

Program Schedule - Detailed

[Click Here for Session Chairs Email Addresses](#)

SESSION 1.1: Personal Health Monitoring

Date: January 11, 2010

Time: 10:30 - 12:10

Location: N258

Chair: Scott Linfoot, *De Montfort University*

Co-Chair: Will Lumpkins, *Wi2Wi Inc*

- 10:30 **1.1-1 A PERSONAL VOICE ANALYZER AND TRAINER**
Markus Borgh, *Blekinge Institute of Technology, Sweden*
- 10:50 **1.1-2 ENERGY EFFECT OF ON-NODE PROCESSING OF ECG SIGNALS**
Diana Albu, Johan Lukkien, Richard Verhoeven, *Eindhoven University of Technology, Netherlands*
- 11:10 **1.1-3 MONITORING OF ACTIVITY LEVELS OF THE ELDERLY IN HOME AND COMMUNITY ENVIRONMENTS USING OFF THE SHELF CELLULAR HANDSETS**
Liam Kilmartin, Eleanor McCarrick, Martin Hynes, Han Wang, *NUI, Galway, Ireland*
- 11:30 **1.1-4 TEXTILE-BASED BREATH-SENSING BELT**
Chang-ming Yang, Hao Yang, Chun-mei Chou, Chih-chung Wu, *Ming Young Biomedical Corp., Taiwan*
- 11:50 **1.1-5 COMBINED SCHEDULING OF ULTRASOUND AND GPS SIGNALS IN A WEARABLE ZIGBEE-BASED GUIDANCE SYSTEM FOR THE BLIND**
Minseok Song, Wanhyung Ryu, Ahron Yang, Jaewoo Kim, Byeong-Seok Shin, *INHA University, South Korea*

SESSION 1.2: IPTV Invited Session

Date: January 11, 2010

Time: 10:30 - 12:10

Location: N260

Chair: Stuart Lipoff, *IP Action Partners, Inc*

- 10:30 **1.2-1 THE MANY FACES OF IPTV AND INTERNET TV SERVICES**
Karen Liu, Mark Little, *Ovum, United States*
- 10:50 **1.2-2 IPTV ERROR CORRECTION AND RAPID CHANNEL CHANGE TECHNOLOGIES**
Greg Thompson, *Thompson Video Consulting, United States*
- 11:10 **1.2-3 PEER-ASSISTED VOD DELIVERY FOR IPTV SERVICE PROVIDERS**
Robin (Yih-Farn) Chen, *AT&T Labs - Research, United States*
- 11:30 **1.2-4 DEALING WITH TECHNICAL CHALLENGES OF MAINTAINING QUALITY OF SERVICE IN IPTV DELIVERY**
Doug Jones, *BigBand Networks, United States*
- 11:50 **1.2-5 THE IMPORTANCE AND ROLE OF META-DATA IN IPTV SYSTEMS**
Joe Weber, *TiVO, United States*

SESSION 1.3: Emerging Issues on Digital HDTV

Date: January 11, 2010

Time: 10:30 - 12:10

Location: N262

Chair: Uwe E. Kraus, *University of Wuppertal*

Co-Chair: Paul Snopko, *Techwell, Inc.*

- 10:30 **Invited**
1.3-1 INTERFERENCE TO DTV RECEPTION FROM FM RADIO SIGNALS
Charles Rhodes, *Consultant, United States*
- 11:10 **1.3-2** AN EFFICIENT RECEIVER STRUCTURE FOR ROBUST DATA TRANSMISSION USING TXID SIGNAL IN THE ATSC DTV SYSTEM
Sung Ik Park, Heung Mook Kim, *Electronics and Telecommunications Research Institute, South Korea*; Xianbin Wang, *University of Western Ontario, Canada*; Yiyang Wu, *Communication Research Centre, Canada*; Wangrok Oh, *Chungnam National University, South Korea*
- 11:20 **1.3-3** BOOST OF CABLE CAPACITY BY DVB-C2 CONSIDERING REALISTIC CHANNEL CONDITIONS
Philipp Hasse, Dirk Jaeger, Joerg Robert, *Institut fuer Nachrichtentechnik of Technische Universitaet Braunschweig, Germany*
- 11:30 **1.3-4** MEANDERING BASED PARALLEL 3DRS ALGORITHM FOR THE MULTICORE ERA
Ghiath Al-Kadi, Jan Hoogerbrugge, Surendra Guntur, *NXP Semiconductors, Netherlands*; Andrei Terechko, *Vector fabrics, Netherlands*; Marc Duranton, *NXP Semiconductors, Netherlands*

SESSION 1.4: Image Scaling and Super-Resolution

Date: January 11, 2010

Time: 10:30 - 12:10

Location: N264

Chair: Christian Hentschel, *University of Technology Cottbus*

Co-Chair: Erwin Bellers, *NXP Semiconductors*

- 10:30 **1.4-1** NEW ADAPTIVE HYBRID DECISION ALGORITHM FOR VIDEO SCALING
Jürgen Wünschmann, *University of Ulm, Germany*
- 10:50 **1.4-2** A NOVEL IMAGE INTERPOLATION METHOD USING THE BILATERAL FILTER
Jong-Woo Han, Jun-Hyung Kim, Sung-Hyun Cheon, Sung-Jea Ko, *Korea University, South Korea*
- 11:10 **1.4-3** AN IMAGE SHARPENING ALGORITHM FOR HIGH MAGNIFICATION IMAGE ZOOMING
Ning Xu, Yeong-Taeg Kim, *Samsung SISA, United States*
- 11:30 **1.4-4** A KERNEL REGRESSION BASED RESOLUTION ENHANCEMENT TECHNIQUE FOR LOW RESOLUTION VIDEO
Mohammad Moinul Islam, Vijayan Asari, Mohammad Nazrul Islam, Mohammad Karim, *Old Dominion University, United States*
- 11:50 **1.4-5** AN EFFICIENT IMAGE INTERPOLATION METHOD USING EDGES DETECTED FROM THE EXPANDED BINARY IMAGE: USE TO ZOOMING AND DEINTERLACING
Dong-Ho Lee, *Hanyang University, South Korea*

SESSION 2.1: Recycling and Smart Energy Techniques for CE

Date: January 11, 2010

Time: 14:20 - 16:00

Location: N258

Chair: Brian Markwalter, *CEA*

Co-Chair: Simon Sherratt, *University of Reading*

14:20 **2.1-1 PRACTICAL IMPLICATIONS OF ELECTRONICS RECYCLING LAWS FOR CONSUMER ELECTRONICS MANUFACTURERS**

Jason Linnell, *National Center for Electronics Recycling, United States*

2-1-2 On Adaptive-Biasing of Linear Power Amplifiers in Devices with OFDM Transceivers

Tsouri, Gill R, *Rochester Institute of Technology, United States*

SESSION 2.2: Camera Technologies

Date: January 11, 2010

Time: 14:20 - 16:00

Location: N260

Chair: Haruhiko Murata, *SANYO Electric Co., Ltd.*

Co-Chair: Takuya Imaide, *Hitachi Ltd.*

14:20 **2.2-1 CFA-BASED MOTION BLUR REMOVAL**

Pongsak Lasang, Chin Phek Ong, Sheng Mei Shen, *Panasonic Singapore Laboratories, Singapore*

14:40 **2.2-2 NEW APPROACH ON MULTI-AXIAL ANALYSIS OF CAMERA SHAKE**

Kenichi Hayashi, Masanobu Tanaka, Hiroya Kusaka, Hideyuki Hashi, *Panasonic Corporation, Japan*

15:00 **2.2-3 IMAGE RESTORATION USING ALPHA MAP-BASED FUSION FOR MULTIPLE COLOR APERTURE COMPUTATIONAL CAMERA**

Eunsung Lee, Vivek Maik, Sinyoung Jun, Sangjin Kim, Joonki Paik, *Chung-Ang University, South Korea*

15:20 **2.2-4 K-MEANS TRACKER-BASED OBJECT TRACKING METHOD FOR DIGITAL CAMERA**

Kan-ichi Koyama, Yasuhachi Hamamoto, Hiroshi Kano, *SANYO Electric Co., Ltd., Japan*; Haiyuan Wu, *Wakayama University, Japan*

15:40 **2.2-5 PANORAMIC IMAGING SYSTEM FOR CAMERA PHONES**

Kari Pulli, *Nokia Research Center, United States*; Chia-Kai Liang, *National Taiwan University, Taiwan*; Marius Tico, Xianglin Wang, Yingen Xiong, *Nokia Research Center, United States*

SESSION 2.3: Display Systems & Driving Technologies

Date: January 11, 2010

Time: 14:20 - 16:00

Location: N262

Chair: Atul Batra, *Marvell Semiconductors, Inc.*

Co-Chair: Uwe E. Kraus, *University of Wuppertal*

14:20 **2.3-1 ENABLING EYE-CONTACT FOR HOME VIDEO COMMUNICATION WITH A MULTI-VIEW AUTOSTEREO SCOPIC DISPLAY**

Fei Zuo, Harm Belt, Marcel Krijn, Siebe de Zwart, *Philips Research, Netherlands*

14:40 **2.3-2 DESIGN OF ELECTROPHORETIC DISPLAY CONTROLLER WITH REDUCED**

WAVEFORM LOOKUP TABLES

Wen-Chung Kao, *National Taiwan Normal University, Taiwan*

- 15:00 **2.3-3** DEPTH MAP CREATION CONSIDERATIONS TOWARDS REALIZING VOLUMERIC TELEVISION
Karuppanan Balasubramanian, Akin Cellatoglu, *European University of Lefke, Turkey*
- 15:20 **2.3-4** SINGLE BIT PLANE BASED BLOCK TRUNCATION CODING FOR COLOR IMAGE COMPRESSION IN LCD OVERDRIVE
Jun Wang, Jong-Wha Chong, *Hanyang University, South Korea*
- 15:40 **2.3-5** CLIPPING REDUCTION ALGORITHM USING BACKLIGHT LUMINANCE COMPENSATION FOR LOCAL DIMMING IN LIQUID CRYSTAL DISPLAYS
Jong-Ju Hong, Seong-Eun Kim, Woo-Jin Song, *POSTECH, South Korea*

SESSION 2.4: TV Architectures

Date: January 11, 2010

Time: 14:20 - 16:00

Location: N264

Chair: Peter H. N. de With, *CycloMedia / Eindhoven University of Technology*

Co-Chair: Onno Eerenberg, *NXP Research*

- 14:20 **2.4-1** TRADE OFF BETWEEN SOURCE AND CHANNEL DISTORTION FOR A DATA-PARTITIONED VIDEO IN A CAPACITY CONSTRAINED NETWORK
Ashfiqua Connie, Panos Nasiopoulos, Victor Leung, *University of British Columbia, Canada*; Yaser Fallah, *University of California, Berkeley, United States*
- 14:40 **2.4-2** SYSTEM ARCHITECTURE FOR IPTV SEAMLESS SERVICE IN MOBILITY
SooHong Park, Rim Haw, ChoongSeon Hong, *Samsung Electronics, South Korea*
- 15:00 **2.4-3** A SET-TOP BOX WITH VIRTUAL PLATFORM SUPPORT FOR QOS MANAGEMENT IN IMS BASED MULTIPLE PROVIDER NETWORKS
Muhammad Shoaib Siddiqui, Syed Obaid Amin, Choong Seon Hong, *Kyung Hee University, South Korea*
- 15:20 **2.4-4** CONVERSION OF H.264-ENCODED 2D VIDEO TO 3D FORMAT
Mahsa T. Pourazad, Panos Nasiopoulos, Rabab K. Ward, *University of British Columbia, Canada*
- 15:40 **2.4-5** PERFORMANCE-EFFICIENT ARCHITECTURE FOR FREE-VIEWPOINT 3DTV RECEIVER
Egor Bondarev, Sveta Zinger, *Eindhoven University of Technology, Netherlands*; Peter H.N. de With, *CycloMedia Technology / Eindhoven University of Technology, Netherlands*

SESSION P1: Streaming and Media

Date: January 11, 2010

Time: 15:45 - 16:45

Location: N256

P1-1 DYNAMIC RESOURCE ALLOCATION FOR REAL-TIME PRIORITY PROCESSING APPLICATIONS

Martijn van den Heuvel, Reinder Bril, *Eindhoven University of Technology, Netherlands*; Stefan Schiemenz, Christian Hentschel, *Brandenburg University of Technology, Germany*

P1-2 PERFORMANCE METRICS FOR AUTO-FOCUS IN DIGITAL AND CELL-PHONE CAMERAS

Nasser Kehtarnavaz, Mark Gamadia, *University of Texas at Dallas, United States*

P1-3 REAL-SENSE MEDIA SYNCHRONIZATION TECHNOLOGY BASED ON THE SMMD

JaeKwan Yun, JongHyun Jang, KwangRo Park, *Electronics and Telecommunications Research Institute, South Korea*

P1-4 CONTENT AUDITING USING VIDEO SIGNATURES

Sebastian Possos, Hari Kalva, Marilynne Mendolla, Jonathan Schwartz, *Florida Atlantic University, United States*

P1-5 VIDEO STREAMING WITH MULTI-TFRC AND UPLINK QUEUE MANAGEMENT

Salah Saleh, Martin Fleury, *University of Essex, United Kingdom*

P1-6 JOINT SOURCE-CHANNEL CODING SCHEME FOR SVC-BASED DVB-S2 SATELLITE BROADCASTING SYSTEM

Kwang-deok Seo, Won Sup Chi, *Yonsei University, South Korea*; In Ki Lee, Dae Ig Chang, *Electronics and Telecommunications Research Institute, South Korea*

P1-7 USE OF SEMANTIC FEATURES FOR FILTERING OF MALICIOUS CONTENT IN AN IPTV ENVIRONMENT

Hyun-seok Min, Wesley Neve, Yong Man Ro, *Korea Advanced Institute of Science and Technology, South Korea*

P1-8 AN AUTOMATIC FACE INDEXING FRAMEWORK FOR ACTOR-BASED VIDEO SERVICES IN AN IPTV ENVIRONMENT

Jae Young Choi, *Korea Advanced Institute of Science and Technology, South Korea*; Wesley De Neve, *Korea Advanced Institute of Science and Technology, Belgium*; Seung-Ho Lee, Yong Man Ro, *Korea Advanced Institute of Science and Technology, South Korea*

P1-9 SPREAD PROGRAMMING USING ORTHOGONAL CODE FOR ALLEVIATING BIT ERRORS OF NAND FLASH MEMORY

JaeGyu Jung, *Samsung Electronics, South Korea*; Chuck Yoo, *Korea University, South Korea*

P1-10 HIGH DEFINITION VIDEO TRANSMISSION USING BLUETOOTH OVER UWB

Sangjae Lee, Seonghee Lee, Youngae Jeon, Sangsung Choi, *Electronics and Telecommunications Research Institute, South Korea*; Soontae Kim, *Korea Advanced Institute of Science and Technology, South Korea*

P1-11 A FAST MODE DECISION ALGORITHM FOR DOWNSCALED TRANSCODING OF H.264 PREENCODED VIDEO

Matthias Knesebeck, Panos Nasiopoulos, *University of British Columbia, Canada*

P1-12 PRELIMINARY IMPLEMENTATION OF VQ IMAGE CODING USING GPGPU

Akiyoshi Wakatani, *Konan University, Japan*

P1-13 A DIGITAL TELEVISION SOFTWARE AUTHENTICATION MECHANISM

Laisa Costa, Volnys Bernal, Marcelo Zuffo, *University of Sao Paulo, Brazil*

P1-14 IMPLEMENTATION OF 3D T-DMB RECEIVER FOR THREE-DIMENSIONAL DATA SERVICE

Gwangsoon Lee, Hyun Lee, Kugjin Yun, Bongho Lee, Namho Hur, Jin Woong Kim,

Electronics and Telecommunications Research Institute, South Korea

**P1-15 ZIGBEE SENSOR NETWORK FOR ADVANCED METERING
INFRASTRUCTURE**

Hoi Yan Tung, Kim Fung Tsang, Ka Lun Lam, *City University of Hong Kong, Hong Kong*

SESSION 3.1: Energy Management for Green CE

Date: January 11, 2010

Time: 16:30 - 18:10

Location: N258

Chair: Brian Markwalter, *CEA*

Co-Chair: Will Lumpkins, *Wi2Wi Inc*

- 16:30 **3.1-1 GREEN CONSUMER ELECTRONICS; E-CLIPS, ELECTRONIC CONTROL OF INTELLIGENT POWER SYSTEMS**
Steve Fitz, John Woods, *University of Essex, United Kingdom*
- 16:50 **3.1-2 WIMAX-ZIGBEE MANAGEMENT SYSTEM FOR GREEN EDUCATION**
Ka Lun Lam, Lap To Lee, Hoi Yan Tung, Kim Fung Tsang, *City University of Hong Kong, Hong Kong*
- 17:10 **3.1-3 EXPLOITING STORAGE CLASS MEMORY TO REDUCE ENERGY CONSUMPTION IN MOBILE MULTIMEDIA DEVICES**
Heekwon Park, Seungjae Baek, Jongmoo Choi, *Dankook University, South Korea*;
Donghee Lee, *University of Seoul, South Korea*; Sam Noh, *Hongik University, South Korea*
- 17:30 **3.1-4 MULTILAYER SENSORS FOR GREEN COGNITIVE RADIO**
Jacques Palicot, *SUPELEC, France*
- 17:50 **3.1-5 ESTIMATING POWER CONSUMPTION OF MOBILE EMBEDDED SOFTWARE BASED ON BEHAVIORAL MODEL**
Jong-Phil Kim, Doo-Hwan Kim, Jang-Eui Hong, *Chung Buk National University, South Korea*

SESSION 3.2: Networking: Applications

Date: January 11, 2010

Time: 16:30 - 18:10

Location: N260

Chair: Bill Rowe, *WARowe Consultancy*

Co-Chair: J.J. Lukkien, *Eindhoven University of Technology*

- 16:30 **3.2-1 A GENERIC SERVICE INTERFACING APPROACH FOR HOME NETWORKING**
S Chen, *TU/e, Netherlands*
- 16:50 **3.2-2 A DYNAMIC SESSION SWITCHING METHOD BETWEEN DIGITAL NETWORK APPLIANCES**
Kazuyuki Tasaka, *KDDI R&D Laboratories Inc., Japan*
- 17:10 **3.2-3 SOCIALIZING ELECTRONICS: SECURE INTERACTIONS IN SOCIAL NETWORKS**
Daniel Diaz-Sanchez, Andrés Marín, Florina Almenarez, Alberto Cortés, *Universidad Carlos III de Madrid, Spain*
- 17:30 **3.2-4 EFFICIENT MOVEMENT DETECTION FOR HUMAN ACTIONS USING TRIAXIAL ACCELEROMETER**

Hsu-Yang Kung, Chin-Yu Ou, Shin-Di Li, Chun-Hao Lin, Hong-Jie Chen, Yu-Lun Hsu, Miao-Han Chang, Che-I Wu, *National Pingtung University of Science and Technology, Taiwan*

- 17:50 **3.2-5** HOME ENERGY MANAGEMENT SYSTEM BASED ON POWER LINE COMMUNICATION
Young Sung Son, Kyeong-Deok Moon, *Electronics and Telecommunications Research Institute, South Korea*

SESSION 3.3: OFDM-Systems

Date: January 11, 2010

Time: 16:30 - 18:10

Location: N262

Chair: Uwe E. Kraus, *University of Wuppertal*

Co-Chair: Simon Sherratt, *University of Reading*

- 16:30 **3.3-1** A FINE CARRIER RECOVERY ALGORITHM ROBUST TO DOPPLER SHIFT FOR OFDM SYSTEMS
Eun Su Kang, *Kyungpook National University, South Korea*; Humor Hwang, *Myongji University, South Korea*; Dong seog Han, *Kyungpook National University, South Korea*
- 16:50 **3.3-2** A STUDY ON SCHEMES OF REDUCING INFLUENCE OF IMPULSE NOISE IN OFDM UNDER MULTI-PATH CHANNEL
Teruhiko Umatani, Kohei Ohno, Makoto Itami, *Tokyo University of Science, Japan*
- 17:10 **3.3-3** A STUDY ON COMPLEXITY REDUCTION OF ZERO-FORCING ICI CANCELLER IN MOBILE RECEPTION OF OFDM
Akira Nakamura, Kento Ishizu, Kohei Ohno, Makoto Itami, *Tokyo University of Science, Japan*
- 17:30 **3.3-4** FAST AND ACCURATE FREQUENCY OFFSET TRACKING SCHEME FOR OFDM DVB-T STANDARD
Javier González-Bayón, Angel Fernández-Herrero, Carlos Carreras, *Universidad Politécnica de Madrid, Spain*
- 17:50 **3.3-5** A DCM DEMAPPER FOR MB-OFDM ON FPGA
Mário Véstias, Hugo Santos, Helena Sarmento, *INESC-ID, Portugal*

SESSION 3.4: 3D Video in the Home

Date: January 11, 2010

Time: 16:30 - 18:10

Location: N264

Chair: Anthony Vetro, *Mitsubishi Electric Research Labs*

Co-Chair: Peter H. N. de With, *CycloMedia / Eindhoven University of Technology*

- 16:30 **3.4-1** 3D VIDEO: ACQUISITION, CODING, AND DISPLAY
Philipp Merkle, Karsten Mueller, Thomas Wiegand, *Fraunhofer HHI, Germany*
- 16:50 **3.4-2** CONSIDERATIONS FOR STEREOSCOPIC 3D VIDEO DELIVERY ON CABLE
David Broberg, *Cable Television Laboratories, Inc., United States*
- 17:10 **3.4-3** BASIC CONCEPT OF 3D FULL HD PLASMA THEATER SYSTEM
Isao Kawahara, *Panasonic, Japan*
- 17:30 **3.4-4** ENABLING 3D CONTENT IN CONSUMER ELECTRONICS

Brian Markwalter, *CEA, United States*; Mark Stockfisch, *Quantum Data, United States*

17:50 **3.4-5 TV ARCHITECTURE SUPPORTING MULTIPLE 3D SERVICES**
Anthony Vetro, *Mitsubishi Electric Research Labs, United States*; Wang-He Lou, Mark Flynn, *Mitsubishi Digital Electronics America, United States*

SESSION 4.1: Metadata for Consumer Electronics

Date: January 12, 2010

Time: 08:10 - 09:50

Location: N258

Chair: Scott Linfoot, *De Montfort University*

Co-Chair: Tom Coughlin, *Coughlin Associates*

08:10 **4.1-1 A SEMANTIC APPROACH TO AVOIDING FAKE NEIGHBORHOODS IN COLLABORATIVE RECOMMENDATION OF COUPONS THROUGH DIGITAL TV**
Manuela I. Martín Vicente, Alberto Gil Solla, Manuel Ramos Cabrer, Yolanda Blanco Fernández, Martín López Nores, *University of Vigo, Spain*

08:30 **4.1-2 EXPLOITING DIGITAL TV USERS' PREFERENCES IN A TOURISM RECOMMENDER SYSTEM BASED ON SEMANTIC REASONING**
Yolanda Blanco-Fernandez, Martin Lopez-Nores, Jose J. Pazos-Arias, Alberto Gil-Solla, Manuel Ramos-Cabrer, *University of Vigo, Spain*

08:50 **4.1-3 A NOVEL TAXONOMY FOR CONSUMER METADATA**
Thomas Coughlin, *Coughlin Associates, United States*; Scott Linfoot, *De Montfort University, United Kingdom*

09:10 **4.1-4 PERSONALIZED TV-PROGRAM RECOMMENDATIONS BASED ON LIFE LOG**
Yukihiko Nakamura, Tatsuaki Itou, Hirohisa Tezuka, Tatsuya Ishihara, Masanobu Abe, *NTT Cyber Solution Laboratories, Japan*

09:30 **4.1-5 PERSONALIZATION OF BROADCAST PROGRAMS USING SYNCHRONIZED INTERNET CONTENT**
Kinji Matsumura, *NHK, Japan*; Michael Evans, *BBC R&D, United Kingdom*; Yoshiaki Shishikui, *NHK, Japan*; Andrew McParland, *BBC R&D, United Kingdom*

SESSION 4.2: Network Infrastructure

Date: January 12, 2010

Time: 08:10 - 09:50

Location: N260

Chair: J.J. Lukkien, *Eindhoven University of Technology*

Co-Chair: Stu Lipoff, *IP Action Partners, Inc.*

08:10 **4.2-1 INTERFERENCE-AWARE ENERGY-EFFICIENT GEOGRAPHICAL ROUTING FOR IEEE 802.15.4A NETWORKS**
Junseok Kim, Younggoo Kwon, Jongho Shin, *Konkuk University, South Korea*

08:30 **4.2-2 EFFICIENT COOPERATIVE TRANSMISSION FOR HIGH SPEED WPAN SYSTEM IN 60GHZ CHANNELS**
Won-Jin Lee, In-Duk Han, Jun Heo, *Korea University, South Korea*

08:50 **4.2-3 CONTENTION AVOIDANCE WITH HOP BASED PRIORITY IN 802.11E MULTI-HOP NETWORK**
ShinHyong Lee, Chuck Yoo, *Korea University, South Korea*

09:10 **4.2-4 AUDIO SPEAKER HANDOVER SYSTEM USING MOBILE GADGET**

Jiyeon Son, Chang-Seok Bae, Kyeongdeok Moon, *Electronics and Telecommunications Research Institute, South Korea*; Younhee Lee, *Korea Advanced Institute of Science and Technology, South Korea*

09:30 **4.2-5** A LOCATION TRACKING AND MESSAGING SYSTEM FOR MOBILE GROUP COMMUNICATION IN IP NETWORKS

Chih-Lin Hu, Chien-An Cho, Chang-Jung Lin, Chen-Wei Fan, *National Central University, Taiwan*

SESSION 4.3: DTV-Receivers

Date: January 12, 2010

Time: 08:10 - 09:50

Location: N262

Chair: Paul Snopko, *Techwell, Inc.*

Co-Chair: Bill Rowe, *WARowe Consultancy*

08:10 **4.3-1** PERSONALIZED MULTIMEDIA TOURISTIC SERVICES FOR HYBRID BROADCAST/BROADBAND MOBILE RECEIVERS

Francisco Fraille, *Polytechnic University of Valencia, Spain*; Alberto Gil, *University of Vigo, Spain*; Juan Carlos Guerri, *Polytechnic University of Valencia, Spain*

08:30 **4.3-2** CALIBRATION ALGORITHM FOR AN ARRAY ANTENNA IN DTV BEAMFORMING RECEIVERS

Jaehyun Park, Joohwan Chun, *Korea Advanced Institute of Science and Technology, South Korea*

08:50 **4.3-3** CIR ANALYZER-BASED OFDM RECEIVER FOR IMPROVING NOISE PERFORMANCE IN DELAY-SPREAD CHANNEL

Dong Hyun Kang, *Samsung Electronics, South Korea*; Sergey Zhidkov, *Samsung Electronics, Russian Federation*; Yong Woon Kim, Do Jun Rhee, *Samsung Electronics, South Korea*; Hyung Jin Choi, *Sung Kyun Kwan University, South Korea*

09:10 **4.3-4** ON AIR UPGRADE FOR DIGITAL TELEVISION SET-TOP BOXES

Laisa Costa, Rafael Herrero, Marcelo Biase, Rogério Nunes, Marcelo Zuffo, *University of Sao Paulo, Brazil*

SESSION 4.4: Frame Rate Up-Conversion and 3D Processing

Date: January 12, 2010

Time: 08:10 - 09:50

Location: N264

Chair: Sharon Peng, *Harman Consumer Group*

Co-Chair: Christian Hentschel, *University of Technology Cottbus*

08:10 **4.4-1** COHERENT BLOCK-BASED MOTION ESTIMATION FOR MOTION-COMPENSATED FRAME RATE UP-CONVERSION

Wei Hong, *Texas Instruments, United States*

08:30 **4.4-2** PICTURE RATE CONVERSION USING REGRESSION BASED FILTERS

Thijs Withaar, *NXP Semiconductors, Netherlands*

08:50 **4.4-3** ENHANCED FRAME RATE UP-CONVERSION METHOD FOR UHD VIDEO

Tae-Shick Wang, Kang-Sun Choi, Hyung-Suk Jang, *Korea University, South Korea*; Aldo Morales, *Penn State University-Harrisburg, United States*; Sung-Jea Ko, *Korea University, South Korea*

09:10 **4.4-4** REAL-TIME VIEW SYNTHESIS SYSTEM WITH MULTI-TEXTURE STRUCTURE

OF GPU

Ji-Youn Choi, Hanyang University, South Korea; Sae-Woon Ryu, Hanyang University, South Korea; Hong-Chang Shin, ETRI, South Korea; Jong-Il Park, Hanyang University, South Korea

09:30 **4.4-5 REAL-TIME IMPLEMENTATION OF DEPTH MAP POST-PROCESSING FOR 3D-TV IN DEDICATED HARDWARE**

Om Prakash Gangwal, *NXP Semiconductors, Netherlands*; Boris Djapic, *Philips Consumer Lifestyle, Netherlands*

SESSION P2: Security, Healthcare and HCI

Date: January 12, 2010

Time: 09:35 - 10:35

Location: N256

P2-1 PERIOD-BASED DEFENSE MECHANISM AGAINST MALICIOUS DATA PACKET FLOODING ATTACKS IN WIRELESS AD HOC NETWORKS

Hyojin Kim, JooSeok Song, *Yonsei University, South Korea*

P2-2 A Study of Mobile Proxy for Privacy Enhancement

Eunah Kim, *Samsung Advanced Institute of Technology, South Korea*; Taekyoung Kwon, *Sejong University, South Korea*; Jeong Hyun Yi, *Soongsil University, South Korea*

P2-3 ROBUST VIDEO HASHING BASED ON TEMPORALLY INFORMATIVE REPRESENTATIVE IMAGES

Mani Malek Esmaeili, Rabab K. Ward, *University of British Columbia, Canada*

P2-4 IMPROVED REVERSIBLE DATA HIDING BASED ON HISTOGRAM MODIFICATION OF DIFFERENCE IMAGES

Jae-Won Suh, *Chung Buk National University, South Korea*; Sang-kwang Lee, Young-Ho Suh, *Electronics and Telecommunications Research Institute, South Korea*; Hyang-Mi Yoo, *Chung Buk National University, South Korea*

P2-6 DROP-N-PLAY: A NEW DEVICE INTERFACE FOR IPOD JACKETS

Hyung Sun Lee, Il-Yeon Cho, *Electronics and Telecommunications Research Institute, South Korea*

P2-7 DESIGN AND IMPLEMENTATION OF A WEARABLE AR ANNOTATION

Seok-Han Lee, Hyung-Min Park, Sang-Keun Lee, Jong-Soo Choi, *Chung-Ang University, South Korea*

P2-8 ENERGY-OPTIMIZED SECURE REMOTE FINGERPRINT AUTHENTICATION IN A MOBILE ENVIRONMENT

Seungwoo Hong, Sungju Lee, Yongwha Chung, *Korea University, South Korea*; Hakil Kim, *INHA University, South Korea*

P2-9 PERSONAL GATEWAY DESIGN FOR PORTABLE MEDICAL DEVICES USED IN BODY AREA NETWORKS

Chua-Chin Wang, Cheng-Yen Yang, Chi-Chun Huang, *National Sun Yat-Sen University, Taiwan*

P2-10 CAS KEY DISTRIBUTION MODEL WITH REVOCATION

DaeYoub Kim, Jihoon Lee, Misuk Huh, *Samsung Electronics, South Korea*

P2-11 DESIGN AND IMPLEMENTATION OF AN EMBEDDED MONITOR SYSTEM FOR BODY BREATH DETECTION BY USING IMAGE PROCESSING METHODS

Ying-Wen Bai, Wen-Tai Li, Cheng-Hsiang Yeh, *Fu Jen Catholic University, Taiwan*

P2-12 ISO/IEEE 11073 PHD STANDARDIZATION OF WEIGHTING SCALE USING NINTENDO'S WII BALANCE BOARD™ FOR HEALTHCARE SERVICES

Chanyong Park, Joonho Lim, Hoyoul Jung, Soojun Park, *Electronics and Telecommunications Research Institute, South Korea*

P2-13 RECOGNIZING HAND GESTURES USING PATTERNS OF BLOOD FLOW

Jeong-Mook Lim, Dong-Woo Lee, Il-Yeon Cho, Bae-Sun Kim, *Electronics and Telecommunications Research Institute, South Korea*; Jae-Cheol Ryou, *Chungnam National University, South Korea*

P2-14 CONTACT-FREE WEARABLE 3-D MULTI-POINT INPUT SYSTEM

Dong-Woo Lee, Yong-Ki Son, Jeong-Mook Lim, Il-Yeon Cho, *Electronics and Telecommunications Research Institute, South Korea*; Cheol-Hoon Lee, *Chungnam National University, South Korea*

P2-15 AUTHENTICATION MECHANISM WITH IMMEDIATE REVOCATION IN POD COPY PROTECTION SYSTEM

HakSoo Ju, DaeYoub Kim, SuhYun Nam, *Samsung Electronics, South Korea*

SESSION 5.1: Novel Input Devices & Methods

Date: January 12, 2010

Time: 10:20 - 12:00

Location: N258

Chair: Reinhard Moeller, *University of Wuppertal*

Co-Chair: George Borden, Logitech, Inc

10:20 **5.1-1** SECURE AND USER FRIENDLY PIN ENTRY METHOD
Chang Soon Kim, Mun-Kyu Lee, *INHA University, South Korea*

10:45 **5.1-2** A NEW TEXT INPUT METHOD FOR TV REMOTES USING TILT SENSOR
Ryosuke Aoki, Atsuhiko Maeda, Tomoki Watanabe, Minoru Kobayashi, Masanobu Abe, *NTT Cyber Solution Laboratories, Japan*

11:10 **5.1-3** ESTIMATION OF GOLF CLUB'S LOCI AND ATTITUDES USING 3-AXIS ACCELERATION SENSOR
Guen Tae Park, Young Sub Song, Hang Joon Kim, *Kyungpook National University, South Korea*

11:35 **5.1-4** AN UNIVERSAL REMOTE CONTROLLER WITH HAPTIC INTERFACE FOR HOME DEVICES
Laehyun Kim, Wanjo Park, Hyuncho Cho, Sehyung Park, *Korea Institute of Science and Technology, South Korea*

SESSION 5.2: Emerging Trends in Consumer Electronics

Date: January 12, 2010

Time: 10:20 - 12:00

Location: N260

Chair: Scott Linfoot, *De Montfort University*

Co-Chair: Stefan Mozar

10:20 **5.2-1** AN IMPROVED PHASE DE-EMBEDDING TECHNIQUE FOR HIGH SPEED CONNECTORS
Doug Campbell, Aldo W. Morales, Sedig Agili, *Penn State University-Harrisburg, United States*

- 10:40 **5.2-2** AN EFFICIENT MESSAGE PASSING DECODING ALGORITHM FOR RAPTOR CODES ON HAND-HELD CONSUMER ELECTRONICS
Kwangseok Noh, Jun Heo, *Korea University, South Korea*
- 11:00 **5.2-3** A STUDY ON PROGRAM CODE SYNCHRONIZATION IN CONSUMER DEVICES
Ryozo Kiyohara, Satoshi Mii, *Mitsubishi Electric Corporation, Japan*
- 11:20 **5.2-4** A WIRELESS LAN-BASED DIGITAL PHOTO FRAME WITH NPR EFFECTS
Yoon-Seok Choi, Ji-Hyung Lee, Bon-Ki Koo, *Electronics and Telecommunications Research Institute, South Korea*
- 11:40 **5.2-5** A SIMPLE METHOD FOR RESTORING PASSIVITY IN S-PARAMETERS USING SINGULAR VALUE DECOMPOSITION
Doug Campbell, Aldo W. Morales, Sedig Agili, *Penn State University-Harrisburg, United States*

SESSION 5.3: Channel Equalization and Decoding

Date: January 12, 2010

Time: 10:20 - 12:00

Location: N262

Chair: Paul Snopko, *Techwell, Inc.*

Co-Chair: Uwe E. Kraus, *University of Wuppertal*

- 10:20 **5.3-1** AN ENHANCED INTERFERENCE MITIGATION SCHEME IN THE PRESENCE OF ASYNCHRONOUS INTER-CELL INTERFERENCE FOR MIMO-OFDMA SYSTEM
Jun-Hee Jang, Hyung-Jin Choi, *Sung Kyun Kwan University, South Korea*
- 10:40 **5.3-2** CHANNEL ESTIMATION METHODS FOR DIVERSITY AND MIMO IN LR-WPAN SYSTEMS
Alexander Huhn, Horst Schwetlick, *HTW-Berlin, Germany*
- 11:00 **5.3-3** HIGH THROUGHPUT FOUR-PARALLEL RS DECODER ARCHITECTURE FOR 60GHZ MMWAVE WPAN SYSTEMS
Chang-Seok Choi, Hanho Lee, *INHA University, South Korea*
- 11:20 **5.3-4** DE-CORRELATING PARTIAL UPDATE TECHNIQUE FOR FEEDBACK CHANNEL ESTIMATOR IN 8VSB DTV DOCR
Jin-kyu Hong, Jin-Yong Choi, *Yonsei University, South Korea*; Young-Woo Suh, Jaekwon Lee, *Korean Broadcasting System, South Korea*; JongSoo Seo, *Yonsei University, South Korea*

SESSION 5.4: Video Coding Algorithms - 1

Date: January 12, 2010

Time: 10:20 - 12:00

Location: N274

Chair: Fumio Isshiki, *Hitachi, Ltd.*

Co-Chair: Anthony Vetro, *Mitsubishi Electric Research Labs*

- 10:20 **5.4-1** PATTERN-BASED DE-CORRELATION FOR VISUAL-LOSSLESS VIDEO COMPRESSION FOR WIRELESS DISPLAY APPLICATIONS
Onno Eerenberg, *NXP Semiconductors, Netherlands*; Peter H.N. de With, *CycloMedia Technology / Eindhoven University of Technology, Netherlands*; Erik Trauschke, Ying Gao, *NXP Semiconductors, Netherlands*
- 10:40 **5.4-2** A SIMPLE AND EFFECTIVE ALGORITHM FOR FALSE CONTOUR REDUCTION IN DIGITAL TELEVISION
Ning Xu, *Samsung SISA, United States*

- 11:00 **5.4-3** A UNIVERSAL VIDEO DECODER FOR FULLY CONFIGURABLE VIDEO CODING
Chaminda Kannangara, James Philp, *The Robert Gordon University, United Kingdom*;
Maja Bystrom, *Boston University, United States*; Iain Richardson, *The Robert Gordon University, United Kingdom*
- 11:20 **5.4-4** ROI CENTERED COMPRESSION BY ADAPTIVE QUANTIZATION FOR SPORTS VIDEO
Jong-Yun Kim, Tae-Yong Kim, *GSAIM, Chung-Ang University, South Korea*
- 11:40 **5.4-5** HIGH CODING EFFICIENCY VIDEO CODEC FOR ENTERTAINMENT-QUALITY
Haechul Choi, Sung-Chang Lim, Hahyun Lee, Seyoon Jeong, Jin Soo Choi, *Electronics and Telecommunications Research Institute, South Korea*

SESSION 6.1: User Interface and Sensors

Date: January 12, 2010

Time: 14:20 - 16:00

Location: N258

Chair: Reinhard Moeller, *University of Wuppertal*

Co-Chair: George Borden, *Logitech, Inc*

- 14:20 **6.1-1** MULTI-PURPOSE USER AWARENESS KIT FOR CONSUMER ELECTRONIC DEVICES
Milan Z. Bjelica, Nikola Teslic, *University of Novi Sad, Yugoslavia*
- 14:45 **6.1-2** A MODULAR MULTIMODAL SOFTWARE PLATFORM FOR MOBILE DEVICES
Marius Spika, *TU Braunschweig, Germany*
- 15:10 **6.1-3** A 6-DOF ARTAG-BASED TRACKING SYSTEM
Cesare Celozzi, Gianluca Paravati, Andrea Sanna, Fabrizio Lamberti, *Politecnico di Torino, Italy*
- 15:35 **6.1-4** REALTIME USER INTERFACE USING PARTICLE FILTER WITH INTEGRAL HISTOGRAM
YoungJoon Chai, TaeYong Kim, Kyusik Chang, YongJun Choi, JungSub Hwang, *Chung-Ang University, South Korea*

SESSION 6.2: Home Media Server and Recording

Date: January 12, 2010

Time: 14:20 - 16:00

Location: N260

Chair: Wang-He Lou, *Mitsubishi Digital Electronics America, Inc.*

Co-Chair: Furmio Isshiki, *Hitachi, Ltd.*

- 14:25 **6.2-1** A HIGH-PERFORMANCE NAND AND PRAM HYBRID STORAGE DESIGN FOR CONSUMER ELECTRONIC DEVICES
Hyung Gyu Lee, Seongwoo Ryu, *Samsung Electronics, South Korea*
- 14:45 **6.2-2** AN AGENT-BASED PERSONALIZED MULTIMEDIA JUKEBOX FOR MOBILE DEVICES USING CONSUMPTION SENTIMENT
Won-Ik Park, Miseon Choi, Young-Kuk Kim, *Chungnam National University, South Korea*
- 15:10 **6.2-3** IMPORTANT OBJECT DETECTION FROM TV PROGRAMS BASED ON PRODUCTION TECHNIQUE ESTIMATION
Tomohiko Takahashi, Masaru Sugano, Shigeyuki Sakazawa, *KDDI R&D Laboratories*

Inc., Japan

- 15:35 **6.2-4** LSM: A NEW LOCATION AND EMOTION AWARE WEB-BASED INTERACTIVE MUSIC SYSTEM
Hao Liu, *TUE, Netherlands*

SESSION 6.3: Secure CE Devices

Date: January 12, 2010

Time: 14:20 - 16:00

Location: N262

Chair: Akiomi Kunisa, *SANYO Electric Co., Ltd.*

Co-Chair: Dimiti Jarnikov

- 14:20 **6.3-1** DESIGN AND IMPLEMENTATION OF MOBILE TRUSTED MODULE FOR TRUSTED MOBILE COMPUTING
Mooseop Kim, Youngsae Kim, Hongil Ju, Youngsu Park, *Electronics and Telecommunications Research Institute, South Korea*
- 14:40 **6.3-2** SECURE ETICKETS BASED ON QR-CODES WITH USER-ENCRYPTED CONTENT
David Conde-Lagoa, Enrique Costa-Montenegro, Francisco J. Gonzalez-Castano, Felipe Gil-Castineira, *University of Vigo, Spain*
- 15:00 **6.3-3** TACKLING BASIC BLOCK-BASED ANOMALY EXECUTION BEHAVIORS
Hyeon-Seok Kim, Seong Je Cho, Philip A. Wilsey, and Seong Baeg Kim; *Dept. of Computer Education, Jeju National University, Jeju, Korea; Dept. of Electrical & Computer Engineering, University of Cincinnati, USA*
- 15:20 **6.3-4** REAL-TIME SCHEDULING IN A VIRTUALIZED CE DEVICE
Seehwan Yoo, Young-pil Kim, Chuck Yoo, *Korea University, South Korea*
- 15:40 **6.3-5** HYPERVISOR DESIGN CONSIDERING NETWORK PERFORMANCE FOR MULTI-CORE CE DEVICES
Cheol-Ho Hong, Miri Park, Seehwan Yoo, Chuck Yoo, *Korea University, South Korea*

SESSION 6.4: Video Coding Algorithms - II

Date: January 12, 2010

Time: 14:20 - 16:00

Location: N264

Chair: Peter H. N. de With, *CycloMedia / Eindhoven University of Technology*

Co-Chair: Atul Batra, *Marvell Semiconductors, Inc.*

- 14:20 **6.4-1** ERROR CONCEALMENT FOR H.264/AVC USING REGRESSION MODELING
Xiaoming Chen, Yuk Ying Chung, *University of Sydney, Australia; Changseok Bae, Electronics and Telecommunications Research Institute, South Korea*
- 14:40 **6.4-2** IMPLEMENTATION OF THE AVS VIDEO DECODER ON A HETEROGENEOUS DUAL-CORE SIMD PROCESSOR
Maria Koziri, Nikos Bellas, Ioannis Katsavounidis, Dimitrios Zacharis, *University of Thessaly, Greece*
- 15:00 **6.4-3** IMPLEMENTING RATE ALLOCATION AND CONTROL FOR REAL-TIME H.264/SVC ENCODING
Heejung Lee, Yonghee Lee, Dongeun Lee, Jonghun Lee, Heonshik Shin, *Seoul National University, South Korea*

15:20 **6.4-4** ADAPTIVE RATE CONTROL SCHEME FOR REAL-TIME H.264/AVC VIDEO CODING
Myoung-Jin Kim, *Soongsil University, South Korea*

15:40 **6.4-5** AN INTRA PREDICTION PIPELINE ARCHITECTURE DESIGN FOR AVS ENCODER
Xiangkui Zhu, *Peking University, China*

SESSION P3: RF

Date: January 12, 2010

Time: 15:45 - 00:00

Location: N256

P3-1 HIERARCHICAL TRANSMISSION ALGORITHM IN THE ADVANCED T-DMB SYSTEM

Chul seung Kim, Min hyuk Kim, Tae doo Park, Nam soo Kim, Ji won Jung, *Korea Maritime University, South Korea*

P3-2 CO-CHANNEL INTERFERENCE CANCELLATION BASED ON SIC WITH OPTIMAL ORDERING FOR COOPERATIVE COMMUNICATION SYSTEMS

Eun Choel Kim, Jin Young Kim, *Kwangwoon University, South Korea*

P3-3 QUASI-NEWTON BASED KALMAN FILTER CHANNEL ESTIMATION FOR OFDM SYSTEMS

Seung-Hyun Nam, *Electronics and Telecommunications Research Institute, South Korea*

P3-4 DOUBLE BINARY TURBO CODING FOR HIGH SPEED POWER LINE COMMUNICATION SYSTEMS

Eun Choel Kim, *Kwangwoon University, South Korea*; Jun Heo, *Korea University, South Korea*; Jin Young Kim, *Kwangwoon University, South Korea*

P3-5 UWB SYSTEM WITH BINARY ZCD CODE FOR WIRELESS BODY AREA NETWORK

Eun Choel Kim, *Kwangwoon University, South Korea*; Jae Sang Cha, *Seoul National University of Technology, South Korea*; Jin Young Kim, *Kwangwoon University, South Korea*

P3-6 RECEIVE POWER ANALYSIS SYSTEM FOR DTV BROADCASTING NETWORK

Young-Woo Suh, Jaekwon Lee, *BTRI, KBS, South Korea*; Sung Ik Park, *Electronics and Telecommunications Research Institute, South Korea*; Jin-Yong Choi, Jong-Soo Seo, *Yonsei University, South Korea*

P3-7 TWO-STEP AUTOMATIC GAIN CONTROL ALGORITHM FOR CHIRP SPREAD SPECTRUM

Hui Liu, *Hanyang University, China*; Yeong-Sam Kim, Seong-Hyun Jang, Jong-Wha Chong, *Hanyang University, South Korea*

P3-8 UTILIZING MULTIPATH SIGNALS USING ORTHOGONAL BEAMFORMING FOR GPS NAVIGATION RECEIVERS

Dongmin Park, Jaehyun Park, Joohwan Chun, *Korea Advanced Institute of Science and Technology, South Korea*

P3-9 MAC HW/SW PARTITIONING FOR AGGREGATION IN IEEE 802.11N BASED ON A INTERRUPT LATENCY MEASUREMENT

Sunkyung Shin, SeungKwon Cho, Jaewoo Park, *Electronics and Telecommunications Research Institute, South Korea*; Yeong-Gon Lee, *NEXTOUCH, South Korea*; Sok-kyu

Lee, *Electronics and Telecommunications Research Institute, South Korea*

P3-10 NOVEL TXID SCHEME OF TERNARY ZCD CODE WITH WATERMARKING FOR T-DMB SYSTEMS

Jung Nam Bae, *Kwangwoon University, South Korea*; Jae Sang Cha, *Seoul National University of Technology, South Korea*; Jin Young Kim, *Kwangwoon University, South Korea*

P3-11 Performance of a Low-Power Multi-Band IR-UWB Transceiver based on Energy Detection

Mohamad Mroue, *SUPELEC-IETR, France*; Stephane Paquelet, *Renesas Design France, France*; Stephane Mallegol, *Thales Systemes Aeroportes, France*

P3-12 DESIGN AND IMPLEMENTATION OF WIRELESS SENSING PLATFORM BASED ON UHF RFID TECHNOLOGY

Dong-Beom Shin, *Electronics and Telecommunications Research Institute, South Korea*

P3-13 DESIGN AND IMPLEMENTATION OF HIERARCHICAL MODULATION PLATFORM FOR ADVANCED T-DMB SERVICES

Byungjun Bae, *Electronics and Telecommunications Research Institute, South Korea*

P3-14 COGNITIVE ESTIMATION OF AVAILABLE BANDWIDTH IN HOME/OFFICE NETWORK CONSIDERING HIDDEN/EXPOSED TERMINALS

Shahnaza Tursunova, *Khamidulla Inoyatov, Young-Tak Kim, YU ANTL, South Korea*

P3-15 TURBO DECODER DESIGN FOR ADVANCED T-DMB BASEBAND RECEIVER SOC

Hyuk Kim, Juehyun Lee, Jinkyu Kim, Duckwhan Kim, Bontae Koo, *Electronics and Telecommunications Research Institute, South Korea*

SESSION 7.1: Automotive Communication and Control

Date: January 12, 2010

Time: 16:30 - 18:10

Location: N258

Chair: Tom Coughlin, *Coughlin Associates*

Co-Chair: Sorin Stan

16:30 **7.1-1 CELL LINK: REAL-TIME DATA TRACKING OF AUTOMOBILES VIA CELL PHONES**
Huasong Cao, Roland Hui, Vitor Leung, *The University of British Columbia, Canada*

16:55 **7.1-2 A SCHEDULING ALGORITHM FOR REDUCING FLEXRAY MESSAGE RESPONSE TIME USING EMPTY MINISLOTS IN DYNAMIC SEGMENT**
Kiejin Park, Minkoo Kang, Bongjun Kim, *Ajou University, South Korea*

17:20 **7.1-3 AUTOMOTIVE NETWORK GATEWAY TO CONTROL ELECTRONIC UNITS THROUGH MOST NETWORK**
Mu-Youl Lee, Sung-Moon Chung, Hyun-Wook Jin, *Konkuk University, South Korea*

17:45 **7.1-4 LOW-COST IMPLEMENTATION OF BIRD'S-EYE VIEW SYSTEM FOR CAMERA-ON-VEHICLE**
Linbo Luo, *Hanyang University, South Korea*

SESSION 7.2: Applications Using Video Content Analysis and Classification

Date: January 12, 2010

Time: 16:30 - 18:10

Location: N260

Chair: Erwin Bellers, NXP Semiconductors

Co-Chair: Christian Hentschel, *University of Technology Cottbus*

- 16:30 **7.2-1** ROBUST 3D MULTI-CAMERA TRACKING FROM 2D MONO-CAMERA TRACKS BY BAYESIAN ASSOCIATION
Raúl Mohedano, Narciso García, *Universidad Politécnica de Madrid, Spain*
- 16:55 **7.2-2** DETECTION OF REPEATED SEGMENTS IN VIDEO SEQUENCES
Stavros Paschalakis, Alfredo Giani, *Mitsubishi Electric R&D Centre Europe B.V., United Kingdom*; Hidetoshi Mishima, *Mitsubishi Electric Advanced Technology R&D Centre, Japan*
- 17:20 **7.2-3** AN EFFICIENT NEURAL NETWORK BASED INDOOR-OUTDOOR SCENE CLASSIFICATION ALGORITHM
Li Tao, *Samsung Information Systems America, Inc., United States*; Yeong-Hwa Kim, *Chung-Ang University, South Korea*; Yeong-Taeg Kim, *Samsung Information Systems America, Inc., United States*
- 17:45 **7.2-4** FAST IMAGE LABELING FOR PANORAMIC IMAGES ON MOBILE DEVICE
Yingeng Xiong, Kari Pulli, *Nokia Research Center, United States*

SESSION 7.3: Secure CE Mechanism and Algorithm

Date: January 12, 2010

Time: 16:30 - 18:10

Location: N262

Chair: Akiomi Kunisa, *SANYO Electric Co., Ltd.*

Co-Chair: Dmitri Jarnikov,

- 16:30 **7.3-1** EXTENDED DLNA PROTOCOL FOR SHARING PROTECTED PAY TV CONTENTS
Daniel Diaz-Sanchez, Fabio Sanvido, Davide Proserpio, Andrés Marín, *Universidad Carlos III de Madrid, Spain*
- 16:50 **7.3-2** ON LOGICAL DOMAINS FOR FLEXIBLE CONTENT PROTECTION SYSTEMS
Dmitri Jarnikov, Shudong Chen, *Eindhoven University of Technology, Netherlands*; Jeroen Doumen, *Irdeto Access B.V, Netherlands*; Johan Lukkien, *Eindhoven University of Technology, Netherlands*
- 17:10 **7.3-3** AGENT TAG BASED USER AUTHENTICATION PROTOCOL FOR MOBILE IPTV SERVICE
Soo-Cheol Kim, Jung-Sik Cho, Sung Kwon Kim, *Chung-Ang University, South Korea*
- 17:30 **7.3-4** PREVENTING INFORMATION LEAKAGE IN SELECTIVE DISSEMINATION OF WEB CONTENTS
Hye-Kyeong Ko, *Korea University, South Korea*
- 17:50 **7.3-5** LOCAL DIRECTIONAL PATTERN (LDP) FOR FACE RECOGNITION
Tasked Jabid, Md. Hasanul Kabir, Oksam Chae, *Kyung Hee University, South Korea*

SESSION 7.4: Video Coding Algorithms - III

Date: January 12, 2010

Time: 16:30 - 18:10

Location: N264

Chair: Wang-He Lou, *Mitsubishi Digital Electronics America, Inc.*

Co-Chair: Fumio Isshiki, *Hitachi, Ltd.*

- 16:30 **7.4-1** ENHANCEMENT OF H.264/AVC FOR HIGHER CODING EFFICIENCY USING MOTION ESTIMATION BETWEEN REFERENCE FRAMES
Tomokazu Murakami, Shohei Saito, Yuto Komatsu, Katsuyuki Nakamura, Toru Yokoyama, *Hitachi, Ltd., Japan*
- 16:50 **7.4-2** AN EFFICIENT 5/3-DWT BASED EMBEDDED COMPRESSION ALGORITHM FOR H.264 HIGH DEFINITION DECODER
Hongli Gao, Fei Qiao, Huazhong Yang, *Tsinghua University, China*
- 17:10 **7.4-3** ENHANCED VIDEO COMPLEXITY ANALYSIS WITH AUDIO FEATURES
Seung-Ho Shin, *GSAIM, Chung-Ang University, South Korea*
- 17:30 **7.4-4** ADAPTIVE EDGE-PRESERVING SMOOTHING AND DETAIL ENHANCEMENT FOR VIDEO PREPROCESSING OF H.263
Ji-Hye Kim, Rae-Hong Park, Ji Won Lee, *Sogang University, South Korea*; Min-Ho Park, *PIXTREE, South Korea*
- 17:50 **7.4-5** MULTI-STAGE MOTION VECTOR PREDICTION SCHEDULE STRATEGY FOR AVS HD ENCODER
Wei Yang, Haibin Yin, Wen Gao, *Peking University, China*; Honggang Qi, *The Institute of Computing Technology of the Chinese Academy of Sciences, China*; Xiaodong Xie, *Peking University, China*

SESSION 8.1: Multi Channel Audio Processing

Date: January 13, 2010

Time: 08:50 - 10:10

Location: N258

Chair: Christian Schuldt, *Limes Technology*

Co-Chair: Rong Hu, *Logitech*

- 08:50 **8.1-1** AN ADAPTIVE MULTI-CHANNEL AUDIO-PLAY SYSTEM WITH SOUND-SOURCE RELOCATION CAPABILITIES
Kane Kim, Tianran Zhou, Kyu-Shik Park, *UC Irvine, United States*; Seok-Phil Lee, Tae-Beom Lim, *Korea Electronics Technology Institute, South Korea*
- 09:10 **8.1-2** ADAPTIVE CHANNEL RE-MIXING ALGORITHM FOR INTENDED EMPHASIS ON THE SURROUND SOUND
Sunmin Kim, *Samsung Electronics, South Korea*
- 09:30 **8.1-3** MULTI-CHANNEL SPEECH DEREVERBERATION SYSTEM BASED ON MODIFIED LINEAR PREDICTION RESIDUAL
Hyung jun Ju, Se Young Kim, Suk youb Kang, Ki man Kim, Ji won Jung, Young Yun, *Korea Maritime University, South Korea*
- 09:50 **8.1-4** ENHANCED AUDIO SOURCE SEPARATION IN ROOM ACOUSTIC ENVIRONMENTS WITH SELECTED BINAURAL CUES
Namgook Cho, C.-C. Jay Kuo, *University of Southern California, United States*

SESSION 8.2: Video On Demand and Other Technologies

Date: January 13, 2010

Time: 08:50 - 10:10

Location: N260

Chair: Kei Yamashita, *Hitachi, Ltd.*

Co-Chair: Wang-He Lou, Mitsubishi Digital Electronics America, Inc.

- 08:50 **8.2-1** COMPARATIVE ANALYSIS OF RECENT NVOD PROTOCOLS WITH ERROR CORRECTION CAPABILITIES FOR NOISY CHANNELS
Hector Cerezo-Costas, Jorge Tejada-Rodriguez, Francisco J. Gonzalez-Castano, Felipe Gil-Castineira, *University of Vigo, Spain*
- 09:10 **8.2-2** NON-REAL-TIME SERVICES FOR TERRESTRIAL BROADCAST DIGITAL TELEVISION
Mark Eyer, *Sony Electronics, United States*
- 09:30 **8.2-3** A ZERO-OVERHEAD IMPLICIT ERROR CORRECTION NVOD SCHEMA FOR SCALABLE VIDEO
Rafael Asorey-Cacheda, Hector Cerezo-Costas, Francisco J. Gonzalez-Castano, Felipe Gil-Castineira, *University of Vigo, Spain*
- 09:50 **8.2-4** LENS SIMULATION WITH LIGHT FIELD CAMERA
Heechul Han, *Samsung Electronics, South Korea*; Minsung Kang, *Yonsei University Seoul, Korea*, Kwanghoon Sohn, *Yonsei University, South Korea*

SESSION 8.3: Wireless Network Management

Date: January 13, 2010

Time: 08:50 - 10:10

Location: N262

Chair: J.J. Lukkien, *Eindhoven University of Technology*

Co-Chair: Peter H. N. de With, CycloMedia / Eindhoven University of Technology

- 08:50 **8.3-1** SERVICE AND RESOURCE DISCOVERY IN SMART SPACES COMPOSED OF VERY LOW CAPACITY NODES
Onder Uzun, *Eindhoven University of Technology, Netherlands*
- 09:30 **8.3-3 CANCELLED**
LOCATION-BASED AODVJR FOR WIRELESS SENSOR NETWORKS IN HOME AUTOMATION
Xiao Hui Li, *Wuhan University of Science and Technology, China*; Seung Ho Hong, *Hanyang University, South Korea*; He Ping Chen, *Wuhan University of Science and Technology, China*
- 09:50 **8.3-4** A FRAMEWORK DEVELOPMENT TO SUPPORT NETWORK-BASED MOBILITY OF 6LOWPAN SENSOR DEVICE FOR MOBILE HEALTHCARE SYSTEM
Jin Ho Kim, Rim Haw, Choong Seon Hong, *Kyung Hee University, South Korea*

SESSION 8.4: Image Quality Measures

Date: January 13, 2010

Time: 08:50 - 10:10

Location: N264

Chair: Christian Hentschel, *University of Technology Cottbus*

Co-Chair: E. B. (Erwin) Bellers, NXP Semiconductors

- 08:50 **8.4-1** GRADIENT INFORMATION-BASED IMAGE QUALITY METRIC
Ho-Sung Han, Dong-O Kim, Rae-Hong Park, *Sogang University, South Korea*
- 09:10 **8.4-2** IMAGE QUALITY MEASURE USING THE PHASE QUANTIZATION CODE
Dong-O Kim, Rae-Hong Park, *Sogang University, South Korea*

- 09:30 **8.4-3** A NO-REFERENCE QUALITY EVALUATION METHOD FOR CFA DEMOSAICKING
Yi-Nung Liu, Yi-Chun Lin, Shao-Yi Chien, *National Taiwan University, Taiwan*
- 09:50 **8.4-4** FUNCTIONAL AND QUALITY FAILURE SYSTEM DETECTION IN TV SETS
Dusica Marijan, Vladimir Zlokolica, Vukota Pekovic, Nikola Teslic, Miodrag Temerinac,
University of Novi Sad, Yugoslavia

SESSION P4: Imaging and Video Coding

Date: January 13, 2010

Time: 09:50 - 10:50

Location: N256

P4-1 VISUALLY IMPROVED DCT BASED DOWN-SAMPLING METHOD FOR H.264 SVC

Il Hong Shin, Jungju Yoo, Won Ryu, *Electronics and Telecommunications Research Institute, South Korea*

P4-2 ADAPTIVE PARTIAL BLOCK MATCHING ALGORITHM FOR FAST MOTION ESTIMATION

Sang-Jun Park, Gwanggil Jeon, Heechang Kim, Jechang Jeong, *Hanyang University, South Korea*

P4-3 IMPROVED SKIN SEGMENTATION FOR TV IMAGE ENHANCEMENT, USING COLOR AND TEXTURE FEATURES

Bahman Zafarifar, Anthony Martinière, *NXP Semiconductors, Netherlands*; Peter H.N. de With, *CycloMedia Technology / Eindhoven University of Technology, Netherlands*

P4-4 ACCURATE STEREO VIEW SYNTHESIS FOR AN AUTOSTEREOSCOPIC 3D DISPLAY

Seon-Min Rhee, Jongmoo Choi, *University of Southern California, United States*; Soo-Mi Choi, *Sejong University, South Korea*

P4-5 A 2D-TO-3D CONVERSION SYSTEM USING EDGE INFORMATION

Chao-Chung Cheng, *National Taiwan University, Taiwan*

P4-6 OPTIMIZING JPEG XR TILE STRUCTURE FOR FAST LOCAL ACCESS

Chengjie Tu, Gary Sullivan, *Microsoft, United States*; Sridhar Srinivasan, *Microsoft, China*

P4-7 A FULLY DIGITAL AUTO-FOCUSING SYSTEM USING A PRIORI POINT

SPREAD FUNCTION DATASET
Younguk Park, Jaehwan Jeon, Jinhee Lee, Joonki Paik, *GSAIM, Chung-Ang University, South Korea*

P4-8 EFFICIENT POST-VIDEO PROCESSING FOR THIN DISPLAY DEVICES

Jin-Hwan Jeong, Hag-Young Kim, *Electronics and Telecommunications Research Institute, South Korea*

P4-9 POCS-BASED ERROR CONCEALMENT USING INTERLAYER CORRELATION AND FEATURES OF NEIGHBOR BLOCKS IN MULTI-LAYER VIDEO CODING

Byoung-Ju Yun, Mae-Hun Park, Hee-Dong Hong, *Kyungpook National University, South Korea*

P4-10 IMAGE DEBLURRING BY USING THE ESTIMATION OF PSF PARAMETERS FOR IMAGE DEVICES

Jeong Ho Lee, Ki Tae Park, Young Shik Moon, *Hanyang University, South Korea*

P4-11 AN ITERATIVE LEAST-SQUARE TRAINING METHOD FOR CLASSIFICATION-BASED MOTION ADAPTIVE TEMPORAL FILTERING

Sung Deuk Kim, *Andong National University, South Korea*; Kyoung Won Lim, *LG Electronics, South Korea*

P4-12 VOTE DECISION-BASED DEINTERLACING SCHEME FOR FALSE DIRECTIONAL ERROR CORRECTION

Oh Sye Hoon, Lee Yeo Song, Oh Seoung Jun, *Kwangwoon University, South Korea*

P4-13 A NOVEL FRAME ERROR RESILIENT TECHNIQUE USING ADAPTIVE REDUNDANT PICTURE CODING

Ju-Hun Nam, Jin-Hyung Kim, Dinh Trieu Duong, Seung-Yong Lee, Sung-Jea Ko, *Korea University, South Korea*

P4-14 HARDWARE ORIENTED ALGORITHM ANALYSIS AND MODIFICATION FOR HIGH DEFINITION AVS VIDEO ENCODER VLSI IMPLEMENTATION

Hai Bing Yin, *Peking University, China*; Hong Gang Qi, *Graduate University of Chinese Academy of Sciences, China*; Don Xie, Wen Gao, *Peking University, China*

P4-15 FAST REFERENCE FRAME SELECTION ALGORITHM FOR H.264/AVC

Jae-Won Suh, *Chung Buk National University, South Korea*; Kyung-Hee Lee, Tae-Jung Kim, *Chunbuk National University, South Korea*

P4-16 AN ADAPTIVE IMAGE BIT-DEPTH SCALING METHOD FOR DISPLAYS

YoungHo Lee, *Samsung Electronics, South Korea*; Kihyun Hong, *Purdue University, United States*; Suki Kim, *Korea University, South Korea*

P4-18 BLOCK ARTIFACT REDUCTION SCHEME USING PSEUDO-RANDOM NOISE MASK

Haksop Song, SeonMi Park, *Samsung Electronics, South Korea*

P4-19 A RECONFIGURABLE PIPELINED DEBLOCKING FILTER FOR H.264/AVC

Jin-Woo Hwang, Jun-Dong Cho, *Sung Kyun Kwan University, South Korea*

SESSION 9.1: Audio Signal Processing

Date: January 13, 2010

Time: 10:40 - 12:20

Location: N258

Chair: Christian Schüldt, *Limes Technology*

Co-Chair: Rong Hu, *Logitech*

10:40 **9.1-1 ROBUST DEMULTIPLEXING FOR ERRONEOUS MPEG-2 TRANSPORT STREAMS**

Thorsten Roll, *University of Ulm, Germany*

11:05 **9.1-2 AUDIO PROCESSING SOLUTION FOR VIDEO CONFERENCE BASED AEROBICS**

Magnus Berggren, *Blekinge Institute of Technology, Sweden*

11:30 **9.1-3 SUB-FINGERPRINT MASKING FOR A ROBUST AUDIO FINGERPRINTING SYSTEM IN A REAL-NOISE ENVIRONMENT FOR PORTABLE CONSUMER DEVICES**

Wooram Son, *Seoul National University, South Korea*; Hyun-Tae Cho, *Kyungro Yoon, Konkuk University, South Korea*

11:55 **9.1-4 DEVELOPMENT OF A PROTOTYPE DATA-BROADCAST RECEIVER WITH A HIGH-QUALITY VOICE SYNTHESIZER**

Hiroyuki Segi, Reiko Tako, Nobumasa Seiyama, Tohru Takagi, *NHK, Japan*

SESSION 9.2: Image and Video Quality Enhancement

Date: January 13, 2010

Time: 10:40 - 12:20

Location: N260

Chair: Christian Hentschel, *University of Technology Cottbus*

Co-Chair: Sharon Peng, *Harman Consumer Group*

- 10:40 **9.2-1** COLOR IMAGE ENHANCEMENT METHOD USING A SPACE-VARIANT LUMINANCE MAP
Sungmok Lee, *Dong-A University, South Korea*; Hagyong Han, *BK21 high performance multimedia team, South Korea*; Boodong Kwak, Wontae Choi, *SAMSUNG Electro-Mechanics Co. Ltd, South Korea*; Bongsoon Kang, *Dong-A University, South Korea*
- 11:00 **9.2-2** WAVELET-BASED ENHANCEMENT OF COLOR IMAGE USING COMBINED LOCAL VARIANCE AND ENTROPY ANALYSIS
Sinyuong Jun, Eunsung Lee, Sangjin Kim, Joonki Paik, *Chung-Ang University, South Korea*
- 11:20 **9.2-3** ADAPTIVE NONLOCAL MEANS ALGORITHM FOR IMAGE DENOISING
Tanaphol Thaipanich, Byung Tae Oh, Ping-Hao Wu, C.-C. Jay Kuo, *University of Southern California, United States*
- 11:40 **9.2-4** FALSE CONTOUR REDUCTION USING NEURAL NETWORKS AND ADAPTIVE BI-DIRECTIONAL SMOOTHING
Min-Ho Park, Ji Won Lee, Rae-Hong Park, *Sogang University, South Korea*; Jae-Seung Kim, *Samsung Electronics, South Korea*
- 12:00 **9.2-5** LOW COMPLEXITY DEBLOCKING FILTER USING MOTION VECTORS
Gulistan Raja, *EED, UET Taxila, Pakistan*; Muhammad J. Mirza, *Faculty of Eng. & Applied Sciences, RIU, Islamabad, Pakistan*

SESSION 9.3: Wireless Networks and Devices 1

Date: January 13, 2010

Time: 10:40 - 12:20

Location: N262

Chair: William A. Rowe, *WARowe Consultancy*

Co-Chair: Stuart Lipoff, *IP Action Partners, Inc.*

- 10:40 **9.3-1** DYNAMIC RATE ADAPTATION FOR WIRELESS MULTICAST
Sung Won Kim, *Yeungnam University, South Korea*; Byung-Seo Kim, *Hongik University, South Korea*
- 11:00 **9.3-2** PROPOSAL AND DEMONSTRATION OF OPTICAL WIRELESS USB 2.0
Tomonori Yazaki, *KDDI R&D Laboratories Inc., Japan*
- 11:20 **9.3-3** A VEHICULAR COMMUNICATION SYSTEM BASED ON IEEE 802.11A/G FOR UBIQUITOUS –TRANSPORTATION SENSOR NETWORK
Jeong Kyu Bae, Jung Hoon Song, Tae Sik Ahn, Jeon Hong Park, Dong Seog Han, *Kyungpook National University, South Korea*
- 11:40 **9.3-4** APPROXIMATION OF MULTIOBJECTIVE OPTIMIZATION FOR DYNAMIC SPECTRUM ALLOCATION IN WIRELESS SENSOR NETWORKS
Sang-Seon Byun, *Norwegian University of Science and Technology, Norway*; Ilango Balasingham, *Rikshospitalet, Norway*

12:00 **9.3-5** METHOD OF SECURING RESOURCE-CONSTRAINED WIRELESS ENABLED DEVICES VIA CHANNEL RANDOMNESS
Gill R Tsouri, Adrian Sapio, *Rochester Institute of Technology, United States*

SESSION 9.4: Hardware Implementations of Video Codecs

Date: January 13, 2010

Time: 10:40 - 12:20

Location: N264

Chair: Wang He Lou, *Mitsubishi Digital Electronics America, Inc.*

Co-Chair: Sung Jea Ko

10:40 **9.4-1** WHEN MPEG-4 AND COLLADA MEET FOR A COMPLETE SOLUTION OF DISTRIBUTING AND RENDERING 3D GRAPHICS ASSETS
Ivica Arsov, Blagica Jovanova, Marius Preda, Françoise Preteux, *Institute Telecom & Management SudParis, France*

11:00 **9.4-2** OPENMAX HARDWARE NATIVE SUPPORT FOR EFFICIENT MULTIMEDIA EMBEDDED SYSTEMS
Jesús Barba, David Fuente, Fernando Rincón, Francisco Sánchez, Juan Carlos López, *University of Castilla-La Mancha, Spain*

11:20 **9.4-3** SCALABLE HETEROGENEOUS SOC PLATFORM
Thanh Tran, Jian Wang, Xiaohui Li, Ivan Garcia, *Texas Instruments, United States*

11:40 **9.4-4** A NEW BINARY TREE ALGORITHM IMPLEMENTATION WITH HUFFMAN DECODER ON FPGA
Taikyeong Jeong, *Myongji University, South Korea*

12:00 **9.4-5** RECONFIGURABLE VLSI ARCHITECTURE FOR ARBITRARY BLOCK SIZE MOTION ESTIMATION
Peng Li, Hua Tang, *University of Minnesota, United States*

SESSION 10.2: Mobile TV Streaming and Rate Control

Date: January 13, 2010

Time: 14:10 - 15:50

Location: N260

Chair: Onno Eerenberg, *NXP Semiconductors / Corporate I&T / High Tech Campus 32*

Co-Chair: Peter H. N. de With, *CycloMedia / Eindhoven University of Technology*

14:10 **10.2-1** CHANNEL-ADAPTIVE VIDEO TRANSMISSION USING H.264 SVC OVER MOBILE WIMAX NETWORK
Hye-Soo Kim, Eun-Seok Ryu, Nikil Jayant, *Georgia Institute of Technology, United States*

14:30 **10.2-2** HIERACHICAL PRE-FETCHING MECHANISM FOR MOBILE VIDEO STREAMING BASED ON VIDEO SCENE STRUCTURE
Naofumi Uchihara, Hiroyuki Kasai, Yusuke Yano, *The University of Electro-Communications, Japan*; Yoshihiro Suzuki, *Funai, Japan*

14:50 **10.2-3** CONTENT-AWARE RATE CONTROL SCHEME TO IMPROVE THE ENERGY EFFICIENCY FOR MOBILE IPTV
Sunghye Lee, *University of Kwangwoon, South Korea*

15:10 **10.2-4** A FEEDBACK-BASED CONTROL TECHNIQUE FOR DELIVERING M-JPEG STREAMS TO MOBILE DEVICES

Gianluca Paravati, Cesare Celozzi, Andrea Sanna, Fabrizio Lamberti, *Politecnico di Torino, Italy*

15:30 **10.2-5** MOBILE MULTIMEDIA BROADCASTING APPLICATIONS: SPEECH ENABLED DATA SERVICES

Bong Ho Lee, Kyutae Yang, Hee jeong Kim, Sora Park, Gwang soon Lee, Namho Hur, *Electronics and Telecommunications Research Institute, South Korea*

SESSION 10.3: Wireless Networks and Devices II

Date: January 13, 2010

Time: 14:10 - 15:50

Location: N262

Chair: Paul A. Snopko, *Techwell, Inc.*

Co-Chair: Sedig Agili, *Penn State*

14:10 **10.3-1** A DOUBLE DATA RATE (DDR) ARCHITECTURE FOR OFDM BASED WIRELESS CONSUMER DEVICES

Simon Sherratt, Oswaldo Cadenas, *University of Reading, United Kingdom*

14:30 **10.3-2** PERFORMANCE OF VEHICULAR-TO-INFRASTRUCTURE COMMUNICATION SYSTEMS BASED ON IEEE 802.11A

Ri Na Ra Woo, Dong Seog Han, *Kyungpook National University, South Korea*

14:50 **10.3-3** WIRELESSLY CHARGING MOBILE DEVICES FROM AMBIENT RF SOURCES

Taikyeong Jeong, *Myongji University, South Korea*

15:10 **10.3-4** SCALABLE SOFTWARE DEFINED RECEIVERS RUNNING ON DESKTOP COMPUTERS USING GENERAL PURPOSE GRAPHICS PROCESSING UNITS

Piotr Szegvari, Christian Hentschel, *BTU-Cottbus, Germany*

15:30 **10.3-5** ACCESS SERVICES BASED ON MHP INTERACTIVE APPLICATIONS

Carlos Alberto Martín, Lara García, José Manuel Menéndez, Guillermo Cisneros, *Universidad Politécnica de Madrid, Spain*

SESSION 10.4: Fast Encoding Algorithms for AVC/H.264

Date: January 13, 2010

Time: 14:10 - 15:50

Location: N264

Chair: Gerardo Fernandez, *University of Castilla La Mancha, Spain,*

Co-Chair: Paula Carrillo, *Texas Instruments*

14:10 **10.4-1** LOW COMPLEXITY H.264 VIDEO ENCODER DESIGN USING MACHINE LEARNING TECHNIQUES

Paula Carrillo, Hari Kalva, *Florida Atlantic University, United States;* Tao Pin, *Tsinghua University, China*

14:30 **10.4-2** ACCELERATING H.264 INTER PREDICTION IN A GPU USING CUDA

Rafael Rodriguez, Jose Luis Martinez, Gerardo Fernandez-Escribano, *UCLM, Spain;* Jose Manuel Claver, *Universidad de Valencia, Spain;* Jose Luis Sanchez, *UCLM, Spain*

14:50 **10.4-3** COMPUTATIONALLY-SCALABLE MOTION ESTIMATION ALGORITHM FOR H.264/AVC VIDEO CODING

Man-Yau Chiu, Wan-Chi Siu, *Hong Kong Polytechnic University, Hong Kong*

15:10 **10.4-4** A SOFTWARE-BASED H.264/AVC HDTV REAL-TIME INTERACTIVE CODEC ARCHITECTURE USING PARALLEL PROCESSING

Takashi Sano, Takayuki Ohnishi, Hiroe Iwasaki, Kazuto Kamikura, Jiro Naganuma, *NTT Electronics, Japan*

- 15:30 **10.4-5** SPEEDUP MACROBLOCK MODE DECISION IN H.264/SVC ENCODING USING COST-SENSITIVE LEARNING
Urvang Joshi, *Indian Institute of Science, Bangalore, India*; Rashad Jillani, *Florida Atlantic University, United States*; Chiranjib Bhattacharyya, *Indian Institute of Science, Bangalore, India*; Hari Kalva, *Florida Atlantic University, United States*; K R Ramakrishnan, *Indian Institute of Science, Bangalore, India*

SESSION P5: Networking

Date: January 13, 2010

Time: 15:45 - 16:45

Location: N256

P5-1 3-DIMENSIONAL TOPOLOGY CONTROL FOR WIRELESS SENSOR NETWORKS IN PRESENCE OF INTERFERENCE
Junseok Kim, Younggoo Kwon, *Konkuk University, South Korea*

P5-2 ENERGY EFFICIENT MULTI-FUNCTION HOME GATEWAY IN ALWAYS-ON HOME ENVIRONMENT
Wan-Ki Park, *Electronics and Telecommunications Research Institute, South Korea*

P5-3 DESIGN OF A SCALABLE INTERACTIVE TABLE SYSTEM WITH POWER LINE COMMUNICATION
Yi-Ting Lee, Chi-Huang Hung, Chia-Hung Lien, Cheng-Hao Huang, Chun-Chieh Mao, *Lee-Ming Institute of Technology, Taiwan*

P5-4 DEVELOPMENT OF PORTABLE INTELLIGENT GATEWAY SYSTEM FOR UBIQUITOUS ENTERTAINMENT AND CONTEXT-AWARE SERVICES
Yoonsik Uhm, Minsoo Lee, Yong Kim, JinSung Byun, Gwanyeon Kim, Byoungjoo Lee, Sehyun Park, *Chung-Ang University, South Korea*

P5-5 DESIGN OF POWER-AWARE LED LIGHT ENABLER WITH LOCATION-AWARE ADAPTIVE MIDDLEWARE AND USER LIVING PATTERN
Yoonsik Uhm, Minsoo Lee, Yong Kim, Hyunku Lee, Gwanyeon Kim, Byoungjoo Lee, Sehyun Park, *Chung-Ang University, South Korea*

P5-6 DESIGN AND IMPLEMENTATION OF HOME SENSOR SERVICE PLATFORM
Dong-Hwan Park, *Electronics and Telecommunications Research Institute, South Korea*

P5-7 IPTV ARCHITECTURE OVER IMS-BASED NETWORKS: CASE STUDY ARCHITECTURE AND SERVICE SCENARIOS
Kang Lee, *Electronics and Telecommunications Research Institute, South Korea*

P5-8 DESIGN OF AN ADAPTIVE MIDDLEWARE BASED ON THE UNIVERSAL MIDDLEWARE BRIDGE FOR THE HETEROGENEOUS HOME NETWORKS
Yuseok Bae, Bongjin Oh, Young Sung Son, Kyeongdeok Moon, *Electronics and Telecommunications Research Institute, South Korea*; Sangwook Kim, *Kyungpook National University, South Korea*

P5-9 ADAPTIVE P2P RATE CONTROL MECHANISM TO BALANCE THROUGHPUT ENHANCEMENT AND FAIRNESS GUARANTEE
Jihoon Lee, Daeyoub Kim, Seungwoo Jeon, *Samsung Electronics, South Korea*

P5-10 FLEXIBLE WEB SERVICE MIDDLEWARE ARCHITECTURE FOR

HETEROGENOUS MOBILE APPLIANCES

Hsu-Yang Kung, Yuan-Hung Lan, Yu-Shiang Chen, Wei-Jun Tsai, Shiau-Jun Huang, Mei-Hsien Lin, *National Pingtung University of Science and Technology, Taiwan*

P5-11 AN ERROR MESSAGES CLUSTERING-BASED FAULT DIAGNOSIS FRAMEWORK IN HOME NETWORKS

Bong-Jin Oh, *Electronics and Telecommunications Research Institute, South Korea*

P5-12 INTRODUCTION TO CONTENT DESCRIPTION AGGREGATION SERVICE FOR SHARING HOME MEDIA CONTENTS

Seung Woo Kum, Tae-Beom Lim, Seok-Pil Lee, *Korea Electronics Technology Institute, South Korea*

P5-13 ENERGY EFFICIENT CONGESTION CONTROL IN DUTY-CYCLED WIRELESS SENSOR NETWORKS

Dongho Lee, Kwangsue Chung, *University of Kwangwoon, South Korea*

P5-14 IMPLEMENTATION OF CELLULAR PHONE-BASED SECURE LIGHT-WEIGHT MIDDLEWARE PLATFORM FOR NETWORKED RFID

Namje Park, *UCLA, United States*

SESSION 11.1: Home Building Control & Application

Date: January 13, 2010

Time: 16:20 - 17:40

Location: N258

Chair: Scott Linfoot, *De Montfort University*

Co-Chair: Stefan Mozar

16:20 **11.1-1 A NOVEL SECURITY/HOME AUTOMATION GATEWAY FOR DOMESTIC RESIDENCES**

Shazia Maqbool, *Sure Technology, United Kingdom*; Scott Linfoot, John Gow, *De Montfort University, United Kingdom*; Graham Marshall, David Riley, *Sure Technology, United Kingdom*

16:40 **11.1-2 USER-FRIENDLY HOME AUTOMATION BASED ON 3D VIRTUAL WORLD**

Jinsoo Han, JaeKwan Yun, JongHyun Jang, Kwang-Roh Park, *Electronics and Telecommunications Research Institute, South Korea*

17:00 **11.1-3 DESIGN AND IMPLEMENTATION OF AN EMBEDDED SURVEILLANCE SYSTEM BY USE OF MULTIPLE ULTRASONIC SENSORS**

Ying-Wen Bai, Li-Sih Shen, Zong-Han Li, *Fu Jen Catholic University, Taiwan*

17:20 **11.1-4 A SINGLE-VIEW BASED FRAMEWORK FOR ROBUST ESTIMATION OF HEIGHTS AND POSITIONS OF MOVING PEOPLE**

Seok-Han Lee, Jong-Soo Choi, *Chung-Ang University, South Korea*

SESSION 11.2: Handheld Video Projection and Display Devices

Date: January 13, 2010

Time: 16:20 - 17:40

Location: N260

Chair: E. B. (Erwin) Bellers, NXP Semiconductors

Co-Chair: Christian Hentschel, *University of Technology Cottbus*

16:20 **11.2-1 SCREEN ADAPTIVE GEOMETRIC IMAGE CALIBRATION METHOD FOR HANDHELD VIDEO PROJECTOR**

Jung-il Jung, Jinsoo Cho, *Kyungwon University, South Korea*

16:40 **11.2-2 IMPROVED HOLOGRAM CALCULATION FOR CORRELATED VIDEO FRAMES**

Marc Bernau, *TU Dortmund University, Germany*

17:00 **11.2-3** PERCEPTUAL QUALITY-COMPLEXITY OPTIMIZED VIDEO PLAYBACK ON HANDHELD DEVICES.

Hyeong-Min Nam, Geun-Yung Byun, Jae-Yun Jeong, Seung-Jin Baek, Sung-Jea Ko, *Korea University, South Korea*

17:20 **11.2-4** A POWER-AWARE SIGNED 2-DIMENSIONAL BYPASSING MULTIPLIER FOR VIDEO/IMAGE PROCESSING

Gang-Neng Sung, Yu-Cheng Lu, Chua-Chin Wang, *National Sun Yat-Sen University, Taiwan*

SESSION 11.3: Game Technology

Date: January 13, 2010

Time: 16:20 - 17:40

Location: N262

Chair: Tom Coughlin, *Coughlin Associates*

Co-Chair: Will Lumpkins, *Wi2Wi Inc*

16:20 **11.3-1** APPLICATION CHARACTERIZATION SYSTEM FOR GAMING CONSOLES

Andres Hernandez, Cara Yang, Francine Shammami, John Collins, *Microsoft, United States*

16:40 **11.3-2** EXTRACTION OF GOLF BALL FEATURES BASED ON PERPENDICULAR PLANAR SENSOR

JiEun Bae, Jin Wook Kim, Hang Joon Kim, *Kyungpook National University, South Korea*; Hyun Soo Park, *Kyungdong College, South Korea*

17:00 **11.3-3** AN INTUITIVE SYSTEM FOR 3D AVATAR WITH HIGH-QUALITY

JiHyung Lee, *Electronics and Telecommunications Research Institute, South Korea*

17:20 **11.3-4** DEVELOPMENT OF A FRAMEWORK FOR INTERACTIVE SIMULATION OF GRAPHICAL ELEMENTS AND THEIR DYNAMICS AND IT'S USE IN HOME ENTERTAINMENT

Thomas Lepich, Reinhard Moeller, *University of Wuppertal, Germany*