

# Presentation Schedule

*Friday, January 12, 2007*

## **SESSION 1.1: Modern Topics in Audio Signal Processing with Applications to Consumer Electronics**

**DATE:** January 12, 2007

**Time:** 10:30 - 12:10

**Location:** N252

**Chairs:** Ronald Aarts, Philips Research; Fredric Lindstrom, Konftel

- 10:30    **1.1-1** SIGNAL-BASED MUSIC SEARCHING AND BROWSING  
Mark Sandler, *Queen Mary University of London, United Kingdom*; Mark Levy, *Queen Mary University of London, United Kingdom*
- 10:50    **1.1-2** PERCEPTUAL CONSTRAINTS IN SYSTEMS FOR AUTOMATIC MUSIC INFORMATION RETRIEVAL  
Martin McKinney, Michael Bruderer, Alberto Novello, *Philips Research Laboratories, The Netherlands*
- 11:10    **1.1-3** ON-LINE MUSICAL BEAT TRACKING WITH PHASE-LOCKED-LOOP (PLL) TECHNIQUE  
Yu Shiu, *University of Southern California, United States*; C. -C. Jay Kuo, *University of Southern California, United States*
- 11:30    **1.1-4** A MICROPHONE ARRAY SOLUTION FOR DUPLEX HANDS-FREE COMMUNICATION SYSTEMS  
Sven Nordholm, Siow Yong Low, Hai Quang Dam, *Western Australian Telecommunication Institute, Australia*
- 11:50    **1.1-5** COMPLEXITY-CONSTRAINED FEATURE SELECTION FOR CLASSIFICATION  
Jan Plasberg, Bastiaan Kleijn, *EE, KTH, Sweden*

## **SESSION 1.2: Digital Video Broadcasting DVB-T/DVB-H**

**DATE:** January 12, 2007

**Time:** 10:30 - 12:10

**Location:** N254

**Chairs:** Peter H. N. de With, LogicaCMG Nederland/TU Eindhoven; Michael A. Isnardi, Sarnoff Corporation

- 10:30    **1.2-1** HANDHELD DVB-T DIGITAL TV WITH AN AUTOMATIC ANTENNA SELECTION METHOD FOR MOBILE RECEPTION  
Chua-Chin Wang, Gang-Neng Sung, Jie-Yu Liao, *Dept. of Electrical Engineering, National Sun Yat-Sen University, Taiwan*; Jason Chang, Ron Hu, *Asuka Semiconductor Inc., Taiwan*
- 10:50    **1.2-2** DVB-T RECEIVER WITH A FULLY DIGITAL I/Q SEPARATOR  
Chua-Chin Wang, Ming-Kai Chang, Tsai-Wen Cheng, *Dept. of Electrical Engineering,*

*National Sun Yat-Sen University, Taiwan*

- 11:10    **1.2-3** EFFICIENT VALIDATION/VERIFICATION OF A ROBUST DVB-H LINK LAYER  
Onno Eerenberg, *Philips Research, The Netherlands*; Eric van Orsouw, *PTS Software, The Netherlands*; Peter Wendrich, *Atos Origin, The Netherlands*; Peter de With, *LogicaCMG/Eindhoven University of Technology, The Netherlands*
- 11:30    **1.2-4** PROVIDING WEB SERVICES OVER DVB-H: MOBILE VIRTUAL WEB SERVICES  
Ana Fernández Vilas, Rebeca P. Díaz Redondo, Jose J. Pazos Arias, Marta Rey López, *University of Vigo, Spain*
- 11:50    **1.2-5** A LOW-COST DUAL-MODE DEINTERLEAVER DESIGN  
Yun-Nan Chang, *National Sun Yat-sen University, Taiwan*

### **SESSION 1.3: Optical Storage on CD & DVD**

**Date:** January 12, 2007

**Time:** 10:30 - 12:10

**Location:** N262

**Chairs:** Sorin G. Stan, Philips Consumer Electronics; Kei Yamashita, Hitachi, Ltd.

- 10:30    **1.3-1 Invited** - FROM CD TO DVD AND BEYOND  
Sorin G. Stan, *Philips Consumer Electronics*
- 10:50    **1.3-2** AUTO-WRITE STRATEGY SYSTEM FOR OPTICAL DISC RECORDING  
Tomo Kishigami, Osamu Tsukahara, Yoshihiro Kiyose, Nobuo Takeshita, *Mitsubishi Electric corporation, Japan*
- 11:10    **1.3-3** A CONTINUOUS CALIBRATION SCHEME TO IMPROVE PLAYABILITY ON OPTICAL MEDIA  
Venkata Ramana Vangala, Sreenivas Mamidi, *Philips Electronics Singapore Pte Ltd, Singapore*
- 11:30    **1.3-4** OPTIMIZED SERVO SYSTEM OF DVD DRIVE FOR VIDEO CAMERA  
Takahiro Matsuda, Kenji Akahoshi, Koji Fujita, Hiroaki Ono, *Hitachi, Ltd., Ubiquitous Platform Systems R&D Laboratory, Japan*; Hisataka Sugiyama, *Hitachi, Ltd., Ubiquitous Platform Systems Product Development Division, Japan*
- 11:50    **1.3-5** ADAPTIVE ALGORITHMS TO IMPROVE THE OPTICAL DISC DRIVE ROBUSTNESS IN RECORDING AND PLAYBACK  
Yu Zhou, *Philips Electronics Singapore Pte. Ltd, Singapore*

### **SESSION 1.4: H.264/AVC Implementation**

**Date:** January 12, 2007

**Time:** 10:30 - 12:10

**Location:** N264

**Chairs:** Michael A. Isnardi, Sarnoff Corporation; Peter de With, LogicaCMG Nederland/TU Eindhoven

- 10:30    **1.4-1** DESIGN OF MEMORY SUB-SYSTEM IN H.264/AVC DECODER

Chih-Hung Li, Chang-Hsuan Chang, Wen-Hsiao Peng, Wei Hwang, Tihao Chiang,  
*Dept. of Electronics Engineering, National Chiao-Tung University, Taiwan*

- 10:50    **1.4-2** HIGH-PERFORMANCE CABAC ENGINE FOR H.264/AVC HIGH DEFINITION DECODING  
Peng Zhang, Wen Gao, *Institute of Computing Technology, Chinese Academy of Sciences, China*; Don Xie, *Grandview Semiconductor, China*; Di Wu, *Institute of Computing Technology, Chinese Academy of Sciences, China*
- 11:10    **1.4-3** AN EFFICIENT DESIGN OF H.264 INTER INTERPOLATOR  
Yun-Nan Chang, *National Sun Yat-sen University, Taiwan*
- 11:30    **1.4-4** HIGH PERFORMANCE VLSI IMPLEMENTATION FOR H.264 INTER/INTRA PREDICTION  
Mythri Alle, Jayanta Biswas, S. K. Nandy, *Indian Institute Of Science, India*
- 11:50    **1.4-5** A SINGLE CHIP H.264/AVC HDTV ENCODER/DECODER/TRANSCODER SYSTEM LSI  
Hiroki Mizosoe, *Hitachi, Ltd., Japan*

## **SESSION 2.1: Home Networks, New Services and Interactions**

**Date:** January 12, 2007

**Time:** 02:20 - 04:00

**Location:** N252

**Chairs:** J.J. Lukkien, Eindhoven University of Technology; Peter Corcoran, National University of Ireland, Galway

- 02:20    **2.1-1** BIOMETRIC ACCESS CONTROL FOR DIGITAL MEDIA STREAMS IN HOME NETWORKS  
Peter Corcoran, *National University of Ireland, Galway, Ireland*; Frank Callaly, Alex Cucos, *NUI, Galway, Ireland*
- 02:40    **2.1-2** DYNAMIC USER INTERFACE UPDATE USING WEB BASED FRAMEWORK  
Ho Jin, JungYon Cho, JongWook Park, *Samsung Electronics, South Korea*
- 03:00    **2.1-3A** SYSTEM DESIGN FOR RESIDENTIAL SERVICES DELIVERY OVER INTERNET  
L. T. Lee, S. T. Chui, K. Tang, *City University of Hong Kong, Hong Kong*
- 03:20    **2.1-4** EFFICIENT RESIDENTIAL CONSUMER DEVICE INTERACTION WITH NETWORK SERVICES  
Eric Burger, *Cantata Technology, Inc., United States*; Ophir Frieder, *Illinois Institute of Technology, United States*

## **SESSION 2.3: Invited Session Digital Consumer Storage Systems**

**Date:** January 12, 2007

**Time:** 02:20 - 04:00

**Location:** N262

**Chairs:** Thomas M. Coughlin, Coughlin Associates; Richard G. Zech, The ADVENT Group

- 02:20    **2.3-1 Invited** - DEVELOPMENTS IN DIGITAL STORAGE FOR CONSUMER

ELECTRONICS  
Thomas M. Coughlin, *Coughlin Associates*

03:00 **2.3-2 Invited** - CONSUMER STORAGE AT THE NEW TECHNOLOGY TIPPING POINT:  
THE IMPACT OF MEMS AND NEMS  
Richard G. Zech, *The ADVENT Group*

### **SESSION 2.4: Invited Session Future TV 1**

**Date:** January 12, 2007

**Time:** 02:20 - 04:00

**Location:** N264

**Chairs:** Uwe E. Kraus, University of Wuppertal; Bernard Fong, Auckland University of Technology

02:20 **2.4-1 Invited** - TELEVISION DISPLAY PROCESSING: PAST & FUTURE  
G. deHaan, *Philips Research Laboratories, Eindhoven, The Netherlands*

03:00 **2.4-2 Invited** - MOBILE RECEPTION OF TV SIGNALS  
Gangolf Hirtz, *Lear Corporation*

### **POSTER SESSION P1: RF Transmission and Communication Systems**

**Date:** January 12, 2007

**Time:** 02:20 - 04:20

**Location:** N256

**Chairs:** Dietmar Hepper, Thomson; Bernard Fong, Auckland University of Technology

**P1-1** SMART SCHEDULING ALGORITHM FOR IEEE 802.11E WLAN BASED ON  
TRAFFIC PREDICTIONS

Kang Yong Lee, Kee-Seong Cho, *Electronics and Telecommunications Research  
Institute, South Korea*

**P1-2** PERFORMANCE ANALYSIS OF MAXIMAL RATIO COMBINING OF SPATIALLY  
FILTERED SIGNALS

Choong Il Yeh, *ETRI, South Korea*

**P1-3** ON WIMAX PERFORMANCE WITH MULTIPLE-ANTENNA TRANSMISSION

Mikael Gidlund, *Acreo AB, Sweden*

**P1-4** REDUCING THE PEAK-TO-AVERAGE POWER RATIO OF OFDM SIGNAL BY  
A MODIFIED SELECTED MAPPING TECHNIQUE

Jie Yang, *Wuhan University of Technology, China*; Lei Chen, *Wuhan University of  
Technology, China*

**P1-5** IMPLEMENTATION OF THE T-DMB MIDDLEWARE PLATFORM ON THE  
RECEIVER FOR INTERACTIVE DATA SERVICES

Kwang-Yong Kim, Gwang Soon Lee, Gyu Tae Yang, ChungHyun Ann, Soo In Lee,  
*ETRI, South Korea*

**P1-6** CANCELLED

**P1-7** A 192MHZ TO 1.946GHZ PROGRAMMABLE DLL-BASED FREQUENCY

**MULTIPLIER FOR RF APPLICATIONS**

Romin Weng, Chunyu Liu, Ming-Hui Liang, Yue-Fang Kuo, *Nation Dong Hwa University, Taiwan*

**P1-8 TRANSMITTER PRE-EMPHASIS AND ADAPTIVE RECEIVER EQUALIZATION FOR DUOBINARY SIGNALING IN BACKPLANE CHANNELS**

Lakshmi P. Baskaran, Aldo W. Morales, Sedig Agili, *EE Program, Penn State Harrisburg, United States*

**P1-9 A PAPR REDUCTION SCHEME USING TIME- AND FREQUENCY-DOMAIN CLIPPINGS AND ITS PERFORMANCE EVALUATION IN A DVB-T SYSTEM**

Sungbin Im, Manjung Seo, *Soongsil University, South Korea*

**P1-10 RATE ADAPTATION SCHEME FOR SLOT RESERVATION IN WIMEDIA MAC**

Junwhan Kim, *ETRI, South Korea*

**P1-11 DESIGN AND IMPLEMENTATION OF A HIGH-SPEED DESCRAMBLING ENGINE FOR MULTI-STREAM CABLECARD**

Joon-Young Jung, *ETRI, South Korea*

**P1-12 A MB-OFDM UWB SYSTEM FOR TRANSMITTING 4-HD CHANNEL STREAMING**

Seungsik Lee, *ETRI, South Korea*

**P1-13 INTERACTIVE TERRESTRIAL DIGITAL MULTIMEDIA BROADCASTING**

Won-Hyuck Yoo, *ETRI, South Korea*

**P1-14 IMPLEMENTATION OF IEEE 802.16E MIMO-OFDMA SYSTEMS WITH K-BEST LATTICE DECODING ALGORITHM**

Byungwook Yoo, *Dept. of Electrical and Electronic Engineering, Yonsei University, South Korea*; Kyu Ha Lee, *Samsung Thales R&D Team, South Korea*; Chungyong Lee, *Dept. of Electrical and Electronic Engineering, Yonsei University, South Korea*

**P1-15 PLUGGABLE RFID COMPONENTS AND A LIGHTWEIGHT RFID SYSTEM BASED ON OSGI**

Kuan-Hung Sun, Ting-Wei Hou, Zheng-Ying Wu, *Department of Engineering Science, National Cheng Kung University, Taiwan*

**P1-16 A NEW TSI APPLICATION BASED ON TPEG USING T-DMB**

Youngho Jeong, Soonchoul Kim, Sammo Cho, Geon Kim, Chunghyun Ahn, Sooin Lee, *ETRI, South Korea*

**P1-17 TURBO VSB SYSTEM**

Eui Joon Park, *Samsung Electronics, South Korea*

**P1-18 INTEROPERABILITY IN A WIRELESS HOME NETWORKING SYSTEM**

Bernard Fong, *Auckland University of Technology, New Zealand*; A C M Fong, *Nanyang Technological University, Singapore*

**P1-19 MULTI-CARRIER OPTIMIZATION FOR COMPRESSED VIDEO STREAMING**

Barbara Gabriel, *Aveiro University/IPLeiria, Portugal*; Antonio Navarro, *Aveiro University, Portugal*

**P1-20 AN ENERGY-EFFICIENT ARCHITECTURE OF WIRELESS HOME NETWORK BASED ON MAC BROADCAST AND TRANSMISSION POWER CONTROL**

Kenji Watanabe, *Osaka University, Japan*; Masanao Ise, *Synthesis Corporation, Japan*;

Takao Onoye, *Osaka University, Japan*; Hiroaki Niwamoto, Ikuo Keshi, *SHARP Corporation, Japan*

**P1-21** A CONGESTION CONTROL ALGORITHM IN IEEE 802.11 WLAN FOR THROUGHPUT ENHANCEMENT  
Kang Yong Lee, Kee-Seong Cho, Kang Lee, *Electronics and Telecommunications Research Institute, South Korea*

### **SESSION 3.1: User Authentication**

**Date:** January 12, 2007

**Time:** 04:20 - 06:00

**Location:** N252

**Chairs:** Akiomi Kunisa, SANYO Technology Center; Richard F. Doherty, Envisioneering

- 04:20    **3.1-1** MANAGEABLE ONE-TIME PASSWORD FOR CONSUMER APPLICATIONS  
Men Long, Uri Blumenthal, *Intel Corporation, United States*
- 04:40    **3.1-2** REAL-TIME FINGERPRINT ANALYSIS & AUTHENTICATION FOR EMBEDDED APPLIANCES  
Peter Corcoran, Gabriel Costache, *National University of Ireland, Galway, Ireland*;  
Frank Callaly, Mark Leyden, Catalin Cucu, *NUI, Galway, Ireland*
- 05:00    **3.1-3** BIOMETRIC TEMPLATE PROTECTION: A KEY-MIXED TEMPLATE APPROACH  
Shih-Wei Sun, *Institute of Information Science, Academia Sinica, Taiwan*; Pao-Chi Chang, *Electrical Engineering, National Central Univ., Taiwan*; Chun-Shien Lu
- 05:20    **3.1-4** REAL-TIME PERSON IDENTIFICATION SYSTEM FOR INTELLIGENT DIGITAL TV  
Min-Cheol Hwang, *Korea University, South Korea*; Le Thanh Ha, *Korea University, Vietnam*; Seung-Kyun Kim, Sung-Jea Ko, *Korea University, South Korea*
- 05:40    **3.1-5** A NEW METHOD FOR MANAGEMENT OF CONSUMERS' PRIVATE INFORMATION ON BI-DIRECTIONAL BROADCASTING SERVICES  
Haruyuki Nakamura, Arisa Fujii, Go Ohtake, Keigo Majima, Hiroyuki Imaizumi, Yoshihiro Fujita, *Japan Broadcasting Corporation(NHK), Japan*; Koichi Tanimoto, Takaaki Yamada, *Hitachi, Ltd., Japan*

### **SESSION 3.2: ATSC Transmission**

**Date:** January 12, 2007

**Time:** 04:20 - 06:00

**Location:** N254

**Chairs:** Paul A. Snopko, Techwell, Inc.; Uwe E. Kraus, University of Wuppertal

- 04:20    **3.2-1 Invited** - HISTORY OF ATSC DIGITAL TELEVISION TRANSMISSION SYSTEM  
Gary Sgrignoli, *Meintel, Sgrignoli, & Wallace*
- 04:40    **3.2-2** SUPPLEMENTARY REFERENCE SEQUENCE VSB SYSTEM  
Eui Joon Park, *Samsung Electronics, South Korea*

- 05:00    **3.2-3** DIRECTIONAL DIVERSITY RECEPTION FOR ATSC 8VSB  
JaeHwui Bae, *ETRI, South Korea*
- 05:20    **3.2-4** PRE-EQUALIZATION METHOD TO MINIMIZE TIME DELAY IN EQUALIZATION  
DIGITAL ON-CHANNEL REPEATER IN ATSC SYSTEM  
Sung Ik Park, Heung Mook Kim, Jae Hyun Seo, Jae Young Lee, Jong Soo Lim, *ETRI, South Korea*
- 05:40    **3.2-5** LOOPBACK SIGNAL CANCELLATION SCHEME IN THE EQUALIZATION  
DIGITAL ON-CHANNEL REPEATER  
Suk Chan Kim, Dong Chan Park, Dong Heon Lee, *Pusan National University, South Korea*; Sung Ik Park, Yong Tae Lee, *ETRI, South Korea*

### **SESSION 3.3: Blu-ray Disc**

**Date:** January 12, 2007

**Time:** 04:20 - 06:00

**Location:** N262

**Chairs:** Kei Yamashita, Hitachi, Ltd.; Sorin G. Stan, Philips Consumer Electronics

- 04:20    **3.3-1** TRIPLE-WRITE ONE-LENS OPTICAL PICKUP FOR BLU-RAY DISC/DVD/CD  
SUPPORTING 4X BLU-RAY READ/WRITE  
Fumio Issiki, Nobuyuki Maeda, Katsuhiko Kimura, *Hitachi, Japan*; Hideo Suenaga, *Hitachi Media Electronics, Japan*; Takahiro Kurokawa, *Hitachi, Japan*
- 04:40    **3.3-2** FRAME ACCURATE EDITING IN BLU-RAY MPEG-2 TRANSPORT STREAMS  
Kousik Sankar, *Philips Consumer Electronics, India*
- 05:00    **3.3-3** BLU-RAY DISC 6X READ/WRITE CONTROL LSI WITH AN ADAPTIVE PRML  
DETECTOR  
Jun-ya Iizuka, Taku Hoshizawa, Nobutaka Amada, Yukinobu Tada, *Ubiquitous Platform Systems R&D laboratory, Hitachi, Ltd., Japan*; Jun Sakamoto, *Renesas Technology Corp., Japan*
- 05:20    **3.3-4** RECONFIGURABLE FRONT-END SYSTEM FOR BD/DVD/CD RECORDER  
JumHan Bae, JooSeon Kim, HyunSoo Park, HyunJeong Park, YoungJun Ahn, MyungSik Kim, JungWon Lee, InSik Park, *Samsung Electronics Co. Ltd, South Korea*; GoangSeog Choi, *Chosun University, South Korea*
- 05:40    **3.3-5** HIGH-SPEED RECORDING IN BLU-RAY DISC DRIVE  
Takakiyo Yasukawa, Motoyuki Suzuki, Koichi Watanabe, *Hitachi,Ltd., Japan*; Kikuo Shimizu, *Hitachi-LG Data Storage, Inc., Japan*

### **SESSION 3.4: Advanced Video Coding and Applications**

**Date:** January 12, 2007

**Time:** 04:20 - 06:00

**Location:** N264

**Chairs:** Michael A. Isnardi, Sarnoff Corporation; Anthony Vetro, Mitsubishi Electric

- 04:20    **3.4-1** JOINTLY REDUCING THE QUALITY/BITRATE FLUCTUATIONS IN MIXED  
MOTION SEQUENCES IN THE H264 VIDEO CODING STANDARD  
Andrew Armstrong, Steven Beesley, Christos Grecos, *Loughborough University, United Kingdom*

- 04:40 **3.4-2** REAL-TIME H.264 RATE CONTROL FOR SCENE-CHANGED VIDEO AT LOW BIT RATE  
Changhyun Lee, *Samsung Electronics, South Korea*; Seongjoo Lee, *Sejong University, South Korea*; Yunje Oh, *Samsung Electronics, South Korea*; Jaeseok Kim, *Yonsei University, South Korea*
- 05:00 **3.4-3** NO-REFERENCE ESTIMATION OF THE CODING PSNR FOR H.264-CODED SEQUENCES  
Arnd Eden, *Braunschweig Technical University, Institut fuer Nachrichtentechnik, Germany*
- 05:20 **3.4-4** REDUCED COMPLEXITY H.264 TO MPEG-2 TRANSCODER  
Philip Kunzelmann, Hari Kalva, *Florida Atlantic University, United States*
- 05:40 **3.4-5** HIGH DEFINITION MEDIA ARCHITECTURES COUPLED TO A VIDEO TABLE FOR AN AMBIENT MEDIA EXPERIENCE  
Rop Pulles, Peter Hulsen, Keith Baker, *Philips Applied Technologies, The Netherlands*

## ***Saturday, January 13, 2007***

### **SESSION 4.1: Home Networks, Advanced Protocols & Services**

**Date:** January 13, 2007

**Time:** 08:30 - 10:10

**Location:** N252

**Chairs:** Johan Lukkien, *Eindhoven University of Technology*; Igor Radovanovic, *Eindhoven University of Technology*

- 08:30 **4.1-1** ENABLING LEGACY PTP CAMERAS AND PRINTERS AS NETWORKED PTP/IP APPLIANCES  
Peter Corcoran, *FotoNation (Ireland) Ltd., Ireland*; Petronel Bigioi, *FotoNation Ltd., Ireland*; Denis McHugh, *FotoNation Ltd., Ireland*; Illariu Raducan, *FotoNation Ltd., Ireland*; Eran Steinberg, *FotoNation Inc., United States*
- 08:50 **4.1-2** PLAYBACK SYNCHRONIZATION TECHNIQUES FOR NETWORKED HOME APPLIANCES  
Peter Corcoran, Hugh Melvin, *NUI, Galway, Ireland*
- 09:10 **4.1-3** IMPROVING TCP/IP PERFORMANCE OVER LAST-HOP WIRELESS NETWORKS FOR STREAMING VIDEO DELIVERY  
Igor Radovanovic, Richard Verhoeven, Johan Lukkien, *Technische Universiteit Eindhoven, The Netherlands*
- 09:30 **4.1-4** ENHANCING RESIDENTIAL GATEWAYS: OSGI SERVICES COMPOSITION  
Rebeca P. Díaz Redondo, Ana Fernández Vilas, José J. Pazos Arias, Marta Rey López, *University of Vigo, Spain*
- 09:50 **4.1-5** NETWORKED DEVICE CAPABILITY AND CONTENT FORMAT MATCHING SCHEME FOR MULTIMEDIA ACCESS  
Fernando Matsubara, Takehiko Hanada, Shigeru Imai, Shin Miura, Shinji Akatsu, *Mitsubishi Electric Corporation, Japan*

## **SESSION 4.2: Satellite DMB**

**Date:** January 13, 2007

**Time:** 08:30 - 10:10

**Location:** N254

**Chairs:** Uwe E. Kraus, University of Wuppertal; Paul A. Snopko, Techwell, Inc.

- 08:30    **4.2-1** SATELLITE-DMB APPLIED TO THE 8PSK HIERARCHICAL MODULATION  
Seung Hyun Choi, *ETRI, South Korea*
- 08:50    **4.2-2** AN ANALYSIS OF HIERARCHICAL APSK AND PSK SCHEME AND AN  
APPLICATION TO INCREASE THE TRANSMISSION CAPACITY OF S-DMB  
Cheon In Oh, Seoun Hyun Choi, *UST-ETRI, South Korea*; Dae Ig Chang, Deock Gil Oh,  
*ETRI, South Korea*
- 09:10    **4.2-3** DOWNLINK TRANSMISSION METHOD APPLYING STBC IN S-DMB SYSTEM  
INCLUDING IMR  
HEE WOOK KIM, *ETRI, South Korea*
- 09:30    **4.2-4** APPROXIMATED SOFT DECODING ALGORITHM OF 16-APSK SIGNAL FOR  
DVB-S2  
Dongweon Yoon, *Hanyang University, South Korea*

## **SESSION 4.3: Personal Video Recording**

**Date:** January 13, 2007

**Time:** 08:30 - 10:10

**Location:** N262

**Chairs:** Sorin G. Stan, Philips Consumer Electronics; Kei Yamashita, Hitachi, Ltd.

- 08:30    **4.3-1** DETECTION OF MUSIC SEGMENT BOUNDARIES USING AUDIO-VISUAL  
FEATURES FOR A PERSONAL VIDEO RECORDER  
Isao Otsuka, Hidetsugu Suginoara, Yoshiaki Kusunoki, *Mitsubishi Electric Corporation,  
Japan*; Ajay Divakaran, *Mitsubishi Electric Research Laboratories, United States*
- 08:50    **4.3-2** ADVANCED PVR ARCHITECTURE WITH SEGMENT-BASED TIME-SHIFT  
Seong Yong Lim, Ji Hoon Choi, Joo Myoung Seok, Han Kyu Lee, *ETRI, South Korea*
- 09:10    **4.3-3** A PERSONAL VIDEO RECORDING SYSTEM USING H.264 AND MPEG-2  
TRANSPORT STREAM  
Xiangdong Fu, Thanh Tran, *Texas Instruments, United States*
- 09:30    **4.3-4** DIGITAL BROADCASTING CONTENTS PACKAGING FOR STORAGE MEDIA  
Sung Ho Jin, *Informatio and Communications University, South Korea*; Yong Man Ro,  
*Information and Communications University, South Korea*
- 09:50    **4.3-5** DIGEST PLAYBACK TECHNOLOGY FOR TV SPORTS PROGRAMS  
Tatsuo Koga, *SANYO Electric, Japan*

## **SESSION 4.4: H.264/AVC Coding**

**Date:** January 13, 2007

**Time:** 08:30 - 10:10

**Location:** N264

**Chairs:** Michael A. Isnardi, Sarnoff Corporation; Anthony Vetro, Mitsubishi Electric Research

- 08:30    **4.4-1 Invited** - HISTORICAL OVERVIEW OF VIDEO COMPRESSION IN CONSUMER ELECTRONIC  
Michael Isnardi, *Sarnoff Corporation*
- 08:50    **4.4-2** STUDY ON ADAPTIVE REFERENCE PICTURE SELECTION IN H.264/AVC INTERLACED CODING  
Kazuya Takagi, *Matsushita Electric Industrial, Japan*
- 09:10    **4.4-3** AN EFFICIENT IMPLEMENTATION OF MOTION ESTIMATION WITH WEIGHT PREDICTION FOR ITU-T H.264 | MPEG-4 AVC  
Krit Panusopone, Xue Fang, Limin Wang, *Motorola, United States*
- 09:30    **4.4-4** MOTION TRANSITIVE BASED FAST MULTI-FRAME MOTION ESTIMATION ALGORITHM FOR MPEG-4 AVC/H.264  
Sheng-Kai Lin, Wung-Wen Wang, Ja-Ling Wu, Shu-Sian Yang, *National Taiwan University, Taiwan*
- 09:50    **4.4-5** FAST MODE DECISION ALGORITHM USING OPTIMAL MODE PREDICTIONS FOR H.264-BASED MOBILE DEVICES  
Yungho Choi, Yongsu Jo, *Konkuk University, South Korea*; Yong-Goo Kim, *Yonsei University, South Korea*

## **SESSION 5.1: Automotive Systems & Technology**

**Date:** January 13, 2007

**Time:** 10:30 - 12:10

**Location:** N252

**Chairs:** Guido Volleberg, Philips Consumer Electronics; Peter de With, LogicaCMG Nederland/TU Eindhoven

- 10:30    **5.1-1** SYSTEM ARCHITECTURE FOR A MODULAR AND DISTRIBUTED SOLUTION FOR NEXT GENERATION CAR INFOTAINMENT SYSTEMS  
Stefan Drude, Marcin Klecha, *Philips Semiconductors, The Netherlands*
- 10:50    **5.1-2** DELIVERY OF NEW TTI SERVICES OVER TERRESTRIAL DMB AND A BIDIRECTIONAL NETWORK  
Soon-Choul Kim, *Electronics and Telecommunication Research Institute, South Korea*
- 11:10    **5.1-3** ADAPTIVE DECISION FEEDBACK EQUALIZER FOR WIRELESS ACCESS IN VEHICULAR ENVIRONMENTS  
Yong-Hua Cheng, *Industrial Technology Research Institute, Taiwan*
- 11:30    **5.1-4** AN ADVANCED FAST CHANNEL TRACKING METHOD FOR AUTOMOTIVE DIGITAL TV RECEIVER  
Keiichi Shirasuka, *Mitsubishi Electric Corporation, Japan*
- 11:50    **5.1-5** HIGH-SPEED INTER-IC INTERFACING FOR MOBILE MULTIMEDIA APPLICATIONS  
Aliaksei Sedzin, *Philips Semiconductors, The Netherlands*

## SESSION 5.2: Wireless Methods

**Date:** January 13, 2007

**Time:** 10:30 - 12:10

**Location:** N254

**Chairs:** Paul A. Snopko, Techwell, Inc.; Uwe E. Kraus, University of Wuppertal

- 10:30    **5.2-1** UWB: THE SOLUTION FOR WIRELESS A/V CABLE REPLACEMENT  
Sam MacMullan, *Radiospire Networks, Inc.*
- 10:50    **5.2-2** A STUDY ON ADAPTIVE MODULATION OF OFDM UNDER MIDDLETON'S CLASS-A IMPULSIVE NOISE MODEL  
Hikaru Ishikawa, Makoto Itami, Kohji Itoh, *Tokyo University of Science, Japan*
- 11:10    **5.2-3** AMPLITUDE-DQPSK MODULATION FOR HIGH-DATA-RATE TERRESTRIAL DIGITAL MULTIMEDIA BROADCASTING  
Dae-Ken Kwon, Hyoung-Nam Kim, *Dept. of Electronics Engineering, Pusan National Univ., South Korea*; Hyoungsoo Lim, Jong Soo Lim, *ETRI, South Korea*
- 11:30    **5.2-4** METHODS TO IMPROVE THE EFFICIENCY OF WIRELESS LAN FOR MULTIMEDIA HOME NETWORKS  
Ruediger Kays, Beatriz Aznar, Wolfgang Endemann, Oliver Hundt, Christian Schilling, *University of Dortmund, Germany*
- 11:50    **5.2-5** PERFORMANCE IMPROVEMENT OF TERRESTRIAL DMB RECEIVERS IN HIERARCHICAL MODULATION MODE  
Ji-Hyun Kim, Hyoung-Nam Kim, *Dept. of Electronics Engineering, Pusan National Univ., South Korea*; Hyoungsoo Lim, Jong Soo Lim, *ETRI, South Korea*

## SESSION 5.3: Home Media Servers

**Date:** January 13, 2007

**Time:** 10:30 - 12:10

**Location:** N262

**Chairs:** Reinhard Moeller, University of Wuppertal; George Borden, Logitech, Inc.

- 10:30    **5.3-1** IMPLEMENTATION OF THE DLNA PROXY SYSTEM FOR SHARING HOME MEDIA CONTENTS  
Jung-Tae Kim, *ETRI, South Korea*
- 10:50    **5.3-2** DESIGN OF HOME NETWORK GATEWAY FOR REAL-TIME A/V STREAMING BETWEEN IEEE1394 NETWORK AND ETHERNET  
Hyo Moon Jeong, *Kyungpook National University, South Korea*; Myung Jin Lee, *IDIS Co. Ltd., South Korea*; Dong Kyu Lee, Soon Ju Kang, *Kyungpook National University, South Korea*
- 11:10    **5.3-3** SERVICE-ORIENTED POWER MANAGEMENT FOR AN INTEGRATED MULTI-FUNCTION HOME SERVER  
Jinsoo Han, Intark Han, Kwang-Roh Park, *Electronics and Telecommunications Research Institute, South Korea*
- 11:30    **5.3-4** VISUALEPG: INFORMING THE TV EXPERIENCE WITH WEB METADATA  
Ullas Gargi, *HP Labs, United States*
- 11:50    **5.3-5** MASSIVE STRIPE CACHE AND PREFETCHING FOR MASSIVE FILE I/O

Sung Hoon Baek, *KAIST, South Korea*

#### **SESSION 5.4: Image Scaling and Sharpness Enhancement**

**Date:** January 13, 2007

**Time:** 10:30 - 12:10

**Location:** N264

**Chairs:** E. B. (Erwin) Bellers, NXP Semiconductors; Masaru Sakurai, Nagoya Institute of Technology

- 10:30    **5.4-1** A NEW IMAGE-SCALING ALGORITHM ERADICATING BLURRING AND RINGING TO APPLY TO CAMERA PHONES  
JooHyun Kim, WonWoo Jang, JooYoung Ha, *Dong-A Univ., South Korea*; BooDong Kwak, *SAMSUNG Electro-Mechanics, South Korea*; Bongsoon Kang, *Dong-A Univ., South Korea*
- 10:50    **5.4-2** SPATIAL UP-SCALER WITH NONLINEAR EDGE ENHANCEMENT FOR RATIONAL FACTORS  
Christian Hentschel, Stefan Schiemenz, *University of Technology Cottbus, Germany*
- 11:10    **5.4-3** ALZ: ADAPTIVE LEARNING FOR ZOOMING DIGITAL IMAGES  
Sebastiano Battiato, Francesco Rundo, Filippo Stanco, *University of Catania, Italy*
- 11:30    **5.4-4** PEAKING BASED CHROMINANCE TRANSIENT IMPROVEMENT  
Volker Blume, *Philips Semiconductors Germany, Germany*
- 11:50    **5.4-5** SIMULTANEOUS CODING ARTIFACT REDUCTION AND SHARPNESS ENHANCEMENT  
Hao Hu, *Technical University of Eindhoven, The Netherlands*; Gerard de Haan, *Philips Research Eindhoven, The Netherlands*

#### **SESSION 6.1: Audio Signal Processing**

**Date:** January 13, 2007

**Time:** 02:30 - 04:10

**Location:** N252

**Chairs:** Ingvar Claesson, Blekinge Institute of Technology; Ronald M. Aarts, Philips Research

- 02:30    **6.1-1 Invited** - METHODS TO IMPROVE THE SOUND REPRODUCTION OF LIMITED SIZE SYSTEMS  
Ronald Aarts, *Philips Research, The Netherlands*
- 02:50    **6.1-2** A COMBINED IMPLEMENTATION OF ECHO SUPPRESSION, NOISE REDUCTION AND COMFORT NOISE IN A SPEAKER PHONE APPLICATION  
Christian Shüldt, Fredric Lindstrom, *Konftel, Sweden*; Ingvar Claesson, *Blekinge Institute of Technology, Sweden*
- 03:10    **6.1-3** A LOW COMPLEXITY QUALITY ENHANCEMENT METHOD FOR BINAURAL CUE CODING - A HISS REDUCTION ALGORITHM  
Chia-Hao Chang, Jin-Hau Kuo, Ja-Ling Wu, *National Taiwan University, Taiwan*

- 03:30 **6.1-4** POST-PROCESSING NOISE SUPPRESSOR WITH ADAPTIVE GAIN-FLOORING FOR CELL-PHONE HANDSETS AND IC RECORDERS  
Kazuhiro Yamato, Akihiko Sugiyama, Masanori Kato, *NEC Corporation, Japan*
- 03:50 **6.1-5** A NEW AUDIO SIGNAL ANALYZER USING PCA AND MGD  
Naoki Nitanda, Miki Haseyama, *Hokkaido University, Japan*

## **6.2 Invited Session Future TV 2**

**Date:** January 13, 2007

**Time:** 02:30 - 04:10

**Location:** N254

**Chairs:** Uwe E. Kraus, University of Wuppertal; Reinhard Moeller, University of Wuppertal

- 02:30 **6.2-1 Invited** - NEW CHALLENGES TO DESIGNERS OF DIGITAL TERRESTRIAL TELEVISION RECEIVERS CONCERNING INTERFERENCE  
Charles W. Rhodes, *Consultant*
- 02:50 **6.2-2 Invited** - NON-INVASIVE TESTING METHODS TO DETERMINE THE RF PERFORMANCE OF CONSUMER DTV RECEIVING APPLIANCES  
Charles W. Rhodes, *Consultant*
- 03:10 **6.2-3 Invited** - DEVICE ARCHITECTURE FOR OPEN BROADCAST SERVICES  
Richard Bramley, *STMicroelectronics, France*
- 03:30 **6.2-4 Invited** - THE FUTURE OF DIGITAL BROADCASTING: A GLOBAL VIEW FROM THE DVB PROJECT  
Helmut Stein, *Director Promotions of DVB, Geneva, Switzerland*

## **SESSION 6.3: Display Electronics**

**Date:** January 13, 2007

**Time:** 02:30 - 04:10

**Location:** N262

**Chairs:** Atul Batra, Marvell Semiconductors, Inc.; Wang He Lou, Mitsubishi Digital

- 02:30 **6.3-1** ANALYSIS AND IMPLEMENTATION OF MOTION COMPENSATED INVERSE FILTERING FOR REDUCING MOTION BLUR ON LCD PANEL  
Haiyan He, *Philips Semiconductors, United States*; Leo Jan Velthoven, *Philips Research, The Netherlands*; Erwin Bellers, Johan G Janssen, *NXP Semiconductors, United States*
- 02:50 **6.3-2** IMPLEMENTATION OF LCD DRIVER USING ASYMMETRIC TRUNCATION ERROR COMPENSATION FOR MOBILE DMB PHONE DISPLAY  
Chan-Ho Han, Seong-Geun Kwon, *Samsung Electronics Co. Ltd., South Korea*; Bub-Ki Lee, Kuhn-Il Lee, Kyu-Ik Sohng, *Kyungpook National University, South Korea*
- 03:10 **6.3-3** NOVEL DRIVER STRUCTURE BASED ON LOW-COST AND LOW-RATING DEVICES FOR PLASMA TELEVISIONS

Sangshin Kwak, Dong-Myung Lee, Jin-Woo Jung, *Samsung SDI, South Korea*

03:30 **6.3-4** ENABLING INTRODUCTION OF STEREOSCOPIC (3D) VIDEO:  
COMPRESSION STANDARDS, DISPLAYS AND CONTENT GENERATION.  
Fons Bruls, *Philips Research, The Netherlands*

## **POSTER SESSION P2: Networking and Security Applications**

**Date:** January 13, 2007

**Time:** 02:30 - 04:30

**Location:** N256

**Chairs:** Bernard Fong, Auckland University of Technology; David Hutchison, Texas Instruments

**P2-1** THE MATRIX - A FRAMEWORK FOR REAL-TIME RESOURCE MANAGEMENT FOR VIDEO STREAMING IN NETWORKS OF HETEROGENOUS DEVICES  
Larisa Rizvanovic, *Department of Computer Science and Electronics, Mälardalen University, Sweden*; Gerhard Fohler, *Department of Electrical and Computer Engineering, University of Kaiserslautern, Germany*

**P2-2** A PROPOSAL OF AUTOMOTIVE ANTICOLLISION RADARS BASED ON SPREAD SPECTRUM TECHNIQUES  
Ennio Gambi, *Università Politecnica delle Marche, Italy*

**P2-3** RFID-BASED INTELLIGENT SYSTEMS FOR HOME-HEALTHCARE  
Yung-Chin Chen, Ming-Feng Hsieh, Wang-Chun Chi, Hung-Rei Lee, *Asia University, Taiwan*

**P2-4** A NOVEL AND EFFICIENT BILATERAL REMOTE USER AUTHENTICATION SCHEME USING SMART CARDS  
Al-Sakib Khan Pathan, Choong Seon Hong, *Kyung Hee University, South Korea*; Tatsuya Suda, *University of California, Irvine, United States*

**P2-5** A PROTOCOL-BASED CONTENTION WINDOW FOR MBOA MAC  
Seong-hee Lee, Jun-whan Kim, Il-soon Jang, Seong-hee Park, Sang-sung Choi, *ETRI, South Korea*

**P2-6** TRANSMISSION LOSS AND RADIATED ELECTRIC FIELD CHARACTERISTICS OF TRANSMISSION MEDIUM FOR UBIQUITOUS NETWORK  
Toshiyasu Higuma, *MitsubishiElectric Corp., Living Environment Systems lab., Japan*

**P2-7** IMAGE AUTHENTICATION SYSTEM BASED ON TWO-DIMENSIONAL MATRIX CODES WITHOUT CONTAMINATION OF ORIGINAL IMAGES  
Takahiro Ogawa, Miki Haseyama, *Graduate School of Information Science and Technology, Hokkaido University, Japan*

**P2-8** DEVICE MANAGEMENT FOR MOBILE WIMAX SERVICES  
Young-Kuk Hong, *KT, South Korea*

**P2-9** EXT3NS: MULTIMEDIA FILE SYSTEM FOR NETWORK/STORAGE CARD  
Yuhyeon Bak, Kapdong Kim, Youngju Lee, Songwoo Sok, Changsoo Kim, Hagyoung Kim, *Electronics and Telecommunications Research Institute, South Korea*; Kyongsok Kim, *Department of Computer Science & Engineering, Pusan National University, South Korea*

**P2-10 DEVELOPMENT OF QOS-AWARE UBIQUITOUS CONTENT ACCESS (UCA) TESTBED**

Jung Won Kang, Soon-heung Jung, Jae-Gon Kim, *Electronic and Telecommunications Research Institute (ETRI), South Korea*

**P2-11 DESIGN AND IMPLEMENTATION OF ETHERNET/HIGH-SPEED POWER LINE COMMUNICATION BRIDGE SUPPORTING QOS**

Kwangil Lee, *ETRI, South Korea*

**P2-12 TRANSCODING SELECTIVELY ENCRYPTED H.264 BITSTREAMS**

Nithin Thomas, Damien Lefol, David Bull, David Redmill, *University of Bristol, United Kingdom*

**P2-13 PRACTICAL SOLUTIONS FOR CONSTRUCTING UBIQUITOUS NETWORK FOR BUILDING AND HOME CONTROL SYSTEM**

Noriyuki Kushiro, Toshiyasu Higuma, Masanori Nakata, *Mitsubishi Electric Co., Japan*

**P2-14 A LOW COMPLEXITY TV REMOTE CONTROLLER WITH USER INDIVIDUAL BEHAVIOR EMBEDDED**

Chin-Feng Lai, Hsien-Chao Huang, Yueh-Min Huang, *National Cheng Kung University, Taiwan*

**P2-15 WIRELESS USB-BASED HOME SECURITY SYSTEM ON THE OSGI SERVICE PLATFORM**

Hessun Kim, *Chonbuk National University., South Korea*

**P2-16 OVERLAPPED SEMI-PARALLEL LDPC DECODER WITH DUAL-DIAGONAL STRUCTURE FOR WIBRO PORTABLE SUBSCRIBER STATION**

Jong Tae Kim, *Sungkyunkwan University, South Korea*

**P2-17 A REMOTE CONTROL BASED ON AUGMENTED REALITY IN A HOME NETWORK ENVIRONMENT**

Jangho Lee, *Department of Computer Science and Engineering, Konkuk University, South Korea*; Jee-In Kim, *CAESIT, Konkuk University, South Korea*; Jiyoung Kim, Ji-Young Kwak, *ETRI, South Korea*

**P2-18 DEVELOPMENT OF CONDITIONAL ACCESS SYSTEM IN TERRESTRIAL DMB**

YongHoon Lee, Jinhwan Lee, Gwangsoon Lee, Chunghyun Ahn, Soo In Lee, *ETRI, South Korea*

**P2-19 ISOCHRONOUS DATA TRANSFER BETWEEN AV DEVICES USING PSEUDO CMP PROTOCOL IN WIRELESS 1394 SYSTEM**

Seong-Hee Park, Seong-Hee Lee, Il-Soon Jang, Sang-Sung Choi, *ETRI, South Korea*; Je-Hoon Lee, Younggap You, *Chungbuk Nat'l Univ., South Korea*

**P2-20 IMPLEMENTATION OF AN ALL-DIGITAL RECEIVER FOR WDM/SCM-PON SUBSCRIBER NETWORKS**

Chul Soo Lee, *Electronics and Telecommunications Research Institute, South Korea*; Jung Suk Joo, *Hankuk University of Foreign Studies, South Korea*; Seung Hyun Jang, Eui Suk Jung, Byoung Whi Kim, *Electronics and Telecommunications Research Institute, South Korea*

**P2-21 ADAPTIVE FUZZY INFERENCE SYSTEM USING THE SENSEWEAR ARMBAND FOR ANALYSIS OF PATIENT'S ACTIVITIES**

Hun Choi, *Dep. of Electrical Engineering, Chungbuk National University, South Korea*

**P2-22 AN EFFICIENT PASSWORD-BASED E-MAIL PROTOCOL FOR ENCRYPTED E-MAIL TRANSMISSIONS ON MOBILE EQUIPMENT**

Jeong Ok Kwon, *Korea University, South Korea*; Ik Rae Jeong, *Electronics and Telecommunications Research Institute, South Korea*; Kouichi Sakurai, *Kyushu University, Japan*; Dong Hoon Lee, *Korea University, South Korea*

**P2-23 A NOVEL SEAMLESS VERTICAL HANDOFF SOLUTION**

Wei-Cheng Xiao, *Shih-Hsuan Tang, NTUCSIE, Taiwan*; Ling-Jyh Chen, *IIS, Academia Sinica, Taiwan*; Cheng-Fu Chou, *NTUCSIE, Taiwan*

**P2-24 THE CONVERSION OF A DEVICE AND A CONTROL MESSAGE IN THE UNIVERSAL MIDDLEWARE BRIDGE**

Donghee Kim, *Chang-Eun Lee, Jun Hee Park, KyeongDeok Moon, ETRI, South Korea*; Kyungshik Lim, *Kyungpook National University, South Korea*

**P2-25 A NOVEL BLIND VIDEO WATERMARKING SCHEME FOR ACCESS CONTROL USING COMPLEX WAVELETS**

Mark Pickering, *The University of New South Wales, Australia*; Lino Coria, *Panos Nasiopoulos, The University of British Columbia, Canada*

**P2-26 DEPLOYMENT STRATEGY AND PERFORMANCE EVALUATION OF THE IPV6 HOME NETWORK USING THE HOME SERVER**

Min Ho Park, *ETRI, South Korea*

**P2-27 HARDWARE ASSISTED PRUNED INDEX SYSTEM FOR CONSUMER ELECTRONICS**

S. Kagan Agun, *Ophir Frieder, Illinois Institute of Technology, United States*

**P2-28 IEEE802.15.4 BASED DYNAMIC CONTROL SCHEME FOR MULTIPLE LEGACY IR CONTROLLABLE DIGITAL CONSUMER DEVICES**

Wan-Ki Park, *Intark Han, Kwang-Roh Park, ETRI, South Korea*

**SESSION 7.1: DRM Technology**

**Date:** January 13, 2007

**Time:** 04:30 - 06:10

**Location:** N252

**Chairs:** Akiomi Kunisa, *SANYO Technology Center*; Richard F. Doherty, *Envisioneering*

- 04:30    **7.1-1 A NOVEL HIERARCHICAL ACCESS CONTROL SCHEME IN DIGITAL BROADCASTING SYSTEM**  
Han-Seung Koo, *Yun-Jeong Song, O-Hyung Kwon, ETRI, South Korea*; Sung-Woong Ra, *Chungnam National University, South Korea*
- 04:50    **7.1-2 USING CRYPTOGRAPHY AS COPYRIGHT PROTECTION FOR EMBEDDED DEVICES**  
Thomas Dettbarn, *Fraunhofer IIS, Germany*
- 05:10    **7.1-3 LIGHTWEIGHT ENCRYPTION FOR IMAGES**  
Anil Yekkala, *Narendranath Udupa, Nagaraju Bussa, Philips, India*; Veni Madhavan C.E., *Indian Institute of Science, Bangalore, India*

- 05:30 **7.1-4** A WATERMARKING CO-PROCESSOR FOR NEW GENERATION GRAPHICS PROCESSING UNITS  
Saraju Mohanty, Nishikanta Pati, Elias Kougiannos, *University of North Texas, United States*
- 05:50 **7.1-5** BLIND WATERMARKING BASED ON WAVELET SINGULARITY DETECTION  
Jing-Wein Wang, *National Kaohsiung University of Applied Sciences, Taiwan*

## **SESSION 7.2: Terrestrial & Mobile DTV Reception**

**Date:** January 13, 2007

**Time:** 04:30 - 06:10

**Location:** N254

**Chairs:** Peter H. N. de With, LogicaCMG Nederland/TU Eindhoven; E. B. (Erwin) Bellers, *NXP Semiconductors*

- 04:30 **7.2-1** PILOT-AIDED ITERATIVE FREQUENCY OFFSET ESTIMATION FOR DIGITAL VIDEO BROADCASTING SYSTEMS  
Kyung-Taek Lee, Jong-Soo Seo, *Yonsei University, South Korea*
- 04:50 **7.2-2** AN ITERATIVE SCHEME TO REDUCE INFLUENCE OF IMPULSE NOISE IN OFDM TRANSMISSION  
Tatsuya Hirakawa, Makoto Itami, Kohji Itoh, *Tokyo University of Science, Japan*
- 05:10 **7.2-3** DEVELOPMENT OF T-DMB RECEIVER WITH CDMA MODULE FOR INTERACTIVE DATA BROADCASTING SERVICES  
Byungjun Bae, Jungil Yun, Woosuk Kim, Choonhyun Ahn, Soo In Lee, *ETRI, South Korea*
- 05:30 **7.2-4** DEVELOPMENT OF PORTABLE T-DMB RECEIVER FOR DATA SERVICES  
Kyung-Taek Lee, *Korea Electronics Technology Institute(KETI), South Korea*; Yong-Suk Park, Se-Ho Park, Jong-Ho Paik, *KETI, South Korea*; Jong-Soo Seo, *Yonsei University, South Korea*
- 05:50 **7.2-5** MOBILE RECEPTION FOR DIGITAL TERRESTRIAL TELEVISION BROADCASTING USING SWITCH DIVERSITY  
Atsushi Shimizu, *Sanyo Electric Company Ltd., Japan*

## **SESSION 7.3: Human Computer Interaction**

**Date:** January 13, 2007

**Time:** 04:30 - 06:10

**Location:** N262

**Chairs:** Reinhard Moeller, University of Wuppertal; George Borden, Logitech, Inc

- 04:30 **7.3-1** A DEVICE FOR EASILY BROWSING A RICH VARIETY OF CONTENT USING THE METAPHOR OF READING POETRY  
Jun-ichiro Watanabe, *HITACHI Ltd., Japan*
- 04:50 **7.3-2** HANDY VIEWER WITH USER INTERFACE ACCORDING TO DEVICE MOVEMENT  
Morimasa Matsuda, *Mitsubishi Electric Microcomputer Application Software, Japan*; Takako Nonaka, Ryosuke Kokaji, Masato Shimano, Tomohiro Hase, *Ryukoku University, Japan*

- 05:10 **7.3-3** INVISIBLE MARKER TRACKING SYSTEM USING THE IMAGE WATERMARKING FOR AUGMENTED REALITY  
Hong-Ro Lee, Jung-Sub Shin, Chi-Jung Hwang, *Chungnam National University (CNU), South Korea*
- 05:30 **7.3-4** THEOREMS AND ALGORITHMS FOR PEOPLE TRACKING, POSTURE ANALYSIS AND ACTIVITY RECOGNITION USING 2D DISTANCE SENSORS  
I-Horng Jeng, Chih-Jen Lee, Tai-Ning Yang, *Department of Computer Science, Chinese Culture University, Taipei, Taiwan*; Pi-Chih Wang, *Long-An Elementary School, Taipei, Taiwan*
- 05:50 **7.3-5** A SEQUENCE-ACTION RECOGNITION APPLYING STATE MACHINE FOR USER INTERFACE  
Jonghun Baek, Byoung-Ju Yun, *Kyungpook National University, South Korea*

#### **SESSION 7.4: Multimedia Streaming**

**Date:** January 13, 2007

**Time:** 04:30 - 06:10

**Location:** N264

**Chairs:** Jill Boyce, Thomson; Michael A. Isnardi, Sarnoff Corporation

- 04:30 **7.4-1** DESIGN AND IMPLEMENTATION OF DMBONIP GATEWAY TO PROVIDE INTERNET BASED DMB SERVICE  
Jongdeok Kim, *Dept. of Computer Science, Pusan National University, South Korea*; Byungjun Bae, *ETRI, South Korea*
- 04:50 **7.4-2** MULTIMEDIA TRANSMISSION OVER IEEE 802.11G WLANS: PRACTICAL ISSUES AND CONSIDERATIONS  
Pierre FERRE, Dimitris AGRAFIOTIS, *University of Bristol, United Kingdom*; Tuan-Kiang CHIEW, *Institute for Infocomm Research, Singapore*; Andrew NIX, David BULL, *University of Bristol, United Kingdom*
- 05:10 **7.4-3** DYNAMIC AND INTEROPERABLE ADAPTATION OF SVC FOR QOS-ENABLED STREAMING  
Haechul Choi, *ETRI, South Korea*
- 05:30 **7.4-4** ROBUST HD VIDEO STREAM TRANSMISSION FOR WIRELESS DTV  
Tetsuro Shida, Toshimitu Sato, Kenji Tsunashima, Hideaki Kosaka, Kazuhiro Sugiyama, *Mitsubishi Electric, Japan*

### ***Sunday, January 14, 2007***

#### **SESSION 8.1: Healthcare & Networking Systems**

**Date:** January 14, 2007

**Time:** 08:30 - 10:10

**Location:** N252

**Chairs:** Peter H. N. de With, LogicaCMG Nederland/TU Eindhoven; Guido Volleberg, Philips Consumer Electronics

- 08:30 **8.1-1** A DS UWB WIRELESS MEDICAL SYSTEM  
Chin-Feng Lin, *National Taiwan Ocean University, Taiwan*; Ching-Yi Li, *National Taiwan Ocean University, Taiwan*
- 08:50 **8.1-2** AN EVOLVING MOBILE E-HEALTH SERVICE PLATFORM  
Dongsoo Han, In-Young Ko, Sungjoon Park, *Information and Communications University, South Korea*
- 09:10 **8.1-3** DESIGN OF HEALTH-CARE HOME GATEWAY (HCHG) OVER DIGITAL CABLE TELEVISION NETWORK  
Shao-Shan Chiang, *Lunghwa University of Science and Technology, Taiwan*; Ren-Guey Lee, Chien-Chih Lai, *National Taipei University of Technology, Taiwan*
- 09:30 **8.1-4** A FLEXIBLE HOME AUTOMATION SYSTEM APPLIED TO ELDERLY CARE  
Ferdinando Grossi, Guido Matrella, Ilaria De Munari, Paolo Ciampolini, *Università di Parma, Dipartimento di Ingegneria dell'Informazione, Italy*
- 09:50 **8.1-5** A SOFTWARE WIRELESS STREAMING ARCHITECTURE SUPPORTING TELEMATICS DEVICE  
Jeong-dan Choi, *ETRI, South Korea*

## **SESSION 8.2: Acquisition**

**Date:** January 14, 2007

**Time:** 08:30 - 10:10

**Location:** N254

**Chairs:** Uwe E. Kraus, University of Wuppertal; Paul A. Snopko, Techwell, Inc.

- 08:30 **8.2-1** A GLOBALLY CONVERGING BLIND CARRIER PHASE OFFSET RECOVERY SCHEME FOR 8-VSB SIGNALS  
Wonzoo Chung, *MyongJi University, South Korea*; Yongserk Kim, *Samsung Electronics, South Korea*; Humor Hwang, *MyongJi University, South Korea*; Thomas Endres, *Iberium Communications, United States*
- 08:50 **8.2-2** FREQUENCY SYNCHRONIZATION TECHNIQUE FOR THE EQUALIZATION DIGITAL ON-CHANNEL REPEATER IN ATSC SYSTEM  
Yong-Tae Lee, Ho Min Eum, Sung Ik Park, Jae Hyun Seo, Heung Mook Kim, *Electronic and Telecommunications Research Institute, South Korea*; Jong Soo Seo, *Yonsei University, South Korea*
- 09:10 **8.2-3** A HIGH-SPEED FAST-ACQUISITION CMOS PHASE/FREQUENCY DETECTOR FOR MB-OFDM UWB  
Roger Yubtzuan Chen, Hong-Yu Huang, *National Yunlin University of Science and Technology, Electronics Engineering Department, Taiwan*
- 09:30 **8.2-4** EFFICIENT CARRIER RECOVERY FOR HIGH-ORDER QAM  
liu zhi, jiang zhou, li qing, zeng xiaoyang, *State Key Laboratory of ASIC & System Fudan University, Shanghai, China, China*
- 09:50 **8.2-5** DFT-BASED CARRIER RECOVERY FOR SATELLITE DVB RECEIVERS  
Jiang Zhou, Liu Zhi, Deng Yunsong, Zeng Xiaoyang, *Fudan University, China*

## **SESSION 8.3: Still and Video Cameras**

**Date:** January 14, 2007

**Time:** 08:30 - 10:10

**Location:** N262

**Chairs:** Takuya Ima-ide, Hitachi Ltd; Akiomi Kunisa, SANYO Technology Center

- 08:30    **8.3-1** VIDEO STABILIZATION THROUGH DYNAMIC ANALYSIS OF FRAME SIGNATURES  
Angelo Bosco, Arcangelo Bruna, *STMicroelectronics, Italy*; Sebastiano Battiato, Giuseppe Bella, *University of Catania, Italy*
- 08:50    **8.3-2** A NEW IMAGE-STABILIZING METHOD BY TRANSFERRING ELECTRIC CHARGES  
Mitsuo Hashimoto, Tetsuya Kuno, Hiroaki Sugiura, *Mitsubishi Electric Corp., Japan*
- 09:10    **8.3-3** ULTRA SMALL HD VIDEO CAMERA USING MPEG4 CODEC WITH SD MEMORY CARD AS STORAGE  
Hiroaki Yoshida, *SANYO Electric Co., Ltd., Japan*
- 09:30    **8.3-4** DYNAMIC TRANSLATION FIELD MODEL USED AS A NEW CAMERA MOTION MODEL IN VIDEO STABILIZATION  
yan liu, *Institute of Electronics, Chinese Academy of Sciences, China*
- 09:50    **8.3-5** INTERACTIVE OBJECT EXTRACTION/REMOVAL SYSTEM FOR DIGITAL CAMERA  
Jhing-Fa Wang, Han-Jen Hsu, Jyun-Sian Li, *National Cheng Kung University, Taiwan*

#### **SESSION 8.4: Motion-Compensated Video Processing and 3D-TV**

**Date:** January 14, 2007

**Time:** 08:30 - 10:10

**Location:** N264

**Chairs:** Atul Batra, Marvell Semiconductors, Inc.; Christian Hentschel, University of Technology Cottbus

- 08:30    **8.4-1** LOW-COST HANDLING OF COMBING ARTIFACTS IN MOTION-COMPENSATED DEINTERLACING  
Marina Nicolas, Jerome Roussel, *ST Microelectronics, France*
- 08:50    **8.4-2** SOLVING OCCLUSION IN FRAME-RATE UP-CONVERSION  
Erwin Bellers, *NXP Semiconductors, United States*; Jacco van Gorp, *Philips Semiconductors, The Netherlands*; Johan Janssen, *NXP Semiconductors, United States*; Ralph Braspenning, *Philips Research, The Netherlands*; Rimmert Wittebrood, *Philips Consumer Electronics, The Netherlands*
- 09:10    **8.4-3** ACCURATE RECONSTRUCTION OF NON-RIGID 3D SHAPES  
Sung Shik KOH, Thi Thi Zin, Hiromitsu Hama, *Graduate School of Engineering, Osaka City University, Japan*

#### **POSTER SESSION P3: Image/Video Algorithms and Technology**

**Date:** January 14, 2007

**Time:** 10:10 - 12:10

**Location:** N256

**Chairs:** Dietmar Hepper, Thomson; David Hutchison, Texas Instruments

**P3-1 AN ADAPTIVE WEIGHTING APPROACH FOR IMAGE COLOR AND MAGNITUDE INTERPOLATION**

Zhe Chen, *STMicroelectronics, China*; George Chen, *STMicroelectronics, United States*

**P3-2 CROSS-COLOR NOISE REDUCTION ALGORITHMS FOR NTSC SIGNALS**

Yeo Chang Hoon, *LG Electronics, System IC Team, South Korea*; Ok Jae-Chul, Heo Jae-Young, Ko Dae-Hyeup, Paik Woo Hyun, *LG Electronics, South Korea*

**P3-3 A MEMORY COMPRESSION METHOD FOR AVOIDING PERCEIVABLE DISTORTION DUE TO INTRA-PREDICTION IN H.264 DECODERS**

Junji Tajime, Yoshihiro Miyamoto, *NEC Corporation, Japan*

**P3-4 CANCELLED**

**P3-5 A FAST MOTION ESTIMATION ALGORITHM BASED ON THE DIRECTION OF MOTION VECTORS**

Humaira Nisar, Tae-Sun Choi, *GIST, South Korea*

**P3-6 HIGH-EFFICIENT MODE-DECISION DESIGN FOR MOTION ESTIMATION IN H.264**

Chun-Lung Hsu, Mean-Hom Ho, Ming-Kang Liu, *National Dong Hwa University, Taiwan*

**P3-7 REFINEMENTS IN ADAPTIVE QUANTIZATION FOR IMAGES USING THE NEW UNIVERSAL QUALITY INDEX**

Robert Mahoney, Aldo W. Morales, *EE Program, Penn State Harrisburg, United States*

**P3-8 DETECTING DIGITAL FORGERIES USING OF A LIGHTING DIRECTION**

Yong-In Yoon, *Chung-Ang University, South Korea*; Jungbeom Lee, *Chung-ang University, South Korea*; Dong-Hwan Har, Jong-Soo Choi, *Chung-Ang University, South Korea*; Kyoung-soo Doo, *Chung-ang University, South Korea*

**P3-9 MOTION VECTOR ANALYSIS ALGORITHM FOR SELECTIVE AND ROBUST DIGITAL IMAGE STABILIZATION**

Ohyun Kwon, *Samsung Techwin Co., LTD., South Korea*

**P3-10 STEREOSCOPIC VIDEO CODEC FOR 3D VIDEO SERVICE OVER T-DMB**

Sukhee Cho, Hyoungjin Kwon, Namho Hur, Jinwoong Kim, Soo-In Lee, *ETRI, South Korea*

**P3-11 A SIMPLE TRANSCODING ALGORITHM FOR STREAMING SERVICE OVER TIME-VARYING NETWORKS**

Chun-Su Park, Jun-Hyung Kim, *Korea Univ., South Korea*; Tae-Shick Wang, Chun-Kyu Park, Sung-Jea Ko, *Korea Univ., South Korea*

**P3-12 ERROR CONCEALMENT FOR 3G-324M MOBILE VIDEOPHONES OVER A WCDMA NETWORKS**

Jae-Won Suh, *Chungbuk National University, South Korea*

**P3-13 NEW SIDE INFORMATION INTERPOLATION WITH MULTIPLE REFERENCE FRAME MCI IN DISTRIBUTED VIDEO CODING**

Zhuo Xue, *Brunel Universtiy, United Kingdom*; K.K. Loo, *Brunel University, United Kingdom*

**P3-14 AN EARLY INTRA MODE SKIPPING TECHNIQUE FOR INTER FRAME CODING IN H.264 BP**

Mithun Uliyar, S.S.B.K.Gupta Pallapothu, *Emuzed India Pvt Ltd, India*

**P3-15 A FAST INTRA-MODE DECISION ALGORITHM FOR P-SLICES IN H.264/AVC**  
jongho kim, *and Telecommunications Research Institute, South Korea*; Byung-Gyu Kim, Seon-Tae Kim, Chang-Sik Cho, *Electronics and Telecommunications Research Institute, South Korea*

**P3-16 CONTENT-SELECTION BASED VIDEO SUMMARIZATION**  
I-Cheng Chang, *CSIE, National Dong Hwa University, Taiwan*

**P3-17 AUTOMATIC CHAPTER GENERATION FOR CONSUMER VIDEOS**  
Chia-Wei Wang, *Department of Computer Science and Information Engineering, National Taiwan University, Taiwan*; Wen-Huang Cheng, Ja-Ling Wu, *Graduate Institute of Networking and Multimedia, National Taiwan University, Taiwan*

**P3-18 OBJECT-BASED MPEG-4 AUTHORING TOOL FOR SUPPORTING SENSOR ACTIONS AND 3D SPECIFICATIONS**  
Hsu-Yang Kung, *Department of Management Information Systems, National Pingtung University of Science and Technology, Taiwan*; Che-I Wu, *Graduate Institute of Disaster Prevention on Hillslopes and Water Resources Engineering, NPUST, Taiwan*; Wei-Cheng Lin, *Department of Management Information Systems, National Pingtung University of Science and Technology, Taiwan*

**P3-19 AN EDGE-BASED 3D Y/C SEPARATION USING WAVELET TRANSFORM AND MOTION COMPENSATION**  
Jinsang Kim, *Kyung Hee University, South Korea*; Myung-Ho Kim, *Samsung Thales, South Korea*; Homin Lim, *LG Research Center, South Korea*; Won-Kyung Cho, *Kyung Hee University, South Korea*

**P3-20 LOW-COMPLEXITY MOTION ANALYSIS FOR MOBILE VIDEO DEVICES**  
Alexander Sibiryakov, Miroslaw Bober, *Mitsubishi Electric, United Kingdom*

**P3-21 DATA COMPRESSION FOR DIGITAL PHOTOGRAPHY: PERFORMANCE COMPARISON BETWEEN PROPRIETARY SOLUTIONS AND STANDARDS**  
D.D.Giusto, T.Onali MCLab, *University of Cagliari, Italy*

**P3-22 ESTIMATING 3D-SHAPE USING FUZZY-NEURO LOGIC FOR A 3-DIMENSIONAL CAMERA**  
Aamir Malik, Tae-Sun Choi, *Gwangju Institute of Science & Technology, South Korea*

## **SESSION 9.1: Gaming & Processing Architectures**

**Date:** January 14, 2007

**Time:** 10:30 - 12:10

**Location:** N252

**Chairs:** Guido Volleberg, Philips Consumer Electronics; Peter H. N. de With, LogicaCMG Nederland/TU Eindhoven

10:30 **9.1-1 SORT MIDDLE PIPELINE ARCHITECTURE FOR EFFICIENT 3D RENDERING**  
Danilo Pau, *STMicroelectronics, Italy*

- 10:50    **9.1-2** DYNAMIC DIFFICULTY CONTROLLING GAME SYSTEM  
Sangwon Um, *Imagelab, GSAIM, Chung-Ang Univ, South Korea*
- 11:10    **9.1-3** 3D CAMERA FOR GAMING  
Giora Yahav, *3DV Systems Ltd, Israel*
- 11:30    **9.1-4** ADAPTIVE FRAME RATE UP-CONVERSION FOR 3D GRAPHICS PIPELINES  
Danilo Pau, *STMicroelectronics, Italy*
- 11:50    **9.1-5** A HIGHLY ACCURATE POWER AND PERFORMANCE SCALING  
FRAMEWORK IN AN EMBEDDED ENVIRONMENT  
Moinul Khan, *Intel Corporation, United States*

## **SESSION 9.2: Equalization**

**Date:** January 14, 2007

**Time:** 10:30 - 12:10

**Location:** N254

**Chairs:** Simon Sherratt, The University of Reading; Paul A. Snopko, Techwell, Inc.

- 10:30    **9.2-1 Invited** - HISTORICAL OVERVIEW OF EQUALIZATION IN CONSUMER  
ELECTRONICS  
Walter Ciciora, *Southport, CT, USA*
- 10:50    **9.2-2** NOISE-ROBUST CHANNEL ESTIMATION FOR DVB-T FIXED RECEPTIONS  
You-Seok Lee, *Dept. of Electronics Engineering, Pusan Natinal Univ., South Korea*;  
Hyoung-Nam Kim, *Dept. of Electronics Engineering, Pusan National Univ., South Korea*
- 11:10    **9.2-3** CODED DECISION DIRECTED CHANNEL ESTIMATION FOR TERRESTRIAL  
DMB RECEIVERS  
Wan-Jin Kim, Hyoung-Nam Kim, *Dept. of Electronics Engineering, Pusan National  
Univ., South Korea*; Hyoungsoo Lim, Jong Soo Lim, *ETRI, South Korea*
- 11:30    **9.2-4** BIDIRECTIONAL EQUALIZER ARBITRATED BY VITERBI DECODER PATH  
METRICS  
Hae-Sock Oh, Dong Seog Han, *SCHOOL OF EECS, KYUNGPOOK NAT'L UNIV.,  
South Korea*
- 11:50    **9.2-5** A LAYERED SPACE-TIME-FREQUENCY CODED OFDM FOR NEXT  
GENERATION MOBILE MULTIMEDIA SYSTEMS  
Soon-up Hwang, Jong-soo Seo, *Yonsei University, South Korea*

## **SESSION 9.4: Picture Quality Improvement and Measurement**

**Date:** January 14, 2007

**Time:** 10:30 - 12:10

**Location:** N264

**Chairs:** Christian Hentschel, University of Technology Cottbus; Sharon Peng, Harman Consumer Group

- 10:30    **9.4-1** COLOR REFINEMENT FOR NATURAL SCENE IMAGES  
Filippo Naccari, Arcangelo Bruna, Alfio Castorina, Salvatore Curti, *STMicroelectronics,*

*Italy*

- 10:50 **9.4-2** A DYNAMIC HISTOGRAM EQUALIZATION FOR IMAGE CONTRAST ENHANCEMENT  
M. Abdullah-Al- Wadud, Md. Hasanul Kabir, M. Ali Akber Dewan, Oksam Chae, *Kyung Hee University, South Korea*
- 11:10 **9.4-3** BLUE SKY DETECTION FOR CONTENT-BASED TELEVISION PICTURE QUALITY ENHANCEMENT  
Bahman Zafarifar, Peter H.N. de With, *Eindhoven University of Technology, The Netherlands*
- 11:30 **9.4-4** CONTENT ADAPTIVE CODING ARTIFACT REDUCTION FOR DECOMPRESSED VIDEO AND IMAGES  
Ling Shao, Ihor Kirenko, *Philips Research Laboratories, The Netherlands*
- 11:50 **9.4-5** MOTION BLUR PARAMETER IDENTIFICATION FROM A LINEARLY BLURRED IMAGE  
Masayuki Tanaka, Kenichi Yoneji, Masatoshi Okutomi, *Tokyo Institute of Technology, Japan*

## **SESSION 10.1: Applications and Techniques for Audio Players**

**Date:** January 14, 2007

**Time:** 02:20 - 04:00

**Location:** N252

**Chairs:** Fredric Lindstrom, Konftel; Ingvar Claesson, Blekinge Institute of Technology

- 02:20 **10.1-1 Invited** - PORTABLE AUDIO PLAYERS – PAST, PRESENT AND FUTURE  
Stefan Meltzer, *Coding Technologies*
- 02:40 **10.1-2** ENHANCED 32-BIT MICROPROCESSOR-BASED SOC FOR ENERGY EFFICIENT MP3 DECODING IN PORTABLE DEVICES  
Yi-Ting Lin, Ing-Jer Huang, *National Sun Yat-Sen University, Taiwan*
- 03:00 **10.1-3** SYSTEM-ON-A-CHIP FOR PORTABLE AUDIO PLAYER  
Fitzgerald Archibald, *Texas Instruments, India*; Mike Polley, Stephen Li, Jason Kridner, *Texas Instruments, United States*
- 03:20 **10.1-4** A ROBUST MOBILE-BASED MUSIC INFORMATION RETRIEVAL SYSTEM  
Kyu-Sik Park, Won-Jung Yoon, *Dankook University, South Korea*
- 03:40 **10.1-5** SECURE MEDIA PLAYER  
Irshad Ahamed, Kiran Ravinuthala, *Philips Electronics India Limited, India*

## **SESSION 10.2: Wireless Systems**

**Date:** January 14, 2007

**Time:** 02:20 - 04:00

**Location:** N254

**Chairs:** Uwe E. Kraus, University of Wuppertal; Paul A. Snopko, Techwell, Inc.

- 02:20    **10.2-1** A NEW APPROACH TO COARSE FREQUENCY ACQUISITION IN IEEE 802.11A  
Naiara Arrue, Juan F. Sevillano, Igone Velez, Andoni Irizar, *Ceit and Tecnun, Spain*
- 02:40    **10.2-2** PREAMBLE BASED OFDM TIMING SYNCHRONIZATION METHOD FOR WLAN AND WMAN STANDARD SYSTEMS  
Yeonsu Kang, *ETRI (Electronics and Telecommunications Research Institute), South Korea*
- 03:00    **10.2-3** PERFORMANCE ANALYSIS OF PO-THMA UWB SYSTEM USING MUTUALLY ORTHOGONAL MHP PULSES  
Jun Hyeok Hwang, Suk Chan Kim, Yuehua Li, *Pusan National University, South Korea*
- 03:20    **10.2-4** AN DUAL QPSK SOFT-DEMAPPER FOR ECMA-368 EXPLOITING TIME-DOMAIN SPREADING AND GUARD INTERVAL DIVERSITY  
R. Simon Sherratt, Runfeng Yang, *University of Reading, United Kingdom*
- 03:40    **10.2-5** A LOW-POWER 2.45 GHZ ZIGBEE TRANSCEIVER FOR WEARABLE PERSONAL MEDICAL DEVICES IN WPAN  
Chua-Chin Wang, Jian-Ming Huang, Lung-Hsuan Lee, *Dept. of Electrical Engineering, National Sun Yat-Sen University, Taiwan*; Sen-Hung Wang, Chih-Peng Li, *Institute of Communications Engineering, National Sun Yat-Sen University, Taiwan*

#### **SESSION 10.4: Mobile Multimedia Applications**

**Date:** January 14, 2007

**Time:** 02:20 - 04:00

**Location:** N264

**Chairs:** Jill Boyce, Thomson; Michael A. Isnardi, Sarnoff Corporation

- 02:20    **10.4-1** SPECIFIC VIDEO SCENES ENLARGED AND DISPLAYED ON MOBILE PHONE SET  
Kayo Suzuki, *IKEDA Technologies, Inc., Japan*
- 02:45    **10.4-2** ADAPTIVE HYPERMEDIA SEARCHES FOR MOBILE PDA  
Wookey Lee, Moonwon Choo, *Sungkyul University, South Korea*
- 03:10    **10.4-3** SELF-ADAPTIVE IMAGE CROPPING FOR SMALL DISPLAYS  
Gianluigi Ciocca, Claudio Cusano, Francesca Gasparini, Raimondo Schettini, *DISCo, Università Milano Bicocca, Italy*
- 03:35    **10.4-4** QUANTIZER EFFECTS ON EBCOT BASED COMPRESSION  
Christian Guenter, Albrecht Rothermel, *University of Ulm, Germany*

#### **POSTER SESSION P4: AV Systems and Components**

**Date:** January 14, 2007

**Time:** 02:20 - 04:20

**Location:** N256

**Chairs:** David Hutchison, Texas Instruments; Bernard Fong, Auckland University of Technology

**P4-1 REAL-TIME DEMOSAICKING FOR EMBEDDED SYSTEMS**

Wei Hsu, Chiou-Shann Fuh, *National Taiwan University, Taiwan*

**P4-2 APPLICATION OF THREE DIMENSIONAL SHAPE FROM IMAGE FOCUS IN LCD/TFT DISPLAYS MANUFACTURING**

Muhammad Bilal Ahmad, Humaira Nisar, Tea-Sun Choi, *Gwangju Institute of Science and Technology, South Korea*

**P4-3 DESIGN OF MULTI-FUNCTION AUDIO SYSTEM IN BEDROOMS**

Sreeram Chakravarthy, *Ingenient Technologies Inc, United States*; Sen Kuo, *Northern Illinois University, United States*

**P4-4 PERSONALIZED AUDIO BROADCASTING SYSTEM THROUGH TERRESTRIAL-DMB**

Taejin Lee, Yong Ju Lee, Jae Hyoun Yoo, Daeyoung Jang, *ETRI, South Korea*

**P4-5 WRAPPING TV INTERFACE FOR WATCHING MULTIPLE PROGRAMS EFFICIENTLY**

Hiroko Sukeda, Yujin Tsukada, Yukinobu Maruyama, Isshu Nakajima, Takeshi Hoshino, Jun-ichiro Watanabe, Youichi Horry, *Hitachi Human Interaction Lab., Japan*

**P4-6 AUTOMATIC WHITE BALANCE WITH COLOR TEMPERATURE ESTIMATION**

Po-Min Wang, Chiou-Shann Fuh, *National Taiwan University, Taiwan*

**P4-7 A NEW APPROACH TO COLOR ADJUSTMENT FOR MOBILE APPLICATION DISPLAYS WITH A SKIN PROTECTION ALGORITHM ON A CIE1931 DIAGRAM**

Jooyoung Ha, Sungmok Lee, *Dept. of Electronic Engineering, Dong-A University, South Korea*; Tae-eung Kim, Wontae Choi, *SAMSUNG Electro-Mechanics Co. Ltd., South Korea*; Bongsoon Kang, *Dept. of Electronic Engineering, Dong-A University, South Korea*

**P4-8 VLSI ARCHITECTURE OF AN INVISIBLE WATERMARKING UNIT FOR A BIOMETRIC-BASED SECURITY SYSTEM IN A DIGITAL CAMERA**

Saraju Mohanty, O. B. Adamo, E. Kougianos, *University of North Texas, United States*

**P4-9 IMPROVED EDGE-ADAPTIVE DEMOSAICKING METHOD FOR ARTIFACT SUPPRESSION AROUND LINE EDGES**

Jonghwa Lee, Taeuk Jeong, Chulhee Lee, *Yonsei, South Korea*

**P4-10 SEAMLESS VIEWPOINT SWITCHING FOR MULTIVIEW VIDEO**

Shang-Chih Chuang, Chun-Hsiang Huang, Ja-Ling Wu, *Department of Computer Science and Information Engineering, National Taiwan University, Taiwan*

**P4-11 AUDIO SEGMENTATION ASSISTED SYNCHRONIZED LYRICS EDITING**

Venkatesh Doddihal, Kailash Swaminathan, *Philips Electronics India Ltd, India*

**P4-12 OPTICAL SLIP RINGS FOR HOME SECURITY HIGH-DEFINITION CAMERAS**

Tadashi Aizawa, Satoru Toguchi, Kazutoshi Hirohashi, Masahisa Sakai, *JVC, Japan*

**P4-13 BANDWIDTH-EFFICIENT DISPLAY CONTROLLER ARCHITECTURES IN PRESENCE OF OCCLUSION**

Moinul Khan, Srikanth Rengarajan, *Intel, United States*

**P4-14 NON-INVASIVE AND PERSONALIZED ADVERTISING THROUGH MPEG-4 PROCESSING AND SEMANTIC REASONING**

Martin Lopez-Nores, Jose Juan Pazos-Arias, Jorge Garcia-Duque, Yolanda Blanco-Fernandez, Alberto Gil-Solla, *University of Vigo, Spain*

**P4-15** MEMORY MANAGEMENT CIRCUIT FOR THE NEXT GENERATION OPTICAL DRIVES

Toru Sagayama, *Renesas Solutions Corp., Japan*

**P4-16** PERFORMANCE EVALUATION OF J2ME AND SYMBIAN APPLICATIONS IN SMART CAMERA PHONES

Celeste Campo Vazquez, *University Carlos III of Madrid, Spain*; Consolacion Navarrete, *University Carlos III of Madrid, Spain*; Carlos Garcia-Rubio, *University Carlos III of Madrid, Spain*

**P4-18** DYNAMIC DISPLAY METHOD IN USER INTERFACE BASED ON ROUTING INFORMATION ON AD-HOC WIRELESS COMMUNICATION

Morimasa Matsuda, *Mitsubishi Electric Microcomputer Application Software, Japan*; Takako Nonaka, Tomoya Nakata, Tomohiro Hase, *Ryukoku University, Japan*

**P4-19** HIGHLIGHT SCENE DETECTION AND VIDEO SUMMARIZATION FOR PVR-ENABLED HIGH-DEFINITION TELEVISION SYSTEMS

Samuel Shipman, Ajay Divakaran, *Mitsubishi Electric Research Laboratories, United States*; Mark Flynn, *Mitsubishi Digital Electronics America, United States*

**P4-20** DERIVING THE VIRTUAL WORLD FROM WIRELESS SENSOR NETWORKS FOR INTERACTION WITH CONSUMER ELECTRONIC DEVICES

Taekyoung Kwon, Soo-Mi Choi, *Sejong Univ., South Korea*

**P4-21** FACE POSE ESTIMATION FOR HUMAN ROBOT INTERACTION

Myung-HO Ju, Hang-Bong Kang, *Catholic University of Korea, South Korea*

**P4-22** A LOW POWER QXGA CAMERA SIGNAL PROCESSOR FOR MOBILE CAMERA APPLICATIONS

Kyusam Lim, *Mtekvision, South Korea*

**P4-23** 3d GRAPHICS, RENDERING PIPELINE, OPENGL-ES MPEG2, VIDEO DECODER APPLICATION PROGRAM INTERFACES

Danilo Pau, *STMicroelectronics, Italy*

**SESSION 11.1: Interoperability of Performance Improvements in Mobile and Home Networks**

**Date:** January 14, 2007

**Time:** 04:20 - 06:00

**Location:** N252

**Chairs:** Peter Corcoran, National University of Ireland, Galway; Igor Radovanovic, Eindhoven University of Technology

- 04:20    **11.1-1** INTEGRATION OF BROADCAST TECHNOLOGIES WITH HETEROGENEOUS NETWORKS – AN IEEE 802.21 CENTRIC APPROACH  
Teodor Buburuzan, *IfN, TU-Braunschweig, Germany*
- 04:40    **11.1-2** IEEE 1394 OVER COAX BRIDGE FOR DIGITAL MULTIMEDIA NETWORKS  
Uwe Schelinski, *Fraunhofer IPMS, Germany*; Michal Duzynski, *Dresden University of Technology, Germany*; Sergio Guillén, Petra Nauber, Michael Scholles, *Fraunhofer IPMS, Germany*
- 05:00    **11.1-3** DESIGN OF PROTOCOL ADAPTATION LAYER FOR IEEE 1394 OVER IEEE

802.15.3

Jang Il-soon, Lee Seong-hee, Park Seong-hee, Choi Sang-sung, *ETRI, South Korea*

- 05:20 **11.1-4** IMPACTS OF REPETITIONS AND SEGMENT SIZE VARIABILITY ON OBJECT-LEVEL THROUGHPUT IN T-DMB  
Jihoon Choi, Jieun Yu, Donghwan Lee, Sungjin Kim, *Korea University, South Korea*;  
Sangmin Lee, *LG Telecom, South Korea*; Wonjun Lee, *Korea University, South Korea*
- 05:40 **11.1-5** ELECTRICAL APPLIANCES NETWORKING: AN ULTRA-LOW COST SOLUTION BASED ON POWER-LINE COMMUNICATION  
Andrea Ricci, *University of Parma, Italy*; Valerio Aisa, *Indesit Company S.p.A., Italy*;  
Ilaria De Munari, *University of Parma, Italy*; Valerio Cascio, *Indesit Company S.p.A., Italy*;  
Paolo Ciampolini, *University of Parma, Italy*

## **SESSION 11.2: Wireless Implementation**

**Date:** January 14, 2007

**Time:** 04:20 - 06:00

**Location:** N254

**Chairs:** Simon Sherratt, The University of Reading; Uwe E. Kraus, University of Wuppertal

- 04:20 **11.2-1** IMPLEMENTATION OF IEEE 802.11A BASEBAND PROCESSOR  
Je-Hoon Lee, Young-IL Lim, Kyoung-Rok Cho, *Chungbuk Nat'l Univ., South Korea*
- 04:45 **11.2-2** MULTI-PROTOCOL WIMEDIA UWB RADIO PLATFORM IMPLEMENTED IN SINGLE-CHIP CMOS  
Billy Brackenridge, *Staccato Communications, United States*
- 05:10 **11.2-3** DIGITALLY-CONTROLLED UWB PULSE GENERATOR FOR IEEE 802.15.4A SYSTEMS  
Mi-Kyung Oh, Jae-Young Kim, Kwang-Roh Park, *ETRI, South Korea*
- 05:35 **11.2-4** A NOVEL 2.4 GHZ CMOS VARIABLE GAIN LOW NOISE AMPLIFIER DESIGN FOR BLUETOOTH AND WIRELESS LAN APPLICATIONS  
Shaikh Alam, *The Ohio State University, United States*

## **SESSION 11.4: Photo Organization and Applied Compression**

**Date:** January 14, 2007

**Time:** 04:20 - 06:00

**Location:** N264

**Chairs:** Peter H. N. de With, LogicaCMG Nederland/TU Eindhoven; Guido Volleberg, Philips Consumer Electronics

- 04:20 **11.4-1 Invited** - THE EVOLUTION OF CONTENT FORMATS FOR OPTICAL MEDIA  
Jan vanderMeer, *Philips Consumer Electronics, Eindhoven, The Netherlands*
- 04:40 **11.4-2** SEMANTIC PHOTO ALBUM BASED ON MPEG-4 COMPATIBLE APPLICATION FORMAT  
Seungji Yang, Sihyoung Lee, Yong Man Ro, *Information and Communications Univ., South Korea*;  
Sang-Kyun Kim, *Samsung Advanced Institute of Technology, South Korea*

- 05:00 **11.4-3** AUTOMATIC ORGANIZATION OF DIGITAL PHOTOGRAPHS  
Anil Yekkala, *Philips, India*; Guido Volleberg, *Philips, The Netherlands*; Sudip Saha,  
*Philips, India*; Sathian Nair, *Philips, The Netherlands*
- 05:20 **11.4-4** 3D MODEL STREAMING BASED ON A JPEG-2000 IMAGE  
Nein-Hsiung Lin, Ting-Hao Huang, Bing-Yu Chen, *National Taiwan University, Taiwan*
- 05:40 **11.4-5** DATA COMPRESSION TECHNIQUES FOR TIME CODES IN KARAOKE  
Jun-Sik Hwang, *Korea University, South Korea*; Moo-Rak Choi, *LG Electronics, South  
Korea*; Goo-Rak Kwon, Sung-Min Kim, Sung-Jea Ko, *Korea University, South Korea*