



Circuits and Systems
Society

Annual Report of Digital Signal Processing Technical Committee (DSPTC) 2014-2015

Chairman: Prof. Wei-Ping Zhu
Secretary: Prof. Mrityunjoy Chakraborty
Past-Chairman: Prof. Moncef Gabbouj

Introduction

The members of the Digital Signal Processing Technical Committee (DSPTC) of the IEEE Circuit and Systems Society have been very active in 2014-2015. This report highlights the members' technical activities in various areas of interest to the CAS society and DSP research community. The members participated very actively in ISCAS 2015 as summarized in Section 2. They have been involved in various capacities in a large number of conferences as detailed in Section 3. Eight books/book chapters have been authored/edited by the TC members as listed in Section 4. A total of 24 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 has technically co-sponsored 6 conferences and workshops as provided in Section 8. Of particular note is that many members of the TC have made special effort to support the IEEE International Conference on Digital Signal Processing (DSP2015) by taking an active role in the organization committee, serving as special session organizers and making technical contributions. The conference organization team led by Dr. Y. C. Lim has organized DSP2015 as a major technical activity of the TC. Additional activities carried out by members of the TC are highlighted in Section 9. Finally, the report ends with awards, distinctions and news from members of the TC obtained in 2014-2015. We are proud of all the distinctions and awards received by the members. In particular, we wish to congratulate Prof. Henry Leung who has recently been elevated to IEEE Fellow. Congratulations!

1 DSP TC Meeting

The 2015 DSPTC Annual Meeting will be held in Lisbon, Portugal on Tuesday May 26, 2015, during the 2015 IEEE International Symposium on Circuits and Systems. The meeting agenda along with the 2014 DSPTC meeting minutes will be sent to all DSPTC members prior to ISCAS2015.

2 ISCAS 2015

The IEEE ISCAS 2015 will be held during May 24-27, 2015 in Lisbon, Portugal. Wei-Ping Zhu, Mrityunjoy Chakraborty and Tapio Saramäki served as the DSP Track Co-Chairs for the review process of ISCAS2015 submissions. The following DSPTC members have served as Review Committee Members (RCMs) for the DSP Track:

Omair Ahmad, A. Enis Çetin, Mrityun Chakraborty, Shing-Chow Chan, Ying Chen, Bah Hwee Gwee, Oscar Gustafsson, Dominic K. C. Ho, Xinping Huang, Hakan Johansson, Izzet Kale, Lina

Karam, Masayuki Kawamata, C. W. Kok, H. K. Kwan, Raija Lehto, Henry Leung, Yong Lian, Yong Ching Lim, Chia-Wen Lin, Wu-Sheng Lu, Daniel P.K. Lun, Kai-Kuang Ma, Pramod Kumar Meher, Yoshikazu Miyanaga, Truong Nguyen, Mohammed Niamat, Tokunbo Ogunfunmi, Ravi P. Ramachandran, Tapio Saramäki, Wan-Chi Siu, Andreas Spanias, Akira Taguchi, David Tay, Li Xu, Yajun Yu, Chuan Zhang, Xiao-Ping Zhang, Wei Xing Zheng, Wei-Ping Zhu.

Some non-DSPTC member professors also helped the review process of ISCAS2015 submissions as RCMs. They are:

Dr. Amel Ben Azza, Dr. S. M. Mahbubur Rahman, Dr. Ioan Tabus, Dr. Pikrakis Aggelos.

In addition, Dr. Zhiping Lin and Dr. Arjuna Madanayake have organized a special session on Multidimensional Systems and Signal Processing at ISCAS2015, and handled the review of the special session papers.

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 2015. In the DSP track, 105 papers were submitted, of which 2 papers were withdrawn and 48 papers have been accepted and allocated to 7 oral sessions (33 papers) and 3 poster sessions (15 papers). This corresponds to roughly 47% acceptance rate in the DSP track. Most sessions under the DSP track at ISCAS2015 are chaired by members of the DSP TC with two co-chairs per session.

3 Other conferences where DSP TC members were involved

- Yun Chen, Technical Program Committee, the 2015 IEEE International Workshop on Signal Processing Systems (SiPS 2015), Hangzhou, China, October 14-16, 2015.
- Moncef Gabbouj, General co-chair, The 9th IEEE International Conference on Big Data Science and Engineering (IEEE BigDataSE-15), Helsinki, Finland, 20-22 August, 2015.
- B.H Gwee, Local Arrangement Co-Chair, 2015 IEEE International Conference on Digital Signal Processing (DSP 2015), Singapore, Jul 21-24, 2015.
- B.H. Gwee, University LSI Design Contest Committee 2014 Asia and South Pacific Design Automation Conference (ASP-DAC), Singapore, Jan 20-23, 2014.
- Dominic Ho, Technical Program Committee, The Eighth IEEE Sensor Array and Multichannel Signal Processing Workshop, A Coruña, Spain, Jun. 2014.
- Dominic Ho, Technical Program Committee, The Sixth IEEE Int. Workshop on Computational Advances in Multi-Sensor Adaptive Processing, Cancun, Mexico, Dec. 2015.
- Dominic Ho, Technical Program Co-Chair, IEEE Int. Conf. on Acoustics, Speech, and Signal Processing, Shanghai, China, Mar. 2016.
- Mohsin M. Jamali, Technical Program Area Committee Chair for Speech, Image and Video Processing for 2014 Asilomar Conference on Signals, Systems and Computers.
- Mohsin M. Jamali, Advisory Committee Member, The 9th International Conference on Robotics, Vision, Signal Processing & Power Applications (2-3 Feb 2016), Penang, Malaysia.
- Håkan Johansson, Member of the Technical Program Committee of the IEEE Wireless Communications and Networking Conference (WCNC), 2014, 2015.
- Håkan Johansson, Member of the Technical Program Committee of the IEEE Global Communications Conference (GLOBECOM), 2014, 2015.
- Håkan Johansson, Member of the Technical Program Committee of the IEEE International Conference on Communications (ICC), 2015.
- Håkan Johansson, Member of the Program Committee of the International Symposium on Image and Signal Processing and Analysis (ISPA), 2015.

- Lina Karam, Technical Area Chair, 2014 and 2015 International Conference on Image Processing
- Lina Karam, Special Sessions Chair, 2015 International Workshop on the Quality of Multimedia Experience (QoMEX)
- Lina Karam, Steering Committee, IEEE International Workshop on Quality of Multimedia Experience (QoMEX) , 2009-present
- Lina Karam, General Chair of the 2016 IEEE International Conference on Image Processing.
- H. K. Kwan, Technical Program Co-Chair, International Conference on Digital Signal Processing (DSP2014), Hong Kong.
- Yong Lian, Technical Program Chair, 2018 IEEE International Symposium on Circuits and Systems (ISCAS 2018), May 2018, Florence, Italy.
- Yong Lian, General Chair, 2016 IEEE Biomedical Circuits and Systems Conference (BioCAS 2016), Oct. 2016, Shanghai, China.
- Yong Lian, General Co-Chair, 11th International Conference on ASIC (ASICON 2015), Nov. 3-6, 2015, Chengdu, China.
- Yong Lian, Technical Program Chair, 20th IEEE International Conference on Digital Signal Processing (DSP 2015), July 21-24, 2015, Singapore.
- Yong Lian, Technical Program Chair, 2014 IEEE Asia Pacific Conference on Circuits and Systems, Nov. 17 – 20, Okinawa, Japan.
- Yong Lian, Technical Program Committee Member, the 2014 IEEE Asian Solid-State Circuits Conference (A-SSCC'2014), Nov. 10-12, 2014, Kaohsiung, Taiwan.
- Yong Lian, Technical Committee member, the 12th International Conference on Solid-State and Integrated Circuit Technology (ICSICT'2014), Oct. 28-31, 2014, Guilin, China.
- Yong Lian, International Liaison, 2014 IEEE Biomedical Circuits and Systems Conference (BioCAS'2014), Lausanne, Switzerland, Oct. 22-24, 2014.
- Y.C. Lim, General Co-Chair, IEEE International Conference on Digital Signal Processing (DSP 2015), Singapore, July 21-24, 2015.
- B. W. K. Ling, Technical Program Chair, IEEE Summer Course on Health Technology, 2014.
- B. W. K. Ling, Technical Program Chair, IEEE IoT Forum, 2014.
- B. W. K. Ling, Technical Program Chair, IEEE International Conference on Consumer Electronics, China, 2014.
- B. W. K. Ling, Organizer of Special Session on Optimization for Signal Processing, 1st Pacific Optimization Conference, 2014.
- B. W. K. Ling, Organizer of Special Session on Sparse Representation and Lp Regularization Techniques, 19th IEEE International Conference on Digital Signal Processing, 2014.
- B. W. K. Ling, Organizer of Special Session on Optimal Time Frequency Techniques for Signal Processing and Communications, IEEE/IET International Symposium on Communication Systems, Networks and Digital Signal Processing, 2014.
- Wei Liu, Technical Program Committee (TPC) Member of the 2015 IEEE Wireless Communications and Networking Conference (WCNC), New Orleans, US.
- Wei Liu, TPC Member of the 2015 23rd European Signal Processing Conference (EUSIPCO), Nice, France.
- Wei Liu, TPC Member of the 2015 9th European Conference on Antennas and Propagation (EuCAP), Lisbon, Portugal.
- Wei Liu, TPC Member of the 2015 19th ITG International Workshop on Smart Antennas (WSA), Ilmenau, Germany.
- Wei Liu, TPC Member of the 2015 International Conference on Computing, Networking and Communications (ICNC), Anaheim, USA.

- Wei Liu, Special Session Organizer on "Tensor/Hypercomplex Numbers and Their Applications in Signal Processing" at the 2014 19th International Conference on Digital Signal Processing (DSP 2014), Hong Kong.
- Wei Liu, Program Committee Member (PCM) of the 2014 19th International Conference on Digital Signal Processing (DSP 2014), Hong Kong.
- Wei Liu, TPC Member the 2014 International Conference on Computer, Communication, and Control Technology (I4CT'2014), Langkawi, Malaysia.
- Wei Liu, TPC Member of the 2014 International Conference on Connected Vehicles & Expo (ICCVE), Vienna, Austria.
- Wei Liu, TPC Member of the IEEE GLOBECOM 2014 2nd Workshop on Trusted Communications with Physical Layer Security, Austin, TX, USA.
- Wei Liu, TPC Member of the 2014 IEEE Symposium on Wireless Technology and Applications (ISWTA 2014), Sabah, Malaysia.
- Daniel Lun, General Co-Chair, 19th International Conference on Digital Signal Processing (DSP 2014), Hong Kong.
- Daniel Lun, Technical Program Co-Chair, 2015 IEEE International Conference on Digital Signal Processing (DSP 2015), Singapore.
- Pramod Kumar Meher, Organized a special session, 'High Speed and Low-power Architectures for Contemporary Communication Systems', in the 14th International Symposium on Integrated Circuits (ISIC), December 2014.
- Pramod Kumar Meher, Technical Program Committee Member of 8th International Conference on Bio-inspired Systems and Signal Processing (BIOSIGNALS 2015), Lisbon, Portugal, January, 2015.
- Pramod Kumar Meher, Technical Program Committee Member of the 22nd European Signal Processing Conference (EUSIPCO 2014), Lisbon, Portugal, September, 2014.
- Yoshikazu Miyanaga, Promotion Chair, 2014 IEEE ASIA Pacific Conference on Circuits and Systems (APCCAS 2014), Ishigaki Island, Okinawa, Japan, November 17 - 20, 2014.
- Yoshikazu Miyanaga, Advisor Chair, International Symposium on Communications and Information Technologies (ISCIT 2014, IEEE), Incheon, Korea, September 24-26, 2014.
- Tokunbo Ogunfunmi, Special Session Organizer: Special Session on "Implementation Issues in Embedded Systems for Signal Processing Algorithms", Technical Program Committee, IEEE DSP 2015 Conference, Singapore.
- Tokunbo Ogunfunmi, Special Session Chair and Technical Program Committee Member, IEEE International Conference on Internet of Things (IEEE IoT 2014), Seoul, Korea, 2014.
- Tokunbo Ogunfunmi, Special Session Organizer of "Speech Coding and Speech Recognition", and Technical Program Committee Member, 2014 IEEE Asilomar Conference on Signals, Systems and Computers, at Asilomar, CA, Nov. 2014.
- I. Pitas, co-organizer of the 3rd ACCV Workshop on e-Heritage (Electronic Cultural Heritage), Singapore, 1-5/11/2014.
- I. Pitas, Advisory Committee Chair for the 10th International Conference on Intelligent Information Hiding and Multimedia Signal Processing (IIHMSP14), Kitakyushu, Japan 27-29/8/2014.
- I. Pitas, Program committee, IEEE FG Workshop on De-identification for privacy protection in multimedia, 4-8/5/2015, Ljubljana, Slovenia.
- I. Pitas, Program committee, 2014 IEEE International Conference on Biometrics (BIOSIG 2014), 10-12/9/2014, Darmstadt.
- I. Pitas, Program committee, 11th International Conference on Signal Processing and Multimedia Applications" - SIGMAP 2014, 28-30/8/2014, Vienna, Austria.

- I. Pitas, Program committee, 19th International Conference on Digital Signal Processing (DSP 2014), Hong Kong 20-23/8/2014.
- I. Pitas, Scientific committee, International Conference on 3D Imaging (IC3D), Liege, Belgium, 9-11/12/2014.
- I. Pitas, Program committee, International Conference on Machine Learning and Data Mining, MLDM 2014, Sankt Petersburg, Russia, 21-24/7/2014.
- I. Pitas, Program Committee of Biometrics (BIOMET 2014), Sofia, Bulgaria, 23-25/6/2014.
- I. Pitas, Program Committee, 2014 International Conference of the Biometrics Special Interest Group (BIOSIG 2014), Darmstadt, Germany, 10-12/9/2014.
- I. Pitas, Technical Program Committee, International Workshop on Combinatorial Image Analysis – IWCIA 2014, Brno, Czech Republic, 28-30/5/2014.
- I. Pitas, Program Committee, Special Session “Biometrics & Forensics & De-Identification & Privacy Protection”, 37th International Convention MIPRO, CIS – Intelligent Systems, Opatija, Slovenia, 26 -30/5/2014.
- Tapio Saramäki, Committee Member, DSPA-2014, 16th International Conference on Digital Signal Processing and its Applications, March 26-28, 2014, Moscow, Russia.
- Tapio Saramäki, Committee Member, DSPA-2015, 17th International Conference on Digital Signal Processing and its Applications, March 25-27, 2015, Moscow, Russia.
- Tapio Saramäki, Organizing Committee (Constantinides Track Chair), DSP 2015, 2015 IEEE International Conference on Digital Signal Processing (DSP), July 21-24, 2015, Singapore (Also an organizer of a special session entitled “Recent Advances in Designing and Implementing Computationally-Efficient Digital Filters and Filter Banks”).
- Tapio Saramäki, Technical Program Committee, ECCTD 2015, 22nd European Conference on Circuit Theory and Design, August 24-26, 2015, Trondheim, Norway.
- Tapio Saramäki, Technical Program Committee, ISPA 2015, 9th International Symposium on Image and Signal Processing and Analysis, September 7-9, 2015, Zagreb, Croatia (Also an ISPA Steering Committee Member).
- Wan-Chi Siu, Honorary Chair, (IEEE International Conference on Multimedia & Expo (ICME'2017), Hong Kong
- Wan-Chi Siu, Co-Chair, International Liaison Committee, IEEE International Conference on Image Processing (ICIP'2015), 27-30 September 2015, Quebec, Canada.
- Wan-Chi Siu, General Co-Chair, 2015 20th International Conference on Digital Signal Processing, 22-24 July, 2015, Singapore.
- Wan-Chi Siu, General Co-Chair, 2015 IEEE International Conference on Signal Processing, Communications and Computing (ICSPCC'2015), 19-22 September 2015, Ningbo China.
- Wan-Chi Siu, Honorary Chair, APSIPA-ASC'2015, Asia-Pacific Signal and Information Processing Annual Summit and Conference, 18-21 August 2015, Hong Kong.
- Wan-Chi Siu, Member of Steering Committee, 2014 19th International Conference on Digital Signal Processing, Hong Kong, 20-23 August, 2014, Hong Kong.
- Wan-Chi Siu, Member of Steering Committee and VP of the IEEE SP Society, 2014 IEEE China International Summit and Conference on Signal and Information Processing (ChinaSIP'2014), 9-13 July 2014, Xian, China.
- Wan-Chi Siu, Member, International Technical Program Committee, International Conference on Signal Processing (ICSP'2014), 19-23 October, 2014, Hangzhou, China
- Andreas Spanias, Sensors and Signal Processing for Defense (SSPD), Conference Program Committee, Edinburgh, Sep. 2015.
- Thanos Stouraitis, General Chair, International Symposium on Communications, Control, and Signal Processing, Athens, Greece, May 21-23, 2014.
- M.N.S. Swamy, Steering Committee Member, IEEE Midwest Symposium on Circuits and

Systems

- David Tay, Technical Program Committee Member, IEEE Int. Conf. on Image Processing (ICIP) 2014.
- David Tay, Program Committee Member, Int. Congress on Image and Signal Processing (CISP) 2014.
- Li Xu, Technical Program Committee Member, The 2014 Chinese Control and Decision Conference (CCDC'2014), Changsha, China, May 31-June 2, 2014.
- Li Xu, International Program Committee Member, The Joint International Conference of the tenth Information Technology and Control Applications (ITCA2014) and the sixth International Symposium on Computational Intelligence and Industrial Applications (ISCIIA2014), Hunan, China, Sept. 16-21, 2014.
- Yajun Yu, Technical Program Co-Chair, IEEE International Conference on Digital Signal Processing, Singapore, July 21-24, 2015.
- Xiao-Ping Zhang, General Chair, 17th IEEE International Workshop on Multimedia Signal Processing (MMSP2015).
- Wei Xing Zheng, Organizing Committee Member of the 47th IEEE International Symposium on Circuits and Systems (ISCAS'2014), Melbourne, Australia, June 2014.
- Wei Xing Zheng, Special Sessions Co-Chair of the 47th IEEE International Symposium on Circuits and Systems (ISCAS'2014), Melbourne, Australia, June 2014.
- Wei Xing Zheng, Technical Program Committee Member of the 26th Chinese Control and Decision Conference (CCDC'2014), Changsha, May 2014.
- Wei Xing Zheng, International Program Committee Member of the 11th World Congress on Intelligent Control and Automation (WCICA'2014), Shenyang, China, June 2014.
- Wei Xing Zheng, Technical Program Committee Member of the 33rd Chinese Control Conference (CCC'2014), Nanjing, China, July 2014.
- Wei Xing Zheng, Program Committee Member of the 2014 IEEE International Conference on Information and Automation (ICIA'2014), Hailar, China, July 2014.
- Wei Xing Zheng, International Program Committee Member of the 11th International Conference on Informatics in Control, Automation and Robotics (ICINCO'2014), Vienna, Austria, September 2014.
- Wei Xing Zheng, Technical Program Committee Member of the 4th Australian Control Conference (AUCC'2014), Canberra, Australia, November 2014.
- Wei Xing Zheng, Program Committee Member of the 53rd IEEE Conference on Decision and Control (CDC'2014), Los Angeles, USA, December 2014.
- Wei Xing Zheng, International Program Committee Member of the 2014 IEEE International Conference on Robotics and Biomimetics (ROBIO'2014), Hanoi, Vietnam, December 2014.
- Wei Xing Zheng, Technical Program Committee Member of the 27th Chinese Control and Decision Conference (CCDC'2015), Qingdao, Shandong, China, May 2015.
- Wei Xing Zheng, Organizing Committee Member of the 3rd IEEE China Summit and International Conference on Signal and Information Processing (ChinaSIP'2015), Chengdu, China, July 2015.
- Wei Xing Zheng, International Liaison of the 3rd IEEE China Summit and International Conference on Signal and Information Processing (ChinaSIP'2015), Chengdu, China, July 2015.
- Wei Xing Zheng, Program Committee Member of the 34th Chinese Control Conference (CCC'2015), Hangzhou, Zhejiang, China, July 2015.
- Wei Xing Zheng, Program Committee Member of the 2015 IEEE International Conference on Information and Automation (ICIA'2015), Lijiang, Yunnan, China, August 2015.

- Wei Xing Zheng, International Program Committee Member of the 4th IFAC Conference on Analysis and Control of Chaotic Systems (CHAOS'2015), Tokyo, Japan, August 2015.
- Wei Xing Zheng, Organizing Committee Member of the 2015 IEEE Multi-Conference on Systems and Control (MSC'2015), Sydney, Australia, September 2015.
- Wei Xing Zheng, Local Arrangements Chair of the 2015 IEEE Multi-Conference on Systems and Control (MSC'2015), Sydney, Australia, September 2015.
- Wei Xing Zheng, International Program Committee Member of the 17th IFAC Symposium on System Identification (SYSID'2015), Beijing, China, 19-21 October 2015.
- Wei Xing Zheng, Technical Program Committee Member of the 5th Australian Control Conference (AUCC'2015), Gold Coast, Australia, November 2015.
- Wei Xing Zheng, Program Committee Member of the 54th IEEE Conference on Decision and Control (CDC'2015), Osaka, Japan, December 2015.
- Wei-Ping Zhu, Track Co-Chair, The 12th IEEE International New Circuits and Systems Conference (NEWCAS), Trois-Rivières, Canada, June 22 – 25, 2014.
- Wei-Ping Zhu, Program Committee Member, International Congress on Image and Signal Processing (CISP2014), Dalian, China, October 14-16, 2014.
- Wei-Ping Zhu, Special Session Organizer on “Speech Enhancement”, 2014 IEEE Asilomar Conference on Signals, Systems and Computers, at Asilomar, CA, Nov. 2014.
- Wei-Ping Zhu, Technical Program Committee Member, IEEE Wireless Communications and Networking Conference (WCNC), New Orleans, USA, March 9-12, 2015.
- Wei-Ping Zhu, Award Committee Co-Chair, IEEE International Conference on Communication (ICC), London, UK, June 8-12, 2015.
- Wei-Ping Zhu, Special Session Organizer on "Recent Advances on Speech and Acoustical Signal Processing", IEEE International Conference on Digital Signal Processing, Singapore, July 21-24, 2015.

4 Books and Book Chapters

- Ronald K. Pearson and **Moncef Gabbouj**, *Nonlinear Digital Filtering with Python: An Introduction*, Taylor & Francis/CRC Press, in Press, 2015.
- **C.W. Kok** and W.S. Tam, *Digital Image Interpolation in Matlab*, Wiley, Sept 2015.
- Trends in Digital Signal Processing - A Festschrift in Honour of A. G. Constantinides, Editors: **Y. C. Lim, H. K. Kwan, W.-C. Siu**, Pan Stanford Series on Digital Signal Processing - Volume 1, Singapore, July 2015.
- **Tokunbo Ogunfunmi**, Roberto Togneri and Sim Narasimha (Editors.), *Speech and Audio Processing for Coding, Enhancement and Recognition*; Book ID 310948; ISBN 978-1-4939-1455-5, Springer Publishers, 2015..
- **Tokunbo Ogunfunmi** and Koji Seto, Scalable and MultiRate Speech Coding for VoIP Networks, in *Speech and Audio Processing for Coding, Enhancement and Recognition*; Book ID 310948; ISBN 978-1-4939-1455-5, Springer Publishers, 2015. (Book Chapter).
- **A. Spanias**, *Digital Signal Processing; An Interactive Approach – 2nd Edition*, 403 pages, ISBN 978-1-4675-9892-7, Lulu Press On-demand Publishers Morrisville, NC, May 2014.
- J. Thiagarajan, K. Ramamurthy, P. Turaga, **A. Spanias**, *Image Understanding Using Sparse Representations*, Synthesis Lectures on Image, Video, and Multimedia Processing, I, Morgan & Claypool Publishers, ISBN 978-1627053594, 118 pages, Ed. Al Bovik, April 2014.

- ACM/Springer Mobile Networks and Applications (MONET): "SM 148 - QSHINE 2014" - Half Special Issue on "Quality of Service in Heterogeneous Wireless Networks," 2015, Guest Editors: Edith C.-H. Ngai, Victor C.M. Leung, Jiangchuan Liu, Jianping Pan, and **T. Stouraitis**.

5 Plenary Sessions, Keynote Speakers, Invited Lectures

- Yun Chen, Zhang Chuan, "Emerging Channel Decoder Design Techniques for Communication and Memory Systems", special session, the 2015 IEEE International Symposium on Circuits and Systems (ISCAS2015), Lisbon, Portugal, May 24-27, 2015.
- Yun Chen, "VLSI DSP for Next Generation Communication" special session, DSP2015, Singapore.
- Yun Chen, "Emerging VLSI DSP Techniques for Next Generation Communication", special session, SOCC2015, Beijing.
- B.H. Gwee, on "Low Power Robust Asynchronous Circuit Design – Challenges and Future Direction, Nov 7, 2014, Hong Kong University of Science and Technology, Hong Kong.
- Mohsin M. Jamali, "Radar/IR/Acoustic Based Birds/Bats Monitoring System for Wind Turbines Applications," IEEE Distinguish Lecture at Shanghai Jio Tong University, China July 3, 2014.
- Mohsin M. Jamali, "Parallel Architectures for Radar Signal Processing," IEEE Distinguish Lecture at Shanghai Jio Tong University, China July 3, 2014.
- Mohsin M. Jamali, "Radar/IR/Acoustic Based Birds/Bats Monitoring System for Wind Turbines Applications," Nanyang Technological University, Singapore 7, July 2014.
- Mohsin M. Jamali, "Parallel Architectures for Radar Signal Processing," IEEE Distinguish Lecture at Nanyang Technological University, Singapore 7, July 2014.
- Mohsin M. Jamali, "Parallel Architectures for Radar Signal Processing," IEEE Distinguish Lecture at University Teknologi Petronas, Tronoh, Malaysia 9, July 2014.
- Lina Karam, *Plenary Distinguished Lecture*, "Attentive Visual Processing – Towards User-Centric Visual Technologies," International Conference on Computing, Networking and Communications (ICNC), February 2014.
- Yong Lian, on "Wearable Wireless Biomedical Sensors: Challenges and Future", a keynote in the 2015 Symposium on Engineering, Medicine and Biology Applications (SEMBA'2015), Jan. 30 – Feb. 1, 2015, Kaohsiung, Taiwan.
- B. W. K. Ling, on "Optimization and signal processing for health technology for consumer electronics?" a keynote in the IEEE Summer Course on Health Technology, August, 2014, Guangzhou, China.
- B. W. K. Ling, on "Optimization for IoT" a keynote in the IEEE IoT Forum, June, 2014, Guangzhou, China.
- B. W. K. Ling, on "Optimization for wireless communications" a tutorial in the IEEE International Conference on Consumer Electronics, April, 2014, Shenzhen, China.
- Yoshikazu Miyanaga, Keynote Speaker, AUN/SEED-Net Regional Conference on Electrical and Electronics Engineering, Kuala Lumpur, Malaysia, March 4-5, 2014.
- Tokunbo Ogunfunmi, Tutorial: Principles of Adaptive Filters: Recent Advances and Open Problems, *Proceedings of the 2014 IEEE International Symposium on Circuits and Systems (ISCAS)*, Melbourne, Australia June 2014.
- Tokunbo Ogunfunmi, Tutorial: Linear and Nonlinear Adaptive Filters, *Proceedings of the 2014 IEEE Midwest Symposium on Circuits and Systems (MWSCAS)*, College Station, TX, August 2014.

- I. Pitas, invited plenary lecture ‘Human-centered 2D/3D video content analysis and description’, 8th International Conference on Electrical and Computer Engineering (ICECE 2014), Dhaka, Bangladesh, 20-24/12/2014
- I. Pitas, invited panel member in the panel ‘Multimedia security: Technology and Society’, 16th International Workshop on Multimedia Signal Processing, MMSP 2014, Jakarta, Indonesia, 22-24/9/2014.
- I. Pitas, invited overview lecture on 2D/3D Audio Visual Content Analysis and Description, 16th International Workshop on Multimedia Signal Processing, MMSP 2014, Jakarta, Indonesia, 22-24/9/2014.
- I. Pitas, invited lecture on ‘Intelligent digital media analysis and description’, First Euro-China Conference on Intelligent Data Analysis and Applications (ECC2014), 13-15/6/2014 Shenzhen, China.
- Wan-Chi Siu, Keynote Speaker, "Transform Domain Processing for Recent Video and Signal Processing Applications", 19th International Conference on Digital Signal Processing, (19th DSP2014) 20-23 August 2014, Hong Kong.
- Wan-Chi Siu, Keynote Speaker, "From Recent Research on Video Surveillance to Super-resolution Videos", 2014 IEEE International Conference on Signal Processing, Communication and Computing (ICSPCC'2014), 5-8 August, 2014, Guilin, China.
- Wan-Chi Siu, Keynote Speaker, "Quality Video Surveillance under Internet Environment", 2014 IEEE International Consumer Electronics - China (ICCE-China 2014) on Internet of Things (IoT): Technologies and Applications for Consumer Electronics, April 9-13, 2014, Shenzhen, China.
- Wan-Chi Siu, Keynote Speaker, "Challenges on Video Surveillance under Quality Expectations and Big Data Environment", the Ninth International Conference on Intelligent Information Hiding and Multimedia Signal Processing (IIH-MSP2013), October 16-18, 2013, Beijing, China.
- Wan-Chi Siu, Invited Overview Speaker, "Global Scope of Video Surveillance and the Demanding Technologies", IEEE China Summit and International Conference on Signal and Information Processing (ChinaSIP'2014), 10-13 July 2014, Xián China.
- Wan-Chi Siu, Invited Panel Speaker, "Meeting with IEEE/SPS Leadership", IEEE China Summit and International Conference on Signal and Information Processing (ChinaSIP'2014), 10-13 July 2014, Xián China.
- A. Spanias, Keynote Speech, Advances in Speech and Audio Processing and Coding, 6th International Conference on Information, Intelligence, Systems and Applications (IISA 2015), July 6–8, 2015, Ionian University, Corfu.
- Thanos Stouraitis, “Flexible Cryptographic Systems,” Keynote Speech, The IEEE Asia Pacific Conference on Circuits and Systems (APCCAS 2014), Nov. 17-20, 2014, Ishigaki Island, Okinawa, Japan.
- Thanos Stouraitis, “Matching Data Representation to Application Needs - Case Study: Cryptographic Systems,” Keynote Speech, 18th IEEE International Symposium on Design and Diagnostics of Electronic Circuits and Systems (DDECS 2015) 22-24 April 2015, Belgrade, Serbia.

6 Editorial Services

- Ying Chen, Editor of Joint Video Team for HEVC edition 2 "Draft high efficiency video coding (HEVC) version 2, combined format range extensions (RExt), scalability (SHVC), and multi-view (MV-HEVC) extensions".
- Ying Chen, Editor of Joint Video Team for 3D extension of HEVC specification "3D-HEVC Draft Text 7".

- Ying Chen, Editor of Joint Video Team for 3D-HEVC test model "Test Model 11 of 3D-HEVC and MV-HEVC".
- Ying Chen, Editor of Joint Video Team for MV-HEVC and 3D-HEVC conformance testing "MV-HEVC and 3D-HEVC Conformance Draft 3".
- Paulo S. R. Diniz, Senior Editor of IEEE Journal on Selected Topic in Signal Processing.
- Håkan Johansson, Associate Editor of IEEE Trans. on Circuits and Systems-I, 2014-2015.
- Håkan Johansson, Area Editor of the Elsevier J. Digital Signal Processing, ongoing (from 2013).
- Lina Karam, Senior Editorial Board of the IEEE Signal Processing Magazine (2014-present).
- Lina Karam, Editorial Board, Foundation and Trends in Signal Processing.
- Chi-Wah Kok, Managing Special Issue Guest Editor, Vacuum, Elsevier.
- Chi-Wah Kok, Managing Guest Editor, Microelectronic Engineering, Elsevier.
- Chi-Wah Kok, Managing Guest Editor, Microelectronic Journal, Elsevier.
- Yong Lian, Guest Editor for IEEE Transactions on Circuits and Systems I, Special Issue on Selected Papers from ISCAS'2014
- Yong Lian, Associate Editor, IEEE Transactions on Biomedical Circuits and Systems.
- Yong Lian, Steering Committee Member, IEEE Transactions on Multimedia.
- Yong Lian, Steering Committee Member, IEEE Transactions on Biomedical Circuits and Systems.
- Zhiping Lin, Editor-in-Chief, Multidimensional Systems and Signal Processing.
- Zhiping Lin, Subject Editor, Journal of The Franklin Institute.
- Zhiping Lin, Lead Guest Editor, Special Issue on "Extreme Learning Machine on High Dimension and Large Data Applications," in Mathematical Problems in Engineering.
- B. W. K. Ling, Associate Editor, Journal of Franklin Institute.
- B. W. K. Ling, Associate Editor, Circuits, Systems and Signal Processing.
- B. W. K. Ling, Associate Editor, International Journal of Bifurcation and Chaos.
- B. W. K. Ling, Associate Editor, Open Journal Advanced Engineering Techniques.
- B. W. K. Ling, Associate Editor, International Journal of Applied Mathematics and Modeling.
- B. W. K. Ling, Associate Editor, International Journal of Engineering and and Emerging Techniques.
- Wei Liu, Associate Editor for IEEE Trans. Signal Processing (03/2015-present).
- Wei Liu, Lead Guest Editor for the special issue "Recent Advances in Design and Signal Processing for Antenna Arrays" of the International Journal of Antennas and Propagation (2015).
- Kai-Kuang Ma, Associate Editor, IEEE Signal Processing Letters (SPL).
- Kai-Kuang Ma, Associate Editor, IEEE Trans. on Circuits & Systems for Video Technology (TCSVT).
- Kai-Kuang Ma, Editorial Board Member, International Journal of Visual Communication and Image Representation.
- Kai-Kuang Ma, Editorial Board Member, International Journal of Image and Graphics.
- Pramod Kumar Meher, Associate Editor, IEEE Transactions on Very Large Scale Integration (VLSI) Systems (2009-2014).
- Pramod Kumar Meher, Associate Editor, Journal of Circuits, Systems and Signal Processing (2007-2015).
- Pramod Kumar Meher, Associate Editor, Integration - the VLSI Journal (2014-2015).
- Yoshikazu Miyanaga, Editor-in-Chief, Journal of Signal Processing, Japan.
- Tokunbo Ogunfunmi, Ravi Ramachandran. and Joos Vandewalle, Guest Editors, Special Issue of IEEE Circuits & Systems Magazine, Third Quarter 2014. Special Issue Title: "Re-thinking Circuits and System Education: Exploring New Pedagogies and Approaches".
- Tokunbo Ogunfunmi, Associate Editor, IEEE Trans. on Circuits & Systems II (TCAS-II).

- Tokunbo Ogunfunmi, Senior Associate Editor, IEEE Signal Processing Letters, (SPL).
- Tokunbo Ogunfunmi, Associate Editor, Circuits, Systems and Signal Processing (CSSP).
- Ravi P. Ramachandran, Member of the Editorial Board, IEEE Circuits and Systems Magazine.
- Wan-Chi Siu, Associate Editor, IEEE Transactions on Circuits & System for Video Technology, 2015-17, IEEE.
- Wan-Chi Siu, Member, Publication Board, IEEE Signal Processing Society, 2012-2014.
- Wan-Chi Siu, Member of Editorial Board, Journal of VLSI Signal Processing Systems for Signal, Image and Video Technology, Since January 1996, Kluwer Academic Publisher.
- Wan-Chi Siu, Editorial Board Member, Journal of Data Acquisition & Processing China.
- M.N.S. Swamy, Editor-in-Chief, Circuits, Systems and Signal Processing journal
- M.N.S. Swamy, Editorial Board Member, Fibonacci Quarterly.
- M.N.S. Swamy, Associate Editor, Journal of Innovative Computing, Information and Control
- David Tay, Associate Editor, Multidimensional Systems and Signal Processing.
- Li Xu, Associate Editor, Multidimensional Systems and Signal Processing.
- Yajun Yu, Associate Editor, the Journal of Circuits Systems & Signal Processing.
- Yajun Yu, Editorial Board Member, Digital Signal Processing, Elsevier.
- Xiao-Ping Zhang, Associate Editor, IEEE Transactions on Circuits and Systems for Video Technology.
- Xiao-Ping Zhang, Associate Editor, IEEE Transactions on Multimedia.
- Xiao-Ping Zhang, Associate Editor, IEEE Transactions on Signal Processing.
- Xiao-Ping Zhang, Associate Editor, IEEE Signal Processing Letters.
- Wei Xing Zheng, Associate Editor, Automatica.
- Wei Xing Zheng, Associate Editor, IET Control Theory & Applications.
- Wei Xing Zheng, Associate Editor, IEEE Transactions on Automatic Control.
- Wei Xing Zheng, Associate Editor, IEEE Transactions on Fuzzy Systems.
- Wei Xing Zheng, Associate Editor, Circuits, Systems and Signal Processing.
- Wei Xing Zheng, Associate Editor, IEEE Transactions on Cybernetics.
- Wei-Ping Zhu, Associate Editor, IEEE Trans. on Circuits & Systems II (TCAS-II).
- Wei-Ping Zhu, Associate Editor, Journal of the Franklin Institute.

7 IEEE Services

- Omair Ahmad, Chair of IEEE CAS Montreal Chapter.
- Yun Chen, Reviewer of IEEE Solid-State Conference (ISSCC2015).
- Yun Chen, Reviewer of IEEE VLSI Symposium (VLSI2015).
- Yun Chen, Reviewer of IEEE Transactions on Circuit and System II.
- Paulo S. R. Diniz, Member of IEEE Fellow Committee, 2014 and 2015.
- Moncef Gabbouj, General Co-chair, The 9th IEEE International Conference on Big Data Science and Engineering (IEEE BigDataSE-15), Helsinki, Finland, 20-22 August, 2015.
- Moncef Gabbouj, Member of the IEEE Fourier Award for Signal Processing Committee, 2013-2014.
- Moncef Gabbouj, Member of the IEEE Signal Processing Society Big Data Interest Group (BIG-SIG), 2014.
- Dominic Ho, Chair of IEEE SPS Multichannel and Signal Processing (SAM) Technical Committee.
- Mohsin M. Jamali, Chair-Elect, IEEE VLSI Systems Applications (VSA) Technical Committee, IEEE Circuits and Systems Society 2014-Present.

- Lina Karam, Member of the IEEE Publication Services and Products Board Strategic Planning Committee (2014-present)
- Lina Karam, Member of the IEEE Signal Processing Society's Image, Video and Multidimensional Signal Processing (IVMSP) Technical Committee (2014-present).
- Chi-Wah Kok, Member of the IEEE Electron Device and Solid State Circuit, Hong Kong Chapter.
- Raija Lehto, IEEE CAS BoG member 2014, RAM Division.
- Yong Lian, Vice President, Publications, IEEE Circuits and Systems Society.
- B. W. K. Ling, Member of Nonlinear Circuits and Systems Technical Committee, IEEE Circuits and Systems Society.
- B. W. K. Ling, Member of Power and Energy Circuits Technical Committee, IEEE Circuits and Systems Society.
- B. W. K. Ling, Member of Digital Signal Processing Technical Committee, IEEE Circuits and Systems Society.
- B. W. K. Ling, Member of Industrial Agents Technical Committee, IEEE Industrial Electronics Society.
- B. W. K. Ling, Member of Industrial Informatics Technical Committee, IEEE Industrial Electronics Society.
- B. W. K. Ling, Member of Cloud and Wireless Systems for Industrial Applications Technical Committee, IEEE Industrial Electronics Society.
- B. W. K. Ling, Member of Asia Conference Steering Committee, IEEE Consumer Electronics Society.
- B. W. K. Ling, Member of Membership Drive Committee, IEEE Consumer Electronics Society.
- B. W. K. Ling, Member of Shenzhen Chapter Committee, IEEE Consumer Electronics Society.
- Tokunbo Ogunfunmi, Chair, IEEE CASCOM Technical Committee.
- Tokunbo Ogunfunmi, Past Chair, IEEE CASEO Technical Committee.
- Tokunbo Ogunfunmi, Served as Track Chair and chaired 3 sessions at the IEEE ISCAS Conference June 2014.
- I. Pitas, Member, MMSP Technical Committee, IEEE Signal Processing society.
- I. Pitas, Member, IVMSP Technical Committee, IEEE Signal Processing society.
- Wan-Chi Siu, Vice President, Jan 2012- December 2014, IEEE Signal Processing Society (SPS)
- Wan-Chi Siu, Chairman, Conference Board, Signal Processing Society, IEEE, 2012-2014.
- Wan-Chi Siu, Chairman, Conference Board Executive Sub-Committee (CBES), Signal Processing Society, IEEE, 2012-2014.
- Wan-Chi Siu, Member of Board of Governors and its Executive Committee, Signal Processing Society, IEEE, 2012-2014.
- Andreas Spanias, Industry DSP Standing Committee, IEEE Signal Processing Society.
- Thanos Stouraitis, Past President, IEEE CASS.
- YJ Yu, Deputy Chair of IEEE Circuits & System Singapore Chapter
- Xiao-Ping Zhang, Elected Member of Visual Signal Processing and Communications Technical Committee (VSPC TC), IEEE Circuits and System Society.
- Xiao-Ping Zhang, Elected Member of Multimedia System and Applications Technical Committee (MSA TC), IEEE Circuits and System Society.
- Xiao-Ping Zhang, Elected Member of Digital Signal Processing Technical Committee (DSP TC), IEEE Circuits and System Society.
- Xiao-Ping Zhang, Elected Member of Image, Video, and Multidimensional Signal Processing Technical Committee (IVMSP TC), IEEE Signal Processing Society.
- Xiao-Ping Zhang, Elected Member of Multimedia Signal Processing Technical Committee (MMSP TC), IEEE Signal Processing Society.

- Xiao-Ping Zhang, Elected Member of Industry DSP Technology Standing Committee, IEEE Signal Processing Society. Chair: Award Subcommittee.
- Wei Xing Zheng, International Steering Committee of the IEEE Asia Pacific Conference on Circuits and Systems (APCCAS)

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

- 2014 International Symposium on Communications and Information Technologies (ISCIT 2014, IEEE), Incheon, Korea, September 24-26, 2014.
- 2014 International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS 2014), Kuching, Sarawak, Malaysia, December 1-4, 2014.
- IEEE International Conference on Digital Signal Processing, Singapore, July 21-24, 2015.
- The 9th IEEE International Conference on Big Data Science and Engineering (IEEE BigDataSE-15), Helsinki, Finland, 20-22 August, 2015.
- 2015 International Symposium on Communications and Information Technologies (ISCIT 2015, IEEE), Nara, Japan, October 7-9, 2015
- 2015 International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS 2015), Topical Paradise Nusa Dua, Bali, Indonesia, November 9-12, 2015.

9 Other Activities

- Ying Chen, Reviewers of ISCAS 2015, ICME 2015 and other journal papers.
- Mohsin M. Jamali, Member-at-Large, IEEE Toledo, Ohio Section.
- Lina Karam, Panel III Chair of the 2014 UTA Research Assessment Exercises, Tampere, Finland
- B. W. K. Ling, Member of Pearl River Delta Development Committee, IET.
- B. W. K. Ling, Treasurer of Special User Group of Internet of Things.
- Yoshikazu Miyanaga, Advisory Committee Member, The Asia-Pacific Signal and Information Processing Association (APSIPA), 2013 – present.
- Yoshikazu Miyanaga, International Steering Committee Honorary Chair, International Symposium on Communications and Information Technologies (ISCIT), 2011 - present.
- Yoshikazu Miyanaga, Advisory Committee Member, International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS), 2009 – present.
- Yoshikazu Miyanaga, President, The Institute of Electronics, Information and Communication Engineers (IEICE), Japan, Engineering Sciences Society (ESS), 2015-2016.
- I. Pitas, Visiting Professor, Department of Computer and Information Engineering, Henan University, China.
- Wan-Chi Siu, President-Elect, 2015-16, APSIPA (Asia-Pacific Signal & Information Processing Association)
- Wan-Chi Siu, Member, Engineering Panel, Research Grant Council (RGC), Hong Kong SAR Government, 2011-2016
- Wan-Chi Siu, Assessor/Reader, NSFC/RGC Joint Research Scheme, RGC, Hong Kong SAR Government, 2013-2014
- Wan-Chi Siu, Assessor/Reader, UGC Competitive Research Funding Schemes for the Local Self-finance Degree Section, RGC, Hong Kong SAR Government, 2014
- Wan-Chi Siu, Assessor/Reader, Educational Plan for Early Career Scheme, RGC, Hong Kong SAR Government, 2013-2014
- Wan-Chi Siu, Member, ASTRI Technology Review Panel, Hong Kong Applied Science and Technology Research Institute, 2006-2015.

- Wan-Chi Siu, Member, APAS (Automotive Parts and Accessory Systems R&D Centre) Expert Panel, Productivity Centre
- Wei Xing Zheng, Member of the Steering Committee of the Australian Control Conference.

10 Awards, Honors and News from the TC Members

- Omair Ahmad, IEEE CASS Regions 1-7 Chapter of the Year Award.
- Ying Chen had about 40 technical contributions to MPEG/JCT-VC/JCT-3V international standard (H.265/HEVC extensions and MPEG-2 systems for HEVC extensions) from April 2014 to April 2015.
- Moncef Gabbouj enjoys his final year as Academy of Finland professor, Academy of Finland, Tampere University of Technology, Finland (2011 – 2015).
- Moncef Gabbouj was elected member of the Academia Europaea since 2014.
- Moncef Gabbouj was elected member of the Finnish Academy of Science and Letters since 2014.
- Moncef Gabbouj has been awarded the largest TUT Foundation Research investment award of €600 000 to conduct Big Data related research during 2014-2015.
- Moncef Gabbouj was co-author of the paper awarded the IBM Best Paper Award at ICPR 2014.
- Moncef Gabbouj's research team ranked 2nd and 4th in Microsoft Research Bing Image Retrieval Challenge (2014).
- Moncef Gabbouj's team achieved 3rd position in the International Competition on Counter Measures to 2D Face Spoofing Attacks at ICB 2013.
- Moncef Gabbouj led research team ranked 3rd place in the Brain-Computer Interaction (BCI) Challenge@NER2015.
- Mohsin M. Jamali, The Fulbright-Tampere University of Technology Scholar Award for Real-Time Birds/Bats Tracking for Windfarm Applications, January 1, 2015 to May 31, 2015.
- Mohsin M. Jamali, Researcher of the year award, Department of Electrical Engineering and Computer Science, The University of Toledo, Toledo, Ohio, April 2014.
- Lina Karam is co-author of the IEEE Transactions paper awarded the prestigious 2014 IEEE Signal Processing Society's Best Paper Award.
- Lina Karam awarded an Arizona Technology Enterprises (AzTE) Recognition Certificate for Licensed Technology in 2014.
- Lina Karam is co-inventor on filed patent application in 2014.
- Yong Lian, 2014 Chen-Ning Yang Award in Science and Technology for New Immigrant.
- B. W. K. Ling, Best Paper Award of the ICCE-C 2014, IEEE Consumer Electronics Society.
- B. W. K. Ling, Merit Paper Award of the ICCE-C 2014, IEEE Consumer Electronics Society.
- Tokunbo Ogunfunmi, IEEE Meritorious Service Award for serving as Chair, Circuits and Systems for Education and Outreach (CASEO) Technical Committee (TC) of the IEEE Circuits and Systems society, 2011-2013, June 2014.
- Wan-Chi Siu, Outstanding Performance/Achievement Award in Research & Scholarly Activities - 2014, Faculty of Engineering, Hong Kong Polytechnic University, August 2014.

11 Contributors

The following 37 DSP TC members contributed to this report:

Omair Ahmad

Ying Chen
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Thanos Stouraitis
M.N.S. Swamy
David Tay
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Yajun Yu
Chuan Zhang
Xiao-Ping Zhang
Wei Xing Zheng
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