

July 4(Wed.)-6(Fri.), 2012 Mercure Phuket Deevana, Phuket, Thailand

# The Fourth International Conference on Ubiquitous and Future Networks

http://www.icufn.org

### **Final Program**



UWB Wireless Communication Research Center (Inha Univ.), Next Generation RFID/USN Reserch Center (Yonsei Univ.), LED Convergence Research Center (Kookmin Univ.), Multi Screen Service Forum of Korea

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University of Arizona, USA

**Greeting** 

**Message from Organizing Co-Chairs** 

It is our great pleasure to invite you to attend ICUFN 2012, the Fourth International Conference on

Ubiquitous and Future Networks. During the first decade of the 21st century, we have witnessed the

tremendous growth of the future networks and the wireless ubiquitous technologies. In this global era,

the importance of wireless networking and mobile ubiquitous technologies cannot be under-estimated.

In fact, such technologies have now greatly impacted our lives and influenced the way we work,

commute, travel, etc. To provide a great opportunity for the exchange of the state-of-the-art research

advances in ubiquitous technologies and to expand the research community, we have decided to hold

the fourth ICUFN in Phuket, Thailand, because of its strategic location, beautiful beaches and

popularity.

ICUFN is a truly international annual conference! Our TPC team consists of members from countries

around the world. For ICUFN 2012, we have received over 229 submissions from many different

countries and 114 papers have been accepted. We have prepared an exciting and comprehensive

program for you. We hope you will take this good opportunity to attend the technical sessions, meet

the authors, and foster greater collaboration ties with other researchers.

In addition, if you have extra time, please do not miss the chance to tour around Phuket. Phuket was

one of the major trading routes between India and China. Due to the multi-cultural nature of the

Phuket people, there are numerous festivals from a variety of religions and cultures throughout the

year.

The Organizing Committee has been working diligently to make this conference a great success and

most enjoyable. We hope you will have a wonderful time in Phuket, Thailand! We look forward to your

active participation and support in the future. Thank you very much.

Sincerely yours,

Yeong Min Jang Kookmin Univ., Korea C. K. Toh National Tsing Hua Univ. Taiwan Naohisa Ohta Keio Univ., Japan Zhisheng Niu Tsinghua Univ., China

### Greeting

### **Message from TPC Co-Chairs**

It is our great pleasure to welcome all of you to Phuket from July 4 through 6, 2012, for the Fourth International Conference on Ubiquitous and Future Networks (ICUFN). ICUFN has been covered all converging aspects of computing, networking and communications from 2009 conference and this ICUFN 2012 will be also a successful and exciting conference covering broad topics on ubiquitous and future network technologies.

This year we have received 229 paper submissions electronically from 24 countries in the world. Many of the papers were submitted from the Asia/Pacific region, and also the increasing number of submissions was made from Europe and USA. A rigorous review process has followed in which all papers received two or more independent reviews. After the reviews, we have selected 114 papers for presentation at the conference.

The accepted papers were organized into 20 technical sessions, which will be held in 4 parallel tracks. The program covers a variety of topics on wireless and wired communication networking technologies including cognitive radios, wireless sensor networks, broadband wireless communications, future network issues, mobile multimedia networking, and other important technologies.

In addition to the contribution of prominent authors from all over the world, we believe that this year's precious and interesting program was made possible by the commitment of technical program committee members. We are indebted to all of the TPC members for their active participation and precious time. We also would like to thank our sponsors, KICS and IEEE Communications Society, for their kind support of this successful event. We extend our sincere thanks to the Organizing Committee Co-Chairs, Prof. Yeong Min Jang, Prof. C. K. Toh, Prof. Naohisa Ohta, and Prof. Zhisheng Niu for their continued support and guidance. We hope that all of you will enjoy the excellent program of ICUFN 2012 as well as the beautiful scenery and attractions of Phuket.

Sincerely,

Sang-Jo Yoo Inha Univ., Korea Zhaoyang Zhang Zhejiang Univ., China **Hideyuki Uehara** Toyohashi Univ. of Tech., Japan Pietro Mazoni Tech. U of Valencia, Spain Mike Lyu
Chinese Univ. of Hong Kong, China

### ICUFN 2012 Program at a Glance

July 4 (Wednesday)		
15:00-17:00	<b>Session 1</b> (1A, 1B, 1C,1D)	
18:00-20:00	Welcome Reception	
July 5 (Thursday)		
09:00-11:00	<b>Session 2</b> (2A, 2B, 2C,2D)	
11:00-11:10	Coffee Break	
11:10-11:20	Opening Address (Prof. Yeong Min Jang, Organizing Co-Chair) (Prof. C. K. Toh, Organizing Co-Chair)  Welcome Address:	
11:20-12:00	(Jinwoo Park, President of KICS)  Keynote Speech I  QoS and QoE in the Next Generation Networks and Wireless Networks (Prof. Pascal LORENZ, University of Haute Alsace, France)	
12:00-13:30	Lunch Break	
13:30-15:30	<b>Session 3</b> (3A, 3B, 3C,3D)	
15:30-15-50	Coffee Break	
15:50-17:50	<b>Session 4</b> (4A, 4B, 4C,4D)	
18:30-20:30	Banquet (Speech: Prof. Kyung Sup Kwak, Honorary Conference Co-chair)	
July 6 (Friday)		
09:00-09:40	Keynote Speech II Prospects of Smart Appliances and Smart Home Services (Dr. Myung Hyun Yoon, Program Director of KEIT)	
09:40-09:50	Coffee Break	

09:50-11:50

#### **Session 5** (5A, 5B, 5C,5D)

### **Technical Sessions**

#### July 4, 2012 (Wednesday)

15:00-17:00

### Session 1A: Visual Light Communications and WLAN

Chair: Hong-Hsu Yen, Shih-Hsin University, Taiwan

#### [1A-1] Analysis of VLC Channel Based on the Shapes of White-Light LED Lighting

Su-il Choi (Chonnam National University, Korea)

#### [1A-2] Received Power and SNR Optimization for Visible Light Communication System

Trong-Hop Do (Soongsil University, Korea); Myungsik Yoo (Soongsil University, Korea)

#### [1A-3] Bi-directional Visible Light Communication Using Performance-based Selection of IR-LEDs in Upstream Transmission

Yunseon Jang (Kookmin University, Korea); Kyungmook Choi (Kookmin University, Korea); Fahmida Rawshan (Kookmin University, Korea); Seungrok Dan (Kookmin University, Korea); MinChul Ju (KookMin University, Korea); Youngil Park (Kookmin University, Korea)

#### [1A-4] Visible Light Communications with Color and Dimming Control by Employing VPPM Coding

Kyungmook Choi (Kookmin University, Korea); Yunseon Jang (Kookmin University, Korea); Jingyoung Noh (Kookmin University, Korea); MinChul Ju (KookMin University, Korea); Youngil Park (Kookmin University, Korea)

#### [1A-5]Multi-parameters Based CSMA/CA for Priority in Visual Light Communications

Vu Van Huynh (Kookmin University, Korea), Yeong Min Jang (Kookmin Univerity, Korea)

### [1A-6] Designing Adaptive RTS for MadWifi-Based WLAN Device

Seongho Byeon (Seoul National University, Korea); Hyewon Lee (Seoul National University, Korea); Joo Il Kim (LG U+, Korea); Woon Sun Cho (LG U+, Korea); Sunghyun Choi (Seoul National University, Korea)

### Session 1B: Wireless Sensor Networks and RFID (1)

Chair: Huong Thu Truong, Hanoi University of Science and

Technology, VietNam

#### [1B-1] An Energy-Efficient Routing Protocol in Wireless Sensor Networks with Holes

Shiow-Fen Hwang (Feng Chia University, Taiwan); Hsin-Hui Lin (Feng Chia University, Taiwan); Chyi-Ren Dow (Feng Chia University, Taiwan)

#### [1B-2] Iterative Path-Loss Exponent Estimation-based Positioning Scheme in WSNs

Jun-Ho Choi (Inha University, Korea); Jae-Kark Choi (Inha University, Korea); Sang-jo Yoo (Inha University, Korea)

#### [1B-3] Performance Evaluation of 802.15.4 Medium Access Control During Network Association and Synchronization for Sensor Networks

Mahir Meghji (Edith Cowan University, Australia); Daryoush Habibi (Edith Cowan University, Australia); Iftekhar Ahmad (Edith Cowan University, Australia)

#### [1B-4] Joint Energy-Balanced and Full-Coverage Mechanism Using Sensing Range Control for Maximizing Network Lifetime in WSNs

Chih-Yung Chang (Tamkang University, Taiwan); Gwo-Jong Yu (Aletheia University, Taiwan); Chih-Yu Lin (Tamkang University, Taiwan); Tzu-Lin Wang (Tamkang University, Taiwan)

#### [1B-5] An Efficient Dispatching Mechanism for Monitoring Disconnected Targets in Wireless Mobile Sensor Networks

Li-Ling Hung (Aletheia University, Taiwan); Chih-Yung Chang (Tankang University, Taiwan); Chao-Tsun Chang (Hsiuping Institute of Technology, Taiwan); Chih-Yao Hsiao (Tamkang University, Taiwan)

#### [1B-6] Using Tabu-Voronoi Clustering Heuristics with Key Management Scheme for Heterogeneous Sensor Networks

Kanwalinderjit Kaur Gagneja (North Dakota State University, USA); Kendall E. Nygard (North Dakota State University, USA); Navninderjit Singh (RMIT-IET, India)

#### [1B-7] ECU-MAC: A Multi-channel MAC Protocol for Enhancing Channel Utilization in Wireless Networks

Chao-Tsun Chang (Hsiuping University of Science and Technology, Taiwan); Chih-Yung Chang (Tamkang University, Taiwan); Yun-Jung Lu (Tamkang University, Taiwan); Chung-Ming Own (St. John's University, Taiwan)

#### **Session 1C: MANET**

Chair: Beongku An, Hongik University, Korea

[1C-1] An Analytical Model for Performance Evaluation of

#### Multi-hop Paths in Mobile Ad-hoc Wireless Networks

Le The Dung (Hongik University, Korea); Beongku An (Hongik University, Korea); Nam-Soo Kim (Cheongju University, Korea); Do-Hyeon Kim (Jeju National University, Korea)

### [1C-2] Performance of an Incremental Best Relay Selection with Outdated CSI in Rayleigh Fading Channels

Nam-Soo Kim (Cheongju University, Korea); Beongku An (Hongik University, Korea); DoHyeun Kim (Jeju National University, Korea)

#### [1C-3] Collaborative Watchdogs: A Fast and Efficient Approach to Deal with Selfish Nodes in MANETs

Enrique Hernández-Orallo (Universidad Politécnica de Valencia, Spain); Manuel D. Serrat Olmos (Universidad Politécnica de Valencia, Spain); Juan-Carlos Cano (Universidad Politécnica de Valencia, Spain); Carlos T. Calafate (Universidad Politécnica de Valencia, Spain); Pietro Manzoni (Universidad Politécnica de Valencia, Spain)

#### [1C-4] Distributed Transmit Power Control for Maximizing End-to-End Throughput in Wireless Multihop Networks

Hyun-Ho Choi (Hankyong National University, Korea); Jung-Ryun Lee (Chung-Ang University, Korea)

#### [1C-5] Joint Scheduling and Power Control for Inter-Hop Interference Mitigation in Wireless Multihop Networks

Hyun-Ho Choi (Hankyong National University, Korea); Eui-Seung Son (Korea Telecom, Korea); Eun-Kyoung Paik (Korea Telecom, Korea); Jeong-Ryun Lee (Chung-Ang University, Korea)

### [1C-6] An Adaptive Cost Function for Routing Protocols in Wireless Networks

Seung Hwan Lee(Kwangwoon University, Korea), Dong Wook Shin(Kwangwoon University, Korea), Seung Hyong Rhee(Kwangwoon University, Korea)

### Session 1D: Ubiquitous Computing and Networking (1)

Chair: Jong Woo Kim, Hanyang University, Korea

#### [1D-1] Association Rules Application to Identify Customer Purchase Intention in a Real-time Marketing Communication Tool

Jong Woo Kim (Hanyang University, Korea), Song-Yi Han(Hanyang University, Korea), Dong Sung Kim(Hanyang University, Korea)

#### [1D-2] Analysis of Effective Online Service Determinant of Korean Professional-Baseball Teams SNS

Sung-Je Park (Chung-Ang University, Korea); Je-Uk Lee (Chung-Ang University, Korea;) EunJoo Cha (Chung-Ang University, Korea)

[1D-3] HEDS: Hybrid Deduplication Approach for Email

#### Servers

Daehee Kim (University of Missouri-Kansas City, USA); Baek-Young Choi (University of Missouri - Kansas City, USA)

#### [1D-4] Next Generation Data Center Design Under Smart Grid

Montri Wiboonrat (Khon Kaen University, Thailand)

#### [1D-5] Malicious Users Detection in Collaborative Spectrum Sensing Using Statistical Tests

Kamran Arshad (University of Greenwich, United Kingdom)

#### [1D-6] A Cooperative Communication Architecture for Multimedia Quality Enhancement

Anbin Kim (Hankuk University of Foreign Studies, Korea) and Seong-Ho Jeong (Hankuk University of Foreign Studies, Korea)

#### [1D-7] Dynamic Addition and Deletion of Device in N-Screen Environment

Jae Woo Kim (Korea Aerospace University, Korea), Farman Ullah (Korea Aerospace University, Korea), Sung Chang Lee (Korea Aerospace University, Korea), Seng Kyoun Jo (ETRI, Korea), Hyun Woo Lee (ETRI, Korea), Won Ryu (ETRI, Korea)

#### July 5, 2012 (Thursday)

09:00-11:00

### Session 2A: Cooperative Communications and Networks and ITS/VANET

Chair: Kamran Arshad, University of Greenwich, United Kingdom

#### [2A-1] Lagrange Multiplier Based Power Minimization Algorithm with Relay Selection in Cooperative System

Jianlan Jia (School of Information Science and Engineering, Shandong University, P.R. China); Zhiquan Bai (Shandong University, P.R. China); Xianglai Yang (Shandong University, P.R. China); Juan Cui (Shandong University, P.R. China); Kyung Sup Kwak (Inha University, Korea)

#### [2A-2] Outage Performance of Incremental Relaying Scheme with Multiple Relays Over Cooperative Network

Kyu-Sung Hwang (Kyungil University, Korea)

#### [2A-3] Space-Time Cooperative Diversity Relaying Strategy Using Partner Selection

Eun-Ki Kim (LIGNex1, Korea); Noe-Yoon Park (Chungbuk National University, Korea); Young Ju Kim (Chungbuk National University, Korea);

#### [2A-4] Field Measurements of IEEE 802.11p Based Vehicular Networking Entity

Timo Sukuvaara (Finnish Meteorological Institute, Finland)

#### [2A-5] Mobile-based Vehicle Supplies Check Management System

Da-Woon Jeong (Dongeui University, Korea); Jong-Wook Jang (Dongeui University, Korea)

### [2A-6] Intelligent GPS-less Speed Detection and Clustering in VANET

Tein-Yaw Chung (Yuan-Ze University, Taiwan, ROC), Wen-Mei Cheng(Yuan-Ze University, Taiwan, ROC), Fong-Ching Yuan(Yuan-Ze University, Taiwan, ROC)

#### **Session 2B: Broadband Wireless Networks (1)**

Chair: Norbert Noury, University of Lyon, France

#### [2B-1] An Adaptive Antenna Switching Method for Energy Saving Based on Self Organizing Network in Tactical Mobile Communication System

Jungho Cho (Agency for Defense Development, Korea)

#### [2B-2] Transmission Mode Selection and Communication Establishment in the Hybrid Device-to-Device and Cellular Networks

Shaoyi Xu (Beijing Jiaotong University, P.R. China); Haiming Wang(Renesas Mobile, China)

#### [2B-3] Group Handover Management in Mobile Femtocellular Network Deployment

Mostafa Zaman Chowdhury (Kookmin University, Korea); Sung Hun Chae (Kookmin University, Korea); Yeong Min Jang (Kookmin University, Korea)

#### [2B-4] Airtime-based Resource Control in Wireless LANs for Wireless Network Virtualization

Kiyohide Nakauchi (National Institute of Information and Communications Technology, Japan); Yozo Shoji (National Institute of Information and Communications Technology, Japan); Nozomu Nishinaga (National Institute of Information and Communications Technology, Japan)

#### [2B-5] Semi-Active Handover Algorithm Assisted on Location for Heterogeneous Wireless Networks

Jiang Yiheng (Beijing University of Posts and Telecommunications, P.R. China); Sun Yong (Beijing University of Posts and Telecommunications, P.R. China); Wen Xiangming (Beijing University of Posts and Telecommunications, P.R. China)

#### [2B-6] Fair Admission Control Policies for Femtocell Operation

Mohammad Enam Ur Rahman Khan (Grameenphone, A Telenor Company, Bangladesh)

### Session 2C: Future Internet and Network Architecture (1)

Chair: Petcharat Suriyachai, Prince of Songkla University, Thailand

#### [2C-1] A Window-Based Overload Control Considering the Number of Confirmation Massages for SIP Server

Dong-Yeop Hwang (Ajou University, Korea); Ji Hong Park(Ajou University, Korea);Seung-Wha Yoo(Ajou University, Korea);KiHyung Kim(Ajou University, Korea)

#### [2C-2] Data Regeneration in Communication Networks

Seyed Reza Abdollahi (Brunel University, United Kingdom); Hamed Saffa Al-Raweshidy (Brunel University, United Kingdom); Thomas Owens (Brunel University, United Kingdom)

### [2C-3] M8NoC: An 8-Degree Mesh-Based NoC Architecture

Nasser Alzeidi (Sultan Qaboos University, Oman); Khaled Day (Sultan Qaboos University, Oman); Abderezak Touzene (Sultan Qaboos University, Oman); Bassel Arafeh (Sultan Qaboos University, Oman)

#### [2C-4] Considerations on Locator Selection by Multihomed Hosts in Future Internet

Ved P. Kafle (National Institute of Information and Communications Technology (NICT), Japan); Hiroaki Harai (National Institute of Information and Communications Technology, Japan)

#### [2C-5] A Novel Routing and Wavelength Assignment in Virtual Network Mapping Based on the Minimum Path Algorithm

Vahid Abedifar (Shahid Beheshti University, Iran); Mohammad Eshghi (Shahid Beheshti University, Iran)

### Session 2D: Ubiquitous Computing and Networking (2)

Chair: Young-june Choi, Ajou University, Korea

#### [2D-1] A Context-aware Data Replication Method for SNS

Jinuk Baek (Kyonggi University, Korea); Bumjo Park (Kyonggi University, Korea); Byoung-Dai Lee (Kyonggi University, Korea); Namgi Kim (Kyonggi University, Korea)

#### [2D-2] Web-Based Refractive Index Sensing by Using Enhanced Sensitivity Range of LPG for Biological Solution

Yutaka Katsuyama (Osaka Prefecture University, Japan); Tsubasa Kanamori (Osaka Prefecture University, Japan); Katsunori Kawanishi (Osaka Prefecture University, Japan); Osanori Koyama (Osaka Prefecture University, Japan)

#### [2D-3] Social Network Analysis Algorithm on a Many-Core CPU

Sang Won Seo (Kookmin University, Korea); Joohyun Kyong (Kookmin University, Korea); Eun-Jin Im (Kookmin University, Korea)

#### [2D-4] A Recent Popularity Based Dynamic Cache Management for Content Centric Networking

Seong-Jin Kang (Ajou University, Korea); Sung-Won Lee (Ajou University, Korea); Young-Bae Ko (Ajou University, Korea)

#### [2D-5] Comparative Study of Push Schemes in Online Social Networking Services

Haneul Ko (Korea University, Korea); Sangheon Pack (Korea University, Korea); Wonjun Lee (Korea University, Korea)

#### July 5, 2012 (Thursday)

13:30-15:30

#### Session 3A: Cognitive Radio Networks and Body Area Networks

Chair: Kyu-Sung Hwang, Kyungil University, Korea

#### [3A-1] Dynamically Clustering Based Cooperative Spectrum Sensing with STBC Scheme

Xingyan Liang (Shandong University, P.R. China); Zhiquan Bai (Shandong University, P.R. China); Li Wang (ShanDong University, P.R. China); Kyung Sup Kwak (Inha University, Korea)

#### [3A-2] Modified Proportional Fair Scheduling for Cognitive Radio Networks

Juhyeon Lee (Korea University of Technology & Education, Korea); Hyung-Kun Park (Korea University of Technology and Education, Korea); Nam Ho Kim (Hankyong National University, Korea); Yun Seop Yu (Hankyong National University, Korea)

#### [3A-3] A Study on Interference Analysis Between DVB-T2 Broadcasting Service and TV White Space Device

Joo Pyoung Choi (Soongsil University, Korea); Hyung Min Chang (Soongsil University, Korea); Han Nah Choi (Soongsil University, Korea); Won Cheol Lee (Soongsil University, Korea)

#### [3A-4] Dynamic Spectrum Sharing for OFDMA-Based Multi-hop Cognitive Radio Networks with Priority

Shuta Kako (The University of Electro-Communications, Japan); Takeo Fujii (The University of Electro-Communications, Japan); Osamu Takyu (Shinshu University, Japan)

#### [3A-5] Two-Step Softened Decision for Cooperative Spectrum Sensing in Cognitive Radio Networks

Rajib Paul (Ajou University, Korea); Young-June Choi (Ajou University, Korea)

#### [3A-6] Network Lifetime Improvement by Relaying Node Re-Selection in the IEEE 802.15.6 BAN

Sung-Yeon Kim (Yonsei University, Korea); Jeong-Ahn Kwon (Yonsei University, Korea); Jang-Won Lee (Yonsei University, Korea); Chang Soon Park (Samsung Advanced Institute of Technology, Korea); Youngsoo Kim (Samsung Advanced Institute of Technology, Korea); Hyosun Hwang (Samsung Electronics, Korea)

#### Session 3B: QoS/QoE Resource Management (1)

Chair: Kuei-ping shih, Tamkang University, Taiwan

### [3B-1] Genetic Expression Programming: A New Approach for QoS Traffic Prediction in EPONs

I-Shyan Hwang (University of Yuan-Ze, Taiwan); Jhong Yue Lee

(University of Yuan-Ze, Taiwan); Andrew Liem (University of Yuan-Ze, Taiwan)

#### [3B-2] Adaptive Resource Allocation in Multicast OFDMA Transmissions Using Scalable Amortize Factor

Richard O. Afolabi (Gwangju Institute of Science and Technology, Korea); Kiseon Kim (Gwangju Institute of Science and Technology, Korea)

### [3B-3] Resource Allocation for OFDMA Downlink with QOS Consideration

Alireza Sani (University of Tehran, Iran); Aliazam Abbasfar (University of Tehran, Iran); Milad Fozooni (University of Tehran, Iran)

#### [3B-4] Quality of Service Concept for Smart Home Services

Markus Hager (Ilmenau University of Technology, Germany);
Peggy Begerow (Ilmenau University of Technology, Germany);
Pavlo Krasovsky (Ilmenau University of Technology, ermany);
Karsten Renhak (Ilmenau University of Technology, Germany);
Jochen Seitz (Ilmenau University of Technology, ermany)

#### [3B-5] Call Admission Control and Traffic Modeling for Integrated Macrocell/Femtocell Networks

Mostafa Zaman Chowdhury (Kookmin University, Korea); Yeong Min Jang (Kookmin University, Korea)

#### [3B-6] Application of a Multi-OLT PON System and Its Dynamic Bandwidth Allocation Algorithm

Fahmida Rawshan (Kookmin University, Korea); MinChul Ju (KookMin University, Korea); Youngil Park (Kookmin University, Korea)

#### **Session 3C: Network Security (1)**

Chair: Nasser Alzeidi, Sultan Qaboos University, Oman

### [3C-1] Secure and Efficient Key Management Technique in Quantum Cryptography Network

Montida Pattaranantakul (National Electronics and Computer Technology Center, Thailand); Aroon Janthong (Triple T Broadband Public Company Limited, Thailand); Kittichai Sanguannam (Triple T Broadband Public Company Limited, Thailand); Paramin Sangwongngam(National Electronics and Computer Technology Center, Thailand); Keattisak Sripimanwat (National Electronics and Computer Technology Center, Thailand)

#### [3C-2] Maintenance and Privacy in Unstructured GeoCast Overlays for Smart Traffic Applications

Bernhard Heep (Karlsruhe Institute of Technology (KIT), Germany); Ingmar Baumgart (Karlsruhe Institute of Technology (KIT), Germany)

### [3C-3] Securing Home Networks Using Physically Unclonable Functions

Sushmita Ruj (University of Ottawa, Canada); Amiya Nayak (University of Ottawa, Canada); Sagar Naik (University of Waterloo, Canada)

#### [3C-4] Digital Watermarking with Network Bandwidth Efficiency for Multimedia Security

Chi-Man Pun (University of Macau, China), Jing-Jing Jiang(University of Macau, China)

#### [3C-5] SIPE-SAP: SIP Extension for Signaling Attacks Protection

Pornchanok Rodnikorn (Prince of Songkla University, Thailand); Nittida Elz (Prince of Songkla University, Thailand); Ladda Preechaveerakul (Prince of Songkla University, Thailand)

#### [3C-6] Analysis of Wormhole Attack on MANETs Using Different MANET Routing Protocols

Mohammad Sadeghi (Malaysia Institute of Transport (MITRANS), Iran ); Saadiah Yahya (Malaysia Institute of Transport (MITRANS), Malaysia)

### Session 3D: Wireless Sensor Networks and RFID (2)

Chair: Tein-Yaw Chung, Yuan Ze University, Taiwan

#### [3D-1] Wireless Sensor Networks for Integrated Search and Rescue Efforts for Disaster Hit Areas

Usman Mehmood (Ajou University, Korea); Usman Mansoor(Ajou University, Korea); Dong Yeop Hwang(Ajou University, Korea); Ki-Hyung Kim(Ajou University, Korea); Taekkyeun Lee(Ajou University, Korea); Seung Wha Yoo(Ajou University, Korea)

#### [3D-2] A Unicast Based Gradient Routing Protocol for Asynchronous Duty-Cycling UWSNs

Sungwon Lee (Kyungpook National University, Korea); Hong-Jong Jeong (Kyungpook National University, Korea); Dongkyun Kim (Kyungpook National University, Korea)

#### [3D-3] Delay Bound and Reliable Data Forwarding for Wireless Sensor Networks

Petcharat Suriyachai (Prince of Songkla University, Thailand)

#### [3D-4] RFID Anti-Collision Protocol for Monitoring System of Tags in Motion

Heesun Han (Sungkyunkwan University, Korea); Jongho Park (Sungkyunkwan University, Korea); Tae-Jin Lee (Sungkyunkwan University, Korea)

#### [3D-5] Statistical Wormhole Detection for Mobile Sensor Networks

Sejun Song (Texas A&M University, college station, USA); Haijie Wu (Texas A&M University, USA); Baek-Young Choi (University of Missouri - Kansas City, USA)

#### **July 5, 2012 (Thursday)**

#### 15:50-17:30

#### Session 4A: QoS/QoE Resource Management (2)

Chair: Eun-Jin Im, Kookmin University, Korea

#### [4A-1] Adaptive Jitter Estimation for Voice-over IP Networks

Hyoung-Gook Kim (Kwangwoon University, Korea); Sang-Hyeon Ryu (Kwangwoon University, Korea)

#### [4A-2] A Novel Hybrid Dynamic Bandwidth Allocation and Scheduling Scheme for the Integrated EPON and WiMAX Architecture

Zen-Der Shyu (Army Academy, Taiwan); Jhong-Yue Lee (University of Yuan-Ze, Taiwan); I-Shyan Hwang (University of Yuan-Ze, Taiwan)

### [4A-3] Video Quality Assessment Based on Fast Structural Similarity Index Algorithm

Liu Zhen (Beijing University of Posts and Telecommunications, P.R. China); Sun Yong (Beijing University of Posts and Telecommunications, P.R. China); Zhang Jingjing (Beijing University of Posts and Telecommunications, P.R. China); Wen Xiang Ming (Beijing University of posts and telecommunications, P.R. China); Su Tao (Beijing University of Posts and Telecommunications, P.R. China)

#### [4A-4] QoS Provisioning in CSMA/iCA Based Medium Access Control Protocol for WLAN

Subodh Pudasaini (Chosun University, Korea); Seokjoo Shin (Chosun University, Korea)

#### [4A-5] Service Provisioning with Quality-of-Experience Support in IMS-based IPTV

Thu-Huong Truong (Hanoi University of Science and Technology, Vietnam); Nguyen Tai Hung (Hanoi University of Technology, Vietnam); Nguyen Huu Thanh (Hanoi University of Technology, Vietnam)

#### [4A-6] A Generic Quantitative Relationship Between Quality of Experience and Packet Loss in Video Streaming Services

Sajad Khorsandroo (University of Malaya, Malaysia); Rafidah Md Noor (University of Malaya, Malaysia); Sayid Khorsandroo (Islamic Azad University, Iran)

#### **Session 4B: Broadband Wireless Networks (2)**

Chair: Yang Liu, Computer Network Information Center, Chinese Academy of Sciences, P.R. China, China

#### [4B-1] An Energy Efficient Scheduling Algorithm for Cluster-Based Mobile Wireless Networks

Sang-Chul Kim (Kookmin University, Korea)

### [4B-2] Multi-cell Shared Multi-user MIMO Relay with User Pairing Control

Takeo Fujii (The University of Electro-Communications, Japan);

Yuto Houmura (The University of Electro-Communications, Japan)

### [4B-3] A CP-SC-Based Two-Way Multiple-Relay System with Distributed Space-Frequency Block Coding

Hongwu Liu (Inha University, Korea); Kyeong Jin Kim (Inha University, Korea); Kyung Sup Kwak (Inha University, Korea)

#### [4B-4] A Secure Cooperative Relay Transmission Using Chaos MIMO Scheme

Eiji Okamoto (Nagoya Institute of Technology, Japan)

### [4B-5] A Burst Overlapping and Scheduling Scheme (BOSS) in IEEE 802.16 OFDMA Systems

Chi-Tao Chiang (Tamkang University, Taiwan); Kuei-Ping Shih (Tamkang University, Taiwan)

### Session 4C: Ubiquitous Computing and Networking (3)

Chair: Seung-Kook Cheong, ETRI, Korea

#### [4C-1] Network Storaging Service for Fragile Node Data

Bup-Joong Kim (ETRI, Korea); Hyun-Jae Lee (ETRI, Korea); Bheom-Soon Joo( ETRI, Korea);; Jong-Hyun Lee( ETRI, Korea)

#### [4C-2] Design of Smart Driving Information Check System Using Smart Phone and Wireless Personal Area Network

Minyoung Kim (Dong-Eui University Korea); Mi-Jin Kim(Dong-Eui University Korea); Jong-wook Jang (Dong-Eui University Korea), Da-Woon Jeong(Dong-Eui University Korea); Sung Hyun Baek(Dong-Eui University Korea); Min-seop Song(Dong-Eui University Korea)

#### [4C-3] DDR-SSD and HDD Storage System Performance Evaluation in Unified Storage System for Cloud Computing

Seung-Kook Cheong (ETRI, Korea); Yong-Wan Jeong(Mokwon University, Korea); Jae-Jin Jeong(Hanmam University, Korea); Seung-Ho Yang(Mokwon University, Korea)

#### [4C-4] A Ubiquitous, Infrastructure-Free Network for Interpersonal Communication

Edoardo Biagioni (University of Hawaii at Manoa, USA)

### [4C-5] Design for High Throughput SHA-1 Hash Function on FPGA

Jae-woon Kim (Hanyang University, Korea); Hu-Ung Lee (Hanyang University, Korea); Youjip Won (Hanyang University, Korea)

#### [4C-6] FFS-FR: Flash File System for Fast Recovery

Seung Wan Jung (Kyungpook National University, Korea); Jang Woon Baek (Electronics and Telecommunications Research Institute, Korea); Dae-Wha Seo (Electronics and Telecommunications Research Institute, Korea)

#### Session 4D: Mobile Multimedia Networking and

#### **Network Security (2)**

Chair: Su-il Choi, Chonnam National University

#### [4D-1] Bandwidth Adaptation for Scalable Videos Over Wireless Networks

Mostafa Zaman Chowdhury (Kookmin University, Korea); Tuan Nguyen (Kookmin University, Korea); Young-Il Kim (Electronics and Telecommunications Research Institute, Korea); Won Ryu (Electronics and Telecommunications Research Institute, Korea); Yeong Min Jang (Kookmin University, Korea)

#### [4D-2] Power Efficient Routing Algorithm for 3D Video Transmission in Bandwidth-limited and Radio-limited Wireless Networks

Hong-Hsu Yen (Shih-Hsin University, Taiwan); Florence Geok Hui Yap (Chang Gung University, Taiwan)

#### [4D-3] Delay-Oriented Data Traffic Migration in Maritime Mobile Communication Environments

Liping Mu (University of Agder, Norway); Andreas
Prinz((University of Agder, Norway)

#### [4D-4] Enterprise Solution of Bandwidth Optimization for Multimedia Transmission

Shehzad Amir (Ajou University, Korea); Kyungtae Kim (Ajou University, USA); Young-June Choi (Ajou University, Korea)

#### [4D-5] Effective DDoS Attack Defense Scheme Using Web Service Performance Measurement

Namkyun Baik (Korea Internet & Security Agency, Korea); Sungsoo Ahn (Korea Internet & Security Agency, Korea); Namhi Kang (Duksung Womens' University, Korea)

### [4D-6] Optimizing Time Schedule of Key Updates in ISA100.11a

Hayeon Jung (Ajou University, Korea); Dong Yeop Hwang(Ajou University, Korea); Waleed Akram Baig(Ajou University, Korea); Ki Hyung Kim(Ajou University, Korea); Seung Wha Yoo(Ajou University, Korea)

#### **July 6, 2012 (Friday)**

09:50-11:50

#### **Session 5A: Broadband Wireless Networks (3)**

Chair: Chi-Man Pun, University of Macau, Macao

### [5A-1] Packet Lost-aware Handoff in Heterogeneous Wireless Networks

Tein-Yaw David Chung (Yuan Ze University, Taiwan); Kuan-Hui Lee (Yuan Ze University, Taiwan)

#### [5A-2] Limited Feedback Design for Interference Alignment on MIMO Interference Networks with Asymmetric Path Loss and Spatial Correlations

Xiongbin Rao (the Hong Kong University of Science and Technology, Hong Kong); Liangzhong Ruan (HKUST, Hong

Kong); Vincent K.N. Lau (Hong Kong University of Science and Technology, Hong Kong)

#### [5A-3] Parameter Optimization of Decode-and-Partial-Forward Scheme

Hyeong-Gun Joo (Hanyang University, Korea); Dong-Joon Shin (Hanyang University, Korea)

#### [5A-4] PAPR Reduction Using Tone Reservation for NC-OFDM Transmissions

Mochan Yang (Soongsil University, Korea); Yoan Shin (Soongsil University, Korea)

#### [5A-5] CAAHR: Content Aware Adaptive HARQ Retransmission Scheme for 4G/LTE Network

Balaaji Tirouvengadam (University of Ottawa, Canada); Rakesh Radhakrishnan (University of Ottawa, Canada); Amiya Nayak (SITE, University of Ottawa, Canada)

### Session 5B: Ubiquitous Computing and Networking (4)

Chair: Eiji Okamoto, Nagoya Institute of Technology, Japan

#### [5B-1] Segmented Content Delivery Scheme for Minimizing Server Cost in CDN

Jeong Yun Kim (ETRI, Korea); Jun Kyun Choi (KAIST, Korea)

#### [5B-2] Standardisation Policy Regarding Medical Device Interoperability -A proposal in France

Karima Bourquarda(Cosilog, Paris, France), Didier Bergognona(Cosilog, Paris, France), Jean-Bernard Schroederb(SNITEM, Paris, France), Norbert Noury(Univ. of Lyon, lab. INL INSA Lyon, France)

#### [5B-3] A Study on the Impact of E-Sports Participation by Students with Mental Retardation on Their Self-confidence and Social Skills

Young-jae Kim (Chung-Ang University, Korea); Myoung jin Choi (Chung-Ang University, Korea); Yoon Suk Cha (University of Chung-Ang, Korea)

### [5B-4] Implementation of Indoor Positioning Using LED and Dual PC Cameras

Byung Yeon Kim (Kookmin University, Korea), Jung-Sik
Cho(Kookmin University, Korea), Youngil Park(Kookmin
University, Korea), Ki-Doo Kim(Kookmin University, Korea)

#### [5B-5] System Verilog-based Approach of a Design of Multiplication Server Farms

Sangook Moon (Mokwon University, Korea)

#### [5B-6] Privacy-preserving Web Search

Myungsun Kim (Seoul National University, Korea), Jihye Kim (Kookmin University, Korea)

#### Session 5C: Wireless Sensor Networks/RFID (3)

Chair: Takeo Fujii, The University of Electro-Communications,

Japan

#### [5C-1] An Efficient Anti-Collision Protocol for Tag Identification in RFID Systems with Capture Effect

Sunwoong Choi (Kookmin University, Korea); Jaehyuk Choi (Gachon University, Korea); Joon Yoo (Bell Labs, Alcatel-Lucent, Korea)

#### [5C-2] Performance Evaluation of Mobile RFID Under Multiple BoMR Environments

Si-Young Ahn (Kookmin University, Korea); Jun-Seok Park (Kookmin University, Korea); Yeong Rak Seong (Kookmin University, Korea); Ha-Ryoung Oh (Kookmin university of Korea, Korea)

#### [5C-3] An Implementation of Laundry Management System Based on RFID Hanger and Wireless Sensor Network

Nghia Truong Van (Dongguk University, Korea); Seung Joon Lee (Dongguk University, Korea); Chang Won Lee (Dongguk University, Korea); Ki Hwan Eom (Dongguk University, Korea); Kyung Kwon Jung (Korea Electronics Technology Institute, Korea)

#### [5C-4] Design and Implementation of a Video Surveillance System for a Sensor Network Application Service

HongYeon Yu (Electronics and Telecommunications Research
Institute, Korea); SeungChul Son (ETRI, Korea); Nacwoo Kim
(ETRI, Korea); SeungHun Oh (ETRI (Eletronics and
Telecommunications Research Institute), Korea); SeokKap Ko
(Electronics and Telecommunications Research Institute, Korea);
IlKyun Park (ETRI (Eletronics and Telecommunications Research
Institute), Korea); SimKwon Yoon (ETRI (Eletronics and
Telecommunications Research Institute), Korea); ByungTak Lee
(ETRI, Korea)

#### [5C-5] Cross -Layer QoS Routing Protocol for Multimedia Communications in Sensor Networks

Zara Hamid (College of Signals, NUST, Pakistan); Faisal Bashir (Chosun University, Korea); Jae Young Pyun(Chosun University, Korea)

#### [5C-6] Data Dissemination Protocol with Hole Masking Algorithm in Grid-based Wireless Sensor Networks

SungHwi Kim (Chungnam National University, Korea); Sang-Ha Kim (Chungnam National University, Korea)

### Session 5D: Future Internet and Network Architecture (2)

Chair: Zhiquan Bai, Shandong University, China

#### [5D-1] Contention Resolution in OBS Using

#### FDL\_WA\_WPREMP in Hybrid Based Burst Assembly

Suriani Mohd Sam (University Technology Malaysia, Malaysia); Hamdan Sayuti(University Technology Malaysia, Malaysia); Norsheila Fisal(University Technology Malaysia, Malaysia)

#### [5D-2] EPP-IP: A Flexible and Automatic IP Address Registration Mechanism

Yang Liu (Computer Network Information Center, Chinese Academy of Sciences, P.R. China); Ye Tian(Computer Network Information Center, Chinese Academy of Sciences, P.R. China); Shuo Shen(Computer Network Information Center, Chinese Academy of Sciences, P.R. China); Wei Mao(Computer Network Information Center, Chinese Academy of Sciences, P.R. China)

#### [5D-3] Correlated and Cascading Node Failures in Random Geometric Networks: A Percolation View

Zhenning Kong (Guggenheim Partners Asset Management Santa Monica, USA); Edmund M. Yeh (Northeastern University, USA)

### Keynote Speech

July 5, 2012 (Wednesday)

#### Venue

#### 11:20-12:00

#### **Keynote Speech I**

### QoS and QoE in the Next Generation Networks and Wireless Networks

Prof. Pascal LORENZ, University of Haute Alsace, France

#### **July 6, 2012 (Friday)**

09:00-09:40

#### Keynote Speech II

Prospects of Smart Appliances and Smart Home Services

Dr. Myung Hyun Yoon, Program Director of KEIT

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#### Мар



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The hotel two car models – Toyota Camry (2004) and Toyota Commuter – for transferring guests from/to the airport. Please refer to the following price list: 950 THB per trip for Toyota Camry (maximum 3 persons) 1,400 THB per trip for Toyota Commuter (maximum 8 persons)

Local currency is Thai Batt \( \Bar{\Bar}\) (THB). The bank and hotel can provide multi-currency service. Online spot exchange rates are shown at: <a href="http://www.exchangerate.com/">http://www.exchangerate.com/</a>
1USD= 30.77 THB
1THB=37 Korean Won

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