

2005 Annual Report
IEEE CAS Visual Signal Processing and Communications (VSPC) Technical Committee

Past Chair: Dr. Huifang Sun, Mitsubishi Electric Research Labs

Chair: Dr. Tihao Chiang, National Chiao-Tung University

Secretary: Dr. Wenwu Zhu.

1. Newly Elected IEEE Fellow from TC
 - Chang Wen Chen
 - Joern Ostermann
 - Yun.-Qin Shi

2. Journal Editorial Support
 - T-MM 2002-2004 (T. Chen EIC)
 - TCSVT (A. Kot, T. Sikora EIC)
 - Journal of Visual Communication and Image Representation(J. Kuo EIC)
 - LNCS Transactions on Data Hiding and Multimedia Security by Springer (Founding EIC Y. Shi)
 - Journal of Information Science and Engineering(J. Kuo)
 - International Journal of Image and Graphics (Y. Shi)
 - TCASII (A. Kot, Y. Shi)
 - EURASIP JASP(A. Kot, J. Kuo, K. N. Ngan)
 - Journal of Visual Communications and Image Representation, Academic Press (K. N. Ngan)
 - EURASIP Journal on Signal Processing: Image Communication, Elsevier (K. N. Ngan)
 - EURASIP JASP SI on Advanced Technologies and Applications for H.264/AVC and Beyond, 2005. (M.T. Sun)
 - Proceedings of the IEEE SI on Advances in Video Coding and Delivery, January 2005. (W. Zhu, M.T. Sun, L.G. Chen, and T. Sikora)
 - SI on Multimedia Signal Processing for Journal of VLSI Signal Processing Systems (Springer, to be published in 2005) (Y. Shi)
 - SI on Image Watermarking for International Journal of Image and Graphics (World Scientific Publishing Co., published in 2004) (Y. Shi)
 - SI on "Audio-Visual Signal Processing for Intelligent Security Systems" for the Journal of VLSI Signal Processing Systems for Signal, Image, and Video Technology. (Y.-P. Tan)
 - Journal of VLSI Signal Processing Systems (Special Issue on Digital and Computational Video), Kluwer Academic Publishers, 2005. (Nam Ling)

3. International Conference Support

The committee would like to thank the following committee members for their kind support in paper review process and session chairs for the ISCAS 2005 conferences.

Tian-Sheuan Chang, Lap-Pui Chau, Chang Wen Chen, Mei-Juan Chen, Jie Chen, Liang-Gee Chen, H.-M. Hang, Yu-Wen He, Zhihai He, Yun He, C.-C. Jay Kuo, Andreas J. Kassler, Alex Kot, Gwo Giun Lee, Siwei Ma, Emin Martinian, Kun-Bin Lee, Shipeng Li, Zhengguo Li, Chia-Wen Lin, Nam Ling, J.J. Leou, Takashi Morie, Huifang Sun, Susanto Rahardja, Tan Yap Peng, Alexis Tourapis, Tsung-Han Tsai, Tung yi-Shin, Anthony Vetro, Jhing-Fa Wang, Haohong Wang, Dapeng Oliver Wu, Xiaokang Yang, Qian Zhang, Wenwu Zhu,

The committee members have supported and/or will support the following international conferences.

- ISCAS 2005 (May 23-26, Kobe 2005)
- ICIP2004-5 (A. Kot, Y.-P. Tan)
- ICME 2004, Taipei, Taiwan, June 27-30, 2004 (J. Kuo, Nam Ling)
- International Conference on Multimedia and Expo 2005 (ICME 2005). (M.T. Sun, Nam Ling)
- ICIP 2005 (Singapore, October 24-27, 2004) (Z. He)
- PCM 2004, 2005 (C. Lin, M.T. Sun)
- PCS'2006 (Y. He)
- VCIP'2005 (S. Li, Y. He, M.-T. Sun, Nam Ling)
- Conference on Multimedia Systems and Applications, Philadelphia, September 12-16, 2004(J. Kuo)
- Image and Video Communications and Processing, San Jose, CA., January 18-20, 2005(J. Kuo)
- International Packet Video Workshop, Irvine, CA., December 13-14, 2004(J. Kuo)
- Conference on Internet Multimedia Management Systems V, Philadelphia, PA., Oct. 25-28, 2004(J. Kuo)
- Conference on Applications of Digital Image Processing, XXVII, Denver, CO, August 2-6, 2004 (J. Kuo)
- Conference on Digital Wireless Communications VI, Orlando, FL., April 12-13, 2004. (J. Kuo)

- Int. Conf. on Communications, Circuits and Systems (ICCCAS2005) May 27-30, 2005, HK (B. Zeng)
- IEEE International Symposium on Intelligent Signal Processing and Communication Systems, Hong Kong, December 2005. (K. N. Ngan)
- IEEE International Workshop on Advanced Imaging Technology, Singapore, January 2004. (K. N. Ngan)
- WirelessCom 2005, International Symposium on Multimedia over Wireless, Hawaii. (Z. He, T. Chiang)
- International Conference on Acoustics, Speech, and Signal Processing, Philadelphia, 2005. (Z. He)
- International Conference on Communication (ICC), 2005. (Z. He)
- "Electronic Imaging and Multimedia Technology IV" conference at Photonics Asia, Beijing, 8-12 November 2004. (M.T. Sun)
- 14th International Packet Video Workshop (PV2004), Irvine, CA, December 13-14, 2004. (M.T. Sun)
- IEEE MMSP05 (Signal Processing Society) (Y. Shi)
- 2005 International Conference on Information, Communications and Signal Processing. (Y.-P. Tan)
- Mobility Conference 2005 (Y.-P. Tan).
- 2004 & 2005 SiPS(Nam Ling)
- 2005 ICICS (Nam Ling)
- 2005 AINA(Nam Ling)
- 2006 ICCE. (Nam Ling)
- 2006 ICME. (Chang Wen Chen)
- SiPS07 in Shanghai. (Nam Ling)

4. Invited Lectures

- C.-C. Jay Kuo, "Mobile ad hoc networks: applications and challenges," Keynote Speech, 10th anniversary of the Computer and Communication Center, National Tsinghua University, Hsinchu, Taiwan, March 21, 2005.
- C.-C. Jay Kuo, "Digital media revolution and intelligent media processing," Keynote Speech in International Symposium on Intelligent Signal Processing and Communication Systems, Seoul, Korea, November 19, 2004.
- C.-C. Jay Kuo, "Efficient web content representation via multimedia XML harmonization," Keynote speech on IASTED International Conference on Internet and Multimedia Systems and Applications (IMSA), Hawaii, August 17, 2004.
- T. Chen keynote at ICME 2004
- A. Kot, Distinguished Lecturer
- King N. Ngan, "Rate Control for MPEG-4 Video Coders", Promotion of the University Technology Lecture Series, National Cheng Kung University, Taiwan, February 2005.
- King N. Ngan, "Automatic Segmentation of Video Objects", Promotion of the University Technology Lecture Series, National Sun Yat-Sen University, Taiwan, February 2005.
- King N. Ngan, "Rate Control for MPEG-4 Video Coders", National Chiao Tung University, Taiwan, February 2005.
- King N. Ngan, "Automatic Segmentation of Objects of Interest in Video: A Unified Framework", Shanghai Jiao Tong University, Shanghai, China, December 2004.
- King N. Ngan, "An Overview of Video Coding Standards", Technical Seminar on AVS -the New Audio and Video Coding Standard in China: Its technology and business opportunity, IEE, Hong Kong, June 2004.
- King N. Ngan, "Video Segmentation, Rate Control and Error Resilience Coding for MPEG-4", Department of Electronic and Information Engineering, Huazhong University of Science and Technology, Wuhan, China, February 2004.
- Y. Q. Shi, "Reversible data hiding," invited key-note speech, IWDW04, Korea, October 2004.
- Y. Q. Shi, "Statistical pattern recognition approach to steganalysis," Shanghai Jiao Tung University, Shanghai, China, January 7, 2005.
- Y. Q. Shi, "Statistical moments of characteristic functions of wavelet subbands of prediction-error images for steganalysis," invited talk at Institute of Inforcomm Research, Singapore, February 16, 2005.
- Y. Q. Shi, "Invertible Data Hiding: Algorithms and Applications," Signal Processing Chapter, IEEE North Jersey Section, September 14, 2004, Newark, New Jersey.
- Y.-P. Tan, "Video Segmentation by Sequential Change Detection" in Tsinghua University, Beijing, China (22 April 2005)
- Nam Ling, US Taiwan High-Tech Forum (Sep 2004), Tamkang Univ (2004)
- Nam Ling, National Dong Hwa Univ (2004)
- Nam Ling, Stanford Univ - Shannon Lecture (2004)
- Nam Ling, Institute for Infomm Research (2005)
- Huifang Sun, "Digital television and video storage technology", MPEG Workshop, Hong Kong, (2005)

5. The committee is considering new members in the coming TC meeting in ISCAS05.

Andreas J. Kassler (kassler@ieee.org) (Nominated by Tihao Chiang) (17 votes)

Dr. Andreas J. Kassler received his Diplom in Mathematics and Computer Science from University of

Augsburg, Germany, in 1995 and his Ph.D. in Computer Science from University of Ulm, Germany, in 2002. At University of Ulm, he was the leader of the QoS and Mobility research group at the Distributed Systems Department from 1998 until November 2003. In December 2003, he joined the School of Computer Engineering, Nanyang Technological University (NTU), Singapore, as an Assistant Professor. He has served as a technical program committee member or track chair for several international conferences, including the Packet Video Workshop 2004, 2nd German Workshop on Mobile Ad Hoc Networks (WMAN) 2004, International Conference on Communications Systems and Applications (CSA 2004), and Hawaii International Conference on System Sciences-38 2005. He has also been invited to serve as a reviewer for international journals and conferences including Journal of Selected Areas in Communications (JSAC), IEEE Communications Magazine and a number of IEEE international conferences. At NTU, he is active in the Center for Multimedia Networking (CeMNET) and the Network Technology Research Center (NTRC). His research interests include video coding, multimedia networking, Quality of Service Management and wireless networks. He has authored or coauthored over 40 research articles, and is named as co-inventor on 3 European and international patents. He is a project manager for European research projects and is actively participating in several IETF working groups. Dr. Kessler is a member of the IEEE, Communications Society and of the Technical Committee of Telecommunications of the IASTED.

Jhing-Fa Wang (wangjf@csie.ncku.edu.tw) (Nominated by Tihao Chiang) (20 votes)

Jhing-Fa Wang is now dean and a professor in National Cheng Kung University, Tainan, Taiwan. He received his master and bachelor degrees in electrical engineering from National Cheng Kung University in 1979 & 1973 respectively and Ph.D. degree in the Department of Computer Science & Electrical Engineering from Stevens Institute of Technology U.S.A. in 1983. He is now also an associate editor of IEEE Transaction on Neural Networks and VLSI systems. He is now also on the Board of Governors of IEEE Taipei Section. He got outstanding awards from Institute of Information Industry in 1991 and National Science Council in 1990, 1995 and 1997, respectively. His current research areas include VLSI/CAD, speech recognition, speech coding, optical character recognition and natural language processing. He has developed a Mandarin speech recognition system called Venus-Dictate known as a pioneering system in Taiwan. He has published about 60 journal papers and 150 conference papers since 1983. He was elected as an IEEE Fellow in 1999 for contributions to software-hardware co-development of large-vocabulary Mandarin speech processing and recognition systems.

Haohong Wang (haohongw@qualcomm.com) (Nominated by Huifang Sun)

Haohong Wang received the B.S. degree in computer science, and the M.Eng. degree in computer & its application both from Nanjing University, China, and the M.S. degree in computer science from University of New Mexico, Albuquerque, USA, and the Ph.D. degree in Electrical and computer engineering from Northwestern University, Evanston, Illinois, USA. He worked for Speech and Image Processing Lab of AT&T Research Labs, Florham Park, NJ during 1998 summer. From 1999 until 2001, he was a Member of Technical Staff with Catapult Communications Inc., Schaumburg, IL. Since 2004, he has been with Qualcomm Inc., San Diego, CA. Dr. Wang's research involves the areas of computer graphics, human computer interaction, image/video analysis and compression, and multimedia signal processing and communications. He has published around 30 publications in referred journal and international conferences and is the inventor of 5 US patents (in pending). Dr. Wang is a member of the IEEE, a member of the ACM SIGMM, and a member of the IEEE Multimedia Communications Technical Committee. He is currently serving as a Guest Editor for the journal of *Wireless communications and Mobile Computing* Special Issue on *Video Communications for 4G Wireless Systems*, and he is the co-editor of *Computer Graphics* (Publishing House of Electronics Industry, 1997). He is the Technical Program Co-Chair of the *2005 IEEE WirelessCom Symposium on Multimedia over Wireless* (Maui, Hawaii).

Dapeng Oliver Wu (wu@ece.ufl.edu) (Nominated by Tihao Chiang)

Dapeng Wu received B.E. in Electrical Engineering from Huazhong University of Science and Technology, Wuhan, China, in 1990, M.E. in Electrical Engineering from Beijing University of Posts and Telecommunications, Beijing, China, in 1997, and Ph.D. in Electrical and Computer Engineering from Carnegie Mellon University, Pittsburgh, PA, in 2003. From July 1997 to December 1999, he conducted graduate research at Polytechnic University, Brooklyn, New York. During the summers of 1998, 1999 and 2000, he conducted research at Fujitsu Laboratories of America, Sunnyvale, California, on architectures and traffic management algorithms in the Internet and wireless networks for multimedia applications. Since August 2003, he has been with Electrical and Computer Engineering Department at University of Florida, Gainesville, FL, as an Assistant Professor. His research interests are in the areas of networking, communications, multimedia, signal processing, and information and

network security. He received the IEEE Circuits and Systems for Video Technology (CSVT) Transactions Best Paper Award for Year 2001. Currently, he is an Associate Editor for the IEEE Transactions on Vehicular Technology and Associate Editor for International Journal of Ad Hoc and Ubiquitous Computing. He served as Program Chair for IEEE/ACM First International Workshop on Broadband Wireless Services and Applications (BroadWISE 2004); and as TPC member of over 20 conferences such as IEEE INFOCOM'05, IEEE ICC'05, IEEE WCNC'05, and IEEE Globecom'04. He is Vice Chair of Mobile and wireless multimedia Interest Group (MobIG), Technical Committee on Multimedia Communications, IEEE Communications Society. He is a member of the Award Committee, Technical Committee on Multimedia Communications, IEEE Communications Society. He is also Director of Communications, IEEE Gainesville Section.

Guoping Qiu (Nominated by Shi, Yun-Qing)

Dr Guoping Qiu is a Reader in Visual information Processing in the School of Computer Science, University of Nottingham, UK. He received his BSc in Electronic Measurement and Instrumentation at the University of Electronic Science and Technology of China in 1984 and his PhD in Electronic Engineering at the University of Central Lancashire, Preston, UK in 1993. Following his doctoral work, he has held Lectureship appointments at the School of Computer Science, University of Nottingham, UK (2000 – 2004), the School of Computing, University of Leeds, UK (1999 – 2000) and the School of Computing and Maths, University of Derby, UK (1993 – 1999).

Dr Qiu is interested in general problems in computational visual information processing. For the past 14 years, he has been performing research on many visual information processing topics including image coding, learning-based image processing, color imaging, high dynamic range imaging, image database and content-based image indexing and retrieval, machine learning and neural networks, pattern recognition, face and car detection, etc.

He has published more than 80 papers in these areas including many in IEEE Transactions and IEEE sponsored conferences. He has reviewed many papers for IEEE journals and has been a TC member for several international conferences in the areas. He has also been a consultant on image processing technologies for multinational companies.

Jar-Ferr Yang (jfyang@ee.ncku.edu.tw) (Nominated by Ming-Ting Sun)

Jar-Ferr Yang was born in Keelung, Taiwan on September 15, 1954. He received the B. S. degree from the Chung-Yuan Christian University, Taiwan in 1977, and the M. S. degree from the National Taiwan University, Taiwan in 1979, and the Ph. D. degree from the University of Minnesota, Minneapolis, U. S. A. in 1988 all in electrical engineering. He was an instructor in the Chinese Naval Engineering School in 1979-1980 and he as an assistant researcher worked in the Data Transmission and Network Design Research Group, Telecommunication Laboratories, Taiwan during 1981-1984. From 1982 to 1984, he was an adjunct lecturer in the Chung-Yuan Christian University. >From 1984 to 1988, he received the Government Study Abroad Scholarship supported his advanced study in the University of Minnesota. In 1988, he jointed the National Cheng Kung University started as an associate professor. He was the Chairman of the Center for Computer and Communication Research, National Cheng Kung University from 1997 to 2000. In 2002, he was a visiting scholar at the Department of Electrical Engineering, University of Washington. He has published over 60 journal and 90 conference papers and held 6 U.S. patents and 7 Taiwanese patents in areas of audio, speech, image, and video processing and compression. Currently, he is the Deputy Director of the Electrical and Information Technology Center and a professor at the Department of Electrical Engineering, National Cheng Kung University. His teaching and research primarily are in the areas of multimedia signal processing, multimedia compression, spectrum estimation, and neural networks.

Zhibo Chen (jfyang@ee.ncku.edu.tw) (Nominated by Yun He)

Zhibo Chen works as a Senior Research Engineer in Thomson R&D Center (Beijing, China) Since 2004. Being a project leader of video compression group, he is in charge of the video compression and transmission research activities. He served as research engineer in Digital Imaging Company of Sony Corporation (Tokyo, Japan) from 2003 to 2004. He served as a research assistant in State Key Lab of Microwave and Digital Communication of Tsinghua University from 1998 to 2003. He served as a research visitor in UbiCom Lab of Delft University (Delft, Netherlands) in 2002. Zhibo Chen received the Ph.D degree from the the Department of Electrical Engineering of Tsinghua University, Beijing, in 2003, graduated with the excellent Ph.D thesis Award. His B.S degree was also obtained in the same

department of Tsinghua University in 1998. During the Ph.D studies, his Fast Motion Estimation proposals were accepted by JVT into JM software and also into the “Text Description of Joint Model”. His research area includes image/video processing, optimized video coding, robust and constant video over network communication, wireless video, multi-view processing, content-based video processing, etc.; He has filed two patents and published about 20 papers for Journal, Proceeding and International standard.

2. Next TC meeting will be held in Kobe during ISCAS2005, the proposed agenda is as follows:

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1. Approval of the agenda
 2. BOD report
 3. Review the activities during the past year
 4. Conference Support
 5. New members
 6. Elect new officers
 7. Other business
 8. Adjourn
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