

International Conference on Green and
Human Information Technology 2016

ICGHIT 2016



Feb. 24 ~ Feb. 26, 2016

Clark, Angeles City, Philippines

<http://icghit.org/>



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**THE INSTITUTE OF ELECTRONICS
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ICGHIT 2015 Committee

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Hyunsik Ahn (Tongmyong Univ., President of IEIE CIS, Korea)

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Ebroul Izquierdo (Queen Mary Univ. of London, UK)

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- Kyutae Lee (Kongju National University, Korea)

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- Le Quoc Cuong (Department of Information and Communications of HoChiMinh, Vietnam)

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- Soo-HyunPark(KookminUniv.,Korea),
- SathapornPromwong(KingMongkut'sInstituteofTech.Ladkrabang,Thailand)

• TPC Members

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- JunJo(GriffithUniversity,Australia)
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- SundaramSuresh(NanyangTechnologicalUniversity,Singapore)
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- Min-HoLee(KyungpookNationalUniversity,Korea)
- Moon-GooLee(KimpoCollege,Korea)
- ChangHyunOh(KoreaUniversity,Korea)
- ByungSeoKim(HongikUniversity)
- SeongOunHwang(HongikUniversity)

Message from ICGHIT 2016 Chairs



Prof. Beongku An
General Co-Chair
Hongik University, Korea



Prof. Kyutae Lee
General Co-Chair
Kongju National University, Korea

Welcome to the International Conference on Green and Human Information Technology (ICGHIT2016), which will be held from February 24 to February 26, 2016 at XENIA HOTEL in Clark City, Philippines.

The goal of ICGHIT is to form a platform to seek the advancement of green technology and human related IT in various view points of research. The main topics of the conference are Green Information Technology, Communication and Ubiquitous, Multimedia and Signal Processing, Control and Intelligent System, Green IC System Design. Many papers of advanced technology will be presented and various products of multiple companies will be exhibited.

We hope to provide good chances about the topics for technical exchanges and advancements, mutual cooperation among the participants as well as to support local development of the country in which the conference holds. We believe that green technology and human IT are related to each other closely and are able to produce a synergy to enhance human welfare and humanity in present and future technological society. The philosophy of the conference is the achievement of the dream of IT that can improve human welfare and happiness. Therefore, we are going to emphasize humanity as well as technology. We hope that you can have good chances to meet researchers and companies interested in the same areas and to be a friend with them. We will make the conference more open and friendly.

More than 100 scientists from 5 different countries (Korea, P.R. China, Japan, Malaysia, Philippines) will attend this ICGHIT 2016 conference that provides a unique opportunity

for researchers, scientists, students and professionals who present research results, exchange scientific and technological information, share experiences and promote international cooperation.

ICGHIT 2016 contains 77 high quality research papers, which consist of 26 oral papers (Korea: 13, Foreign: 13) and 56 poster papers, accepted for publication in this ICGHIT 2016 proceeding. Each submitted paper was peer-reviewed by reviewers who are experts in the subject area of the paper. During this conference, the presented papers will be evaluated by the each session chairs and program committee. And finally some papers from presented regular papers will be selected for publication in SCOPUS /EI indexed journals.

For organizing the International Conference, ICGHIT2016, the support and help of many people are needed. First, we would like to thank all authors for submitting their papers. We also appreciate the support from program committee members and reviewers who carried out the most difficult works of carefully evaluating the submitted papers. We specially appreciate all supports from Prof. Gilbert Tumibay in Angeles University Foundation (AUF), Philippines for successful conference, ICGHIT2016.

We would like to give our special thanks to all of committee members such as International Advisory Committee, Organizing Committee, Technical Program Committee for their energetic efforts, strong encouragement and guidance to organize the conference.

Welcome to ICGHIT 2016



**Prof. Hyunsik Ahn, International Advisory Committee
President of IEIE Computer Information Society
Tongmyong University, Korea**

Welcome to Clark, Philippine!

On behalf of IEIE CIS (The Institute of Electronics and Information Engineering Computer Information Society), I have the great pleasure to welcome you all to ICGHIT (International Conference on Green and Human Information Technology) 2016, in Clark, Philippine. First of all, I especially express my appreciation to all speakers, participants, professors, researchers, and students coming from multiple countries.. And I thank the general chairs of this conference, Prof. Beongku An and Prof. Kyutae Lee, and all the committee members who endeavor devotedly for preparing this conference. Especially, I want to express deep appreciation to Prof. Gilbert M. Tumibay, the Dean of Angeles University Foundation who took so much time and efforts to prepare this conference.

This conference first began as a little workshop for encouraging friendship and partnership between Korean IEIE CIS members and researcher and professors of other countries. The first was weak, but it became prosperous! Now it has developed to one of vitalizing international conferences as a platform of the advancement of green technology and human related IT in various view of research.

IEIE CIS is the largest institute of electronics and information engineering in Korea associating professors, researchers and students. Moreover, it has changed its name from IEEK to IEIE for encouraging international relationship. As a founder and sponsor, we will support ICGHIT continually for pursuing the philosophy of this conference that is the dream of green and human information technology improving human welfare and happiness together with friends of other countries. Please join us with this idea! I know this country, Philippines, is interesting in the topics of this conference. I expect closer and progressive relationship among Korea, Philippines, and other countries on green and human IT information technology.

Once again, I would like to express my heartfelt welcoming to all participants and speakers. I wish you to have a great experience during your stay in this beautiful city.

Thank you.

Conference Venue Information

HOTEL INFORMATION

The conference will be held at which is located in the free port zone of Angeles City.



XENIA HOTEL(<http://xeniahotel.com.ph>)
CLARK FREEPORT ZONE

When visiting Angeles City and Clark, you'll feel right at home at Xenia Hotel Clark, which offers quality accommodation and great service. From here, guests can enjoy easy access to all that the lively city has to offer. With its convenient location, the hotel offers easy access to the city's must-see nature and business destinations.

Xenia Hotel Clark Philippines offers impeccable service and all the essential amenities to invigorate travelers. For the comfort and convenience of guests, the hotel offers 24-hour front desk, room service, complimentary Wi-Fi, car park, airport transfer.

Guests can choose from 200 rooms, all of which exude an atmosphere of total peace and harmony with fantastic views of greeneries and tropical elegance from guestroom verandas.

The hotel offers wonderful recreational facilities such as an outdoor pool with a poolside bar to make your stay truly unforgettable. Whatever your purpose of visit, Xenia Hotel Clark Philippines is an excellent choice for your stay in Angeles city, Clark.

Program Schedule

Time	Room: Sapphire	Room: Diamond	Room: Emerald
Wednesday, Feb. 24			
09:30 ~ 10:00	Registration(Feb24-26 9:30 AM to 17:00 PM)		
10:00 ~ 10:20	Opening Ceremony		
10:20 ~ 11:10		Plenary Talk I : Prof. Gilbert M. Tumibay (Wesleyan University-Philippines)	
11:10 ~ 11:20	Break Time		
11:20 ~ 12:10		Plenary Talk II : Prof. Franklin Bien(UNIST, Korea)	
12:10 ~ 13:40	Lunch		
13:40 ~ 14:40	Session I-1 : (Oral) Communication and Ubiquitous I		Session I-2 : (Poster) Convergence I
13:40 ~ 16:10			
16:10 ~ 16:20	Break Time		
16:20 ~ 17:20		Welcome Reception (Snack&Tea Party)	
Thursday, Feb. 25			
09:30 ~ 10:00	Registration		
10:00 ~ 12:10	Session II-1 : (Oral) Convergence II		Session II-2 : (Oral) Communication and Ubiquitous II
12:10 ~ 13:40	Lunch		
13:40 ~ 15:50	Session III-1 : (Oral) Convergence III		Session III-2 : (Oral) Control Information System
15:50 ~ 16:00	Break Time		
16:00 ~ 17:20	Recruit Session	Session IV : (Poster) Convergence IV	
17:20 ~ 20:00	Banquet		
Friday, Feb. 26			
09:30 ~ 10:00	Registration		
09:30 ~ 10:40	Session V : (Poster) Multimedia and Signal Processing		
10:40 ~ 11:00	Break Time		
11:00 ~ 13:30	International corporation work		

Plenary Speeches



Plenary Talk 1

Title :

**Speaker : Prof. Gilbert M. Tumibay
(Wesleyan University-Philippines)**

Biography :

He has devoted twenty (20) years of his life in the academe, particularly in the area of Computing Studies. He started as a high school teacher in 1995. After a year, he was hired as college teacher in Wesleyan University-Philippines in Cabanatuan City.

During his college years, he worked part-time to support his study and served as a student assistant in the college computer laboratory until graduation. While being a student, he was already doing computer programming projects like inventory management, accounting and loans system. In 1993 he developed the first grading system of the college of business and accountancy.

He finished his Masters of Science in Information Technology in Hannam University at Daejeon City, South Korea in 2003 and completed his Doctorate of Philosophy in Information Technology in 2010 at the same university. Both degrees were under scholarship grants provided by the joint project of Hannam University and the Philippine government through the effort of the Commission on Higher Education.

He became Dean of the College of Computer Science on 2004 of Wesleyan University-Philippines, Maria Aurora Campus. After completing his Doctorate degree, he was appointed as Director of the Information and Communications Technology Department where he started the project of automating all the major functions of the University operation, including installation of the fiber optic backbone of its computer network system to speed up delivery internet access and other important information system applications.

Since 2012 up to the present, he is serving as Dean of the College of Computer Studies

of Angeles University Foundation in Angeles City, Pampanga. During his term, Level 2 accreditation were achieved for both Computer Science and Information Technology programs and the status as Center of Excellence in IT Education was renewed until the year 2018.

He is an active member of the most well-known IT professional organization for educators in the Philippines. The Philippine Society of IT Educators or PSITE, where he is now serving as the President of the Region 3 chapter. He is also the current Chairman of the Board of the Metro Clark ICT Council based in Clark Freeport Zone. He is an active member of the Commission on Higher Education Regional Quality Assessment Team and an Accreditor of the prestigious Philippine Accrediting Association of Schools, Colleges and Universities.



Plenary Talk 2

Title :

Speaker : Prof. Franklin Bien (UNIST, Korea)

Biography :

Professor Franklin Bien received B.S. in Electronics Engineering at Yonsei University, Seoul, Korea in 1997, and M.S. and Ph.D. in Electrical and Computer Engineering at Georgia Institute of Technology, Atlanta, GA in 2000 and 2006, respectively. Dr. Bien is currently an Associate Professor in the School of Electrical and Computer Engineering at Ulsan National Institute of Science and Technology (UNIST), Ulsan, Korea. Prior to joining UNIST in 2009, Prof. Bien was with Staccato Communications, San Diego, CA as a Senior IC Design Engineer working on analog/mixed-signal IC and RF front-end blocks for Ultra-Wideband (UWB) products such as Wireless-USB in 65nm CMOS technologies. His responsibilities included to design wide-band VCOs, 16-GHz PLL, VGA, and other low power clocking circuits. Prior to working at Staccato communications, he was with Agilent Technologies and Quellan Inc., developing transceiver ICs for enterprise segments that improve the speed and reach of wire-line communication channels in consumer,

broadcast, enterprise and computing markets.

In the early stage of his career, Prof. Bien's research interests included signal integrity improvement with cross-talk noise cancellation, equalization techniques for 10+Gb/sec broadband communication applications, CMOS RF front-end circuits for wireless communications and automotive radar circuits, and adaptive circuits for wireless power transfer (WPT) applications.

All these previously endeavored efforts are migrating in the Bio-medical IT research direction to form his current research interests. Multi-target Radar technology is moving towards Respiratory Detecting Radar, Touch Screen Panel Drive IC & Readout IC research migrated towards Bio-signature/Finger Print detector, Wireless Power Transfer research are actively being applied to Medically Implantable Devices such as Capsule Endoscopy, Pace Makers, Cortisol sensors, and In-vivo Continuous Glucose Monitoring Systems.

Recruit Session

One of the distinguished special programs of ICGHIT is the student recruit session. This session provides local students with the opportunity to study or work in Korea. Korean professors or managers from Korean company will interview outstanding local students who can study in master or doctorate courses in Korean universities and work in Korean companies.

Professors or managers from Korean company who want to hire local students should bring their documents including the introduction to their laboratories or companies, research areas, and scholarship conditions. Local students who want to study or work in Korea should bring their resumes including student records and self introductions.

The session will provide a meeting program between professors and students. Anyone interested in the session may contact the session chair, Prof. Chan-Su Lee.

Chan-Su Lee (Yeungnam University, Korea)

Email : chansu@ynu.ac.kr

Phone : +82-10-7387-9387

Information for Presenters

Oral Presenters

- Presentation time: 20 minutes presentation & 5 minutes question
- Notebooks and beam projectors will be set. A presenter should prepare contents in a USB memory.

Poster Presenters

- Presentation time: 60~80 minutes posting including 5 minutes oral presentation.
- Presenters should attach posters in panels by 3 minutes before the session.
- After session, presenter should tear off their posters.
- Presenters should prepare poster materials about 12(A4 size) pages.
- The area for your post materials is 106.68 cm × 106.68 cm.

Program Details

Wednesday, February 24

09:30 ~ 10:00

Registration(Feb24-26 9:30 AM to 17:00 PM)

10:00 ~ 10:20

Opening Ceremony

Room: Diamond

Chair: Seungcheon Kim (Hansung University, Korea)

-Welcome Address

-Congratulatory Address

10:20 ~ 11:10

Plenary Talk I : Prof. Gilbert M. Tumibay

Title: "Title 1"

Room: Diamond

Chair: Beongku An (Hongik University, Korea)

11:20 ~ 12:10

Plenary Talk II : Prof. Franklin Bien

Title: "Title 2"

Room: Diamond

Chair: Kyutae Lee (Kongju National University, Korea)

12:10 ~ 13:40

Lunch

13:40 ~ 16:10

Session I-1 : (Oral) Communication and Ubiquitous I

Room: Sapphire

Chair: Beongku An (Hongik University, Korea), Sanguk Kang (Sangmyung University, Korea)

Applying Beamforming to LTE Base Station for Reducing Interference Impact and Saving Frequency

Yan-Ming Cheng (College of Electrical & Information Engineering Beihua University , China, P.R. China); Ye Wang (Lishui University, P.R. China); Il-Kyoo Lee (Kongju National University, Korea); Zhen-Xiong Zhou (Beihua University, P.R. China)

A Joint Optimization Algorithm for PAPR Reduction in AF Cooperative Multicarrier System

Li Yingshan (College of Information Technical Science, Nankai University, P.R. China); Wenbo Yu and Haiyue Li (Nankai University, P.R. China); Changyoung An and Heung-Gyoon Ryu (Chungbuk National University, Korea)

A Connection-Time Analysis of Vehicle-to-Mobile RSU (V2MR) Communications with a Bus Stop

Magdalena Trie Purnaningtyas and Han-You Jeong (Pusan National University, Korea)

Interference analysis between WPT devices at ISM bands and Radio Modem

Seung Nam Kim, Il-Kyoo Lee, KeeYoung Kwon and Jang-Geun Ki (Kongju National University, Korea)

50 Mbps data rate/ low power transmission near-field communication system via metal walls

Sai Kiran Oruganti, Olzhas Kaiyrakhmet and Franklin Bien (Ulsan National Institute of Science and Technology, Korea)

Development of IaaS-Based Cloud Co-location and Management System using Open Source Cloud Stack

Sang Min Bae (Gyeongbuk Research Institute of Vehicle Embedded Technology, Korea)

13:40 ~ 14:40

Session I-2 : (Poster) Convergence I

Room: Emerald

Chair: Franklin Bien (UNIST, Korea), Jongyun Kim (Kyungdong University, Korea)

Robot-Assisted Sensor Relocation to Reduce Sensing Hole in Wireless Sensor Networks

Junyoung Heo (Hansung University, Korea); Hong Min (Hoseo University, Korea); Jinman Jung (Hannam University, Korea)

Secure Bootstrapping Scheme for IoT devices

Namhi Kang (Duksung Womens' University, Korea)

Characteristics of ESPAR Antenna with Circumferential Slot Active Element

Kangpyo Lee (Dankook University, Korea); Hak Keun Choi (Dept. of Electronics Engineering University of Dankook in Korea, Korea); JungHoon Oh (ETRI, Korea); Ye Myo Kyaw (Dankook University, Korea); Sang Min Han (Soonchunhyang University, Korea)

Satellite Mobile Terminal Design having Hybrid Antenna Structure

Young-Bae Jung (Hanbat National University, Korea); Soon Young Eom (Electronics and Telecommunications Research Institute (ETRI), Korea)

A Study on An Efficient Electricity Saving Scheme for Mobile Cloud Computing

Moonsik Kang (GangneungWonju National University, Korea); Kyung-Shin Kim (ChungKang College, Korea)

Towards Higher Educational m-Learning Platform for Conceptual STEAM Environment

Jinhong Kim (SungKyunKwan University, Korea)

An Improved Wireless Communication System Using Relay for Signal Transmission

Won-Seok Lee, Myoung-Jin Kim and Hyoung-Kyu Song (Sejong University, Korea)

An Adaptive Cooperative Transmission Scheme According to the User Location

Chang-Hee Kang, Hyun-Jee Yang and Hyoung-Kyu Song (Sejong University, Korea)

Run-Time IC Trojan Detection and Isolation Using an SoC Bus

Guard Kanda (Hanbat National University, Korea); Kwangki Ryoo (Graduate School of Information and Communication Hanbat National University, Korea)

A 12-bit 100kS/s SAR ADC for Biomedical Applications

Sungchan Rho (Seokyoung University, Korea); JeaSuk Kim (Seokyeong University, Korea); Shin-Il Lim (Seo Kyeong University, Korea)

A Capacitor-less High PSRR LDO with Enhanced Transient Response

Kyung-Chan An and Chan-Kyeong Jung (Seokyeong University, Korea); Shin_il Lim (Seokyeong University, Seoul, Korea)

16:10 ~ 16:20

Break Time

16:20 ~ 17:20

Welcome Reception (Snack&Tea Party)

Thursday, February 25

09:30 ~ 10:00

Snack & Morning Tea

10:00 ~ 12:10

Session II-1 : (Oral) Convergence II

Room: Sapphire

Chair: Jinhong Kim (Sungkyunkwan University, Korea), Sehwan Park (KIST, Korea)

A Comparative Study on PMIPv6 and Partially DMM Network Architecture

Ye Wang (Lishui University, P.R. China); Jang-Geun Ki and Kyutae Lee (Kongju National University, Korea)

Learning Features through Communication in the Context of Finding Lost Objects

Ryuji Suzuki, Takahashi Junji and Yoshito Tobe (Aoyama Gakuin University, Japan)

Solar Energy-Super Capacitor Hybrid Power Source Using in The Patrol Robot

Guangjun Yuan, Jiyuan Sun, Zhenxong Zhou and Lichun Shi (Beihua University, P.R. China)

Traffic Type-Aware Power Save Mode Control for Delay-Sensitive Services in IEEE 802.11s based Wireless Mesh Networks

Eun Jung Lee (Korea Advanced Institute of Science and Technology (KAIST) & MTEL (Multimedia Traffic Engineering Lab.), Korea); Young Min Kim (ETRI, Korea); Hong-Shik Park (Korea Advanced Institute of Science and Technology (KAIST), Korea)

Smart Pet Care System based on IoT

Gilbert M. Tumibay (Angeles University Foundaion, Philippines); Seungcheon Kim (Hansung University, Korea); Kyutae Lee (Kongju National University, Korea); Sungcheol Yu (LG Hitachi, Korea)

10:00 ~ 12:10

Session II-2 : (Oral) Communication and Ubiquitous II

Room: Emerald

Chair: Moonsik Kang (Gangneung-Wonju University, Korea), Chair: Seungcheon Kim (Hansung University, Korea)

Performance Analysis and Implementation of A PMIPv6-based Partially Distributed Mobility Management

Ye Wang (Lishui University, P.R. China); Jang-Geun Ki and Kyutae Lee (Kongju National University, Korea)

A Periodic Garbage Collection to Reduce the Blocking of Vehicular Sensing in the Android Smartphones

Rachmad Nafisholeh, Hoa-Hung Nguyen and Han-You Jeong (Pusan National University, Korea)

Network Status Management Structure based on the Beacon Packet for Wireless Mesh Networks

Sang Hyun Lee (KAIST, Daejeon, KOREA, Korea); Hong-Shik Park (Korea Advanced Institute of Science and Technology (KAIST), Korea)

Wireless Communication Performance of the 5G Modulation Systems in the Nonlinear Channel

Changyoung An and Heung-Gyoon Ryu (Chungbuk National University, Korea)

12:10 ~ 13:40

Lunch

13:40 ~ 15:50

Session III-1 : (Oral) Convergence III

Room: Sapphire

Chair: Chan-Su Lee (YOUNG NAM UNIVERSITY, Korea), JANGEUN KI (KONGJU NATIONAL UNIVERSITY, Korea)

Investigating Graphical Passwords: A New Perspective

KASHIF ABBASI (UNIVERSITY KEBANGSAAN MALAYSIA (UKM), Malaysia, Pakistan); ABDULLAH MOHD. ZIN and MOHD. ROSMADI MOKHTAR (UNIVERSITY KEBANGSAAN MALAYSIA (UKM), Malaysia)

A Fast and Robust Eye-Event Recognition (FRER) for Human-Smartphone Interaction

ARDHIANSYAH BASKARA and HAN-YOU JEONG (PUSAN NATIONAL UNIVERSITY, Korea)

Research of Motion Control System for Bridge Crane in Copper Electrolysis

LIU CHENG and YANG CUI (BEI HUA UNIVERSITY, P.R. China)

Experimental Determination on Optimal Resolution of Banknote Image by Considering Serial Number Recognition Accuracy

YOUNG PYO HONG, EUI CHUL LEE and SANG-UG KANG (SANGMYUNG UNIVERSITY, Korea); DAESIK JEONG (KISAN ELECTRONICS, Korea)

A Low Power Subsampling CMOS Image Sensor for a Smart Security System

HYUNDONG KIM, YONGJUN CHO and MINKYU SONG (DONGGUK UNIVERSITY, Korea)

13:40 ~ 15:50

Session III-2 : (Oral) Control Information System

Room: Emerald

Chair: HYUNSIK AHN (TONGMYOUNG UNIVERSITY, Korea), YOUSIK HONG (SANGJI UNIVERSITY, Korea)

Study of High-precision Multi Star Simulator

XINGHUA GAO (BEIHUA UNIVERSITY, JILIN & SCHOOL OF MECHANICAL ENGINEERING, P.R. China); XINJI GAN (COLLAGE, P.R. China)

The Application of PMSM in Motor Drive Control System of Patrol Robot

GUANGJUN YUAN, ZHENXIONG ZHOU, LICHUN SHI and JIYUAN SUN (BEIHUA UNIVERSITY, P.R. China)

The design of Hemodynamic Parameters Automatic Detecting Instrument with Function of Wireless Transmission

Yufeng Gao (Beihua University, P.R. China); Xiping Ma (Colleague, P.R. China)

Artificial Bee Colony and Neural Networks Optimization Test Generation Algorithm for Multiple Faults of Digital Circuits

Ying Zhao (Beihua University, P.R. China)

Development of a sensing module for standing and moving human body using a shutter and PIR sensor

Won-Ho Lee (University of Cheonju, Korea); Ronnie Serfa Juan (Cheongju University & Technological University of the Philippines, Korea); Hi-Seok Kim and Hyeong-Woo Cha (Cheongju University, Korea)

15:50 ~ 16:00

Break Time

16:00 ~ 17:20

Session IV : (Poster) Convergence IV

Room: Diamond

Chair: Yongsu Choi (Sungkyul University, Korea), Einjeong Hwang (Myungji Hospital)

High Performance of Single Inductor Multiple Output Switching Converter for Cross Regulation Reduction

Jimin Oh (Electronics and Telecommunications Research Institute & ETRI, Korea); Jung-Hee Suk and Yil Suk Yang (Electronics and Telecommunications Research Institute, Korea)

I/O Structure Design to improve the MicroGrid Gateway Hardware Interoperability

GabKeun Choi (Nexchal Co. & Nexchal Co., Korea)

A Bio-inspired Algorithm Based Time Synchronization Strategy in Infrastructure Wireless Mesh Networks

Seung Hyun Jeon and Jun Kyun Choi (KAIST, Korea)

A Case Study of FDA Adverse Events on Depression

Hoon Jin (Kyonggi University, Korea); Soyoung Rho (Wolsong Publication, Korea); Chi-Bong Song (Wavus Company, Korea); Yong-Gyu Jung (Eulji University,

Performance Enhancement of Column Indexing for Compressed Databases

SIwoo Byun (Anyang University, Korea)

An Oriental Health Diagnosis System Based on WEB

You-Sik Hong (Sang-ji University, Korea); Hyunsik Ahn (Tongmyong University, Korea); Chun Kwan Park (Mokpo Maritime National University, Korea)

A Precise Multi-Stage Amplifier Circuits Module for Active Dry EEG Electrodes

Young Chang Jo (KETI, Korea)

A Study of Distance measure apparatus using IMU and Camera

Seunghwan Lee; HanSil Kim (University of Ulsan, Korea)

IoT Relationship between Korea and Philippine

Seung Chang Park (KITELA Institute & IT-ethics and POSEN, Korea); Jong Park (Han Nam University, Korea)

Development of a MSP Prototype for Novel Biometric Technology based on Skin Tissue Optics

Young Chang Jo (KETI, Korea)

Requirements of the Smart Patch for Cardiac Arrhythmia and Congestive Heart Failure Disease

Ein-Jeong Hwang and Hyoseon Kim (Myongji Hospital, Korea)

3 Dimensional Segmentation of Depth Images for Cognitive Robots

Hyunsik Ahn and Jun-Ho Moon (Tongmyong University, Korea)

A CaaS Model Based on Cloud/IoT Service for Cognitive Robots

Hyunsik Ahn (Tongmyong University, Korea)

Reduced Complexity of QRD-M Detection Scheme in MIMO-OFDM Systems

Jong-Kwang Kim and Jae-Hyun Ro (University of Sejong, Korea); Hyung-Kyu Song (Sejong University, Korea)

Cooperative Spectrum Sensing Based Routing Protocol in Mobile Cognitive Radio Ad-hoc Networks

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

Characteristics of horizontally polarized ESPAR antenna using stacked structure

Jae-Sung Park (Dankook University, Korea); Hak Keun Choi (Dept. of Electronics Engineering University of Dankook in Korea, Korea); Kyutae Lee (Kongju National University, Korea); JungHoon Oh (ETRI, Korea); Young Jun Lee (Dankook University, Korea)

Distributed Multi-Channel Scheduling for Ad-Hoc Cognitive Radio Networks

Young-Min Kwon and Hyung-Kun Park (KOREATECH, Korea)

Physical Layer Security of Wireless Networks under Hardware Impairments

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

Ageriga Smart Phone Keyboard Structure and SNS

Im Byoung Min (Seoul Korea Seocho Gu Seocho dong & Agerigna co Ltd, Korea); Beongku An (Hongik University, Korea)

An Energy Harvesting Aware Routing Protocol in Mobile Ad-hoc Wireless Sensor Network

Kyuhyun Shim (Hongik University, Korea); Beongku An (Hongik University, Korea)

The Improved Performance of the Shadow Area User by Using the Relay in the Wireless Communication System

Ji-Hun Gill, Young-Min Ko and Hyoung-Kyu Song (Sejong University, Korea)

Enhanced Performance Using Selective Subcarrier in the Wireless Fidelity Backscatter

Sang-Young Kim, Yong-Jun Kim and Hyoung-Kyu Song (Sejong University, Korea)

Trends and Requirements of data management platform in IoT environment

Hwashin Moon (ETRI, Korea); Young Ho Kim (Research Advisor, USA); Jeong Nyeo Kim (ETRI, Korea)

Security Performance Score and Economic Investment

Quan Tran Hai, Trang Hoang Thi Huyen and Seong Oun Hwang (Hongik University, Korea); Young Yung Shin, Myungchul Kim and Chaeho Lim (KAIST, Korea)

Design of Intelligence System for Detecting New Malware

Insung Yeo, Vu Duc Ly and Seong Oun Hwang (Hongik University, Korea); Chaeho Lim (KAIST, Korea)

Malware Classification based on Big Data Processing

Seong Oun Hwang, Vu Duc Ly and Insung Yeo (Hongik University, Korea)

Implementation of a Testbed for Testing Cyber Attack Countermeasures of the IEC 61850 Based Electric Power Control System

Kim Inhoe (Radio Science Engineering, Kongju National University, Korea); Kyutae Lee (Kongju National University, Korea); Seokhong Min (Chungnam National University, Korea); Choi Jaedouk (Systembank Inc., Korea)

IoT Relationship between Korea and Philippine

Seung Chang Park (KITELA Institute & IT-ethics and POSEN, Korea); Jong Park (Han Nam University, Korea)

17:20 ~ 20:00

Banquet

Friday, February 26

09:30 ~ 10:00

Snack & Morning Tea

09:30 ~ 10:40

Session V : (Poster) Multimedia and Signal Processing

Room: Sapphire

Chair: Kyutae Lee (Kongju National University, Korea), Sanguk Kang (Sangmyung University, Korea)

Simulator implementation research for the rangefinder production

Kyun Park (Sangmyung University, Korea); Sang-ug Kang (SangMyung University, Korea)

A Study on performances in banknote recognition and counterfeit banknote detection based on log analysis for banknote slot of banknote counter

Kim Il-Hong (University of SangMyung, Korea); Sang-Ug Kang (Sangmyung University, Korea)

Upscaling Detection of a Digital Image using the Pixel's Gradients

Kang Hyeon Rhee (Chosun University, Korea)

Eye Tracking System Using a Web Camera

Jae-Ik Lee, Shin Won Park and Chan-Su Lee (Yeungnam University, Korea)

Analysis of complex modulation with layered spatial light modulators

Sungjae Park (Korea University & College of Science and Technology, Korea); Hwi Kim (Korea University, Korea)

Numerical analysis of dielectric guided-mode resonance reflective filter

SooBin Kim and Hwi Kim (Korea University, Korea)

An Area-Efficient 32x32 Pipeline 2-D FFT/DCT Processor

Jinkyu Kim (Electronics and Telecommunications Research Institute, Korea); Joohyun Lee (ETRI, Korea); Kyoung-Rok Cho (ChungBuk National University, Korea)

A recommendation system based on object of the interest

Sung-Woo Byun, So-Min Lee and Seok-pil Lee (Sangmyung University, Korea); Kwang-Yong Kim (ETRI, Korea); Cho Kee Seong (Access Mediator Research Team, ETRI, Korea)

Line-defect removal in the fast-Fourier transform based synthesis of polygon computer-generated hologram

Youngjin Jeon and Hwi Kim (Korea University, Korea)

Kernel source verification on the embedded system

Kyutae Lee (Kongju National University, Korea); Ye Wang (Lishui University, P.R. China); Seungcheon Kim (Hansung University, Korea); KeeYoung Kwon (Kongju National University, Korea); Hyun-bae Choi (CLtech co., Ltd., Korea)

Design of a Multimedia Authoring System using User Location

Geunho Lee (Jeonju University, Korea)

High-definition polygon computer-generated hologram synthesis with viewing zone separation

Dajeong Im and Hwi Kim (Korea University, Korea)

Anti-FP error Oriented Forgery Detection Approach

YongSoo Choi (Sungkyul University & IEEK, Korea); Dessalegn Ayalneh (Korea University, Korea)

Challenges and Research Directions for Multipath TCP Scheduler in Multi-Channel Multi-Radio Wireless Mesh Networks

Eun Jung Lee (Korea Advanced Institute of Science and Technology (KAIST) & MTEL (Multimedia Traffic Engineering Lab.), Korea); Yong-jun Seo (Korea Advanced Institute of Science and Technology, Korea); Hong-Shik Park (Korea Advanced Institute of Science and Technology (KAIST), Korea)

10:40 ~ 11:00

Break Time

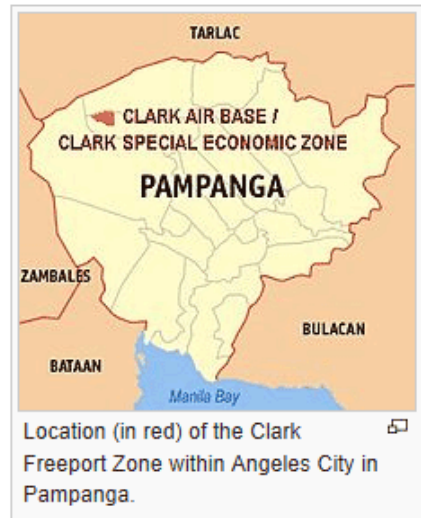
11:00 ~ 13:30

International Cooperation Work

Local Information

Clark Freeport Zone

Clark Freeport Zone is a redevelopment of the former Clark Air Base, a former United States Air Force base in the Philippines. It is located on the northwest side of Angeles City and on the west side of Mabalacat City in the province of Pampanga. It is located about 40 miles (60 km) northwest of Metro Manila. The zone is a former US military base and has modern infrastructure facilities, generous fiscal and non-fiscal incentives, professional support services and other amenities. Today, Clark forms the hub for business, industry, aviation, education, and tourism in the Philippines as well as a leisure, fitness, entertainment and gaming center of Central Luzon.



The Master Plan for the 4,400-hectare (10,868-acre) main zone and 27,600-hectare (68,172-acre) sub zone will transform the zone into an airport-driven urban center targeting high-end IT enabled industries, aviation and logistics related enterprises, tourism and other sectors.

History

In 1995, following years of neglect since the 1991 base closure due to the eruption of Mount Pinatubo, cleanup and removal of volcanic ash deposits at the former Clark AB began. The former base re-emerged as Clark International Airport and Clark Special Economic Zone (CSEZ). The airfield infrastructure was improved to make it one of the most modern in Asia, and a second parallel runway was built. The former base is now home to a golf resort, a number of industrial buildings, casinos, landmarks, and retail establishments. It also hosts the annual Balikatan exercises between the United States and Philippines Armed Forces.

Though many events still occur at Clark, critics have said that the American government left some residual toxic chemicals that now affect the groundwater near the base. Native

Filipinos who live nearby show signs of the adverse effects of these chemicals, such as mercury, resulting in leukemia, gangrene, and other severe diseases and health problems. The United States denies responsibility for these actions. A CRC (Clearwater Revival Company) report claimed that "until a more detailed investigation of uncontrolled hazardous waste sites at Clark AB is completed no conclusions can be reached about the present or future safety of the groundwater supply basin." Several organizations, such as FACES (Filipino American Coalition for Environmental Safeguards) and PTFBC (People Task Force for Bases Clean-up), have attempted to begin the detoxification process on the bases.

On March 20, 2007, Clark Air Base was renamed Clark Freeport Philippines, as mandated by Senate Bill 2260 of the 13th Congress and signed into law by President Gloria Macapagal-Arroyo. Turning Clark into a freeport entitles investors to the same tax-free and other duty-free privileges enjoyed by their counterparts at the Subic Bay Freeport.

Under the new law, Clark Development Corporation (CDC) will remain as administrator of the 4,500-hectare (11,115-acre) Clark freeport. A subsidiary, Clark International Airport Corporation, runs the Clark International Airport. Benny Ricafort, on July 10, 2008, was the next president and chief executive officer of the Clark Development Corp. (CDC), to replace Levy Laus effective July 31. Edgardo Pamintuan is the chair of the Subic-Clark Alliance for Development (SCAD) Council.

Since the CDC was created in 1993 to administer Clark, some 389 foreign and domestic investors have moved into the zone, generating some PhP24.3 billion (about US\$501.1 million) worth of investments. As of March 2007, over 47,000 people, mostly from Pampanga, Tarlac and Bulacan provinces, are currently employed at Clark.

Tour Information

The Salakot

Located close to the main gate entrance to the Clark Freeport Zone, this monument stands as a sign of Philippine-United States friendship over the years. It was originally built to symbolize the historical signing of the Republic of the Philippines and United States Military Bases Agreement in the early 1950s.



Fontana Water Park

Stop at Fontana Hotel and Villas - Fontana Hot Spring Leis to discover the wonders of Angeles / Clark. Both business travelers and tourists can enjoy the hotel's facilities and services. Business center, laundry service, shops, car park, elevator are just some of the facilities on offer. Designed and decorated to make guests feel right at home, each room comes with in room safe, bathrobes, television LCD/plasma screen, refrigerator, internet access – LAN (charges apply). Recuperate from a full day of sightseeing in the comfort of your room or take advantage of the hotel's recreational facilities, including spa, outdoor pool, pool (kids), garden, golf course (on site). Fontana Hotel and Villas - Fontana Hot Spring Leis combines warm hospitality with a lovely ambiance to make your stay in Angeles / Clark unforgettable.



Clearwater Country Club

Clearwater Resort & Country Club is a faithful rendition of the American suburban lifestyle, a revered memory of Clark when it was once the largest offshore US airbase. Well-off families in the Philippines fly abroad several times each year to bask in this quality lifestyle. In between trips, many drive to Clark Freeport to enjoy something similar – a weekend of laidback, clean and safe living – not so far away from the city



Clark El Kabayo Riding Stables Inc.

Enjoy and experience memorable leisure horse rides at Clark El Kabayo, A unique replica of an old western town reminiscent of John Wayne and Bonanza days. It is home to thoroughbreds, quarter horses and small ponies, where hundreds of American Cavalry horses used to grace . For your riding pleasure, one can go horseback riding in the lush open Clark Picnic grounds or take long trail rides to the nearby mountains and river.



Nayong Pilipino sa Clark

Are you looking for a cultural and historic tour of the Philippines all without traveling throughout the entire country? Then you need look no further and you should visit Nayong Pilipino for a taste of everything Philippines. Here you'll find a unique Filipino village, otherwise called Nayong Pilipino, contained within a 45 acre amusement/theme park type environment.



This park is essentially a representation in a miniature-version of the diverse Philippines and its culture, all in one place. This recreational/leisure/history-learning facility is divided into numerous geographically-sectionalized display areas. Here you'll find representations of regions such as Cordillera Central, Ilocos, Tagalog, Bicol, Visayas, and Mindanao and so forth.

Each region represented contains a typical residential building, landmark-structure and/or representation of Pilipino geography including characteristic landscape indicative of the specific regions. For example, the Cebu Region has the famous Bohol's Chocolate Hills while one of the examples for the Visayas Region is a replica of the historic Magellan's Cross.

Some of the Philippines famous hero's and political figures residences are also featured in this very unique facility. Visiting these structures is like taking a trip in a time-machine to another perspective of place and time in Philippine history.

Zoocobia Fun Zoo

Located inside the Paradise Ranch, Zoocobia is the only Zoo in Clark where one can be intimate with various animals. It also houses a variety of birds which you are allowed to feed for a minimum fee of P20.



Clark Nature Park

An ideal place for Teambuilding and corporate programs at our nature park all in safe, peaceful and secure environment . From having a wonderful family picnic, a fun Zipline Ride or an overnight camping adventure, Clark Nature Park is made to make your visit memorable.



| MEMO |

| MEMO |

| MEMO |

사람과 기술로 미래를 이끌어가는 기업
에스제이정보통신



고객의 믿음으로 성장하는기업 (주)에스제이정보통신이 더 나은 미래를 만들어갑니다.



- SI** 안정적인 시스템 구축 및 고객 업무환경에 맞는 최적의 솔루션 제공
- ITO** 다양한 경험과 기술로 고객의 기업가치의 경쟁력 향상
- 유지보수** 고객의 업무혁신을 위한 다양한 분야의 종합 IT서비스 제공

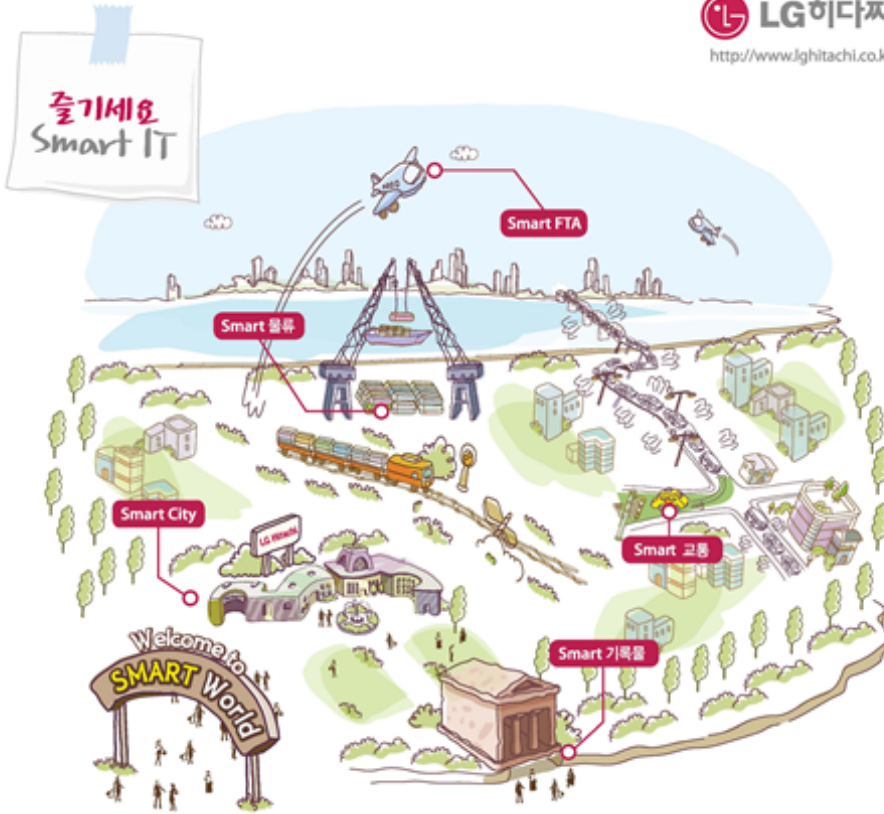
SJ정보통신
SJinfo & communications

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