, Qualcomm, March 30th, 2012, San Diego, USA.
- Moncef Gabbouj, "Extracting Intelligence from Data -- Collective Network of Binary Classifier Framework (CNBC) Using Multi-Dimensional Particle Swarm Optimization," Huawei, 2nd April, 2012, Santa Clara, CA, USA.
- Moncef Gabbouj,"CBIR Based on Collective Network of Binary Classifiers Powered by Multi-Dimensional Particle Swarm Optimization," 3rd April 2012, Palo Alto, USA.
- Mohsin Jamali, 11/2013 "Radar/IR /Acoustic Bird/Bat Monitoring System for Wind Turbine Applications" Keynote speaker, IEEE Institute Night, Toledo, Ohio
- Yong Lian, Wireless Biomedical Devices for Neural Engineering, IEEE Summer Camp, Shanghai Jiao Tong University, Shanghai, July 2012.
- Yong Lian, Self-powered Wireless Biomedical Device for Future Healthcare, Plenary Talk in Medical Deep Dive Workshop, Maxim Integrated Products, Dallas, USA, May 2012.

- Zhiping Lin, Tutorial Speaker at ISCAS 2012, Seoul, Korea, May 2012.
- Daniel Lun, invited speaker on topic "Fast Fringe Projection Profilometry with Absolute Phase Marker Retrieval", Collaborative Conference on 3D Research (CC3DR) 2013.
- Yoshikazu Miyanaga, Invited Lecture of IEEE Thailand Section, Robust Speech Recognition and Ultra High-Speed Wireless Communications, March 26, 2012.
- Yoshikazu Miyanaga, Plenary Keynote Speaker of International Conference on Electrical, Electronics Engineering, Robust Speech Recognition and its Robot Implementation, May 7, 2012.
- Yoshikazu Miyanaga, Keynote Speaker of Video over Wireless Systems, AUN/SEED-Net Regional Conference on Electrical and Electronics Engineering, Bangkok, Thailand, February 4-5, 2013
- Tokunbo Ogunfunmi, "Talk to Me: Voice Over IP Signal Processing and Research Challenges" : A 1-day Workshop at the University Sains, Penang, Malaysia (Dec. 18, 2012)
- Tokunbo Ogunfunmi, Algorithm and Architecture Co-Design for Fast Motion Estimation Video in H.264/AVC at University Teknologi Petronas (UTP), Malaysia, (Dec. 14, 2012).
- Tokunbo Ogunfunmi, Algorithm and Architecture Co-Design for Fast Motion Estimation Video in H.264/AVC at University of Toronto, Canada (Dec. 10, 2012)
- Tokunbo Ogunfunmi, Algorithm and Architecture Co-Design for Fast Motion Estimation Video in H.264/AVC at University of Wollogong, Australia (July 25, 2012)
- Tokunbo Ogunfunmi, Nonlinear Adaptive Algorithms and Applications at University of Western Australia, Perth, Australia (July 25, 2012)
- Tokunbo Ogunfunmi, Nonlinear Adaptive Algorithms and Applications at University of New Zealand, Auckland, NZ (July 6, 2012)
- Tokunbo Ogunfunmi, New Algorithms for Fast Motion Estimation Video in H.264/AVC at Seoul National University, Korea (May 27, 2012)
- Tokunbo Ogunfunmi, New Hardware Architectures for Fast Motion Estimation Video in H.264/AVC at Seoul National University, Korea (May 27, 2012)
- Wan-Chi Siu, Keynote Speaker, "Video Monitoring and Super-resolution Videos: New Research and Application Perspectives", IEEE/IET 2012 International Conference on Audio, Language and Image Processing, (ICALIP2012) 16-18, July 2012 Shanghai, China.
- Wan-Chi Siu, Invited Speaker, "Review of Image Interpolation and Super-resolution", Special Session on Sparse and Feature Representation for Image/Video Restoration, Proceedings, 2012 APSIPA Annual Summit and Conference (APSIPA-ASC'2012), December 3-6, 2012, Hollywood, California, USA.
- Wan-Chi Siu, Invited Speaker, "Super-resolution Videos and 3D Videos for Video Surveillance", SmartEN Distinguished Guests & Multi-Displinary Workshop, 8-10 October, 2012, Imperial College College, London, UK.Thanos Stouraitis, Cryptography Hardware Advances, Plenary Talk, 2012 IEEE Asia Pacific Conference on Circuits and Systems (APCCAS), Dec. 2012, Kaohsiung, Taiwan
- Akira Taguchi, Keynote Speaker of **The International Electrical Engineering Congress 2013** (*i*EECON2013), Chiangmai, Thailand, March 13 – 15, 2013.

6   Editorial Services

- Oscar Au, Associate Editor, IEEE Trans. On Circuits & Systems for Video Technology (TCSVT).
- Oscar Au, Associate Editor, IEEE Trans. On Image Processing (TIP)
- Oscar Au, Associate Editor, APSIPA Trans. On Signal and Information Processing (TSIP)
- Oscar Au, Member of Editorial Board, Journal of Visual Communication and Image Representation (JVCIR)

- Oscar Au, Member of Editorial Board, Journal of Multimedia (JMM)
- Oscar Au, Member of Editorial Board, Journal of Franklin Institute (JFI)
- Oscar Au, Member of Editorial Board, Journal of Signal Processing Systems (JSPS)
- Oscar Au, Member of Editorial Board, Journal of Data Acquisition and Processing (JDAP)
- Oscar Au, Guest Editor, Special Issue on Emerging Research and Standards in Next Generation Video Coding (HEVC), IEEE TCSVT.
- Oscar Au, Guest Editor, Special Issue on Video Coding: HEVC and beyond, IEEE Journal of Selected Topics in Signal Processing (JSTSP)
- Sankar Basu, member of the editorial board of the Proceedings of IEEE for 3 years from January 2013.
- Mrityunjoy Chakraborty served as Associate Editor of IEEE Transactions on Circuits & Systems, Part I.
- Tian-BoDeng, Associate Editor, IEEE Trans. Circuits and Systems II: Express Briefs (Jan. 2012-Dec. 2013)
- Linda DeBrunner, Associate Editor, Journal of Circuits, Systems, and Computers
- Moncef Gabbouj, Editorial Board member, Springer Journal of Signal, Image and Video Processing (2012).
- Håkan Johansson, Area Editor of the Elsevier J. Digital Signal Processing, 2013-
- Dominic K. Ho, Associate Editor, IEEEE Trans. Signal Processing (TSP)
- Gwee Bah Hwee, Associate Editor, IEEE Trans. On Circuits & Systems I – Regular Papers
- Ted Kok, Member of Editorial Board, ISRN Signal Processing
- Ted Kok, Associate Editor, Open Journal of Antennas and Propagation
- Kai-Kuang Ma, Editorial Board Member on Journal of Visual Communication and Image Processing (JVCI)
- Kai-Kuang Ma, Editorial Board, International Journal on Image and Graphics (IJIG).
- Associate Editor for
- Pramod Kumar Meher, Associate Editor, IEEE Transactions on Circuits & Systems-I: Regular Papers (continued from 2012).
- Pramod Kumar Meher, Associate Editor, IEEE Transactions on Very Large Scale Integration (VLSI) Systems (continued from 2009).
- Pramod Kumar Meher, Associate Editor, Journal of Circuits, Systems and Signal Processing (Springer) (continued from 2007).
- Yong Lian, Editor-in-Chief, IEEE Transactions on Circuits and Systems II,
- Yong Lian, Associate Editor, IEEE Technology News,
- Yong Lian, Associate Editor, IEEE Transactions on Biomedical Circuits and Systems.
- Zhiping Lin, 2011 – present   Editor-in-Chief of Multidimensional Systems and Signal Processing (Springer)
- Daniel Lun, Editor, Transactions of Hong Kong Institute of Engineers.
- Yoshikazu Miyanaga, Associate Editor, Journal of Signal Processing, Japan
- Yoshikazu Miyanaga, Associate Editor, IEEE TCAS-II, 2012
- Tokunbo Ogunfunmi, Senior Associate Editor, IEEE Signal Processing Letters.
- Tokunbo Ogunfunmi, Associate Editor, IEEE Trans. Circuits and Systems-I: Regular Papers
- Tokunbo Ogunfunmi, Associate Editor, Circuits, Systems and Signal Processing journal
- Ravi Prakash Ramachandran, Member of Editorial Board, IEEE Circuits and Systems Magazine.
- Wan-Chi Siu, Member, Editorial Board, IEEE Signal Processing Society, since Jan 2012.
- Wan-Chi Siu, Associate Editor, IEEE Transactions on Image Processing, 2010-02, IEEE.
- Wan-Chi Siu, Associate Editor/Member of Editorial Board, Journal of VLSI Signal Wan-Chi Siu, Processing Systems for Signal, Image and Video   Technology, Since January 1996,

Kluwer Academic Publisher.David Tay, Associate editor International Journal of Multidimensional Systems and Signal Processing, Kluwer Academic Press.
- Prof. Wei Xing Zheng serves as an Associate Editor, Automatica.
- Prof. Wei Xing Zheng serves as an Associate Editor, IET Control Theory & Applications.
- Wei-Ping Zhu, Associate Editor, IEEE Trans. on Circuits and Systems–II: Express Briefs;
- Wei-Ping Zhu, Guest Editor, IEEE Journal on Selected Areas in Communications: Virtual MIMO (2013);
- Wei-Ping Zhu, Guest Editor, IEEE Journal on Selected Areas in Communications: Broadband Wireless Communications for High Speed Vehicles (2012);
- Wei-Ping Zhu, Guest Editor, EURASIP Journal on Advances in Signal Processing (2012).

7   IEEE Services

- Oscar Au is Chair, IEEE SPS Multimedia Signal Processing (MMSP) Technical Committee
- Oscar Au, Chair, IEEE CAS Multimedia Systems and Applications (MSA) TC
- Oscar Au, Chair, APSIPA Image, Video and Multimedia (IVM) TC
- Oscar Au, Member, IEEE CAS Visual Signal Processing and Communication (VSPC) TC
- Oscar Au, Member, IEEE CAS Digital Signal Processing (DSP) TC
- Oscar Au, Member, IEEE SPS Image, Video and Multidimensional Signal Processing (IVMSP) TC
- Oscar Au, Member, IEEE SPS Information Forensics and Security (IFS) TC
- Oscar Au, Member, IEEE ComSoc Multimedia Communication (MMC) TC
- Oscar Au, Member, Steering Committee, IEEE Trans. On Multimedia (TMM)
- Oscar Au, Member, Steering Committee, IEEE Int. Conf. on Multimedia and Expo (ICME)
- Oscar Au, Member, IEEE SPS Technical Direction Board
- Mohsin Jamali, Member at Large, IEEE Section, Toledo, Ohio
- Håkan Johansson, Committee member for the selection of the IEEE Circuits and Systems Society Guillemin-Cauer and Darlington best paper awards, 2012 and 2013.
- Moncef Gabbouj, Chairman, DSP TC of the IEEE CASS.
- Dominic K. Ho, Chair, Sensor Array and Multichannel TC, IEEE Signal Processing Society.
- Gwee Bah Hwee, IEEE Circuits and Systems Society Singapore Chapter - Chairperson
- Ted Kok, member of the IEEE Electron Device and Solid State Circuit Hong Kong Chapter
- Pramod Kumar Meher, Speaker, Distinguished Lecturer Program, IEEE Circuits and Systems Society for the year 2011 and 2012.
- Pramod Kumar Meher, Chair, Consumer Electronics Chapter of the IEEE Singapore Section, 2011 and 2012.
- Pramod Kumar Meher, Executive Committee member of Circuits & Systems Chapter of IEEE Singapore Section (continued from 2007).
- Pramod Kumar Meher, Executive Committee Member of Consumer Electronics Chapter of IEEE Singapore Section (continued from 2007).
- Yong Lian, Strategic Planning Committee of IEEE PSPB.
- Yong Lian, Vice President for Publications, IEEE CAS Society
- Yong Lian, Steering Committee Member, IEEE Transactions on Biomedical Circuits and Systems.
- Steering Committee Member, IEEE Transactions on Multimedia.
- Yong Lian, member of IEEE Fellow Evaluation Committee of CASS.
- Yong Lian, member of IEEE Life Sciences New Initiative Committee.
- Yong Lian, Chair of Prize Paper Award Sub-committee of CASS.
- Yoshikazu Miyanaga, BoG, CAS Society, 2011 – 2013

- Wan-Chi Siu, Vice President - Conference, Signal Processing Society, IEEE, 2012-2014
- Wan-Chi Siu, Chair, Conference Board, Signal Processing Society, IEEE, 2012-2014
- Wan-Chi Siu, Core Member, Board of Governors, Signal Processing Society, IEEE, 2012-2014Thanos Stouraitis, CASS President
- Prof. Wei Xing Zheng serves on the International Steering Committee of the IEEE Asia Pacific Conference on Circuits and Systems (APCCAS).
- Wei-Ping Zhu, Vice-Chair, Montreal Chapter of IEEE Circuits and Systems Society

8   DSP TC Technically Co-Sponsored Conferences/Symposia/Workshops

- 2012 International Symposium on Communications and Information Technologies (ISCIT 2012, IEEE), Gold Coast, Australia, October 2 - 5, 2012.
- 2012 International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS 2012), Tamsui, New Taipei City, Taiwan, November 4 - 7, 2012.
- 2013 International Symposium on Communications and Information Technologies (ISCIT 2013, IEEE), Samui Island, Thailand, September 4 - 6, 2013.
- 2013 International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS 2013), Okinawa, Japan, November 12 - 15, 2013.
- 5th International Symposium on Communications, Control and Signal Processing, ISCCSP 2012*, Rome, Italy, 2-4 May* 2012
- 11th International Content Based Multimedia Indexing Workshop (CBMI 2013), 17 and 19 June 2013, Veszprém, Hungary.
- ISCCSP 2014, May 2014, Athens , Greece

9   Other Activities

- Oscar Au, Board of Governor, APSIPA (Asia Pacific Signal and Information Processing Association)
- Oscar Au,Member, SMPTE (Society of Motion Picture and Television Engineers)
- Oscar Au,Member, AES (Audio Engineering Society)
- Moncef Gabbouj, Visiting Professor, Purdue University (Fall 2011), University of Southern California (Spring 2012), Hong Kong University of Science and Technology (Fall 2012 and Spring 2013).
- Ted Kok, Technical Program Committee, 2012 European Conference on Signal Processing
- Ted Kok, Review Committee Member of 2012 European Conference on Circuit Theory and Design
- Ted Kok, International Advisory Committee of 2012 International Conference on Signal Processing, Communications and Computing
- Pramod Kumar Meher, General Co-Chair, International Symposium on Electronic System Design, Singapore, December, 2013.
- Pramod Kumar Meher, Track Chair of "Signal, Image and Video Processing" track for the 10th IEEE International New Circuits and Systems Conference (NEWCAS 2012), Montreal, Canada, 17-20 June 2012.
- Pramod Kumar Meher, Technical Program Committee Member of the 16th VLSI Design and Test Symposium (VDAT-2012), Kolkata, India, 1-4 July, 2012.
- Pramod Kumar Meher, Technical Program Committee Member of the 12th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP 2012), Fukuoka, Japan, September 04-07, 2012.
- Pramod Kumar Meher, Technical Program Committee Member of the 5th International

Conference on Contemporary Computing, Noida (New Delhi), India, 6 – 8 August, 2012.

- Yoshikazu Miyanaga, Special Board Member, The Institute of Electronics, Information and Communication Engineers (IEICE), Japan, Engineering Sciences Society (ESS), 2012 - 2014.
- Yoshikazu Miyanaga, vice-President, The Asia-Pacific Signal and Information Processing Association (APSIPA), 2010 – present.
- Yoshikazu Miyanaga, International Steering Committee Honorary Chair, International Symposium on Communications and Information Technologies (ISCIT), 2011 - present.
- Tokunbo Ogunfunmi (electrical engineering) chaired several sessions at other conferences such as IEEE Asilomar, ASEE, SiPS, etc. conferences.

10 Awards, Honors and News from the TC Members

- Oscar Au had 16 technical contributions to MPEG/VCEG JCTVC international standard (H.265, HEVC) in 2012.
- OC Au, A talk on multimedia compression technologies in Foshan Youth Economic Forum, Ta Kun Pao, newspaper, Hong Kong, China, 13 Jun. 2012. http://lbcube.ust.hk/newsclip/docid/w201206130020248
- OC Au, A talk on multimedia compression technologies in Foshan Youth Economic Forum, Hong Kong Commercial Daily, newspaper, Hong Kong, China, 9 Jun. 2012. http://lbcube.ust.hk/newsclip/docid/w201206130010098
- OC Au, Advance video compression, Singtao Daily, newspaper, 28 Feb. 2012, Hong Kong, China. http://lbcube.ust.hk/newsclip/docid/w201202280030281
- OC Au, New high definition television standard brings higher visual quality, Singtao Daily, newspaper, 28 Feb. 2012, Hong Kong, China. http://lbcube.ust.hk/newsclip/docid/w201202280030282
- OC Au, Advance video compression, web, http://www.singtao.com/yesterday/edu/0228go05.html, Feb. 2012.
- Mrityunjoy Chakraborty was appointed Distinguished Lecturer of the APSIPA (Asia Pacific Signal and Information Processing Association) for the period 2012-2013.
- Moncef Gabbouj, 9th Top most cited paper in Elsevier Neural Networks journal (2008 - 2013): Serkan Kiranyaz, Turker Ince, Alper Yildirim and Moncef Gabbouj, "Evolutionary Artificial Neural Networks by Multi-Dimensional Particle Swarm Optimization", Neural Networks, doi:10.1016/j.neunet.2009.05.013, 8 June 2009.
- Moncef Gabbouj, Academy of Finland Professor is spending a sabbatical leave at the Department of Computer Science and Engineering and the Department of Electronic and Computer Engineering at the School of Engineering of Hong Kong University of Science and Technology, Hong Kong.
- Lina Karam was elevated to IEEE Fellow in 2013 for his contribution on "Image Kai-Kuang Ma was elevated to IEEE Fellow in 2013 for his contribution on "Image Processing and Digital Video Coding Technologies."
- Yong Lian was featured in International Innovation Dec. 2012 issue.
- Yong Lian, Cardioleaf, wireless ECG T-shirt, was covered by Newelectronics as cover story in Feb. 2013.
- Daniel Lun received the Best Paper Award for his paper in conference 2011 IEEE Annual India Conference (INDICON), Hyderabad, India, entitled "Promoter prediction using DNA numerical representation and neural network: Case study with three organisms" in 2011.
- Daniel Lun was promoted as the Acting Head of the Department of Electronic and Information Engineering of the Hong Kong Polytechnic University in 2013.
- Tokunbo Ogunfunmi was appointed Distinguished Lecturer for IEEE Circuits and Systems

Society for 2012-2013.

- Tokunbo Ogunfunmi is organizing a 1-day workshop on May 23, 2013 (after ISCAS 2013). The title of the workshop is "Re-Thinking Circuits and Systems Education: New Pedagogies and Approaches".
- Ioannis Pitas was appointed Distinguished Lecturer for IEEE Circuits and Systems Society for 2013-2014.

11 Contributors

The following DSP TC members contributed to this report:

Oscar Au
Sankar Basu
Mrityunjoy Chakraborty
Tian-Bo Deng
Linda DeBrunner
Moncef Gabbouj
Bah Hwee Gwee
Håkan Johansson
Dominic K. Ho
Mohsin Jamali
Ted Kok
Kai-Kuang Ma
H. K. Kwan
Yong Lian
Zhiping Lin
Daniel Lun
Pramod Kumar Meher
Yoshikazu Miyanaga
Tokunbo Ogunfunmi
Ravi P. Ramachandran
Wan-Chi Siu
Thanos Stouraitis
Akira Taguchi
David Tay
Wei Xing Zheng
Wei-Ping Zhu