

July 7(Tue.) ~ July 10(Fri.), 2015  
Hotel Okura Sapporo, Sapporo, Japan

## The Seventh International Conference on Ubiquitous and Future Networks

<http://www.icufn.org>



## Final Program



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### Message from Organizing Co-Chairs

It is our great pleasure to invite you to attend ICUFN 2015, the Seventh International Conference on Ubiquitous and Future Networks, organized by the Korean Institute of Communications and Information Sciences (KICS) and technically co-sponsored by IEEE Communications Society (ComSoC) and IEICE-CS. We would like to welcome you to Sapporo, and welcome to ICUFN 2015. We are honored and privileged to host this prestigious conference in the field. 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 seventh ICUFN in Sapporo. Sapporo is the fifth-largest city in Japan by population, and the largest city on the northern Japanese island of Hokkaido. Sapporo is attracting much attention as city of tourism with attractions such as the “Sapporo Snow Festival (Sapporo Yuki Matsuri)” which began in 1950 and the “YOSOKOI Soran Festival” which began in 1992. The 1972 Winter Olympics were held, the first Winter Olympics held in Asia. The city is also home to Sapporo Brewery. Sapporo has many parks, including Odori Park, which is located in the heart of the city and hosts a number of annual events and festivals throughout the year. The average temperature reaches 20°C (68°F) in the summer, but the humidity is low and the temperature is cool during the morning and evening.

ICUFN is a truly international annual conference! Our TPC team consists of members from countries around the world. Thanks to the tireless efforts of the technical program committee co-chairs, professors Eui-Nam Huh, Xin WANG, Takeo FUJII, Masaki Aida, Kun Yang, and Edmund Yeh, ICUFN 2015 is packed with an excellent mix of technical sessions. On behalf of the ICUFN steering committee and on behalf of all attendees, we thank the workshops co-chairs, professors Sungrae Cho and Kyomin Jung, the local arrangement co-chairs, professors Takeo Ohgane, Toshihiko Nishimura, Junbeom Hur, and Jaesang Cha, all members of ICUFN 2015, and workshop organizing committees for producing such an excellent program. We do hope you will take this good opportunity to attend the workshop sessions and 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 Sapporo. The Organizing Committee has been working diligently to make this conference a great success and most enjoyable. We have prepared an exciting and comprehensive program for you. We look forward to your active participation and support in the future. Thank you very much.

Enjoy ICUFN 2015 in Sapporo!

Sincerely yours,

**Yeong Min Jang**  
Kookmin Univ., Korea

**C. K. Toh**  
National Tsing Hua Univ., Taiwan

**Masahiro Umehira**  
Ibaraki University, Japan

### Message from TPC Co-Chairs

*I*t is our great pleasure to welcome all of you to Sapporo from July 7 to 10, 2015, for the Seventh International Conference on Ubiquitous and Future Networks (ICUFN). ICUFN has been covering aspects of computing, networking and communications from the 2009 conference and this ICUFN 2015 will be also a successful and exciting conference covering broad topics on ubiquitous and future network technologies.

This year we have received 446 paper submissions electronically from 22 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 211 technical papers for presentation at the conference.

The accepted technical and workshop papers were organized into 48 technical sessions including 2 Workshops and a special session. The program covers a variety of topics on wireless and wired communication networking technologies including cognitive radios, wireless sensor networks, Internet of Things (IoT), broadband wireless communications, future network issues, mobile multimedia networking, Big data, Cloud computing, 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, IEEE ComSoC, and IEICE-CS, for their kind support of this successful event. 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 and Prof. Masahiro Umehira for their continued support and guidance. We hope that all of you will enjoy the excellent program of ICUFN 2015 as well as the beautiful scenery and attractions of Sapporo, Japan.

Sincerely,

**Eui-Nam Huh**  
Kyung Hee Univ.,  
Korea

**Xin Wang**  
Fudan Univ., China

**Takeo Fujii**  
Univ. of Electro-  
Comms, Japan

**Masaki Aida**  
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Univ., Japan

**Kun Yang**  
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**Edmund Yeh**  
Northeastern Univ.,  
USA

## ICUFN 2015 Program at a Glance

July 7 (Tuesday)	
10:00 ~ 12:00	Session 1 (1A, 1B, 1C, 1D)
12:00 ~ 13:30	Lunch Break
13:30 ~ 15:30	Session 2 (2A, 2B, 2C, 2D)
15:30 ~ 15:45	Coffee Break
16:00 ~ 18:00	Session 3 (3A, 3B, 3C, 3D,)
July 8 (Wednesday)	
09:10 ~ 10:30	Session 4 (4A, 4B, 4C, 4D)
10:30 ~ 10:40	Session Break
10:40 ~ 11:00	<b>Opening Address</b> Prof. Yeong Min Jang (OC Co-chair)
	<b>Welcome Address</b> Prof. Masahiro Umehira (President of IEICE-CS) Prof. Jong-Seon No (President of KICS)
11:00 ~ 11:30	<b>Keynote Speech I</b> Prof. Ramjee Prasad (Aalborg Univ., Denmark)
11:30 ~ 12:00	<b>Keynote Speech II</b> Prof. Hiroyuki Morikawa (The University of Tokyo, Japan)
12:00 ~ 13:30	Lunch Break
13:30 ~ 14:50	Session 5 (5A, 5B, 5C, 5D)
14:50 ~ 15:00	Session Break
15:00 ~ 16:20	Session 6 (6A, 6B, 6C, 6D)
16:20 ~ 16:40	Coffee Break
16:40 ~ 18:00	Session 7 (7A, 7B, 7C, 7D)
18:30 ~ 20:00	Welcome Reception
July 9 (Thursday)	
09:20 ~ 10:20	Session 8 (8A, 8B, 8C)
10:20 ~ 10:30	Session Break
10:30 ~ 12:00	Session 9 (9A, 9B, 9C)
12:00 ~ 13:30	Lunch Break
13:30 ~ 15:30	Session 10 (10A, 10B, 10C, 10D)
15:30 ~ 16:00	Coffee Break
16:00 ~ 18:20	Session 11 (11A, 11B, 11C, 11D)
18:30 ~ 20:30	<b>Banquet Speech</b> Prof. Byeong Gi Lee (Seoul National Univ., Korea)
July 10 (Friday)	
09:20 ~ 11:20	Session 12 (12A, 12B, 12C, 12D)

**July 7, 2015 (Tue)**

**10:00 – 12:00**

### Session 1A : Security and System

Chair : Prof. Minho Park (Soongsil Univ.)

#### [1A-1] Situational Awareness for Security Adaptation in Industrial Control Systems

Antti Evesti (VTT Technical Research Centre of Finland, Finland),  
Tapio Frantti (University of Oulu, Finland)

#### [1A-2] A Security Framework for Cluster-based Wireless Sensor Networks Against the Selfishness Problem

Zeba Ishaq, Seongjin Park and Younghwan Yoo (Pusan National University, Korea)

#### [1A-3] Secure Pattern-based Authentication Against Shoulder Surfing Attack in Smart Devices

Hyungjun Shin and Daeyoung Kim (Chung Ang University, Korea);  
Junbeom Hur (Korea University, Korea)

#### [1A-4] A Distributed Self Organizing Map for DoS Attack Detection

Minhoe Kim, Souhwan Jung, Minho Park (Soongsil University)

#### [1A-5] A User Customized Service Provider Framework Based on Machine Learning

Seunghye Kim and Eunjae Hong (Ewha Womans University, Korea);  
Byungchul Park (University of Toronto, Canada); Hyunggon Park (Ewha Womans University, Korea)

#### [1A-6] Location Estimation Method Using Side Information

Eisuke Kudoh and Hirotaka Itoh (Tohoku Institute of Technology, Japan)

### Session 1B : Advanced Network

Chair : Prof. Eui-Nam Huh (Kyung Hee Univ.)

#### [1B-1] New Couple-Resolution Blocking Tag Identification Protocol in RFID Systems with Capture Effect

Hae-il Choi, Hyung-jik Kim and Sunwoong Choi (Kookmin University, Korea)

#### [1B-2] A Proposal Antenna Polarization Diversity for LTE 2X2 MIMO in Indoor Testbed

Duc Nguyen Thanh, Seokjoo Shin (Chosun University, Korea)

#### [1B-3] Energy-Efficient Data Transmission Strategy for Network Coded Bidirectional De Bruijn Networks

Jungmin Kwon, Minhae Kwon and Hyunggon Park (Ewha Womans University, Korea)

#### [1B-4] Hybrid CCC Based AODV Routing Protocol for Cognitive Radio Ad-hoc Networks with Directional Antennas

Satish Anamalamudi, Minglu Jin (Dalian University of Technology, China) and Jae Moun Kim (Inha University, Korea)

#### [1B-5] An Efficient Generation Mechanism of HMI Information for Heterogeneous PLCs

Ho-Chul Park, Jihong Park, Ki-Hyung Kim, Kangseok Kim and Wang Gi-Nam Wang (Ajou University, Korea)

### Session 1C : Optical Camera Communication (I)

Chair : Prof. Nan Chi (Fudan University)

#### [1C-1] Design of a Visible Light Internet Access System

Hetian Zhu, Minglun Zhang, Chao Wang, Xujin Guo, Yangan Zhang (Beijing University of Posts and Telecommunications, P.R. China)

#### [1C-2] Radiometric and Geometric Camera Model for Optical Camera Communications

Shareef Ifthekhar, M. Arif Hossain, C. Hyun Hong, and Yeong Min Jang (Kookmin University, Korea)

#### [1C-3] A 5.7 Km Visible Light Communications Experiment Demonstration

Zhang Minglun, Zhao Peng, and Jia Yinjie (Beijing University of Posts and Telecommunications, P.R. China)

#### [1C-4] Efficient Road Surface Detection Using Visible Light Communication

Willy Anugrah Cahyadi, Yong-Hyeon Kim, Yeonho Chung (Pukyong National University, Korea), Zabih Ghassemlooy (Northumbria University, United Kingdom)

#### [1C-5] Indoor Positioning Using Optical Camera Communication & Pedestrian Dead Reckoning

Seungwoo Hyun, Yeunhyeong Lee, Jungho Lee, MinChul Ju, and Youngil Park (Kookmin University, Korea)

### Session 1D : Network Algorithms

Chair : Prof. Tuan Le (Kookmin Univ)

#### [1D-1] Robust Cooperative Spectrum Sensing in Full-duplex Cognitive Radio Networks

Yun Liao, Kaigui Bian, Lili Ma and Lingyang Song (Peking University, China)

#### [1D-2] Downlink Beamforming with Estimated DOA From Uplink Transmission

Weimei Qin, Zaichen Zhang and Liang Wu (Southeast University, China), Jian Dang (Southeast University and National Mobile Communications Research Laboratory, China), Yingying Yu (Southeast University, China), Yuxin Wei (Sony, China) and Chen Sun (SONY, China)

#### [1D-3] RSS-based Localization Using Delta Method with Unknown Transmit Power

Thu L. N. Nguyen and Yoan Shin (Soongsil University, Korea)

#### [1D-4] Multi-antenna Channel Capacity Enhancement in Wireless Communication

Haftu Reda Nigus, Ki-Hyung Kim, Dongyeop Hwang, and Hassen Redwan Hussien (Ajou University, Korea)

#### [1D-5] Fairness PEP Solution for Satellite TCP

Younghoon Kim, Hyunjae Park, Jae-Hyun Kim, and Young-June Choi (Ajou University, Korea)

**July 7, 2015 (Tue)**

**13:30 – 15:30**

### Session 2A : Advance Network

Chair : Prof. Kyung-Joon Park (DGIST)

#### [2A-1] Communication Channel Modeling of Controller Area Network (CAN)

Dong Hyuk Jang (DGIST, Korea); Sungmin Han (DGIST, Korea); Siwon Kang (GCT Semiconductor, Korea); Ji-Woong Choi (DGIST, Korea)

#### [2A-2] Interleaving-based Orphan Channel Scanning for the IEEE 802.15.4m in TVWS Smart Grid Networks

Jaebom Kim (QMIC, Qatar); Jina Han and Young-Bae Ko (Ajou University, Korea); Fethi Filali (QMIC, Qatar)

#### [2A-3] Link Quality Based Geographic Routing Resilient to Location Errors

Jinhyuk Yim, Woo-Sung Jung and Young-Bae Ko (Ajou University, Korea)

#### [2A-4] Optimal Coverage Control for Net-Drone Handover

Kyung-Nam Park, Byeong-Moon Cho, Kyung-Joon Park (DGIST, Korea), and Hwangnam Kim (Korea University, Korea)

#### [2A-5] Zero-Buffer Data Delivery for Industrial Networks

Kyungmo Koo, Taejin Ha and Namwon An (Gwangju Institute of Science and Technology, Korea); Kyung-Joon Park (DGIST, Korea); Hyuk Lim (Gwangju Institute of Science and Technology, Korea)

### Session 2B : Emerging Wireless/Mobile network

Chair : Prof. Sangheon Park (Korea Univ.)

#### [2B-1] A Quantum-Inspired Evolutionary Algorithm Based Clustering Method for Wireless Sensor Networks

Chun-Wei Tsai (National Ilan University, Taiwan); Chun-Ting Kang and Ming-Chao Chiang (National Sun Yat-sen University, Taiwan)

#### [2B-2] Statistical Model for IoT/5G Networks

Abdullah Baz (Umm Al-Qura University, Saudi Arabia), Abbas Abu Al-Naja (Ministry of Transportation, Saudi Arabia), and Mohammed Baz (Taif University, Saudi Arabia)

#### [2B-3] Metal Antenna for 5G Mobile Networks

Eugene Rhee (Sangmyung University, Korea)

#### [2B-4] Pre-Allocated Duplicate Name Prefix Detection Mechanism Using Naming-Pool in Mobile Content-Centric Network

Juyong Lee and Jihoon Lee (Sangmyung University, Korea)

#### [2B-5] Efficient and Secure NDN

DaeYoub Kim (Suwon University, Korea)

### Session 2C : OWC and LED-ID

Chair : Prof. Jaesang Cha (SNUST)

#### [2C-1] LED Based High Speed Visible Light Communication Local Area Network

Nan Chi, Jianyang Shi, Xingxing Huang and Yiguang Wang (Fudan University, China)

#### [2C-2] A Symbiotic Digital Signage System Based on Display

#### to Display Communication

Mohammad Arif Hossain (Kookmin University, Korea), Yong Tae Lee, Hyunwoo Lee, Won Lyu (ETRI, Korea), C. H. Hong, T. Nguyen, N. T. Le, and Yeong Min Jang (Kookmin University, Korea)

#### [2C-3] Depth Sensor Combined Display Contents Control System

Jun-Woo Kim (SNUST, Korea), Sang-Woon Lee (Namseoul Univ.), Min-Woo Lee (SNUST, Korea), Sang-Yule Choi (Induk Univ.), Jong-Joo Lee (KERI, Korea), and Jae-Sang Cha (SNUST, Korea)

#### [2C-4] Multiple Pulse Amplitude and Position Modulation for Optical Wireless Channel

Yu Zeng, Yunqing Chen, Huiling Zhao, Xiaoping Wang (China Telecom, China)

#### [2C-5] Interference Modeling and Analysis for Optical Wireless Communication

Yu Zeng, Ming Feng, Wenjie Li, Wei Li, Guoquan Tan, Hua Ye (China Telecom, China)

#### [2C-6] An Indoor Environment VLC-based Localization Algorithm for Handset Devices

Phat Huynh, Jaemin Lee and Myungsik Yoo (Soongsil University, Korea)

### Session 2D : Intelligent Vehicle (I)

Chair : Prof. Dong Seog Han (Kyungpook National Univ.)

#### [2D-1] A Design of an ICN Architecture within the Framework of SDN

Suyong Eum, Masahiro Jibiki (NICT, Japan), Masayuki Murata (Osaka University, Japan); Hitoshi Asaeda (NICT, Japan) and Nozomu Nishinaga (NICT, Japan)

#### [2D-2] Mono-Camera Based Side Vehicle Detection for Blind Spot Detection Systems

Jang Woon Baek, Eunryung Lee and Mi-Ryung Park (ETRI, Korea) and Dae-Wha Seo (Kyungpook National University, Korea)

#### [2D-3] A Mesh Topology Formation Scheme for IEEE 802.15.4 Based Wireless Sensor Networks

Seong Ro Lee, Jong-sang Back, Joo-Seong Oh and Min-A Jung (Mokpo National University, Korea)

#### [2D-4] A BGP Session Takeover Method for High Availability

Hwa Sung Kim and Sang Il Kim (KwangWoon University, Korea)

#### [2D-5] Impact of the Latency in Vehicular Networks: Analysis on the Reaction Distance

Jihoon Joo and Dong Seog Han (Kyungpook National University, Korea)

**July 7, 2015 (Tue)**

**16:00~18:20**

### Session 3A : Wireless Network

Chair : Prof. Hung-Yu Wei (National Taiwan Univ.)

#### [3A-1] Study on Minimizing Broadcast Redundancy in Strong DAD

Sang-Chul Kim (Kookmin University, Korea)

#### [3A-2] LTE-D Broadcast with Distributed Interference-Aware

### D2D Resource Allocation

*Che-Wei Yeh, Mei-Ju Shih, Guan-Yu Lin and Hung-Yu Wei (National Taiwan University, Taiwan)*

**[3A-3] Improving Internet Routing Scalability with AS Landmarks**  
*Yangyang Wang and Jun Bi (Tsinghua University, China)*

**[3A-4] Packet Scheduling for Multipath TCP**  
*Jaehyun Hwang (Bell Labs, Alcatel-Lucent, Korea) and Joon Yoo (Gachon University, Korea)*

**[3A-5] Achievable Rate Region of Frequency-Division-Duplex Cascaded Wireless Networks with Single Source and Two Destinations**

*Feng Liu, Shengming Jiang and Liansun Zeng and Xuan Geng (Shanghai Maritime University, China)*

### Session 3B : Mobility Model and Management

*Chair : Prof. Minglu Jin (Dalian Univ. of Technology)*

**[3B-1] An Group Behavior Mobility Model for Opportunistic Networks**

*GuoDong Kang (China Academy of Space Technology, China)*

**[3B-2] Mobility-Aware Location Management Scheme in Femto/Macrocell Networks**

*Haneul Ko, Jaewook Lee and Sangheon Pack (Korea University, Korea)*

**[3B-3] Practical Voice Session Selection with FAHP in Next Generation Wireless Network**

*Fong-Ching Yuan and Tein-Yaw Chung (Yuan Ze University, Taiwan)*

**[3B-4] A Modified Multiple-Search Multi-Start Framework-enhanced Micro Genetic Algorithm for WLAN Load Balancing**  
*Chun-Wei Tsai (National Ilan University, Taiwan), Shi-Wei Wang, Kai-Cheng Hu and Ming-Chao Chiang (National Sun Yat-sen University, Taiwan)*

**[3B-5] A Cooperative Mechanism for Monitoring in Rechargeable Wireless Mobile Sensor Networks**

*Li-Ling Hung and Shiao-Lung Chiao (Aletheia University, Taiwan)*

### Session 3C : IEEE 802.15.7r1 OWC TG

*Chair : Prof. Yeong Min Jang (Kookmin University)*

**[3C-1] High-speed Asynchronous Optical Camera Communication Using LED and Rolling Shutter Camera**

*Trang Nguyen, Chang Hyun Hong, Nam Tuan Le, and Yeong Min Jang (Kookmin University, Korea)*

**[3C-2] Synchronization Issue for Optical Camera Communications**  
*Nam-Tuan Le, Thithanhnhan Le, Trang Nguyen, and Yeong Min Jang (Kookmin University, Korea)*

**[3C-3] LED-ID Application for Intelligent Lighting**

*Junghyun Kim, Gidong Sa, Youngwoo Kim, Jonghyeob Baek (KOPI, Korea)*

**[3C-4, 3C-5, 3C-6] IEEE 802.15.7r1 OWC Meeting will be held.**

### Session 3D : Intelligent Vehicle (II)

*Chair : Prof. Dong Seog Han (Kyungpook National Univ.)*

**[3D-1] Motion Classification of Pedestrian Walking Behaviors for Automatic Emergency Braking**

*Gihyun Han, Heejae Choi and Bongsob Song (Ajou University, Korea)*

**[3D-2] Red-Signal Delay Scheme to Prevent Vehicle Accidents At the Intersection**

*Mi-hye Lee, Sun-young Im, Byeong-uk Lee and Byeong-hee Roh (Ajou University, Korea) and Bo-mi Kim (NemusTech Co., Ltd, Korea)*

**[3D-3] Towards Content-Centric Traffic Ticketing in VANETs: An Application Perspective**

*Syed Hassan Ahmed, M.A. Yaqub, S.H. Bouk and Dongkyun Kim (Kyungpook National University, Korea)*

**[3D-4] A Census-Based Stereo Matching Algorithm with Multiple Sparse Windows**

*Kyeong-ryeol Bae, Hyeon-Sik Son, Jongkil Hyun and Byungin Moon (Kyungpook National University, Korea)*

**[3D-5] Robust Blind Channel Estimation for Cooperative Communication Networks with Selfish Relays**

*Tsang-Yi Wang (National Sun Yat-sen University, Taiwan), Chen Wa Tsung (Shu-Te University, Taiwan), Chao-Tang Yu (Southern Taiwan University of Science and Technology, Taiwan), Lei-Chieh Tseng (National Chung-Shan Institute of Science and Technology, Taiwan) and Shiann-Shiun Jeng (National Dong Hwa University, Taiwan)*

**July 8, 2015 (Wed)**

**09:10~10:30**

### Session 4A : Algorithms and Computation Theory

*Chair : Prof. Jeich Mar (Yuan-Ze Univ.)*

**[4A-1] Uplink Positioning Architecture and Algorithm for Femtocell Networks**

*J. Mar, C. C. Liu, G. Y. Liu and Modick Basnet (Yuan Ze University, Taiwan)*

**[4A-2] Low Complexity PTS Algorithms with Error Correction Capability in OFDM Systems**

*Kuo-Chen Chung, Houshou Chen and Ting Ya Yang (National Chung Hsing University, Taiwan)*

**[4A-3] A LTE Downlink Scheduling Mechanism with the Prediction of Packet Delay**

*Wei Kuang Lai, Chih-Wen Hsu, Ting-Huan Kuo and Mei-Tso Lin (National Sun Yat Sen University, Taiwan)*

**[4A-4] A QoS Guaranteed Channel Allocation Algorithm in Multi-cell OFDMA Network with Reduced Feedback**

*Wenhan Yang and Osamu Yoshie (Waseda University, Japan)*

### Session 4B : Network Protocol

*Chair : Prof. Tuan Le (Kookmin Univ.)*

**[4B-1] A 24 GHz Band FM-CW Radar System for Detecting Closed Multiple Targets with Small Displacement**

*Kazuhiro Yamaguchi (Tokyo University of Science, Japan), Mitsumasa*

Saito (CQ-S net Inc., Japan), Takuya Akiyama and Tomohiro Kobayashi (Tokyo University of Science, Japan), Hideaki Matsue (Tokyo University of Science, Japan)

### [4B-2] Optimization for Time-Division Relaying Against Blank Subframe Ratio and Transmission Power

Masaki Uezono, Sho Nakazawa, Shingo Matsuoka and Hiroyuki Otsuka (Kogakuin University, Japan)

### [4B-3] Design and Evaluation of Airborne Communication Networks

Yun Zhu, Qiuyuan Huang, Jiade Li and Dapeng Wu (University of Florida, USA)

### [4B-4] R-SPOFTR: Relieving Single Point of Failure in Tree Routing to Prolong Sensor System Lifetime

Cheng-Han Lin and Ce-Kuen Shieh (National Cheng Kung University, Taiwan), Wen-Shyang Hwang and Jun-Jim Wang (National Kaoshiung University of Applied Science, Taiwan)

## Session 4C : Low-Power Network

Chair : Prof. Xiaoying Lei (Yangzhou Univ.)

### [4C-1] An Adaptive Energy Saving Mechanism for LTE-A Self-Organizing HetNets

Yi-Huai Hsu and Kuochen Wang (National Chiao Tung University, Taiwan)

### [4C-2] OLSR Power Consumption Reduction Using Game Theory

Teerapat Sanguankotchakorn and Supattra Wiriyapunt (Asian Institute of Technology, Thailand)

### [4C-3] A Novel Vision Based Adaptive Transmission Power Control Algorithm for Energy Efficiency in Wireless Sensor Networks Employing Mobile Robots

Abhijeet Ravankar, Ankit A. Ravankar, Yukinori Kobayashi, Lv Jixin, Takanori Emaru, (Hokkaido University, Japan) and Yohei Hoshino (Kitami Institute of Technology, Japan)

### [4C-4] Adaptive Energy Saving Strategy for LTE-Advanced Networks

Hung-Chin Jang and Po-Yen Huang (National Chengchi University, Taiwan)

## Session 4D : IoT

Chair : Dr. Evesti Antti (VTT Technical Research Centre of Finland)

### [4D-1] Study on IoT Based Wild Vegetation Community Ecological Monitoring System

Nae-Soo Kim, Kyeseon Lee, Jae-Hong Ryu (ETRI, Korea)

### [4D-2] IoT-Based Physiological and Environmental Monitoring System in Animal Shelter

Chao-Hsi Huang, Pin-Yin Shen and Yueh-Cheng Huang (National Ilan University, Taiwan)

### [4D-3] Social Web of Things Services Fault Handling and Queuing Scheduling

Tein Yaw Chung, Osama Alsaryrah, Ibrahim Mashal and Chih-Hsiang Chang (Yuan Ze University, Taiwan)

### [4D-4] Toward Service Recommendation in Internet of Things

Ibrahim Mashal, Tein-Yaw Chung, and Osama Alsaryrah (Yuan Ze

University, Taiwan)

## July 8, 2015 (Wed)

13:30~14:50

## Session 5A : Algorithms and Computation Theory

Chair : Prof. Hsu-Feng Hsiao (National Chiao Tung Univ.)

### [5A-1] A New Traffic Load Based Cell Zooming Algorithm in Dense Small Cell Environments

Jae Hyun Park, Jung Hyun Jin and Duk Kyung Kim (Inha University, Korea)

### [5A-2] RSSI Localization with DB-Assisted Least Error Algorithm

Jongtaek Jung, Kangho Kim, Seungho Yoo, Munghu Bae, Suk Kyu Lee and Hwangnam Kim (Korea University, Korea)

### [5A-3] Reliable Position Based Routing Algorithm in Vehicular Ad-hoc Network

KyeongDeuk Park, HyunDong Kim and SuKyoung Lee (Yonsei University, Korea)

### [5A-4] Priority-Base Retransmission Scheduling for Automatic Repeat Request Over Wireless Networks

Chun-Yi Chang and Hsu-Feng Hsiao (National Chiao Tung University, Taiwan)

## Session 5B : Network Protocol

Chair : Prof. Ganguk Hwang (KAIST)

### [5B-1] Analysis of Superframe Duration Adjustment Scheme for IEEE 802.15.4 Networks

Bih-Hwang Lee and Eppy Yundra (National Taiwan University of Science and Technology, Taiwan), Huai-Kuei Wu (Ling-Tung University, Taiwan), M. Udin Harun Al Rasyid (Politeknik Elektronika Negeri Surabaya (PENS) - Indonesia, Indonesia)

### [5B-2] Impact of Propagation Environments on Emergency Message Dissemination in VANETs

Chakkaphong Suthaputthakun (Bangkok University, Thailand), Zhili Sun and Mehrdad Dianati (University of Surrey, United Kingdom)

### [5B-3] Precise Estimation of Noise Power and SNR From OFDM Signals

Jun-woo Kim, Hyeon-sook Park, Young-jo Bang, Ilgyu Kim (ETRI, Korea)

### [5B-4] Sound Source Matching LED Emotion Contents Design

Yi-Yoen Kim, Jun-Woo Kim, Min-Woo Lee, Gyoung-Sun Kim, Jae-Sang Cha, and Kyung-Hoon Kim (SNUST, Korea)

### [5B-5] Wall Switch based LED Light Dimming System

Byong-Moon Yang, Seong-Kweon Kim, Min-Woo Lee (SNUST, Korea), Jung-Hoon Lee (Dongseoul College), Jun-Woo Kim, Jai-Pil Oh, Goo-Man Park, Seon-Hee Lee (SNUST, Korea)

## Session 5C : System and network

Chair : Prof. Il Young Chong (Hankuk Univ. of Foreign Studies)

### [5C-1] Fast Handover Method by Using L2 Trigger Supporting Multi-interface in PMIPv6

Jinsook Bong, Sangjin Park and Yongtae Shin (Soongsil University, Korea)

### [5C-2] Measurement System of Shipboard Indoor Signal Propagation Characteristics Based on Three Way Signature Sequence Packet Mode

Jeong-Ho Kim, Ji-Hyun Moon, and Na-Hyung Kim (Ewha Womans University, Korea)

### [5C-3] QoE Modeling: A Simplified E-model Enhancement Using Subjective MOS Estimation Model

Therdpong Daengsi (King Mongkut's University of Technology North Bangkok JADS Comm Ltd., Thailand), Pongpisit Wuttidittachotti (King Mongkut's University of Technology North Bangkok, Thailand)

### [5C-4] Simulation of Content Caching in Information Centric Networking

Feliksas Kuliesius and Petras Paulauskas (Vilnius University, Lithuania)

### [5C-5] Knowledge Based Open IoT Service Provisioning through Cooperation between Physical Web and WoO

Muhammad Golam Kibria and Ilyoung Chong (Hankuk University of Foreign Studies, Korea)

## Session 5D : Cloud & Security

Chair : Prof. Chao-Lieh Chen (National Kaohsiung First Univ. of Science and Technology)

### [5D-1] S4: An SLA-aware Short-Secret-Sharing Cloud Storage System

I-Hsun Chuang, Yu-Ting Huang (National Cheng Kung University, Taiwan); Wei-Tsung Su (Aletheia University, Taiwan), Tung-Sheng Lin and Yau-Hwang Kuo (National Cheng Kung University, Taiwan)

### [5D-2] Enabling Elastic Services for OSGi-Based Cloud Platforms

Donghyeon Kim, Choonhwa Lee (Hanyang University, Korea) and Sumi Helal (University of Florida, USA)

### [5D-3] Hierarchical Brokering with Feedback State Observation in Mobile Device-Centric Clouds

Chao-Lieh Chen and Chun-Ting Chen (National Kaohsiung First University of Science and Technology, Taiwan)

**July 8, 2015 (Wed)**

**15:00~16:20**

## Session 6A : Algorithms and Computation Theory

Chair : Dr. Low Tang Jung (Universiti of Teknologi, PETRONAS)

### [6A-1] Optimization of Decision Feedback Equalizer Tap-length Using Genetic Algorithm

Ji-Hong Son, Chan-Ho Hwang, and Ki-Man Kim (Korea Maritime and Ocean University, Korea), Seung-Yong Chun, Sang-Kook Lee, and Woo-Sik Kim (Agency for Defense Development, Korea)

### [6A-2] Performance Comparison of Thermal Aware Job Scheduling Based on Multi Priorities on Computational Grid

Ahmed Abba Haruna, Low T. Jung and Nordin Zakaria, (High Performance Computing Service Center, Universiti Teknologi PETRONAS, Malaysia),

Jun Okitsu (Hitach Asis (M), Malaysia)

### [6A-3] A Mobile Health Network Disaster Management System

Sasan Adibi (Deakin University, Australia)

### [6A-4] Analytical Modelling of the A-ANCH Clustering Algorithm for WSNs

Morteza M. Zanjireh and Hadi Larijani (Glasgow Caledonian University, United Kingdom)

## Session 6B: Network Protocol

Chair : Prof. Ki-Hyung Kim (Ajou Univ.)

### [6B-1] A Novel Channel Estimation Scheme for IEEE 802.11p in VANET

Yongzhe Ren, Dong Chan Park and Suk Chan Kim (Pusan National University, Korea)

### [6B-2] A New VNE Method for More Responsive Networking in Many-to-Many Groups

Marat Zhanikeev (Kyushu Institute of Technology, Japan)

### [6B-3] Effectiveness of a Service-oriented Router in Future Content Delivery Networks

Janaka Wijekoon, Erwin Harahap, Kenichi Takagiwa, Rajitha Tennekoon and Hiroaki Nishi (Keio University, Japan)

### [6B-4] Distributed Traffic Simulation Using DDS-communication Based HLA for V2X

Yunjung Park and Dugki Min (Konkuk University, Korea)

## Session 6C : QoE and Network

Chair : Prof. Hsu-Feng Hsiao (National Chiao Tung Univ.)

### [6C-1] Comparison of VoIP-QoE From Skype, LINE, Tango and Viber Over 3G Networks in Thailand

Pongpisit Wuttidittachotti, Worawat Akapan (King Mongkut's University of Technology North Bangkok, Thailand) and Therdpong Daengsi (JADS Comm Ltd., Thailand)

### [6C-2] QoE of Social Network Applications: A Study of VoIP Quality From Skype VS LINE Over 3G and 4G

Pongpisit Wuttidittachotti (King Mongkut's University of Technology North Bangkok, Thailand) and Therdpong Daengsi (JADS Comm Ltd., Thailand)

### [6C-3] Switching Point Between Full-duplex and Half-duplex in Cluster-Based Multicast Relaying

Yunsung Choi and Dongwoo Kim (Hanyang University, Korea)

### [6C-4] Preserving Biosensor Users' Anonymity Over Wireless Cellular Network

Seungsoo Baek, Seung-Hyun Seo and Seungjoo Kim (Korea University, Korea)

## Session 6D : System & Algorithm

Chair : Dr. Marcin Kowalczyk (Warsaw Univ. of Technology)

### [6D-1] A Secure OTP Algorithm Using a Smartphone Application

Hoyul Choi, Hyunsoo Kwon (Chung-Ang University, Korea) and Junbeom Hur (Korea University, Korea)

## Technical Sessions

### [6D-2] SMAT: Simulator Monitoring and Analysis Tool

Cheol-Woong Lee, Kwangsoo Kim, Byeong-hee Roh (Ajou University, Korea); Bongsoo Roh and Jeung Won Choi (Agency for Defense Development, Korea)

### [6D-3] Throughput Improvement Under Rayleigh Fading Channels in V2X Communication

Sungwon Hong and Dong Seog Han (Kyungpook National University, Korea)

### [6D-4] Sentiment Dispersion of Individual Investors in Stock Market

Zhenhao Zheng, Yang Yang and Eric W. K. See-To (Hong Kong Polytechnic University, Hong Kong)

## July 8, 2015 (Wed)

16:40 – 18:00

### Session 7A : Wireless and Mobile Network

Chair : Prof. Ganguk Hwang (KAIST)

#### [7A-1] Enhanced Fuzzy-based Handover Decision System Design for Wireless Mobile Networks

Thanachai Thumthawatworn, Piyakul Tillapart and Pratiit Santiprabhob (Assumption University, Thailand)

#### [7A-2] Delay-Based End-to-End Congestion Control for Wireless Sensor Networks

Isabel Montes, Nestor Tiglaio, Roel Ocampo, and Cedric Festin (University of the Philippines Diliman, Philippines)

#### [7A-3] Performance Comparison of Learning Techniques for Intelligent Channel Assignment in Cognitive Wireless Sensor Networks

Chayaphon Tanwongvarl and Soamsiri Chantaraskul (King Mongkut's University of Technology, Thailand)

#### [7A-4] Effective CQI Feedback Mechanism for Adaptive Multicast IPTV in Wireless Cellular Networks

Mingfu Li and Cheng-Han Lee (Chang Gung University, Taiwan)

### Session 7B : Wireless and Mobile Network

Chair : Prof. Eisuke Kudoh (Tohoku Institute of Technology)

#### [7B-1] An Enhanced Technique for Indoor Navigation System Based on WIFI-RSSI

Kittipong Kasantikul, XIU Chundi, YANG Dongkai, YANG Meng (Beihang University, China)

#### [7B-2] Lower-Overhead Coherent CoMP Scheme in Future Cellular Networks

Hyeon Su Kang and Duk Kyung Kim (Inha University, Korea)

#### [7B-3] Outage-aware Cell Association in Heterogeneous Cellular Networks

Gongchao Su, Lemin Li (University of Electronic Science and Technology of China), Bin Chen, Xiaohui Lin, and Hui Wang (Shenzhen University, China)

#### [7B-4] A Network-based Host Identifier Locator Separating Protocol in Software-Defined Networks

Chan-Haeng Lee, Seong-Mun Kim and Sung-Gi Min (Korea University, Korea) and Youn-Hee Han (Korea University of Technology and Education, Korea)

### Session 7C : Network Protocol

Chair : Prof. Jenq-Shiou Leu (National Taiwan Univ. of Science and Technology)

#### [7C-1] Scheduling over Dissimilar Paths Using CMT-SCTP

Imtiaz A. Halepoto, Francis C.M. Lau and Zhixiong Niu (The University of Hong Kong, Hong Kong)

#### [7C-2] 6LoWPAN Adaptation Protocol for IPv6 Packet Transmission Over NFC Device

Junhwan Park, Sungwon Lee, Safdar H. Bouk, Dongkyun Kim (Kyungpook National University, Korea) and YongGeun Hong (ETRI, Korea)

#### [7C-3] Reduction of Pilot Overhead for Channel Estimation in OFDM Systems Using the Regularized Least-Squares Method

Kuo-Guan Wu, Min-Kuan C. Chang and Ting-Chen Chen (National Chung Hsing University, Taiwan)

#### [7C-4] Improving the Efficiency of Presence Service in IMS by JSON

Kun-Che Hsu and Jenq-Shiou Leu (National Taiwan University of Science and Technology, Taiwan)

### Session 7D : Network Performance Analysis

Chair : Prof. Wei-Lun Lin (Feng Chia Univ.)

#### [7D-1] LCE In-Network Caching on Vehicular Networks for Content Distribution in Urban Environments

Haiyan Tian (Kobe University, Japan), Yusuke Otsuka (Nagoya Institute of Technology, Japan); Masami Mohri (Gifu University, Japan). Yoshiaki Shiraishi and Masakatu Morii (Kobe University, Japan)

#### [7D-2] Mathematical Characteristics Analysis of Uplink Interference Region in D2D Communications Underlying Cellular Networks

Xujie Li ((Hohai University, Fudan University, South-Central University for Nationalities, China), Wenna Zhang and Honglang Zhang (Hohai University, China) and Wenfeng Li (Nanjing University, China)

#### [7D-3] Analysis of Channel Interference on the Parallel-Structured MIMO-UWB Transceiver

Su-Nam Kim (LG electronics, Korea), Sunwoong Choi and Ki-Doo Kim (Kookmin University, Korea)

#### [7D-4] Performance Evaluation of Minimum-Bandwidth Direct-Sequence Code Division Multiple Access in Multipath Fading

Wei-Lun Lin (Feng Chia University, Taiwan)

## July 9, 2015 (Thu)

09:20 – 10:20

### Session 8A : Wireless and Mobile Network

Chair : Prof. Eui-Nam Huh (Kyung Hee Univ.)

#### [8A-1] Understanding Users' Continued Usage of IP-based Personal Communication Applications

*Sunisa Sathapornvajana and Borworn Papasratorn (King Mongkut's University of Technology Thonburi, Thailand)*

### **[8A-2] Cell Search for 3GPP LTE System Using Interference Cancellation**

*Youngkwon Ryu (Ericsson-LG, Korea) and Jeong Gon Kim (Korea Polytechnic University, Korea)*

### **[8A-3] A Provisioning Scheme for Guaranteeing Recovery Time in WDM Mesh Networks**

*Kiwon Hong, Yeunwoong Kyung, Tri Nguyen, Sungho Park and Jinwoo Park (Korea University, Korea)*

### **[8A-4] Sum-MSE Minimization for MIMO Interference Channels Under CSI Mismatch**

*Conggai Li (Shanghai Jiao Tong University, China), Feng Liu (Shanghai Maritime University, China), Chen He, Lingge Jiang (Shanghai Jiao Tong University, China)*

## **Session 8B : Security**

*Chair : Prof. Junbeom Hur (Korea Univ.)*

### **[8B-1] Assessing the Feasibility of Fully Homomorphic Encryption for Smart Grid AMI Networks**

*Samet Tonyali (Southern Illinois University Carbondale, USA); Nico Saputro and Kemal Akkaya (Florida International University, USA)*

### **[8B-2] Perpetrate Network Attacks From Mobile Devices**

*Gianluca Papaleo, Enrico Cambiaso, Paolo Farina and Maurizio Aiello (National Research Council, CNR-IEIT, Italy)*

### **[8B-3] StopBankun: Countermeasure of App Replacement Attack on Android**

*Dongwoo Kim and Chankyu Park and Jaecheol Ryou (Chungnam National University, Korea)*

### **[8B-4] A Cooperative Attack Detection Scheme for Common Control Channel Security in Cognitive Radio Networks**

*Yongxu Zou and Sang-jo Yoo (Inha University, Korea)*

## **Session 8C : Wireless and Mobile Network**

*Chair : Prof. Yuto Lim (JAIST)*

### **[8C-1] A QoS Data Collection Scheme for Wireless Sensor Networks**

*Wen-Hwa Liao and Ssu-Chi Kuai (Tatung University, Taiwan)*

### **[8C-2] An Efficient Load Balance Data Collection Scheme in Wireless Sensor Networks**

*Wen-Hwa Liao, Yi-An Yen and Ssu-Chi Kuai (Tatung University, Taiwan)*

### **[8C-3] Mobility Robustness Optimization in Wireless Mobile Networks**

*Bakary Fatty and Po-Chiang Lin (Yuan Ze University, Taiwan)*

### **[8C-4] Sequential Transmissions for Performance Improvement of Sub-1 GHz WLANs**

*Xiaoying Lei (Yangzhou University, China), Min Jae Shin, Seung Hyong Rhee (Kwangwoon University)*

## **July 9, 2015 (Thu)**

**10:30~12:00**

## **Session 9A : Network Protocol**

*Chair : Dr. Yoji Yamato (NTT Corporation)*

### **[9A-1] Transmit Power Control Exploiting Capture Effect for WLANs**

*Szu-Lin Su, Yuan-Chun Tsai and Hsieh-Cheng Liao (National Cheng Kung University, Taiwan)*

### **[9A-2] Cross-layer Modeling and Analysis on Delayed ACK in IEEE 802.11**

*Woohee Lee and Hwangnam Kim (Korea University, Korea)*

### **[9A-3] Stability Analysis of Multi-Channel Cognitive Radio Networks Based on Decoupling Approach**

*Jaedeok Kim and Ganguk Hwang (KAIST, Korea)*

### **[9A-4] Business Protocol Discovery from Log Files using a TF-IDF-based Technique**

*Abdelkader Moudjari, Salim Chikhi and Amer Draa (Mentouri University, Constantine, Algeria)*

### **[9A-5] Performance Analysis of Hybrid ALOHA/CDMA Anti-collision Scheme for RFID Systems Over Fading Channels**

*Chuyen T. Nguyen (Hanoi University of Science and Technology, Vietnam); Truong Cong Thang and Anh T. Pham (The University of Aizu, Japan)*

### **[9A-6] Optimal Rate Splitting in the Two-user Symmetric Gaussian Interference Channel,**

*Dae Kyu Shin and Wan Choi (KAIST, Korea)*

## **Session 9B : Wireless and Mobile Network**

*Chair : Prof. Shih-Chang Huang (National Formosa Univ.)*

### **[9B-1] A Virtual-Grid Farmland Data-Gathering Locations Decision Algorithm for the Mobile Sink in Wireless Sensor Network**

*Shih-Chang Huang (National Formosa University, Taiwan)*

### **[9B-2] Reliable Continuous Object Tracking with Cost Effectiveness in Wireless Sensor Networks**

*Seungwoo Hong, Ho-yong Ryu (ETRI, Korea), Soochang Park (Institut Mines-Télécom, Télécom SudParis, France) and Sang-Ha Kim (Chungnam National University, Korea)*

### **[9B-3] Mobility Support for Proxy Mobile IPv6 in TRILL-based Mobile Networks**

*Moneeb Gohar (Yeungnam University, Korea), Sang-Il Choi and Seok-Joo Koh (Kyungpook National University, Korea)*

### **[9B-4] UE-specific Interference-Aware Open-loop Power Control in 3GPP LTE-A Uplink HetNet**

*Woon Kim, Zeeshan Kaleem and KyungHi Chang (Inha University, Korea)*

### **[9B-5] Uncoordinated Rate Division Multiple Access with Prime Mod 60 Algorithm**

*Anish Prasad Shrestha1 and Kyung Sup Kwak (Inha University, Korea)*

### Session 9C : Mobile Network

Chair : Prof. Po-Chiang Lin (Yuan Ze Univ.)

#### [9C-1] An Android Cluster System Capable of Dynamic Node Reconfiguration

Yuki Sawada, Yusuke Arai, Kanemitsu Ootsu, Takashi Yokota and Takeshi Ohkawa (Utsunomiya University, Japan)

#### [9C-2] A Mobility-Aware Approach for Maintaining Data Consistency in Unstructured Mobile P2P Systems

Chuan-Chi Lai and Chuan-Ming Liu (National Taipei University of Technology, Taiwan)

#### [9C-3] Spring-based Resource Management for End-to-End Services in Next-generation Networks

Yang-Hui Chang, Tein Yaw David Chung and Yung-Mu Chen (Yuan Ze University, Taiwan)

#### [9C-4] Partial Multipath Routing for Mobile Ad-hoc Networks

Gan-Gun Lee and Hyung-Kun Park (KOREATECH, Korea)

#### [9C-5] Multipath TCP Performance Improvement in Mobile Network

Jinseong Lee and Jaiyong Lee (Yonsei University, Korea)

#### [9C-6] A Cross-layer Routing Algorithm Based on New Channel Bandwidth Estimation Method

Linqi Li, Xinyu Yang and Peng Zhao (Xian Jiaotong University, China)

### July 9, 2015 (Thu)

13:30~15:30

### Session 10A : Wireless and Mobile Network

Chair : Prof. Hung-Chin Jang (National Chengchi Univ.)

#### [10A-1] Radio Resource Allocation for D2D-assisted Full-duplex Cellular Networks

Jing-Wei Kao, Yuan-Yao Shih and Ai-Chun Pang (National Taiwan University, Taiwan), Yung-Chun Lin (ITRI, Taiwan)

#### [10A-2] Teleoperation of Mining Equipment Using Optical Wireless Communications

Alberto Barroso, Greg Baiden, and Julia Johnson (Laurentian University, Canada)

#### [10A-3] Optimization-based Visual Sensor Deployment Algorithm in PTZ Wireless Visual Sensor Networks

Hong-Hsu Yen (Shih-Hsin University, Taiwan)

#### [10A-4] Interference Management using Frequency Reuse and CoMP for LTE-Advanced Networks

Hung-Chin Jang and Wei-Di Wend (National Chengchi University, Taiwan)

#### [10A-5] Utility-Maximizing WiFi Offloading From a Perspective of Mobile Network Operators

Insook Kim, Dongwoo Kim (Hanyang University, Korea)

#### [10A-6] Multiple Use of the Information Captured by Cost-effective Sensor Networks in University Libraries

Kimio Oguchi and Takaaki Tomono (Seikei University, Japan) and Dai Hanawa (Nagoya City University, Japan)

### Session 10B : Wireless and Mobile Network

Chair : Prof. Sang-Jo Yoo (Inha Univ.)

#### [10B-1] Common Channel Initialization Protocol in Cognitive Radio Ad-hoc Networks

Sang-jo Yoo, Ju-Tae Jang (Inha University, Korea), Myunghwan Seo and Hyungweon Cho (Samsung Thales Co., LTD., Korea)

#### [10B-2] SAR: A Self-Adaptive and Reliable Protocol for Wireless Multimedia Sensor Networks

Xuan-Thuan Nguyen, Hong-Thu Nguyen and Pham Cong-Kha (The University of Electro-Communications, Japan)

#### [10B-3] A Multi-Hop Relay Based Frequency Synchronization for D2D Communication in 3GPP LTE System

Kyunghoon Lee, Dong Hun Lee, Won Jun Hwang and Hyung-Jin Choi (SungKyunKwan University, Korea)

#### [10B-4] Multi-dimensional Clustering and Network Monitoring System for Aeronautical Ad Hoc Networks

Soumi Ghosh and Amiya Nayak (University of Ottawa, Canada)

#### [10B-5] A Channel Allocation Method for IEEE802.19.1 Coexistence Service to Mitigate Interferences Among Heterogeneous Wireless Networks

Hyunduk Kang, Kwihoon Kim, and Jintae Oh (ETRI, Korea)

#### [10B-6] Recursive Beamforming Design for Wireless Information Transfer in Coordinated Multi-Point Systems with Statistical CSI

Yao-Yuan Chang and Wan-Jen Huang (National Sun Yat-Sen University, Taiwan)

### Session 10C : Network

Chair : Prof. Chun-Chao Yeh (National Taiwan Ocean Univ.)

#### [10C-1] 4G LTE Architectural and Functional Models of Video Streaming and VoLTE Services

Manuela Vaser ("Guglielmo Marconi" University, Italy) and Sonia Forconi (University of Rome "Tor Vergata", Italy)

#### [10C-2] Barrier Coverage in Wireless Visual Sensor Networks with Importance of Image Consideration

Chien-Fu Cheng and Kuo-Tang Tsai (Tamkang University, Taiwan)

#### [10C-3] An Extension to IEEE 802.11 Power Save Mode for NS-3

Prawit Chumchu (Kasetsart University Siracha Campus, Thailand)

#### [10C-4] How Do Forwarding Schemes Influence the Multi-hop Connectivity in Cognitive Radio Ad-hoc Networks ?

Dung Le The and Beongku An (Hongik University, Korea)

#### [10C-5] A Load Distribution Scheme Over Multiple Controllers for Scalable SDN

Yeonwoong Kyung, Kiwon Hong, Tri Nguyen, Sungho Park and Jinwoo Park (Korea University, Korea)

#### [10C-6] A Heuristic Resource Allocation Method for Underwater Uplink OFDMA System

Ho-Shin Cho and Jinyong Cheon (Kyungpook National University, Korea)

## Session 10D : Cloud

Chair : Prof. Kuochen Wang (National Chiao Tung Univ.)

### [10D-1] Cloud Migration: Planning Guidelines and Execution Framework

Shuchih Ernest Chang, Kuo-Ming Chiu and Yu-Ching Chiao (National Chung Hsing University, Taiwan)

### [10D-2] Application-aware Routing Scheme for SDN-based Cloud Datacenters

Li-Chia Cheng, Kuochen Wang and Yi-Huai Hsu (National Chiao Tung University, Taiwan)

### [10D-3] A PCA-BPN Approach for Estimating Simulation Workload in Cloud Manufacturing

Toly Chen (Feng Chia University, Taiwan)

### [10D-4] QoE Metrics Aggregation for Hierarchical Service Level Agreement in Cross-Layered SLA Architecture

Young-Rok Shin and Eui-Nam Huh (Kyung Hee University, Korea)

### [10D-5] Automatic Verification for Plural Virtual Machines Patches

Yoji Yamato (NTT Corporation, Japan)

### [10D-6] Framework of N-Screen Services Based on PVR-Micro Data Center and PMIPv6 in Cloud Computing

Aymen Abdullah Alsaffar, Mohammad Aazam and Eui-Nam Huh (Kyung Hee University, Korea)

## July 9, 2015 (Thu)

16:00~18:20

## Session 11A : Real-Time Systems

Chair : Prof. Jenq-Shiou Leu (National Taiwan Univ. of Science and Technology)

### [11A-1] Android Based Energy Aware Real-time Location Tracking System

Yunus Ozen, Oguzhan Ozdemir and Necla Bandirmali (Yalova University, Turkey)

### [11A-2] Incomplete Feedback Data Recovery Scheme with Kalman Filter for Real-time Cyber-Physical Systems

Naushin Nower, Yasuo Tan, Yuto Lim (JAIST, Japan)

### [11A-3] Compare and Measure Selfishness Detection (CMSD) Mechanism: Promptness and Accuracy

Normalia Samian, Zuriati Ahmad Zukarnain, Azizol Abdullah and Zurina Hanapi (Universiti Putra Malaysia, Malaysia)

### [11A-4] Low Cost Real-Time System Monitoring Using Raspberry Pi

Huu-Quoc Nguyen, Ton Thi Kim Loan, Bui Dinh Mao and Eui-Nam Huh (Kyung Hee University, Korea)

## Session 11B : Security

Chair : Prof. Sasan Adibi (Deakin Univ.)

### [11B-1] LADP: A Lightweight Authentication and Delegation Protocol for RFID Tags

Gaochao Li (Chinese Academy of Sciences, National Computer Network and Information Security Management Center, China), Xiaolin Xu (University of Chinese Academy of Sciences, China), Qingshan Li (Peking University, China)

### [11B-2] Novel Location Privacy Protection Strategies for Location-based Services

Pierre Pascal Lindenberg, Bo-Chao Cheng and Yu-Ling Hsueh (National Chung Cheng University, Taiwan)

### [11B-3] An ECDH-based Light-weight Mutual Authentication Scheme on Local SIP

Jinhee Seo, Jihong Park, Young Jun Kim, Dongyeop Hwang, Ki-Hyung Kim and Kangseok Kim (Ajou University, Korea)

## Session 11C : System

Chair : Prof. Chun-Chao Yeh (National Taiwan Ocean Univ.)

### [11C-1] Factors Influencing Continuance Intention to Use PSTN: A Pilot Study an Extended Expectation Confirmation Model for Legacy Technology

Chaidan Mingmuang, Vithida Chongsuphaisiddhi, and Borworn Papasratorn (King Mongkut's University of Technology Thonburi, Thailand)

### [11C-2] Mint: A Cost-effective Network-address Translation Architecture with Multiple Inexpensive NAT Servers

Chun-Chao Yeh and Chun-Wei Chiu (National Taiwan Ocean University, Taiwan)

### [11C-3] Poisson Model and Bradley Terry Model for Predicting Multiplayer Online Battle Games

Dae-Ki Kang (Dongseo University, Korea) and Myong-Jong Kim (Pusan National University, Korea)

### [11C-4] Variable Feedback Rate Design for Tomlinson-Harashima Precoded MISO Broadcast Channels with Random Vector Quantization

Fan-Shuo Tseng and Yen-Chin Wang (National Sun Yat-sen University, Taiwan), Chao-Yuan Hsu (National Chiao Tung University, Taiwan)

## Session 11D : Future Communication

Chair : Prof. Anh T. Pham (The Univ. of Aizu)

### [11D-1] VLC Link with LEDs Used as Both Transmitters and Photo-Detectors

M. Kowalczyk and J. Siuzdak (Warsaw University of Technology, Poland)

### [11D-2] Applicability of Color-independent Visual-MIMO for V2X Communication

Jai-Eun Kim, Ji-Won Kim, Youngil Park and Ki-Doo Kim (Kookmin University, Korea)

### [11D-3] Efficient Point Enumeration for Sphere Decoding in Digital Communications

Junil Ahn, Jaewon Chang and Chiho Lee (Agency for Defense Development, Korea)

### [11D-4] An Efficient Mechanism for Fast Content Delivery in Wireless Networks,

Minsub Lee, Nazib Abdun Nasir, Kamrul Hasan, Seong-Ho Jeong  
(Hankuk University of Foreign Studies, Korea)

**July 10, 2015 (Fri)**  
**09:20~11:20**

## **Session 12A : Security**

Chair : Prof. Eui-Nam Huh (Kyung Hee Univ.)

### **[12A-1] A Threshold-based Key Generation Approach for Ciphertext-Policy Attribute-Based Encryption**

Win-Bin Huang (Peking University, China), Wei-Tsung Su and Chiang-Sheng Liang (Aletheia University, Taiwan)

### **[12A-2] Secure Transmission Using Decode-and-Forward Protocol for Underlay Cognitive Radio Networks**

Nhu Tri Do and Beongku An (Hongik University, Korea)

### **[12A-3] Secure Your Northbound SDN API**

Yustus Oktian, Sang-Gon Lee, HoonJae Lee and JunHuy Lam (Dongseo University, Korea)

### **[12A-4] Securing Distributed SDN with IBC**

Jun-Huy Lam, Sang-Gon Lee, Hoon-Jae Lee and Yustus Eko Oktian (Dongseo University, Korea)

## **Session 12B : Multimedia Communication and System**

Chair : Prof. Tuan Le (Kookmin Univ.)

### **[12B-1] Using Timing Advance to Support Proximity Discovery in Network-Assisted D2D Communication**

Thanh-Hai Ngo and Younghun Kim (Soongsil University, Korea)

### **[12B-2] On the Performance of Multiuser Beam Selection At Base Station and User Arrays in mm-Wave Systems**

Jinho Choi (Gwangju Institute of Science and Technology, Korea)

### **[12B-3] Height Power Estimation with Radio Environment Database in Urban Area**

Koji Ichikawa, Hao Wang, Koya Sato and Takeo Fujii (The University of Electro-Communications, Japan)

### **[12B-4] Enhancing Fast Handover by Utilizing PMIPv6 and TBU Scheme**

S. Prashanthi and S. Kayalvizhi (Easwari Engineering College, India)

## **Session 12C : Communication**

Chair : Prof. Sunwoong Choi (Kookmin Univ.)

### **[12C-1] Synchronization for Faster Than Nyquist Signalling Transmission**

Pansoo Kim, Deock-Gil Oh (ETRI, Korea)

### **[12C-2] Evaluation of a Delay-Tolerant ICN Architecture**

Hasnain Lakhani, Timothy McCarthy, Minyoung Kim, David Wilkins (SRI International, USA) and Samuel Wood (University of California Santa Cruz, USA)

### **[12C-3] Design and Implementation of High Accurate Synchronization Between Gyroscope Sensor and Image Sensor**

Jum-Han Bae and Jong-Tae kim (Sungkyunkwan University, Korea)

### **[12C-4] Performance Evaluation for an Opportunistic Spectrum Access Mechanism with Impatience Behavior and Imperfect Sensing Results**

Shunfu Jin and Shiyang Ge (Yanshan University, China) and Wuyi Yue (Konan University, Japan)

### **[12C-5] The Effect of Channel Estimation Errors on the Energy Efficiency of Downlink Massive MIMO Systems**

Parfait I. Tebe and Yujun Kuang (University of Electronic Science and Technology of China, China), Kwasi Adu-Boahen Opare (MobileLink LAB, University of Electronic Science and Technology, China) and Jerry J. Kponyo (Kwame Nkrumah University of Science and Technology, University of Electronic Science and Technology of China, Ghana)

## **Session 12D : Cloud/Big Data/Mobile Systems**

Chair : Prof. Kimio Oguchi (Seikei Univ.)

### **[12D-1] Is Cloud Gaming the Future of the Gaming Industry?**

Bryce Mariano (Santa Clara University, USA) and Simon G. M. Koo (Jesuit Liberal Arts College, Hong Kong)

### **[12D-2] Mobile Recommendation System for Cosmeceutical Products**

Ching-Sheng Hsu (Ming Chuan University, Taiwan) and Shu-Fen Tu (Chinese Culture University, Taiwan)

### **[12D-3] Wellness Contents Recommendation Based on Human Emotional and Health Status Using EM**

Yuchae Jung and Yong Ik Yoon (Sookmyung Women's University, Korea)

### **[12D-4] Multiple Regression Models for a Big Data Empowered SON Framework**

Yoonsu Shin, Chan-Byoung Chae, and Songkuk Kim (Yonsei University, Korea)

## Venue

### Hotel Okura Sapporo

**Web Site :** <http://www.sapporo-hotelokura.co.jp>

A city hotel conveniently located in central Sapporo, quite near such tourist attractions as Odori Park and the Clock Tower. Enjoy a comfortable stay and heartfelt hospitality, assured of the meticulous attention to detail one would expect in a compact hotel of 147 rooms. Take a refreshing break in the hotel's tea ceremony room, beauty salon, or hair salon, and then savor the harvest of the northern seas prepared in local fashion at the hotel's restaurants.

#### Hotel address :

Nishi 5-Chome, Minami 1-jo, Chuo-ku, Sapporo, Hokkaido 060-0061, Japan

#### General Information

**Tel :** 'International Access Code ' +81-11-221-2333

**Fax :** 'International Access Code ' +81-11-221-0819

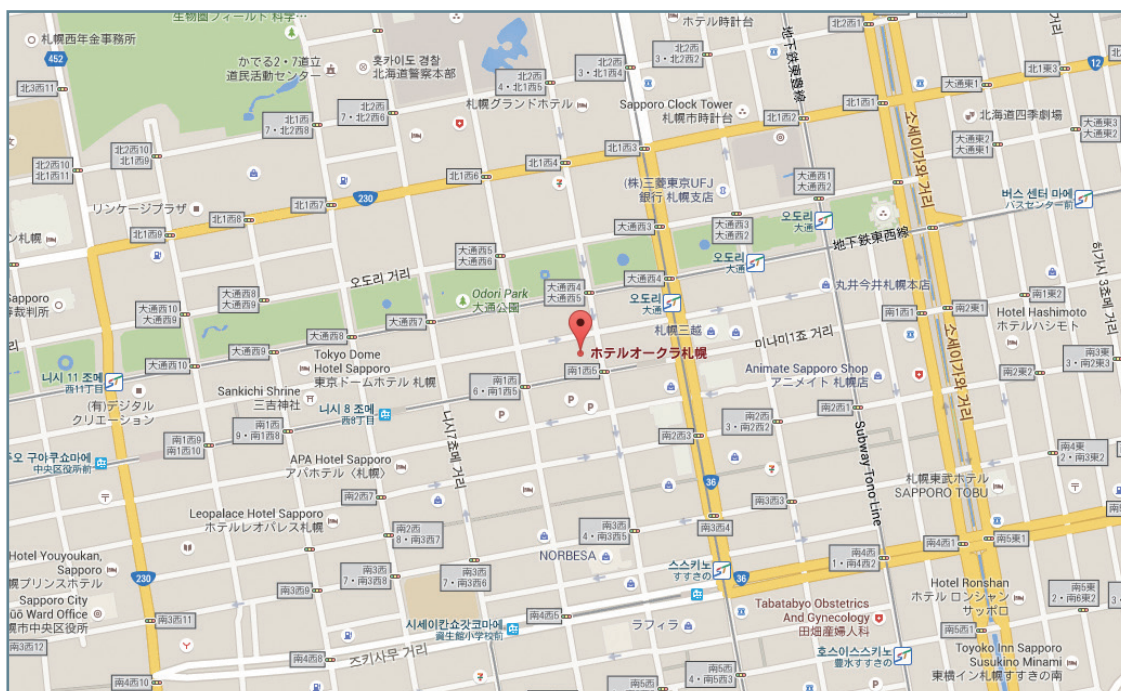
**Website :** <http://www.sapporo-hotelokura.co.jp>

#### Reservations

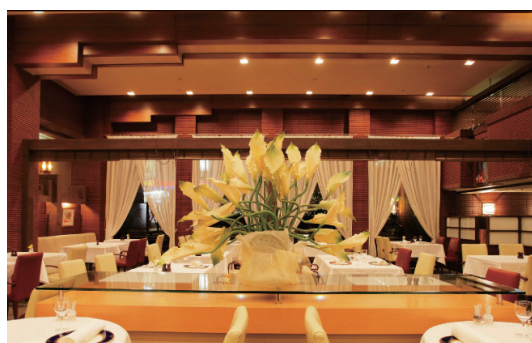
**Tel :** 'International Access Code ' +81-11-221-2333

**Fax :** 'International Access Code ' +81-11-221-0819

**Email :** [r-rsv@sapporo.hotelokura.co.jp](mailto:r-rsv@sapporo.hotelokura.co.jp)

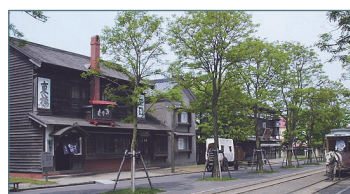


## Venue



## Travel Info

**The Historic Village of Hokkaido** is an open air museum in the suburbs of Sapporo. It exhibits about 60 typical buildings from all over Hokkaido, dating from the Meiji and Taisho Periods (1868 to 1926), the era when Hokkaido's development was carried out on a large scale.



**Moerenuma Park** is located in the northeastern part of Sapporo and was constructed on what was once a waste treatment plant with 2.7 million tons worth of waste prior to its closing. This city park is approximately 1.89km in area. It began construction in 1982 and was completed in July 2005. The base design was done by Isamu Noguchi, a Japanese-American artist.

**Shiroi Koibito Park** is a theme park by Ishiya, a local chocolate company. The company's flagship product is the Shiroi Koibito cookie, which consists of two thin butter cookies and a layer of white chocolate in between. It is one of the most famous souvenirs from Hokkaido.









# ICUFN 2015

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