

The 18th International Conference on Advanced Communications Technology

"Information and Communications for Safe and Secure Life!"

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Phoenix Par, PyeongCHang
Korea(South)
Jan. 31 - Feb. 3



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THE IEEE 18th INTERNATIONAL CONFERENCE ON ADVANCED COMMUNICATIONS TECHNOLOGY

"Information and Communications for Safe and Secure Life!"



Phoenix Park, PyeongChang,
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Jan. 31 ~ Feb. 3, 2016

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Message from the ICACT2016 General Chair

On behalf of all the ICACT2016 international conference committees, we would like to welcome all of you to ICACT2016. It is a great pleasure for us to host the 18th IEEE International Conference on Advanced Communications Technology (ICACTION) at the Phoenix Park, PyeongChang, Korea.

The ICACTION is annual international conference in the communications field, where all experts from home and abroad come together to present their work, and share new ideas and visions for achieving the future telecommunications age.



ICACTION2015, was successfully held with the selected 160 papers among 537 submissions, thus the acceptance rate was 29%. In which there were 114 oral session papers and 46 poster session papers. The 114 oral session papers presented by the 72 foreign and 46 domestic 1st authors from the 21 participant countries. All the presented papers will be registered in IEEE Xplore Digital Library, and indexed by SCOPUS, EI Compendex, INSPEC, and Conference Proceedings Citation Index (CPCI), etc.

The special theme of ICACTION2016 is focussed on the "Information and Communications for Safe and Secure Life!". We expect that the ICACTION2016 will play a pivotal role in order to make great contribution to make our world smarter and prosperous. We are very certain that ICACTION2016 will be great significance to us all, and we hope you will enjoy both the technical excellence during the sessions and the recreational content of the beautiful Pyeongchang 2018 Winter Olympics place in Korea(south). We are looking forward to seeing you at upcoming ICACTION conference.

Prof. Dae-Young Kim, PhD
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Message from the Organization and Operation Committee Chair

With technically co-sponsored by IEEE ComSoc(Communications Society), IEEE ComSoc CISTC(Communications & Information Security Technical Community), and IEEE ComSoc ONTC(Optical Networking Technical Community), the ICACT(International Conference on Advanced Communications Technology) Conference has been providing an open forum for scholars, researchers, and engineers to the extensive exchange of information on newly emerging technologies, standards, services, and applications in the area of the advanced communications technology.



The conference official language is English. All the presented papers have been published in the Conference Proceedings, and posted on the ICACT Website and IEEE Xplore Digital Library since 2004. The honorable ICACT Out-Standing Paper Award list has been posted on the IEEE Xplore Digital Library also, and all the Out-Standing papers are subjected to the invited paper of the "ICACT Transactions on the Advanced Communications Technology" Journal issued by GiRI(Global IT Research Institute) accredited by Korea Government(Reg. No. 220-82-07506) hosting the ICACT Conference .

All the papers will be indexed and abstracted by several global academic societies such as SCOPUS, INSPEC, Engineering Index (EI), Conference Proceedings Citation Index (CPCI), etc.

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■ Technical Program Committee (Active Reviewers - Continue)

Prof. Sunghong Wie, The Cyber University of Korea, Korea
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 Prof. Wei-Lung Mao, National Yunlin University of Science and Technol, Taiwan
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■ Local Arrangement and Registration Committee

Dr. Myung-Won Song, (LAC Chair), National Information Society Agency, Korea
 Dr. Hyung-soon Kim, National Information Society Agency, Korea
 Mr. Yoon-seok Ko, National Information Society Agency, Korea
 Prof. Kim Hyun-Ah, PhD, Kyonggi University, Korea
 Ms. Young-Ae Park, National Information Society Agency, Korea
 Mr. Ahn Hyun, Kyonggi University, Korea
 Ms. Min-Jeong Shin, Macquarie University, Korea
 Mr. Joo Hyung-Joo, Kyonggi University, Korea
 Mr. Hong Seok-Woo, Kyonggi University, Korea
 Mr. Seo Yoon-Deuk, Kyonggi University, Korea
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 Mr. Juwon Park, Kyunghee University, Korea
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 Ms. Battsetseg Alyeksandr, Kyonggi University, Korea
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 Mr. Minhyuck Jin, Kyonggi University, Korea
 Ms. Yuri Roh, Kyonggi University, Korea
 Mr. Ji-Hoon Cho, Kyunghee University, Korea
 Ms. Joo-Hee Yoo, Kyunghee University, Korea
 Ms. Dami Lee, Cheongju National University of Education, Korea
 Ms. Jinyoung Park, Kyonggi University, Korea
 Mr. Ji-Ho Yoo, Dongkuk University, Korea

The Program of ICACT 2016 (Session Overview)

Day 1 : Jan. 31 (Sunday)

16:00 ~ 18:00	Registration (Phoenix Ballroom Front Floor Desk)	
Time	Session	Topic (Room - Phoenix 1)
16:30 ~ 18:00	T1 Tutorial	Title: What to name? How to route? For secure networking Speaker: Prof. Dae Young KIM, PhD. Chair of ICACT2016 TPC

Day 2 : Feb. 1 (Monday)

09:00 ~ 17:00	Registration (Phoenix Ballroom Front Floor Desk)					
Time	Session	A Ruby	B Emerald	C Diamond 1	D Diamond 2	P Phoenix 1
10:00 ~ 11:30	Session 1	1A Wireless Communication 1	1B Ubiquitous & Sensor Network 1	1C Information & Network Security 1	1D Web Service & Future Web 1	1E Distributed & Cloud Computing 1
	CHair	Prof. Taeho Jo	Prof. Bing-Yuh Lu	Prof. Kwanghoon Pio Kim	Prof. Vitaly Klyuev	Prof. Kuochen Wang
11:30 ~ 13:00	Lunch					
13:00 ~ 14:30	Session 2	2A Wireless Communication 2	2B Ubiquitous & Sensor Network 2	2C Information & Network Security 2	2D Web Service & Future Web 2	2E Distributed & Cloud Computing 2
	Chair	Dr. Ki-Doo Kim	Dr. Beihua Ying	Dr. Zhen Luo	Dr. Ruslan Kirichin	Dr. Vladimir Mochalov
14:30 ~ 15:00	Coffee Break					
15:00 ~ 16:30	Session 3	3A Wireless Communication 3	3B Ubiquitous & Sensor Network 3	3C Information & Network Security 3	3D ITS, LBS, Telematics	3E Distributed & Cloud Computing 3
	Chair	Mr. Biruk Nidaw	Mr. Wangbong Lee	Mr. Hong-Soon Nam	Dr. Ki-Doo Kim	Mr. Kangil Choi
16:30 ~ 17:00	Coffee Break					
17:00 ~ 18:30	Plenary Session & Opening Ceremony (Phoenix ballroom 1, 2, 3) Keynote : Dr. Sangjin Oh, Director General of Ministry of Science, ICT and Future Planning (MSIP), Korea Welcome Address : Prof. Dae-Young Kim, PhD, General Chair Congratulatory address : Prof. Byeong-Gi Lee, ISC Chair Agenda of Plenary : Prof. Byeong-Nam Yoon, OOC Chair					

Day 3 : Feb. 2 (Tuesday)

09:00 ~ 18:00	Registration (Phoenix Ballroom Front Floor Desk)					
Time	Session	A	B	C	D	P
		Ruby	Emerald	Diamond 1	Diamond 2	Phoenix 1
10:00 ~ 11:30	Session 4	4A Wireless Communication 4	4B Future Internet & Optical Network 1	4C Information & Network Security 4	4D Big Data & Search Engine 1	4E Distributed & Cloud Computing 4
	Chair	Dr. Bing Hui	Ms. Ramneek	Dr. Jungju Yoo	Dr. Vladimir Mochalov	Dr. An Wu
11:30 ~ 13:00	Lunch					
13:00 ~ 14:30	Session 5	5A Wireless Communication 5	5B Future Internet & Optical Network 2	5C e-services & WorkFlow	5D Big Data & Search Engine 2	5E Distributed & Cloud Computing 5
	Chair	Prof. Pongsatorn Sedtheetorn	Ms. Ramneek	Dr. Fahim Khan	Mr. Karandeep Singh Brar	Dr. Bing Hui
14:30 ~ 15:00	Coffee Break					
15:00 ~ 16:30	Session 6	6A Mobile Communication 1	6B Future Internet & Optical Network 3	6C Software Platform & Smart Service 1	6D Big Data & Search Engine 3	6E Application & Biometric Security
	Chair	Dr. Gweondo Jo	Mr. Seng-Kyoun Jo	Prof. Kwanghoon Pio Kim	Dr. Hyeongho Lee	Mr. Karandeep Singh Brar

Day 4 : Feb. 3 (Wednesday)

09:00 ~ 10:00	Registration (Phoenix Ballroom Front Floor Desk)					
Time	Session	A	B	C	D	P
		Ruby	Emerald	Diamond 1	Diamond 2	Phoenix 1
10:00 ~ 11:30	Session 7	7A Mobile Communication 2	7B Systems & Software Engineering	7C Software Platform & Smart Service 2	7D Big Data & Search Engine 4	7E Network Management
	Chair	Prof. Pongsatorn Sedtheetorn	Prof. Byeongnam Yoon	Mr. Mazhar Sajjad	Mr. Byoung-Koo Kim	Prof. Taeho Jo
11:30 ~	See you at the next ICACT2017!					

Day 1: Jan. 31 (Sunday)

Tutorial Session	16:30 ~ 18:00	Phoenix Ballroom 1
Topic: What to name? How to route? For secure networking!		
Speaker : Prof. Dae Young KIM, PhD (Chair of ICACT2016 TPC,)		
Speaker's Biography:		
Dae Young KIM obtained his bachelor degree from Seoul National University and his master and Ph. D. degrees from KAIST, in 1975, 1977, and 1983, respectively. He worked with Chungnam National University from 1983 till 2015, and is currently retired and independent. With more than 250 technical papers published, he was also active in research network communities and international standardizations and served as chair of APAN(Asia-Pacific Advanced Network) and ISO/IEC JTC 1/SC 6. His research interest is Future Internet.		
Tutorial Abstract:		
In order to gain insight in the design of a future Internet architecture, the tutorial invites the audience to the classic topic of naming and addressing which is the starting point in any attempts to design a new network architecture. The biblical notions asserted by Saltz in late 70s is revisited and arguments are developed to reduce the number of network elements to be named to the effect of simplifying the task of network design. The tutorial then explores various ways to execute routing in a network thus designed and discusses considerations for secure networking.		

Day 2: Feb. 1 (Monday)

Plenary Session : 17:30 ~ 18:00	Phoenix Ballroom
Keynote Speech : Olympics and ICT	
Speaker: Director Oh Sang-jin (Ministry of Science, ICT and Future Planning (MSIP), Korea) Speaker's Biography: Oh Sang-jin works as Director General of Technology Bureau, PyeongChang Organizing Committee for the 2018 Olympics & Paralympic Winter Games(POCOG). Recently he joined POCOG to prepare ICT S/W, H/W and infrastructure for 2018 winter Olympic Games in Pyeong-Chang in Korea. He has usually worked as a public employee in Korean government for ICT promotion role since 1993. He has built his career and experience in Ministry of Science, ICT and Future Planning, the President's Office, Korea Communications Commission and Ministry of Information and Communications. He studied electrical engineering in Hanyang University in Seoul (89 ~ '93), and received MBA from University of Oregon, USA ('03 ~'05).	
Abstract: Olympics and ICT. Introduce the Olympics and Pyeong-Chang winter Olympic games. Plan for building up ICT infrastructure to support the games and new technologies to apply for the Olympic games. Since approximately 1,500,000 people come here and spectate the games, and more than 3 billion people around world will watch the games on TV sets. Two important conditions for the ICT infrastructure. Number 1 is stability: Olympic systems should be stable and available in any case in game time. There will be no second chance for athletes. Nobody can not ask athletes to go back to the start line because of system malfunctions. It's impossible, so stability is utmost importance. Second one is cost effectiveness: Build up the massive infrastructure with limited resource. About new era, characterized as personalization, sharing and realistic services, mainly based on Giga-bit speed internet and 5G mobile service. Focusing on IoT, autonomous language translation, Big data, Virtual Reality, 3D technology and so on	



Day 2 : February 1 (Monday)

Time 10:00~11:30

Session 1A : Wireless Communication 1		Room:	Ruby
Chair : Prof. Taeho Jo, Inha University, Korea			
1A-01 030	Interference Cancellation Using Joint Beamforming and Power Control Techniques in Cooperative Networks Mongkol Somrobru, Nikorn Sutthisangiam, Chaiyod Pirak <i>King Mongkut's University of Technology North Bangkok, Thailand</i>		
1A-02 031	Research on Carrier Leakage Cancellation Technology of FMCW System Ma Yuehong*, **, Liu Qiusheng**, Zhang Xiaolin* <i>*School of Electronic and Information Engineering, Beihang University, Beijing, China, **Ordnance Engineering College, Shijiazhuang, China</i>		
1A-03 034	Cognitive Radio with Fast Sensing Technique Using Autocorrelation Approach A.Lebda*, E. Gemeay*, S. Khamis*, and M. Khder** <i>*Faculty of Engineering -Tanta University, Tanta- Egypt, **Faculty of Engineering -Arab Academy of Science, Alexandria-Egypt</i>		
1A-04 046	Harmonized Multiuser Transmission Scheme for Cellular Systems Wei Xi, Hua Zhou <i>Fujitsu Research & Development Center Co., LTD., Beijing, China</i>		
1A-05 229	A Performance Analysis of MAC and PHY Layers in IEEE 802.11ac Wireless Network Gul Zameen Khan*, Ruben Gonzalez*, Eun-Chan Park** <i>*Griffith University, Australia, **Dongguk University, South Korea</i>		

Day 2 : February 1 (Monday)

Time 10:00~11:30

Session 1B : Ubiquitous & Sensor Network 1		Room:	Emerald
Chair : Prof. Bing-Yuh Lu, Tunghan University, Taiwan			
1B-01 025	Indoor thermal comfort controls optimized by deducing rules Chih-Chien Hu, Han-Lin Li <i>National Chiao Tung University, Hsinchu, Taiwan, ROC</i>		
1B-02 035	An Expanded Cluster Routing Algorithm based on RSSI for An Efficient Data Transmission Sung-IL Hong, Chi-Ho Lin <i>Semyung University, Jecheon, Chungbuk, Korea</i>		
1B-03 057	GLRM: An Improved Grid-based Load-balanced Routing Method for WSN with Single Controlled Mobile Sink Qi Liu*, Kai Zhang*, Jian Shen*, Zhangjie Fu*, Nigel Linge** <i>*Nanjing University of Information Science and Technology, Nanjing, Jiangsu, China, **The University of Salford, Greater Manchester, UK</i>		
1B-04 068	Analysis of Packet Flooding in Dense MANETs using a Probabilistic Model S. J. Sooriyaarachchi*, W. A. C. Fernando**, C. D. Gamage* <i>*University of Moratuwa, Sri Lanka, **Centre for Vision Speech and Signal Processing (CVSSP), University of Surrey, Guildford</i>		
1B-05 110	An Efficient Detection Method for Unknown Wireless Devices using SDR Receivers Hong-Soon Nam*, Dae-Young Kim**, Jong Won Park** <i>*Electronics and Telecommunications Research Institute, Daejeon, Korea, **Chungnam National University, Daejeon, Korea</i>		

Day 2 : February 1 (Monday)

Time 10:00~11:30

Session 1C : Information & Network Security 1		Room:	Diamond 1
Chair : Prof. Kwanghoon Pio Kim, Kyonggi University, Korea			
1C-01	Introduction to a Network Forensics System for Cyber Incidents Analysis		
041	Yangseo Choi, Joo-Young Lee, Sunoh Choi, Jong-Hyun Kim, Ikkyun Kim <i>ETRI, Daejeon, South Korea</i>		
1C-02	An Authorized Identity Authentication-based Data Access Control Scheme in Cloud		
069	Jian Shen, Dengzhi Liu, Qi Liu, Baowei Wang, Zhangjie Fu <i>Nanjing University of Information Science & Technology, China</i>		
1C-03	A Study on Information Security Attack based Side-Channel Attacks		
078	Young-Jin Kang, Ndibanje Bruce, SuHyun Park, HoonJae Lee <i>Dongseo University, Busan, Rep. of KOREA</i>		
1C-04	A New Network Flow Grouping Method for Preventing Periodic Shrew DDoS Attacks in Cloud Computing		
081	ZengGuang Liu*, XiaoChun Yin**, Hoon Jae LEE *** <i>* IP Platform Dept of MGC, Alcatel-Lucent, QingDao, China **WeiFang University of Science & Technology, ShouGuang, China ***Division of Computer and Engineering of Dongseo University, Korea</i>		
1C-05	Integrated Trusted Protection Technologies for Industrial Control Systems		
075	Jingpei Wang, Jie Liu, Shengming Yang <i>Information Security Research Center, China CEPREI Laboratory, Guangzhou, China</i>		

Day 2 : February 1 (Monday)

Time 10:00~11:30

Session 1D : Web Service & Future Web 1		Room:	Diamond 2
Chair : Prof. Vitaly Klyuev, University of Aizu, Japan			
1D-01	Model Networks for Internet of Things and SDN		
186	Ruslan Kirichek, Andrei Vladko, Maxim Zakharov, Andrey Koucheryav <i>St.Petersburg State University of Telecommunication, Russia</i>		
1D-02	Self-Configuration and Smart Binding Control on IoT Applications		
065	Wen-Kuei Hsieh*, Wen-Hsu Hsieh**, Jiann-Liang Chen**, Chun-Yi Lin** <i>*De Lin Institute of Technology, New Taipei, Taiwan, **National Taiwan University of Science and Technology, Taipei, Taiwan</i>		
1D-03	Retranmission Control Scheme for RDM Protocol for Lightning Control Networks		
086	Min Gyung Kwak*, Jinsuk Baek**, Paul S. Fisher** <i>*Pangyo R&D Center Hanwha Techwin, Korea, **Winston-Salem State University, USA</i>		
1D-04	Decision Support Tool for IoT Service Providers for utilization of multi Clouds		
170	Mohammad Mahdi Kashef, Hyenyoung Yoon, Mehdi Keshavarz, Junseok Hwang <i>Seoul National University</i>		
1D-05	The Home Network Traffic Models Investigation		
171	Ruslan Kirichek, Margarita Golubeva, Vyacheslav Kulik, Andrey Koucheryav <i>St.Petersburg State University of Telecommunication, Russia</i>		

Day 2 : February 1 (Monday)

Time 10:00~11:30

Session 1E : Distributed & Cloud Computing 1		Room:	Phoenix 1
Chair : Prof. Kuochen Wang, National Chiao Tung University, Taiwan			
1E-01 022	Cloud Computing Technology for the Petroleum Application Yi-Wei Ma*, Jiann-Liang Chen** and Yu-Yao Chang** <i>*China Institute of FTZ Supply Chain, Shanghai Maritime University, China, **National Taiwan University of Science and Technology, Taiwan</i>		
1E-02 032	Risk of Privacy Loss Assessment of Cloud Storage Services Chatchawan Kamwan, Twittie Senivongse <i>Chulalongkorn University, Bangkok, Thailand</i>		
1E-03 040	A Fast Consensus Algorithm for Multiple Controllers in Software-Defined Networks Chia-Chen Ho, Kuochen Wang, Yi-Huai Hsu <i>National Chiao Tung University, Hsinchu 300, Taiwan</i>		
1E-04 190	Analysis of Cloud Computing Attacks and Countermeasures Raja Mohamed Jabir, Salam Ismail Rasheed Khanji, Liza Abdallah Ahmad, Omar Alfandi, Huwida Said <i>Zayed University, UAE</i>		
1E-05 206	VirtAV: an Agentless Antivirus System based on In-Memory Signature Scanning for Virtual Machine Hongwei Tang*, **, ***, Shengzhong Feng*, ***, Xiaofang Zhao**, ***, Yan Jin **, *** <i>*Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China, **Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China, ***University of Chinese Academy of Sciences, Beijing, China</i>		

Day 2 : February 1 (Monday)

Time 13:00~14:30

Session 2A : Wireless Communication 2		Room:	Ruby
Chair : Dr. Ki-Doo Kim, Kookmin University, Korea			
2A-01 053	A novel multi-carrier waveform with high spectral efficiency: semi-orthogonal frequency division multiplexing Fan Yang, Xin Wang <i>Fujitsu Research and Development Center Co., Ltd, Beijing, China</i>		
2A-02 054	Near Field Distance Awareness Algorithm using Bluetooth for Device Sociality Service Joon-young Jung, Dong-oh Kang, Jang-ho Choi, Ok-gee Min <i>Electronics and Telecommunications Research Institute, Daejeon, Korea</i>		
2A-03 055	Channel Estimation Error Effects on Interference Alignment Jinhyung Oh, Heon-Jin Hong <i>Electronic and Telecommunications Research Institute (ETRI) Daejeon, Republic of Korea</i>		
2A-04 058	A Method of Constellation Blind Detection for Spectrum Efficiency Enhancement Jian Zhang, Xin Wang, and Xianjun Yang <i>Fujitsu Research and Development Center Co., Ltd., Beijing P.R. China</i>		
2A-05 191	Implementation of ZigBee-VLC system to support light control network configuration Myung-Soon Kim, Il-Soon Jang, Sang-Kyu Lim, Tae-Kyu Kang <i>Electronics and Telecommunications Research Institute, Yuseong-gu, Daejeon, KOREA</i>		

Day 2 : February 1 (Monday)

Time 13:00~14:30

Session 2B : Ubiquitous & Sensor Network 2		Room:	Emerald
Chair : Dr. Beihua Ying, Ningbo Institute of Technology, Zhejiang Univ., China			
2B-01 136	Research on The Credibility of Wireless Sensor Networks in Multi Dimensional Data WANG Guotao, SHI Zhenguo, WU Xiaojing <i>Nantong University, Nantong, Jiangsu, China</i>		
2B-02 139	An Energy-Efficient Compression Algorithm for Spatial Data in Wireless Sensor Networks Beihua Ying <i>Ningbo Institute of Technology, Zhejiang University, Ningbo, Zhejiang, China</i>		
2B-03 147	A Smart Home Control System based on Context and Human Speech Yoonseon Han, Jonghwan Hyun, Taeyeol Jeong, Jae-Hyoung Yoo, James Won-Ki Hong <i>POSTECH, Pohang, South Korea</i>		
2B-04 259	Quick Removing (QR) Approach using Cut-Through Switching Mode Saad Allawi NSAIF, Semog KIM and Jong Myung RHEE <i>Myongji University, Yongin-si, South Korea</i>		

Day 2 : February 1 (Monday)

Time 13:00~14:30

Session 2C : Information & Network Security 2		Room:	Diamond 1
Chair : Dr. Zhen Luo, Shenyang Aerospace University, China			
2C-01	A Reverse Engineering Approach of Obfuscated Array		
083	WeiDing*,**, ZhiMinGu*		
	<i>*Beijing Institute of Technology, Beijing, China, **Henan University of Technology, Zhengzhou, China</i>		
2C-02	A proposed Implementation Method of an Audio Steganography Technique		
085	Mazhar Tayel, Ahmed Gamal, Hamed Shawky		
	<i>Alexandria University, Egypt</i>		
2C-03	An Introduction to Network Address Shuffling		
109	Guilin Cai, Baosheng Wang, Xiaofeng Wang, Yulei Yuan, Sudan Li		
	<i>National University of Defense Technology, Changsha, China</i>		
2C-04	Characterizing the Running Patterns of Moving Target Defense Mechanisms		
118	Guilin Cai, Baosheng Wang, Yuebin Luo, Sudan Li, Xiaofeng Wang		
	<i>National University of Defense Technology, Changsha, China</i>		
2C-05	General Identity Management Model for Big Data Analysis		
088	Feng GAO*, Feng ZHANG**, Junjie XIA*, Zheng MA*		
	<i>*Network Technology Research Institute, China Unicom, Beijing China, ** Academy of Information Science Innovation, CETC, Beijing China</i>		

Day 2 : February 1 (Monday)

Time 13:00~14:30

Session 2D : Web Service & Future Web 2		Room:	Diamond 2
Chair : Dr. Ruslan Kirichek, State University of Telecommunications, Russian Federation			
2D-01	False Clouds for Internet of Things and Methods of Protection		
187	Ruslan Kirichek, Vyacheslav Kulik, Andrey Koucheryav <i>St.Petersburg State University of Telecommunication, Russia</i>		
2D-02	A Method for Co-existing Heterogeneous IoT Environments based on Compressive Sensing		
199	Hyungkeuk Lee, Seng-Kyoun Jo, NamKyung Lee and Hyun-Woo Lee <i>Electronics and Telecommunications Research Institute, Yuseong-gu, Daejeon, KOREA</i>		
2D-03	A Gateway based Fog Computing Architecture for Wireless Sensors and Actuator Networks		
258	Wangbong Lee*, Kidong Nam*, Hak-Gyun Roh**, Sang-Ha Kim** <i>*Electronics and Telecommunication Research Institute, Daejeon, Republic of Korea, **Chungnam National University, Daejeon Korea</i>		
2D-04	A Process-Aware Goal Description Language for the Internet of Things Community Computing Environments		
266	Meesun Kim, Hyun Ahn, Kwanghoon Pio Kim <i>KYONGGI UNIVERSITY, Suwon-si Kyonggi-do, 16227, South Korea</i>		
2D-05	Convergence and Inclusive Innovation in the Communications Sector		
056	Kamarulzaman Ab. Aziz <i>Faculty of Management, Multimedia University, Persiaran Multimedia, Selangor, Malaysia</i>		

Day 2 : February 1 (Monday)

Time 13:00~14:30

Session 2E : Distributed & Cloud Computing 2		Room:	Pheonix 1
Chair : Dr. Vladimir Mochalov, IKIR FEB RAS, Russia			
2E-01 063	A Smart Speculative Execution Strategy based on Node Classification for Heterogeneous Hadoop Systems Qi Liu*, Weidong Cai*, Jian Shen*, Zhangjie Fu*, Nigel Linge** <i>*Nanjing University of Information Science and Technology, Nanjing, Jiangsu, China, **The University of Salford, Greater Manchester, UK</i>		
2E-02 080	Load Balancing Algorithm Based on Estimating Finish Time of Services in Cloud Computing Nguyen Khac Chien*, Nguyen Hong Son**, Ho Dac Loc*** <i>*University of the People's Police, Ho Chi Minh city, Viet Nam, **Post and Telecommunication Institute of Technology, Ho Chi Minh city,</i>		
2E-03 095	A Study on User-level Remote Memory Extension System Shinyoung Ahn, Gyuil Cha, Youngho Kim, Eunji Lim, Seungjo Bae, Won-Young Kim <i>ETRI, South Korea</i>		
2E-04 216	A Modelling Method for Mapping the Relationships between Resources and Service Performance Based on I-ABC-ELM Yan Gao, Si Wang, Bin Zhang, Mengzhu Lu, Xiaopei Wu <i>Northeastern University, Shenyang, Liaoning, China</i>		
2E-05 263	NLSS: A Near-Line Storage System Design Based on the Combination of HDFS and ZFS Wei Hu*, Guangming Liu*,**, Yanqing Liu*, Junlong Liu*, Xiaofeng Wang* <i>*College of Computer, National University of Defence Technology, Changsha, China, **National Supercomputer Center in Tianjin, Tianjin, China</i>		

Day 2 : February 1 (Monday)

Time 15:00~16:30

Session 3A : Wireless Communication 3		Room:	Ruby
Chair : Mr. Biruk Nidaw, ETRI, Korea			
3A-01 072	Centralized Channel Allocation Scheme in Densely Deployed 802.11 Wireless LANs Tae Hun Lim*, Wha Sook Jeon*, Dong Geun Jeong** <i>*Seoul National University, Korea, **Hankuk University of Foreign Studies, Korea</i>		
3A-02 076	Gridless Sparse Reconstruction for the Cyclic Autocorrelation Estimation Xushan Chen, Xiongwei Zhang, Jibin Yang, Lin Qiao <i>PLA University of Science and Technology, Nanjing China</i>		
3A-03 092	Interference Analysis between Korea's DVB-T2 and Japan's ITS using 700MHz frequency band Ho-Kyung Son, Heon-Jin Hong <i>Electronic Telecommunication Research Institute, Daejeon, Korea</i>		
3A-04 107	Performance Comparison of Multipath Channel Estimation Algorithms with 28 GHz Channel Measurements Jinyi LIANG, Juyul LEE, Myung-Don KIM, Jae-Joon PARK, Bonghyuk PARK <i>ETRI (Electronics and Telecommunications Research Institute), Daejeon, Korea</i>		
3A-05 137	Experimental Validation of Multipoint Joint Processing of Range Measurements via Software-Defined Radio Testbed Georgy Mashkov, Eugene Borisov, Grigori Fokin <i>State University of Telecommunication, 22 Prospekt Bolshevikov, St. Petersburg, Russia</i>		

Day 2 : February 1 (Monday)

Time 15:00~16:30

Session 3B : Ubiquitous & Sensor Network 3		Room:	Emerald
Chair : Mr. Wangbong Lee, ETRI, Korea			
3B-01 124	Live Substance in Cyberspace - Biodriver System Ruslan Kirichek*, Rustam Pirmagomedov*, Ruslan Glushakov**, Andrey Koucheryay* <i>*St.Petersburg State University of Telecommunication, Russia, **Military Medical Academy, St.Petersburg, Russia</i>		
3B-02 158	Development of a Node-positioning Algorithm for Wireless Sensor Networks in 3D Space Ruslan Kirichek*, Ilya Grishin*, Darina Okuneva*, Michail Falin** <i>*St.Petersburg State University of Telecommunication, Russia **St.Petersburg National Research University of Information Technologies, Mechanics and Optics, Russia</i>		
3B-03 184	Wireless Sensor Networks with Temporary Cluster Head Nodes Abdo FUTAH, Alexander PARAMONOV, Andrey KOUCHERYAVY <i>Saint-Petersburg State University of Telecommunications, Russia</i>		
3B-04 189	Functional scheme of the environment monitoring systems architecture design Mochalov V.A.*, **, Mochalova A.V.*, Chowkwale B.***, Homutov S.U.* <i>*Institute of Cosmophysical Research and Radio Wave Propagation FEB RAS, Russia, **Vitus Bering Kamchatka State University, Russia, *** University of Pune, India</i>		
3B-05 238	Tracking the sedentary lifestyle using smartphone: A Pilot Study Muhammad Fahim*, Asad Masood Khattak**, Francis Chow**, Babar Shah** <i>*Istanbul Sabahattin Zaim University, Istanbul, Turkey, **Zayed University, United Arab Emirates,</i>		

Day 2 : February 1 (Monday)

Time 15:00~16:30

Session 3C : Information & Network Security 3		Room:	Diamond 1
Chair : Mr. Hong-Soon Nam, ETRI, Korea			
3C-01	Defend against Internet Censorship in Named Data Networking		
146	Xingmin Cui*, Yu Hin Tsang*, Lucas C.K.Hui*, S.M.Yiu*, Bo Luo** *The University of Hong Kong, Hong Kong, **Beijing University of Posts and Telecommunications, China		
3C-02	City-level Geolocation Algorithm of Network Entities Based on Landmark Clustering		
203	Guang Zhu, Xiangyang Luo, Fenlin Liu, Fan Zhao Zhengzhou Science and Technology Institute, Zhengzhou, China		
3C-03	A Design of Unidirectional Security Gateway for Enforcement Reliability and Security of Transmission Data in Industrial Control Systems		
245	Youngjun Heo, Byoungkoo Kim, Dongho Kang, Jungchan Na Electronics and Telecommunications Research Institute		
3C-04	A Study of Cyber Security Policy in Industrial Control System using Data Diodes		
248	Boo-Sun Jeon, Jung-Chan Na ETRI(Electronics and Telecommunications Research Institute), South Korea		
3C-05	Credibility Evaluation of Trust Models based on Fuzzy Quantization and AHP in Ad hoc Scene		
237	Jingpei Wang, Jie Liu China CEPREI Laboratory, Guangzhou, China		

Day 2 : February 1 (Monday)

Time 15:00~16:30

Session 3D : ITS, LBS, Telematics		Room:	Diamond 2
Chair : Dr. Ki-Doo Kim, Kookmin University, Korea			
3D-01	Power Delay Profile Based Indoor Fingerprinting Localization System		
047	Genming Ding, Pei Chen, Jun Tian, Qian Zhao Fujitsu Research and Development Center Co., Ltd., Beijing, China		
3D-02	Object Tracking and Identification using a camera in Digital Signage		
188	Hyun-suk Roh*, Nam-kyung Lee*, Sang-ho Lee** *Electronics and Telecommunication Research Institute (ETRI), Daejeon, Korea, **Chungbuk National University, Cheongju, Korea		
3D-03	The Dynamical Model of Rotor Blade System		
233	Liu Yi Beijing Institute of Technology, Beijing, China		
3D-04	Multi-Robot Multi-Task Allocation for Hospital Logistics		
239	Seohyun Jeon, Jaeyeon Lee ETRI, 218 Gajeongro, Yuseonggu, Daejeon, Korea		
3D-05	Multi-path based link-state routing mechanism		
232	Jing Tao, Xianming Gao, Baosheng Wang, Xiaozhe Zhang, Shicong Ma National University of Defense Technology, Changsha China		

Day 2 : February 1 (Monday)

Time 15:00~16:30

Session 3E : Distributed & Cloud Computing 3		Room:	Phoenix 1
Chair : Mr. Kangil Choi, ETRI, Korea			
3E-01 142	Fault Localization in NFV Framework		
	Byung Yun Lee, Bhum Cheol Lee <i>ETRI(Electronics and Telecommunications Research Institute), Korea</i>		
3E-02 155	A Method of Logically Time Synchronization for Safety-critical Distributed System		
	Jeman Park, Taeho Kim <i>Electronics and Telecommunications Research Institute (ETRI), Daejeon, Republic of Korea</i>		
3E-03 173	A Streaming Graph Partitioning Approach on Imbalance Cluster		
	Yang Cao, Ruonan Rao <i>SJTU(Shanghai Jiao Tong University), Minhang, Shanghai, China</i>		
3E-04 211	An Efficient Key Partitioning Scheme for Heterogeneous MapReduce Clusters		
	Muhammad Hanif, Choonhwa Lee <i>Hanyang University, Seoul, Republic of Korea</i>		
3E-05 254	Storage Speedup: An Effective Metric for I/O-intensive Parallel Application		
	Wei Hu, Guangming Liu, Qiong Li, Xiaofeng Wang, Wenrui Dong <i>National University of Defense Technology, Changsha, China</i>		

Day 2 : February 1 (Monday)

Time 10:00~11:30

Session 4A : Wireless Communication 4		Room:	Ruby
Chair : Dr. Bing Hui, ETRI, Korea			
4A-01 138	Compact Size, Equal-Length And Unequal-Width Substrate Integrated Waveguide Phase Shifter Masoud Khoubroo Eslamloo, Pejman Mohammadi <i>Urmia Branch, Islamic Azad University, Urmia, Iran</i>		
4A-02 177	Weighted Conflict-Aware Channel Assignment in 802.11-based Mesh Networks Changryeol Lee, Donghoon Shin, Sunghee Choi <i>Korea Advanced Institute of Science and Technology, Daejeon, Republic of Korea</i>		
4A-03 179	Perceptual Spectrum Waterfall of Pattern Shape Recognition Algorithm Wencheng Chen, Xiangming Wen <i>Beijing University of Posts and Telecommunications, Beijing, China</i>		
4A-04 200	Demodulation of 4x4 MIMO Signal using Single RF Gweondo Jo, Hyung-Oh Bae, Donghyuk Gwak, Jung-Hoon Oh <i>ETRI(Electronics and Telecommunications Research Institute), Korea</i>		
4A-05 039	Server Selection Mechanism for VoIP System in Wireless Mesh Networks San-Peng Kao*, Yung-Sheng Lee*, Yung-Chiao Chen**, Jiann-Liang Chen*, Kai-Hsiang Yang* <i>*National Taiwan University of Science and Technology, Taipei, Taiwan, **National Taiwan University, Taipei, Taiwan</i>		
4A-06 087	Iterative Receiver Algorithm for Millimeter Wave Mobile Hotspot Network System Dae-Soon Cho, Il-Kyu Kim <i>Electronics and Telecommunication Research Institute</i>		

Day 2 : February 1 (Monday)

Time 10:00~11:30

Session 4B : Future Internet & Optical Network 1		Room:	Emerald
Chair : Ms. Ramneek, KISTI, Korea			
4B-01 064	Analytical Model of Chromatic Dispersion Effect in the Time Domain Mikhail Meltenisov, Aleksandr Matukhin <i>The Bonch-Bruевич Saint-Petersburg State University of Telecommunications, Saint-Petersburg, Russia</i>		
4B-02 070	DNSNA: DNS Name Autoconfiguration for Internet of Things Devices Sejun Lee*, Jaehoon (Paul) Jeong* and Jung-Soo Park** <i>*Sungkyunkwan University, Republic of Korea, **Electronics and Telecommunications Research Institute, Republic of Korea</i>		
4B-03 089	A Design and Implementation of 32-paths Parallel 256-Point FFT/IFFT for Optical OFDM systems Hun-Sik Kang, Sun Hyok Chang, In-Ki Hwang, Joon-Ki Lee <i>ETRI, Daejeon, Korea</i>		
4B-04 120	Design of Nano-Photonic Phased-Array Antennas for Wide-Angle Beam-Steering Jong-Hun Kim, Jong-Bum You, Ji-Hwan Park, Kyoungsik Yu and Hyo-Hoon Park <i>Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea</i>		
4B-04 120	Design of Nano-Photonic Phased-Array Antennas for Wide-Angle Beam-Steering Jong-Hun Kim, Jong-Bum You, Ji-Hwan Park, Kyoungsik Yu and Hyo-Hoon Park <i>Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea</i>		

Day 3 : February 2 (Tuesday)

Time 10:00~11:30

Session 4C : Information & Network Security 4		Room:	Diamond 1
Chair : Dr. Jungju Yoo, ETRI, Korea			
4C-01	E-mail Encryption Using Hybrid Cryptosystem Based on Android OS		
082	Saranzaya Purevjav, TaeYang Kim, HoonJae Lee Graduate School of Dongseo University, Korea		
4C-02	The Life Cycle of Vulnerabilities in the Representations of Software for Telecommunication Devices		
140	Mikhail Buinevich, Konstantin Izrailov, Andrei Vladiko The Bonch-Bruевич Saint-Petersburg State University of Telecommunications, Russian Federation		
4C-03	Abnormal Traffic Filtering Mechanism for Protecting ICS Networks		
249	Byoung-Koo Kim**, Dong-Ho Kang*, Jung-Chan Na*, Tai-Myoung Chung** *Electronics and Telecommunications Research Institute (ETRI), Korea, **Sungkyunkwan University, Korea		
4C-04	Research on Cyber terror Profiling System combined SCADA Honeypot with SIEM		
079	Jaehee Lee*, Jinhyeok Jeon**, Changyeob Lee***, Junbeom Lee****, Jaebin Cho***** *Korea University, Seoul, Korea, **Sungkyunkwan University, Seoul, Korea, ***Sogang University, Seoul, Korea, ****University of Suwon, Suwon, Korea, *****Kyonggi University, Suwon, Korea		

Day 3 : February 2 (Tuesday)

Time 10:00~11:30

Session 4D : Big Data & Search Engine 1		Room:	Diamond 1
Chair : Dr. Vladimir Mochalov, IKIR FEB RAS, Russia			
4D-01	Automatic Zooming Mechanism for Capturing High Object Image Using High Definition Fixed Camera		
028	Hsien-Chou Liao*, Po-Yueh Chen**, Zi-Jun Lin**, Zi-Yi Lim* *Department of Computer Science and Information Engineering Chaoyang University of Technology, Taiwan, R. O. C. **Department of Computer Science and Information Engineering National Changhua University of Education, Taiwan, R. O. C.		
4D-02	Adaptive Spectral Co-clustering for Multiview Data		
060	Jeong-Woo Son, Junekey Jeon, Sang-Yun Lee, Sun-Joong Kim Intelligent Convergence Technology Research Department Broadcasting & Telecommunications Media Research Laboratory Electronics and Telecommunications Research Institute		
4D-03	Effects of Selection of a Reference View on Quality Improvement of Hybrid 3DTV		
115	Min-Suk Bang*, Ji-Won Kim*, Sung-Hoon Kim**, Ki-Doo Kim*, and Kyeong-Hoon Jung* *Kookmin University, Seoul, Korea, **ETRI, Daejeon, Korea		
4D-04	Comparison of episodes of mosquito borne disease: Dengue, Yellow Fever, West Nile, and Filariasis with Decision tree, Apriori Algorithm		
117	Seung Hye Song*, Yijeong Choi*, Taeseon Yoon** *Hankuk Academy of Foreign Studies, Wangsanri Yongin, Republic of Korea, **Korea University, Anamdong Seoul, Republic of Korea		
4D-05	Uncovering semantic relations conveyed by Russian prepositions		
122	Varvara Mikhailova*, Anastasia Mochalova**, Vladimir Mochalov**, Victor Zakharov* *St Petersburg State University, Russia, **Institute of Cosmophysical Research and Radio Wave Propagation FEB RAS, Russia, ***Vitus Bering Kamchatka State University, Russia, ****Megaputer Intelligence, Russia		

Day 3 : February 2 (Tuesday)

Time 10:00~11:30

Session 4E : Distributed & Cloud Computing 4		Room:	Phoenix 1
Chair : Dr. An Wu, Department of Physics, China			
4E-01 097	Integrated Management System for Distributed Micro-Datacenters		
	Byeongsik Kim, Bhumchul Lee		
	<i>Electronics and Telecommunications Research Institute (ETRI), Daejeon, KOREA</i>		
4E-02 175	Method for providing reliable peer activity report for managed P2P communications		
	Wook Hyun*, JuYoung Park*		
	<i>* ETRI (Electronics and Telecommunications Research Institute), Korea</i>		
4E-03 231	An Improved HDFS for Small File		
	Liu Changtong		
	<i>Huazhong University of Science & Technology Wuhan, China</i>		
4E-04 210	DoCloud: An Elastic Cloud Platform for Web Applications Based on Docker		
	Chuanqi Kan		
	<i>Shanghai Jiao Tong University, 800 Dongchuan Road, Shanghai, China</i>		
4E-05 121	An Adaptive Tuning Strategy on Spark Based on In-memory Computation Characteristics		
	Yao Zhao, Fei Hu, Haopeng Chen		
	<i>Shanghai Jiao Tong University, Shanghai, China</i>		

Day 3 : February 2 (Tuesday)

Time 13:00~14:30

Session 5A : Wireless Communication 5		Room:	Ruby
Chair : Prof. Pongsatorn Sedtheetorn, Mahidol University, Thailand			
5A-01 214	Inter-chip Wireless Interconnect System over PCB Medium Channels Wensong Wang*, Qunsheng Cao*, Yi Wang*, Shuhui Yang**, Yinchao Chen*** <i>*Nanjing University of Aeronautics and Astronautics, Nanjing, China, **Communication University of China, Beijing, China, ***University of South Carolina, Columbia, USA</i>		
5A-02 247	The research and optimization of AD-Hoc network localization algorithm based on the distance-assisted Jiawei Wu <i>Tianjin university of commerce, Tianjin, China</i>		
5A-03 250	Robust and Fast Device Discovery in OFDMA-based Cellular Networks for Disaster Environment Seung Beom Seo, Jae Young Kim, and Wha Sook Jeon <i>Seoul National University, Korea</i>		
5A-04 253	Implementation and Optimization of AODV for Internet Connectivity Bingying Cai*, Huimei Lu*, Yong Xiang**, Weitao Wang*, Jingbang Wu*, Rui Gao* <i>*Beijing Institute of Technology, Beijing, China, **Tsinghua University, Beijing, China</i>		
5A-05 255	AAaS: Area Approaching and Spray-and-Wait Routing Scheme for DTN in Android Weitao Wang*, Huimei Lu*, Yong Xiang**, Bingying Cai*, Jingbang Wu*, Rui Gao* <i>*Beijing Institute of Technology, Beijing, China, **Tsinghua University, Beijing, China</i>		
5A-06 066	SDR-based frequency interference analysis test-bed considering time domain characteristics of interferer Jin-Soo Park*, Hyungoo Yoon**, Byung-Jun Jang* <i>*Kookmin University, Seoul, Republic of Korea, **Myongji College, Seoul, Republic of Korea</i>		

Day 3 : February 2 (Tuesday)

Time 13:00~14:30

Session 5B : Future Internet & Optical Network 2		Room:	Emerald
Chair : Ms. Ramneek, KISTI, Korea			
5B-01 037	Model of Transport SDN and MPLS-TP for T-SDN Controller Chang-Gyu LIM, Soo-Myung PAHK, Young-Hwa KIM <i>ETRI (Electronics and Telecommunications Research Institute), Daejeon, Korea</i>		
5B-02 042	An Analytical Model for Evaluating Spanning Tree Based Layer 2 Routing Schemes Zhen Luo*, Changjin Suh** <i>*Shenyang Aerospace University, **Soongsil University</i>		
5B-03 043	Radio Access Model for Universal Service Idriss Saleh BACHAR*, ***, **, Ahmed Dooguy KORA**, Roger Marcelin FAYE*, Christelle Aupetit-Bertheleot**** <i>*École Supérieure Polytechnique, Université Cheikh Anta Diop de Dakar, SENEGAL, **École Supérieure Multinationale des Télécommunications, Dakar, SENEGAL, ***Autorité de Régulation des Communications Electroniques et Postes du TCHAD, ****Xlim/C²S² UMR-CNRS 7252, University of Limoges, 16 rue Atlantis 87068 Limoges Cedex, FRANCE</i>		
5B-04 119	A Design of Alias Naming Scheme for Namespace in Named Data Networking Euihyun Jung <i>Anyang University, Incheon, Korea</i>		

Day 3 : Febuary 2 (Tuesday)

Time 13:00~14:30

Session 5C : e-services & WorkFlow		Room: Diamond 1
Chair : Dr. Fahim Khan, The University of Tokyo, Japan		
5C-01 073	A Secure and Flexible e-Health Access Control System with Provisions for Emergency Access Overrides and Delegation of Access Privileges M. Fahim Ferdous Khan*, Ken Sakamura** <i>*Interfaculty Initiative in Information Studies, The University of Tokyo, Tokyo, Japan, *YRP Ubiquitous Networking Laboratory, Tokyo, Japan</i>	
5C-02 208	A Dynamic Variable Exchange Method for Data-Intensive Workflow Minjae Park *, Jin Ma**, Hyunah Kim***, Hyun Ahn***, Kwanghoon Pio Kim*** <i>*BISTel, Inc., Seoul, South Korea, **National Institute of Supercomputing and Networking, KISTI, Daejeon, South Korea, ***Kyonggi University, Kyonggido, South Korea</i>	
5C-03 221	How Inter-organizational Knowledge Sharing Drives National Cyber Security Awareness?: A Case Study in Indonesia P.D. Persadha*, **, A.A. Waskita**, **, M.I. Fadhila**, A. Kamal**, S. Yazid** <i>*Communication and Information Security Research Center, Indonesia, **University of Indonesia, Indonesia, ***Center for Technology and Safety of Nuclear Reactor, National Nuclear Energy Agency, Indonesia</i>	
5C-04 224	Effective PPG Sensor Placement for Reflected Red and Green light, and Infrared Wristband-type Photoplethysmography SeungMin Lee*, **, HyunSoon Shin**, ChanYoung Hahm** <i>*UST (University of Science and Technology), Korea, **ETRI(Electronics and Telecommunications Research Institute), Korea</i>	

Day 3 : Febuary 2 (Tuesday)

Time 13:00~14:30

Session 5D : Big Data & Search Engine 2		Room: Diamond 2
Chair : Mr. Karandeep Singh Brar, ETRI, Korea		
5D-01 148	Analysis of Transmission Route of MERS Coronavirus Using Decision Tree and Apriori Donghyun Kim, Soyoung Hong, Sungwoo Choi and Taeseon Yoon <i>Hankuk Academy of Foreign Studies, Yongin, Republic of Korea</i>	
5D-02 150	Gathering User Reviews for an Opinion Dictionary Jun Kikuchi, Vitaly Klyuev <i>University of Aizu, Aizu-Wakamatsu City, Fukushima, Japan</i>	
5D-03 195	Table based AHC Algorithm for Clustering Words Taeho Jo <i>Inha University Incheon, South Korea</i>	
5D-04 144	An adaptive approximation for Gaussian wavelet kernel Young-Mok Ha*, Ji Won Yoon** <i>*Electronics and Telecommunications Research Institute (ETRI), Republic of Korea, **Korea University, Republic of Korea</i>	
5D-05 165	Literature Search Framework by Analyzing Key Aspects Zhuyue Si, Gaokun Dai, Zhendong Niu <i>Beijing Institute of Technology Beijing, China</i>	

Day 3 : Febuary 2 (Tuesday)

Time 13:00~14:30

Session 5E : Distributed & Cloud Computing 5		Room:	Pheonix 1
Chair : Dr. Bing Hui, ETRI, Korea			
5E-01 240	A Flexible FPGA-to-FPGA communication system Wu An*, Xi Jin*, XueLiang Du**, Shuai Guo* <i>*University of Science and Technology of China, Hefei, China, **Chinese Academy of Science Institute of automation, Beijing, China</i>		
5E-02 246	Tenant Based Dynamic Processor Mapping in the Cloud Network Function Virtualization System Kang Il Choi, Bhum Cheol Lee <i>ETRI, Daejeon, Korea</i>		
5E-03 256	Effective QoS-aware Novel Resource Allocation Model for Body Sensor-Integrated Cloud platform Mohammad Mehedi Hassan, Majed Alrubaian, Atif Alamri <i>King Saud University, Riyadh, KSA</i>		
5E-04 067	A Distributed Architecture for Rule Engine to Deal with Big Data Siyuan Zhu, Hai Huang, Lei Zhang <i>Beijing University and Telecommunications ,China</i>		
5E-05 149	ASC: Improving Spark Driver Performance with Automatic Spark Checkpoint Wei Zhu, Haopeng Chen, Fei Hu <i>Shanghai Jiao Tong University, 800 Dongchuan Road, Shanghai, China</i>		

Day 3 : February 2 (Tuesday)

Time 15:00~16:30

Session 6A : Mobile Communication 1		Room:	Ruby
Chair : Dr. Gweondo Jo, ETRI, Korea			
6A-01 026	Performance Analysis and Implementation of a DVB-C2 Transceiver Jaeho Lee, Woongshik YOU, Jintae OH, Sangjung Ra, Junyoung Jung <i>ETRI, South Korea</i>		
6A-02 036	Performance Study of LTE Experimental Testbed using OpenAirInterface Chun Yeow Yeoh, Mohammad Harris Mokhtar, Abdul Aziz Abdul Rahman, Ahmad Kamsani Samangan <i>Signal Processing Lab Telekom Research & Development Sdn. Bhd. Cyberjaya, Selangor, Malaysia</i>		
6A-03 045	Ziping Transmission for Infrastructure-Assisted Cloud Network Navigation System Sang-Ho OH, Soonki JO, Jong-Soo SEO <i>Department of Electrical and Electronic Engineering, Yonsei University, Korea</i>		
6A-04 061	New Security Login System Using Tap and Gesture on Smartphone Touchscreen KiHwan Kim, Bruce Ndibanje, SuHyun Park, HoonJae Lee <i>Graduate School of Dongseo University, Busan, Korea</i>		
6A-05 091	Efficient Doppler Mitigation for High-Speed Rail Communications Bing Hui, Junhyeong Kim, Hee-Sang Chung, Il-Gyu Kim, Hoon Lee <i>Electronic and Telecommunications Research Institute, Daejeon Korea</i>		
6A-06 207	Data communication method based on inaudible sound at near field Green Bang*, Myoungbeom Chung**, Ilju Ko* <i>*Soongsil University, Seoul, Korea, **Sungkyul University, Anyang City, Korea</i>		

Day 3 : February 2 (Tuesday)

Time 15:00~16:30

Session 6B : Future Internet & Optical Network 3		Room:	Emerald
Chair : Mr. Seng-Kyoun Jo, ETRI, Korea			
6B-01 132	Time-based Forwarding Control in Content Centric Networking Wonjun Choi*, Ramneek*, Woojin Seok** <i>*Korea University of Science and Technology, Daejeon, Rep. of KOREA, **Korea Institute of Science and Technology Information, Daejeon, Rep. of KOREA</i>		
6B-02 180	An Algorithm for Home Energy Management Using Environmental Conditions Eun soon ki, Jeong Sik Kim, Seung Min Ryu, Seong Gon Choi <i>Chungbuk National University, Korea</i>		
6B-03 181	Supply and Demand Management System based on Consumption Pattern Analysis and Tariff for Cost Minimization Sang Ju Lee, Hyeon Yang, Jeong Sik Kim, Seong Gon Choi <i>Chungbuk National University, Korea</i>		
6B-04 182	A New Signaling System For Efficient Packet Transmission Using New Gateway System Hyeon Yang *, Sang Ju Lee*, Noik Park**, Changki Kim**, Seong Gon Choi* <i>*Chungbuk National University, Korea, **ETRI, Korea</i>		

Day 3 : February 2 (Tuesday)

Time 15:00~16:30

Session 6C : Software Platform & Smart Service 1		Room:	Diamond 1
Chair : Prof. Kwanghoon Pio Kim, Kyonggi University, Korea			
6C-01	Feature Tendency Based Location Prediction in LBSNs		
059	Zi Xing, Hui Tian, Tu Chen, Jing Zhang <i>Beijing University of Posts and Telecommunications, Beijing, China</i>		
6C-02	Emergency Alerting System for Supporting Power-Efficient Set-Top Boxes		
143	Sang-Gu Jeong*, **, Hyunho Park**, Yong-Tae Lee*, ** <i>*University of Science and Technology (UST), South Korea **Electronics and Telecommunications Research Institute (ETRI), South Korea</i>		
6C-03	Prospect of the Next-generation digital content industry: Three perspective approach to the User acceptance of the Realistic content technology		
176	Hyungjin PARK, Hyenyoung YOON, Junseok HWANG <i>Seoul National University, Korea</i>		
6C-04	Feasibility of BMI improvement applying a Stroop effect		
112	Shun KANETA, Isamu WAKABAYASHI, Takayuki KAWAHARA <i>TUS (Tokyo University of Science), Japan</i>		
6C-05	An Energy Management Framework for Smart Factory based on Context-awareness		
100	Hyunjeong Lee, Sangkeun Yoo, Yong-Woon Kim <i>Protocol Engineering Center Future Research Creative Laboratory, ETRI</i>		

Day 3 : February 2 (Tuesday)

Time 15:00~16:30

Session 6D : Big Data & Search Engine 3		Room:	Diamond 2
Chair : Dr. Hyeongho Lee, ETRI, Korea			
6D-01	A recommendation system based on objects of the interest		
172	Sung-Woo Byun*, So-Min Lee*, Seok-Pil Lee*, Kwang-Yong Kim**, Cho Kee-Seong** *Sangmyung University, Seoul, Korea **Electronics and Telecommunications Research Institute (ETRI), Daejeon, Korea		
6D-02	Table based KNN for Categorizing Words		
194	Taeho Jo Inha University Incheon, South Korea		
6D-03	Table based KNN for Index Optimization		
197	Taeho Jo Inha University Incheon, South Korea		
6D-04	Relevant Evidence Acquisition and Appraisal using Knowledge-intensive Queries		
222	Muhammad Afzal, Sungyoung Lee Kyung Hee University, Seochon-dong, Republic of Korea		
6D-05	Spam Filtering of Bi-Lingual Tweets Using Machine Learning		
125	Hammad Afzal*, Kashif Mehmood* *National University of Sciences and Technology, Islamabad, Pakistan		

Day 3 : Febuary 2 (Tuesday)

Time 15:00~16:30

Session 6E : Application & Biometric Security		Room:	Phoenix 1
Chair : Mr. Karandeep Singh Brar, ETRI, Korea			
6E-01 029	Your Neighbors Are My Spies: Location and other Privacy Concerns in Dating Apps		
	Nguyen Phong HOANG, Yasuhito ASANO, Masatoshi YOSHIKAWA <i>Department of Social Informatics, Graduate School of Informatics, Kyoto University, Japan</i>		
6E-02 077	EnCase Forensic Technology for Decrypting Stenography Algorithm applied in the PowerPoint file		
	HyunHo Kim, Ndibanje Bruce, SuHyun Park, HoonJae Lee <i>Dongseo University, Korea</i>		
6E-03 202	Facial Expression Recognition Using Depth Information and Spatiotemporal Features		
	Md. Zia Uddin <i>Sungkyunkwan University, Seoul, South Korea</i>		
6E-04 213	Enhanced quantum multi-signature protocol based on controlled teleportation		
	Minghui Zhang, Huifang Li, Zhaoqiang Xia <i>Northwestern Polytechnical University, Xi'an, China</i>		
6E-05 260	General Authentication Scheme in User-Centric IdM		
	Seung-Hyun Kim, Soo-Hyung Kim <i>Electronics and Telecommunication Research Institute, Daejeon, Republic of Korea</i>		

Day 4 : Febuary 3 (Wednesday)

Time 10:00~11:30

Session 7A : Mobile Communication 2		Room:	Ruby
Chair : Prof. Pongsatorn Sedtheetorn, Mahidol University, Thailand			
7A-01 114	Multipath Division Multiple Access for 5G Cellular System based on Massive Antennas in Millimeter Wave Band Wei-Han Hsiao, Chia-Chi Huang National Chiao Tung University, Hsinchu, Taiwan, ROC		
7A-02 133	Spectral Efficiency Evaluation for Non-Orthogonal Multiple Access in Rayleigh Fading Pongsatorn Sedtheetorn, Tatcha Chulajata Mahidol University, Salaya, Nakornpathom, Thailand		
7A-03 134	Uplink Spectral Efficiency for Non-Orthogonal Multiple Access in Rayleigh Fading Pongsatorn Sedtheetorn, Tatcha Chulajata Mahidol University, Salaya, Nakornpathom, Thailand		
7A-04 185	sounding reference signal measurement in LTE system Eunjeong Shin*, Jeawook Shin** *ETRI(Electronics and Telecommunications Research Institute), Korea, **ETRI(Electronics and Telecommunications Research Institute), Korea		
7A-05 204	An Mechanism to Access the Medical Information and a Modeling Approach For Medical Hazards AAmir Shahzad*, Khaltar.B*, Malrey Lee*, Jae-Young Choi**, Naixue Xiong*** *Chon Buk National University, Jeonju, Chon Buk, Korea, **Sungkyunkwan University, Suwon, Korea, ***University of Shanghai for Science and Technology, Shanghai, China		

Day 4 : Febuary 3 (Wednesday)

Time 10:00~11:30

Session 7B : Systems & Software Engineering		Room:	Emerald
Chair : Prof. Byeongnam Yoon, Kyonggi University, Korea			
7B-01 113	Evaluation of Manycore Operating Systems Biruk Y. Nidaw, Ziho Shin, Jung Sung In, Kim Young Woo ETRI, Daejeon, Korea		
7B-02 152	Probabilistic Risk Assessment of Multi-State Systems Based on Bayesian Networks Jie Cao*, Baoqun Yin*, Xiaonong Lu** *University of Science and Technology of China, Hefei, China, **Hefei University of Technology, Hefei, China		
7B-03 164	Adaptive Filter Application for the Safety of Detecting Lung Sound on Ambulance Bing-Yuh Lu*, **, Chi Wang*, Hung-Wen Hung*, Meng-Lun Hsueh***, Jin-Shin Lai**** *Tungnan University, New Taipei City, Taiwan, Republic of China, **National Taipei University of Business, Taipei, Taiwan, Republic of China, ***Hwa-Hsa University of Science Technology, New Taipei City, Taiwan, Republic of China, ****National Taiwan University Hospital, Taiwan, Republic of China		
7B-04 262	Investigation of Software Maintainability Prediction Models Aida Shafiabady, Mohd Naz'ri Mahrin, Masoud Samadi Universiti Teknologi Malaysia, Jalan Semarak, Kuala Lumpur, Malaysia		

Day 4 : February 3 (Wednesday)

Time 10:00~11:30

Session 7C : Software Platform & Smart Service 2		Room:	Diamond 1
Chair : Mr. Mazhar Sajjad, ETRI, Korea			
7C-01	Simulating Demography – Dynamics of Fertility Using a Multi Agent Model		
178	Karandeep Singh Brar*, **, Mazhar Sajjad*, **, Euihyun Paik**, Chang-Won Ahn*, ** <i>*Korea University of Science and Technology (UST), Daejeon, Korea, **Electronics and Telecommunication Research Institute (ETRI), Daejeon, Korea</i>		
7C-02	Evaluation and Comparison of Performance Analysis of Indoor Inertial Navigation System Based on Foot Mounted IMU		
205	Feyissa Woyano*,**, Soyeon Lee**, Sangjoon Park*,** <i>*Korea University of Science and Technology (UST) Daejeon, Korea, **ETRI, Daejeon, Korea</i>		
7C-03	A Caching Mechanism for FAT File System in Low-performance Embedded System		
243	Jeaho Hwang, Kangheui Won <i>RTST, 218 Gajeong-ro, Yuseong-gu, Daejeon, Republic of Korea</i>		
7C-04	An Efficient Algorithm for Detecting Traffic Congestion and a Framework for Smart Traffic Control System		
183	Md. Rokebul Islam, Nafis Ibn Shahid, Dewan Tanzim ul Karim, Abdullah Al Mamun, Dr. Md. Khalilur Rhaman <i>BRAC University, Dhaka, Bangladesh</i>		

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Time 10:00~11:30

Session 7D : Big Data & Search Engine 4		Room:	Diamond 2
Chair : Mr. Byoung-Koo Kim, ETRI, Korea			
7D-01	Table based KNN for Extracting Keywords		
196	Taeho Jo Inha University Incheon, South Korea		
7D-02	Visual Fatigue Measurement Model Based on Multi-Area Variance in a Stereoscopy		
252	Hyeong-jun Cho, Ghulam Hussain, Jin-hoon Park, Jong-hak Kim, Jun-dong Cho Sungkyunkwan University, Korea		
7D-03	Social Simulation: The Need of Data-Driven Agent-Based Modelling Approach		
261	Mazhar Sajjad**, Karandeep Singh**, Euihyun Paik*, Chang-Won Ahn** *Korea University of Science and Technology (UST), Korea, **Electronics and Telecommunication Research Institute (ETRI), Korea Daejeon, Korea		
7D-04	A Design for Big Data Analysis System		
219	Jin MA*, Jong-Suk Ruth LEE*, Kumwon CHO* and Minjae PARK ** *Korea Institute of Science and Technology Information, Daejeon, South Korea, **BISTel, Inc., Seoul, South Korea		

Day 4 : February 3 (Wednesday)

Time 10:00~11:30

Session 7E : Network Management		Room:	Phoenix 1
Chair : Prof. Taeho Jo, Inha University, Korea			
7E-01 050	Minimization of Power Consumption in IP Networks		
	Seng-Kyoun Jo*, **, Young-Min Kim*, Namkyung Lee*, Jussi Kangasharju** and Max Muehlhaeuser**		
	*Electronics and Telecommunications Research Institute, Republic of Korea **Department of Computer Science, Technical University of Darmstadt, Germany ***Department of Computer Science, University of Helsinki, Finland		
7E-02 153	A Survey of QoS Support, Performance and Pricing of Mobile Data Plans in the USA and Korea		
	Ramneek*, **, Patrick Hosein***, Wonjun Choi*, **, Woojin Seok**		
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	Wafa Werda*, Bo Gu*, Kyoko Yamori**, Yoshiaki Tanaka*		
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	Xiaofeng Zhang, Baoqun Yin, Hao Shi		
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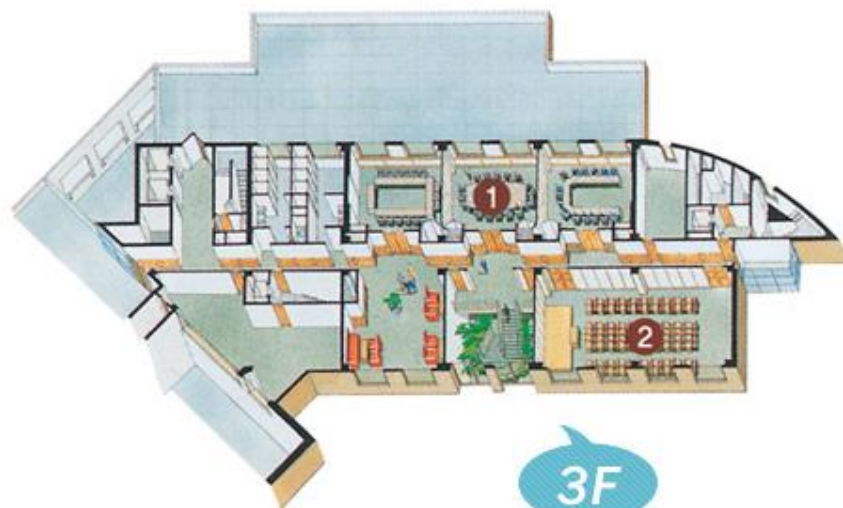
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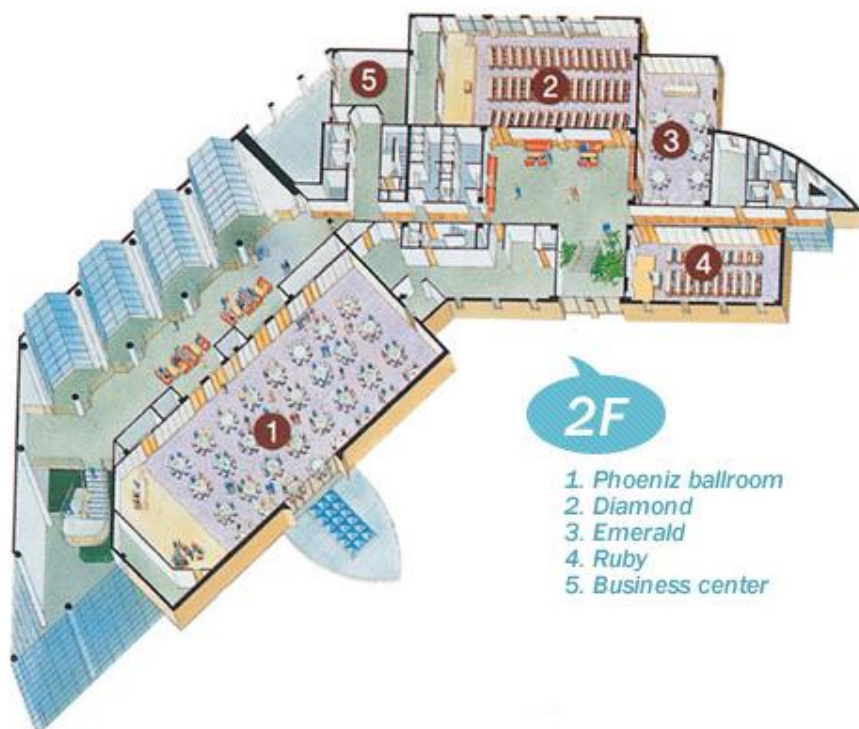
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● Floor Plan (Hotel)



3F

1. Topaz
2. Opal



2F

1. Phoenix ballroom
2. Diamond
3. Emerald
4. Ruby
5. Business center

1. VOLTAGE

In Korea, 220 Volt and 60 Herz outlets with Type C or Type F are most commonly used now.



2. WEATHER

Korea has four distinct seasons - spring, summer, fall and winter. Skiing season starts from late November and lasts to early March. Especially the inland area of Gangwon province is most snowy, windy and coldest in winter season. Therefore you must prepare and wear the winter clothes for the cold weather. For your correct weather information, please refer to the following URL of Korea Weather Forcasting Authority..

<http://web.kma.go.kr/eng/>

3. 1330 KOREA TRAVEL PHONE

For English assistance or travel Information, just dial 1330, and a bilingual operator will offer you detailed tourism information.

http://english.visitkorea.or.kr/enu/GK/GK_EN_2_7_1_1.jsp

4. Other Useful Information about Korea

Please refer to the following URL of Incheon International Airport, Korea Tourism Organization etc.

<http://www.airport.kr/pa/en/a/index.jsp> (Incheon International/domestic Airport)

<http://www.airport.co.kr/mbs/kaceng/> (Gimpo International/domestic Airport)

<http://asiaenglish.visitkorea.or.kr/ena/index.kto> (Korea Tourism Organization)

<http://eng.gwd.go.kr/> (Information about Gangwon-Do)

<http://en.yes-pc.net/> (Information about PyeongChang area)



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