Chairman: Prof. H. K. Kwan
Secretary: Prof. Y. Miyanaga
Past Chairman: Prof. T. Saramäki

1 TC Meeting: The last TC Annual Meeting was held on May 26, 2004, Wednesday, 13:00 to 14:00 at a meeting room, Sheraton Vancouver Wall Centre Hotel, Vancouver, Canada, during the IEEE International Symposium on Circuits and Systems, Vancouver, Canada, May 23-26, 2004.

2 Conferences or Workshops where the DSP TC or Members of the TC was/were actively involved in 2004-2005 include the followings:
   • Technical Program Committee:
     Digital Signal Processing Track Chair: Prof. Tapio Saramäki
     Neural Systems and Applications Track Chair: Prof. H. K. Kwan
   • Publication Chair: Prof. Wu-Sheng Lu
   • Review Committee Members:
   • Co-Organizers and Co-Chairs of Invited Sessions:
     o “Frequency Response Masking Technique” (Sponsored by DSP TC): Prof. Yong Lian and Prof. Håkan Johansson.
     o “Smart Multi-Media Systems” (Sponsored by DSP TC): Prof. Y. Miyanaga.
     o “Multirate Systems for Communications” (Sponsored by DSP TC): Prof. See-May Phoong and Yuan-Pei Lin.
   • Technical Session Chairs:
     o "FIR Digital Filters": Prof. Yong Ching Lim, Prof. Yong Lian.
     o "IIR Digital Filters": Prof. Håkan Johansson
     o "Digital Filters": Prof. Takao Hinamoto, Prof. Håkan Johansson.
"Digital Filter Banks": Prof. Wu-Sheng Lu, Prof. See-May Phoong.
"Digital Signal Processing Applications I": Prof. Dominic K. C. Ho, Prof. Yuan-Pei Lin.
"Digital Signal Processing Applications II": Prof. Yuan-Pei Lin, Prof. Dominic K. C. Ho.
"Multidimensional Signal Processing I": Prof. Zhiping Lin, Prof. Ioannis Pitas.
"Multidimensional Signal Processing II": Prof. Soontorn Oraintara, Prof. Ioannis Pitas.
"Discrete-Time Transforms and Wavelets": Prof. See-May Phoong, Prof. Tapio Saramäki.
"Implementation of DSP Algorithms": Prof. Thanas Stouraitis.
"Digital Signal Processing": Prof. Tapio Saramäki.
"Detection and Estimation", Prof. Wei Xing Zheng, Prof. Moncef Gabbouj.
"Adaptive Signal Processing I": Prof. Uday B. Desai, Prof. Wei Xing Zheng.
"Adaptive Signal Processing II": Prof. Paulo Diniz, Prof. Uday B. Desai.
"Digital Signal Processing for Communications I": Prof. See-May Phoong.
"Digital Signal Processing for Communications II", Prof. Markku Renfors, Prof. Wei Xing Zheng.
"Audio and Speech Processing I": Prof. Yoshikazu Miyanaga, Prof. Sergios Theodoridis.
"Audio and Speech Processing II": Prof. Sergios Theodoridis, Prof. Yoshikazu Miyanaga.
"Digital Filters and Filter Banks": Prof. Andreas Spanias,
"Discrete-Time Transforms and Wavelets", Prof. Soontorn Oraintara.
"Digital Signal Processing I": Prof. Dominic K. C. Ho.
"Digital Signal Processing IV": Prof. Zhiping Lin.
"Digital Signal Processing V": Prof. Paulo Diniz.
"Digital Signal Processing VI": Prof. Wei Xing Zheng.

- General Chair: Prof. Takao Hinamoto.
- Special Session Co-Chair: Prof. Wu-Sheng Lu.
- Publicity Committee: Profs. Yoshikazu Miyanaga, Y. C. Lim, Soo-Chang Pei, and Wan-Chi Siu.
- Technical Program Committee:
  - Digital Circuits and Computer Arithmetic Track Co-Chair: Prof. K. K. Parhi
  - Adaptive Signal Processing Track Co-Chair: Prof. P. S. R. Diniz
  - Image Processing and Multimedia Systems Track Co-Chair: Prof. S. Basu.
  - Neural Networks and Fuzzy Systems Track Co-Chair: Prof. H. K. Kwan.

2.4 The 6th International Conference and Exhibition on Digital Signal Processing and its Applications (DSPA 2004), Moscow, Russia, March 31–April 2, 2004. International Technical Program Committee Member: Prof. Tapio Saramäki.

2.5 The 12th IEEE Mediterranean Electrotechnical Conference (MELECON 2004), Dubrovnik, Croatia, May 12–15, 2004. Technical Program Committee Member: Prof. Tapio Saramäki. Best Student Paper Award: His student Yaning Zou took part in the contest during the conference.


2.14 The 2004 International Workshop on Spectral Methods and Multirate Signal Processing (SMMSP 2004), Vienna, Austria, September 11-12, 2004. The main purpose of the workshop was to bring together some of the leading experts working on transforms, filter banks, and multirate filtering in general and to create a friendly and relaxed atmosphere to talk about the most important issues in these fields. We managed very well and ended up with the proceedings of 50 articles. See http://sigwww.dmi.tut.fi/TICSP/. Co-Chairmen: Profs. Karen Egiazarian and Tapio Saramäki.

2.15 Fourteenth International Workshop on Power and Timing Modeling, Optimization and Simulation (PATMOS 2004), Isle of Santorini, Greece, September 15 - 17, 2004. TP Committee Member: Prof. T. Stouratis.


2.21 Third International Workshop on Digital Watermarking (IWDW 2004), Seoul, Korea, October 30 - November 1, 2004. Program Committee Member: Prof. Ioannis Pitas.


2.30 The 7th International Conference and Exhibition on Digital Signal Processing and its Applications (DSPA 2005), Moscow, Russia, March 16–18, 2005. International Technical Program Committee: Prof. Tapio. Saramäki.


2.33 International Conference on Visual Information Engineering (VIE 2005), University of Glasgow, Glasgow, UK, April 4-6, 2005. Corresponding PC Member: Prof. Ioannis Pitas.

3 On going Conferences or Workshops where the DSP TC or Members of the TC is/are actively involved include the followings:


- DSP Track Chair: Prof. H. K. Kwan, Co-Chair: Prof. Tapio Saramäki.
- Review Committee Members:
- Tutorial Co-Chair: Prof. Y. Miyanaga.
- Lecturer of Tutorial Session: “Digital Filters on Silicon: Design and Implementation”, (Sponsored by DSP TC), Prof. Y. C. Lim.
- Co-Organizers and Co-Chairs of Invited Sessions:
  - “Low Complexity Digital Filter Design Technologies and Their Applications”, (Sponsored by DSP TC), Prof. Yong Lian.
  - “Multidimensional Systems and Signal Processing”, (Sponsored by DSP TC), Prof. Zhiping Lin.
  - “Advances in Low Power Sensor Networks”, (Sponsored by DSP TC), Prof. Andreas Spanias.
- Technical Session Chairs:
  - "FIR Digital Filters": Masayuki Kawamata, Y. C. Lim,
  - "IIR Digital Filters": H. K. Kwan.
  - "Digital Filters I": Takao Hinamoto, Tapio Saramäki.
  - "Digital Filter Banks I": Soontorn Orantara.
  - "Multidimensional Signal Processing": M. N. S. Swamy.
  - "Discrete Transforms and Wavelets": W. C. Siu.
  - "Detection and Estimation": Yih-Fang Huang.
  - "Audio and Speech Processing I": Ravi Prakas Ramachandran.
o "Audio and Speech Enhancement I": Say Wei Foo.
o "Digital Signal Processing for Communications I": Yoshikazu Miyanaga.
o "Digital Signal Processing for Communications II": See-May Phoong.
o "Digital Filters II": Yong Lian.
o "Digital Signal Processing II": Zhiping Lin.
o "Digital Signal Processing Applications III": Yuan-Pei Lin.

3.2 International Workshop Audio—Visual Content and Information Visualization in Digital Libraries, (AVIVDiLib 2005), Cortona, May 4-6, 2005. Program Committee Member: Prof. Ioannis Pitas.


3.4 International Symposium on Neural Networks (ISNN 2005), May 30 - June 1, 2005, Chongqing, China. Program Committee Member: Prof. H. K. Kwan.

3.5 The 2005 International Workshop on Spectral Methods and Multirate Signal Processing (SMSP 2005), Riga, Latvia, June 20–22, 2005. http://sigwww.dmi.tut.fi/TICSP/. The main purpose of the workshop serves as again to bring together some of the leading experts working on transforms, filter banks, and multirate filtering in general and to create a friendly and relaxed atmosphere to talk about the most important issues in these fields. Co-Chairmen : Profs. Karen. Egiazarian and Tapio Saramäki.

3.6 The 4-th Workshop on Content-Based Multimedia Indexing (CBMI 2005), Reval Hotel Latvija, Riga, Latvia, June 22-24, 2005. The workshop is about content-based multimedia indexing and retrieval and has been co-sponsored by the DSP TC. General Chair: Prof. Moncef Gabbouj. Technical Program Committee Member: Prof. Ioannis Pitas.


3.11 The 8th International Symposium on Signal Processing and Its Applications (ISSPA 2005), Sydney, Australia, August 29-September 1, 2005. Program Committee Members: Prof. Ioannis Pitas, Prof. Wei Xing Zheng. Special Session Organizer and Chair: "Blind System Identification": Prof. Wei Xing Zheng.
3.24 The International Conference on “Computer as a tool” (EUROCON 2005), November 21–24, 2005, Sava Center, Belgrade, Serbia & Montenegro. Scientific Committee Member: Prof. Håkan Johansson, Prof. Tapio Saramäki.
3.26 The joint 44th IEEE Conference on Decision and Control and European Control Conference (CDC-ECC 2005), Seville, Spain, December 6-9, 2005. Program Committee Member: Prof. Wei Xing Zheng.
3.28 International Conference on Biometrics Authentication (ICBA 2006) Hong Kong, 5-7 January 2006. Program Committee Member: Prof. Ioannis Pitas.


4 Books and Book Chapters:
   Nil

5 Short Courses:
   5.1 Prof. Tapio Saramäki has served since 1995 the main lecturer and organizer of four intensive DSP courses to the industrial people through EDUTECH, the organization of Tampere University of Technology taking care of educating people outside the university.

6 Plenary Sessions, Keynote Speakers, Invited Lectures:
   6.1 Dr. Paulo S. R. Diniz served as a Distinguished Lecturer of the IEEE Signal Processing Society during 2004. He was invited to give 12 talks around the world.
   6.2 Dr. Moncef Gabbouj serves as a Distinguished Lecturer of IEEE CAS for 2004-2005.
   6.4 Profs. Karen Egiazarian and Tapio Saramäki gave plenary talks at the 7th International Conference and Exhibition on Digital Signal Processing and its Applications (DSPA-2005), March 16–18, 2005, Moscow, Russia.
   6.6 Prof. J. B. Evans gave an invited talk entitled “Resilient Wireless Networks” at the IEEE Wireless Communications & Networking Conference, Atlanta, Georgia, USA, March 24, 2004.
   6.7 Prof. Moncef Gabbouj was invited to give a plenary speech at the 6th International Conference and Exhibition on Digital Signal Processing and its Applications (DSPA 2004), March 31–April 2, 2004, Moscow, Russia.
   6.8 Professor P. P. Vaidyanathan gave a plenary speech in ISCAS 2004, Vancouver, Canada on May 24, 2004. The title is “Genomic Signal Processing”.
6.9 Prof. Yong Lian serves as a Distinguished Lecturer of the IEEE Circuits and Systems Society. Prof. Yong Lian gave a Distinguished Lecturer talk in Shanghai, China, July 2004, Beijing, China, September 2004 and Singapore, Oct. 2004.


6.11 Prof. H. K. Kwan delivered a talk on “Digital Filters for Chaotic Signal Driven Parametric Modulation”, University of Hong Kong, October 2004.


6.14 Prof. Yuan-Pei Lin gave an invited talk of the 2004, Sixth DSP Educators Conference, Tokyo, Japan.

7 Editorial Services:

7.1 Prof. Tapio Saramäki serves as an Associate Editor, Circuits, Systems and Signal Processing.

7.2 Prof. Yong Lian serves as an Associate Editor, IEEE Trans. on Circuits and Systems I. He serves as also a Guest Editor, IEEE Trans. on Circuits and Systems I.

7.3 Prof. Yong Lian serves as an Associate Editor, Circuits, Systems and Signal Processing. He serves as also a Guest Editor, Circuits, Systems and Signal Processing.

7.4 Prof. Zhiping Lin serves as an Editorial Board Member, Multidimensional Systems and Signal Processing.

7.5 Prof. Zhiping Lin serves as an Associate Editor: Circuits, Systems and Signal Processing.


7.7 Prof. Truong Nguyen serves as an Associate Editor, IEEE Transactions on Image Processing.

7.8 Prof. Truong Nguyen serves as an Associate Editor, IEEE Signal Processing Letters.

7.9 Prof. Truong Nguyen serves as an Associate Editor, IEEE Transactions on CAS II.

7.10 Prof. See-May Phoong serves as an Associate Editor, IEEE Trans. Circuits and Systems II.

7.11 Prof. See-May Phoong serves as an Associate Editor, IEEE Signal Processing Letters.

7.12 Prof. T. Stouraitis serves as a Regional Editor-Europe, Journal of Circuits, Systems, and Computers.

7.13 Prof. T. Stouraitis serves as an Associate Editor, IEEE Transactions on VLSI.

7.14 Prof. J. B. Evans serves as an Associate Editor, IEEE Communications Letters.

7.15 Prof. Y. Miyanaga serves as an Associate Editor, Journal of Signal Processing, Japan.
7.16 Prof. Yuan-Pei Lin serves as an Associate Editor, IEEE Transaction on Signal Processing, 2002-2006.
7.17 Prof. Yuan-Pei Lin serves as an Associate Editor, Multidimensional, Systems and Signal Processing, Academic Press, 1997-
7.19 Prof. Wei Xing Zheng serves as an Associate Editor, IEEE Trans. on Circuits and Systems I.
7.20 Prof. K. C. Ho serves as an Associate Editor, IEEE Transactions on Signal Processing.
7.21 Prof. K. C. Ho serves as an Associate Editor, IEEE Signal Processing Letters.
7.22 Prof. Ravi P. Ramachandran serves as an Associate Editor for the IEEE Circuits and Systems Magazine, the IEEE Transactions on Speech and Audio Processing and the journal Pattern Recognition.
7.23 Prof. Wei Xing Zheng serves as an Associate Editor, IEEE Trans. on Automatic Control.
7.24 Dr. Ravi P. Ramachandran serves as a Member of editorial board, IEEE CAS Magazine.
7.25 Dr. Ravi P. Ramachandran serves as an Associate editor of IEEE Transactions on Speech and Audio Processing.
7.26 Dr. Ravi P. Ramachandran serves as an Associate editor of Pattern Recognition.
7.27 Prof. Håkan Johansson serves as an Associate Editor of IEEE Signal Processing Letters.
7.28 Prof. Lina Karam serves as an Associate Editor of the IEEE Signal Processing Letters (2004-present).
7.29 Prof. Sankar Basu serves as an Associate Editor, IEEE Trans. on Circuits and Systems II.

8 IEEE Services:
8.1 Prof. M. N. S. Swamy served as President-Elect of the IEEE CAS Society during 2003 and serves as now president for the year 2004.
8.2 Prof. M. N. S. Swamy served on the Steering Committee for the IEEE Transactions on Multimedia.
8.3 Prof. M. N. S. Swamy served on the Steering Committee for the IEEE Transactions on Mobile Computing.
8.4 Prof. M. N. S. Swamy served on the Steering Committee for the Midwest Symposium on Circuits and Systems.
8.5 Prof. H. K. Kwan served as the Past Chair (2004-2005) of Neural Systems and Applications Technical Committee.
8.6 Prof. H. K. Kwan served as a Panel Member (2003-2004) of IEEE Circuits and Systems Society Outstanding Young Author Award.
8.7 Prof. J. B. Evans serves as Chair, IEEE Communications Society Technical Committee on High-Speed Networking.
8.8 Prof. J. B. Evans serves as the Secretary, Technical Activities Committee, IEEE Communications Society.
8.9 Prof. J. B. Evans serves as the Chair, Distinguished Lecturers Committee, IEEE Communications Society.

8.10 Prof. Lina Karam serves as a member of the IEEE Signal Processing Society Conference Board.

8.11 Prof. Lina Karam serves as a member of the IEEE Signal Processing Society's Image and Multidimensional Signal Processing (IMDSP).

8.12 Prof. Lina Karam received the Outstanding Technical Contributions Award, IEEE Signal Processing and Communication Chapter, IEEE Phoenix Section, January 2005.

8.13 Prof. Yong Lian serves as the Elected Chair of CAS Chapter, Singapore.


8.15 Prof. Y. Miyanaga serves as International Steering Committee Member (since 2000- ) for IEEE International Symposium on Communications and Information Technologies (ISCIT).

9 DSP TC Technically Co-Sponsored Conferences/Symposia/Workshops:


9.10 “International Symposium on Communications and Information Technologies 2005 (ISCIT 2005 ), Beijing, China, October 12-14 2005”.


10 Other Activities:

10.1 Tampere International Center for Signal Processing (TICSP), Tampere University of Technology: The Center has acquired the status of Center of Excellence given by the Academy of Finland 2000-2005. The Director for TICSP serves as Prof. Jaakko Astola. Three of the DSP TC members, Profs. K. Egiazarian, M. Gabbouj, and T. Saramäki, are heavily involved in arranging the activities of TICSP. Profs. K. Egiazarian, M. Gabbouj, and T. Saramäki are the Team Leaders in SPAG (Signal Processing Algorithm Group). Several TC members (Profs. Pitas, Bellanger, Gabbouj and Nguyen) are members of the Advisory Board of TICSP. TICSP is an institute created to provide a proper environment for a rapid transfer of the latest ideas between first-class researchers in industry and academia. Its purpose is to provide a proper logistic, financial and human resource environment to adequately host exchanges of highly competent researchers. TICSP invites for periods of 2 to 12 months researchers at all levels: visiting professors, post-doctorate, and Ph.D. students, to engage research at the Signal Processing Laboratory in cooperation with the researchers of the neighbouring academic and industrial research institutes. The main purpose is to generate fruitful cooperation between scientists all around the world. Part of the activities of TICSP is organizing workshops. It has also its own publication series to appear twice a year. For more information, visit the homepage at URL: http://sigwww.cs.tut.fi/TICSP/.

10.2 Prof. Yong Lian continues (since 2003-04) to maintain our DSP TC web site at http://www.ieee-cas.org/ which serves to promote the goal of the DSP TC.

10.3 Prof. Ioannis Pitas serves as the Greek National Council Member of Research and Technology.

10.4 Prof. Ioannis Pitas serves as a reviewer, Committee for Research Evaluation (CIVR), Italy.

10.5 Prof. Ioannis Pitas serves as a reviewer, the Centres of Excellence, KU Leuven, 2005

11 Some News from the TC Members are listed below:

11.1 Prof. Tapio Saramäki was awarded the Honorary Member (Fellow) of the Russian A. S Popov Society for Radio Engineering, Electronics, and Communications for great contributions to the development of digital signal processing theory and methods and great contributions to the consolidation of relationships between Russian and Finnish organizations. In http://www.webstationone.com/fecha/popov.htm, it has been mentioned: “(Russian scientist Alexander Stepanovitch) Popov definitely did become an inventor of radio, even if (Guglielmo) Marconi became known as the inventor of radio, but Popov hasn't been totally ignored in the history.” Saramäki became the 80th honorary member of the above-mentioned society since 1945.

11.2 Prof. Thanos Stouraitis directs the newly established International multidisciplinary Graduate Program on "Signal and Image Processing," based at the University of Patras, Greece.
11.3 Prof. Joseph B. Evans was appointed as a Program Manager in the Division of Computer and Network Systems, Directorate of Computer & Information Sciences and Engineering at the National Science Foundation, beginning in August 2003. He oversees a $70 million portfolio of projects in networking systems, with a particular emphasis on wireless networks and network security.

11.4 Our DSP TC 2004 Annual Meeting is scheduled to take place on May 26, 2005 (Thursday), 12:45 pm to 2:15 pm at Portopia Hotel, Room Kitano, Kobe, Japan, during the 2005 IEEE International Symposium on Circuits and Systems, Kobe, Japan, May 23-26, 2005.

12 Acknowledgements:
The Chair (H. K. Kwan) would like to acknowledge all the DSP TC Members for their contributions in professional services; Prof. Yoshikazu Miyanaga, Secretary, for assisting the preparation of this annual report; Prof. Yong Lian for maintaining a professional DSP TC web site; and Prof. Tapio Saramaki for serving as the Past Chair.

Submitted by Prof. H. K. Kwan, DSP TC Chair.

Date: April 29, 2005.