The Korea Academic Society of Digital
Business Business Administration
(KASDBA), South Korea

University of San Carlos

Cebu, Philippines

ICACCI-2016
Conference Program

2016 International Conference on Advanced Computing, Communication and Information Sciences (ICACCI-2016)

May 27-29, 2016 Cebu, Philippines

■ **Date:**	Friday, May 27, 2016– Sunday May 29, 2016, 10:00am – 5:30pm
■ **Place:**	Joseph Baumgartner Learning Resource Center, University of San Carlos, Talamban Campus, Cebu City, Philippines
■ **Organizer:**	
	The Korea Academic Society of Digital Business Administration (KASDBA)
■ **Co-organizer:**	
	University of San Carlos, Cebu City, Philippines

Welcome Greetings

On behalf of the ICACCI-2016organizing committee, I am honored and delighted to welcome all the delegates and guests to the International Conference on Advanced Computing, Communication and Information Sciences (ICACCI-2016), held at the University of San Carlos, Cebu City, Philippines.The objective of International Conference on Advanced Computing, Communication, and Information Sciences (ICACCI-2016) is to provide a platform to the researchers and practitioners from both academia as well as industry to meet and share cutting-edge development in the field. The conference also offers an opportunity to strengthen existing collaborations for gaining tangible research outputs in short time frame.

It is an opportunity for prominent international specialists, researchers, and engineers to present and observe the latest research, results, and ideas in the area of Computing, Communication, and Information Sciences..

As an organizer, I know that the success of the conference depends ultimately on the many people who have worked with us, from planning to organizing in all stages of the program and social arrangements. I would like to thank the Hosting Chair, Dr. Delia Belleza, Dean, College Of Arts And Sciences, University Of San Carlos, Philippines for her support throughout the conference arrangement. My special thanks to Mrs. Mary Jane Gaceta Sabellano, it would not have been possible to organize ICACCI-2016 without her support. I would like to take an opportunity to thank publication chair, conference co-chair and publication co-chair for their brilliant advices and suggestions on organizing the conference program. I would like thank the reviewers for their thorough and timely reviewing of the papers. I would also like to thank the publication collaborator and co-organizer the Korea Institute of Digital Convergence (KIDICO).

I would like to thank the welcoming speakers, keynote speakers, and authors for their willingness to openly describe their achievements, share experiences, and present their ideas in the area of Advanced Computing, Communication and Information Sciences. I would also like to extend my sincere thanks to those who have accepted the task of serving as members of the committee, session chairs, special session organizer, and volunteer. Finally, I would like to thank the University of San Carlos, Cebu City, Philippines for providing the facilities to organize ICACCI-2016.

I hope the ICACCI-2016 will provide a platform to local and foreign researchers, academicians, business or heads of department, whether private or government, and end-users of research to formulate new research collaborations through candid discussions during paper presentations and discussions.

Thank you once again for having us in the wonderful Cebu city. I hope that you have a valuable time during this conference in Cebu, Philippines.

Thank you.   2016-05-27

Changsu Kim (PhD)

President, Korea Academic Society of Digital Business Administration
Chairman of the Board Directors, Korea Institute of Digital Convergence

Message

The advent of computers is one of the greatest milestone in history. It was more than a changing event, it actually directed the entire course of technology development. Computer technology has tremendously aided us in almost all aspects of our lives and it deeply influences human activities.

This conference brings together experts, practitioners, and researchers in the field of computer and information sciences, to share best practices and new researches in the discipline. May this gathering converge our ideas in order to promote discoveries that may enhance further human lives.

More power to the Department of Computer and Information Sciences of the University of San Carlos, and Korea Institute of Digital Convergence as organizers of the 2016 International Conference of Advanced Computing, Communications, and Information Sciences (ICACCI - 2016).

To the participants, a warm welcome to Cebu and the University of San Carlos!

Delia E. Belleza, PhD
Dean, School of Arts and Sciences
University of San Carlos

International Conference on Advanced Computing, Communication and Information Sciences (ICACCI-2016)

May 27-29, 2016 Cebu, Philippines

About the conference

The Korea Academic Society of Digital Business Administration (KASDBA) is pleased and proud to announce the International Conference on Information and Communication Technology and Digital Convergence Business (ICACCI-2016) that will be held at the University of San Carlos, Cebu City, Philippines on May 27-29, 2016.

ICACCI-2016is hosted by the Korea Academic Society of Digital Business Administration, co-organized by the Korea Institute of Digital Convergence (KIDICO), and the University of San Carlos, Cebu City, Philippines.We publish all the accepted abstract in the conference proceedings. ICACCI-2016 has collaborated on publications with the Far East Journal of Electronics and Communications.

The main objective of the ICACCI-2016 is to provide an excellent opportunity for authors working in areas related to Advanced Computing, Communication and Information Sciencesto present their research outcomes and exchange views and experiences. The conference also offers an opportunity to strengthen existing collaborations in order to achieve tangible research outputs in a short time frame.

With your support and cooperation, KASDBA is committed to organizing high quality conferences in the future as well.

ICACCI-2016Organizing Committee

Honorary Chair

- Delia Belleza (PhD), Dean, College of Arts and Sciences, University of San Carlos, Philippines

Organizing Chair

- Changsu Kim (PhD), Chairman of the Board Directors, Korea Institute of Digital Convergence, South Korea

Publication Chair

- Sung Won Kim (PhD), Department of Information and Communication Engineering, Yeungnam University

Conference Co-Chair

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- Mary Jane Gaceta Sabellano,University of San Carlos,Philippines

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- Young Gon Kim (PhD), Korea Polytechnic University, South Korea
- FarruhIshmanov (PhD), Kwangwoon University, South Korea
- Woong Cho (PhD), Jungwon University, South Korea
- Jang Young Kim (PhD), University of Sumon, South Korea
- Young Sang Kim (PhD), Cheju Halla University, South Korea
- Kwang Chul Son (PhD), Kwangwoon University, South Korea
- Jin Kim (PhD), Jungwon University, South Korea
- Chae Bong Sohn (PhD), Kwangwoon University, South Korea
- Maksudur Rahman Jonayed, Yeungjin College, South Korea

Conference Program

Friday May 27, 2016	
Time	Program
9:30 am – 10:00 am	Registration
10:00 am – 10:30 am	Opening Ceremony
10:30 am – 12:00 pm	Welcome message by – **Dr. Changsu Kim,** President of KASDBA, South Korea – **Dr. Anthony Ilano**, Assistant Dean of School of Arts and Sciences, University of San Carlos – **Don L. Abalon,** Municipal Mayor, San Roque, Northern Samar
	Keynote Speech – **Prof. Robert R. Roxas,** Chair, Department of Computer Science, University of the Philippines, Cebu **Title:** "The Status of Research Activities in the Philippines." – **Prof. Sanjay Misra,** Professor of Computer Engineering, Covenant University – **Dr. Bhanu Shrestha**, Kwangwoon University, Korea **Title:** "IPD Technology in ICT Application."
12:00 pm – 1:30 pm	*Lunch break*
1:30 pm – 3:30 pm	Presentation Session-1
	Presentation Session-2
3:30 pm – 4:00 pm	*Coffee break*
4:00 pm – 5:30 pm	Presentation Session-3
Saturday May 28, 2016	
10:30 am – 12:00 pm	Presentation Session-4

Sunday May 29, 2016	
9:00am – 5:00pm	*Cebu City Tour (Participants registered for the tour program only)

Presentation Session Details

Date: *Friday May 27, 2016*

Session-1 (Communication System and Technology)
Session Chair – Angie M. Ceniza

Time	Program
1:30 pm –3:30 pm (*Friday May 27, 2016*)	Dynamic Switch-Off Technique for Energy Efficient 802.11 Access Network Rojeena Bajracharya, Rakesh Shrestha, Syed Rashid Ali, Sung Won Kim
	Microstrip Resonator Filters Design Using Hairpin Configuration NafisImtiaz Zaman and Bhanu Shrestha
	Performance Evaluation of Heterogeneous Vehicular ad-hoc Networks Rakesh Shrestha, Rojeena Bajracharya, Sirojiddin Djuraev, Seung Yeob Nam
	Coffee break
	Social Networking sites for Interdisciplinary Learning at Workplace: Work integrated informal Learning (WiiL) Rashid Ali, Summara Asghar, Maria Spante, Sung Won Kim, Byung-Seo Kim
	A Hidden Markov Stochastic Context Aware System in Smart Home *Keshav Thapa, Sung-Hyun Yang*
	Design of Dual-Band Bandpass Filter with Controllable Bandwidth Tae-Hyeon Lee, Chang-Soon, Bhanu Shrestha, and Kwang-Chul Son

	Inter-Connection Framework Among Customers Perceived Value, Satisfaction and Loyalty Hikmat Bahadur Bhaat and Changsu Kim
	Support Vector Machine for Seagrass and Benthic Bottom Types Classification Using High Resolution Costal Digital Aerial Images Emmanuel O. Afriyie, Concepcion L. Khan, and Hildie M. Nacorda
	Comparative study of advance error correcting codes Sandip J. Dawda and Saurabh Mehta

Poster Presentation (1:30 pm – 3:30 pm,   *Friday May 27, 2016)*
A Study of Influence of Factor Selection on Predictions Eunmi Jung and Andrew G. Kim
Outcomes-Based Education (OBE) Syllabus Making Tool Eduardo P. Mendoza, Jr.

Session-2 (Information and Communication Technology) **Session Chair – Gyanendra Prasad Joshi, PhD**	
Time	**Program**
1:30 pm –3:30 pm (*Friday May 27, 2016)*	Trivia Portal: A Framework to an Electronic Learning Application May Lanie B. Abadiez et al.
	Design and Performance Evaluation of MIMO- OFDM System in Fading Channels Using Different Channel Coding Techniques Arun Agarwal and Saurabh Mehta
	Cognitive Radio Wireless Sensor Networks: a review Jemish V Maisuria and Saurabh N Mehta
	Performance Evaluation of Slant Transform based Gray Image Watermarking against Jpeg Compression and Print & Scan Attacks Roshan Koju and Shashidhar Ram Joshi
	Dynamic Pricing Strategies for the Opportunistic Spectrum Treading Youseuk Son, Srijana Acharya, Binaya Pradhan

	Spectrum Trading in Cognitive Radio Networks Jong GyuChae and Srijana Acharya
	Assessment of Big Data based Adaptive Strategies in Telecommunication Companies Jong Kug Choi and Srijana Acharya
	Strategic Implementation of Government Enterprise Architecture for comprehensive e-Gov realization Krishna Pandey
	The Implementation of WBAN-Based Medical Gateway JongYong Lee, KyeDong Jung
	Mobile-based Emergency Report and Response System for Academic Institutions of Developing Countries Adewole Adewumi, Collins Nwaoyo, Franklin Johnson Parejas, Sanjay Misra, Broderick Crawford, Ricardo Soto
	Component Based Software Engineering Approach to Implementation of an Electronic Health Records System for Postnatal Service Delivery Modupe Matiluko, Zacchaeus Omogbadegun, Nicholas Omoregbe, Foluso Ayeni, Franklin Johnson Parejas, Sanjay Misra, Broderick Crawford, Ricardo Soto
	An Energy Efficient Clustering Scheme with Head control and Mobility Prediction in Mobile Wireless Sensor Networks JongYong Lee, KyeDong Jung
	Distance and Energy Aware LEACH JongYong Lee, KyeDong Jung

Session-3 (Digital Technology) Session Chair – Rakesh Shrestha, Moderator: Rashid Ali	
Time	**Program**
4:00 pm – 5:30 pm (*Friday May 27, 2016)*	A System Model for Simultaneous Processing of Block Scheduling and Course-Faculty Assignment Mary Jane G. Sabellano

12

Session-3 (Digital Technology)
Session Chair – Rakesh Shrestha, **Moderator**: Rashid Ali

Time	Program
	The role of mobile app use in the decision making behavior of spread traders William Lawrence
	Property Advisory: A Decision Support System in Facilitating Properties for Rent using Analytic Hierarchy Process and Goal Programming Glady Mae B. Payusan, Angie M. Ceniza
	Coffee Break
	Analyzing the Correlation amongst the Students' taking Computing Course Based on Programming Final Grade, Intelligence, Study Habits and Motivation Factors Using Pearson Correlation and Multiple Linear Regression Analysis Ann S. Ares, Mary Jane et.al
	A Study on short-term load forecasting in building based on data mining method Hee-Myung Jeong et al.
	Energy-Aware Configuration Management with Guaranteed Lifetime of Network in Multi-hop WBAN JongYong Lee, KyeDong Jung
	The Cluster Head Election in Wireless Sensor Network Using A Fuzzy Approach JongYong Lee, KyeDong Jung
	Clustering in CR Gyanendra Prasad Joshi
	Low Delay Methods for PSIP information change and transmission in ATSC Digital Broadcast Changhyung Kim, Kyung Chul Kim, SeongJeong, and Chae-Bong Sohn Son

Session-3 (Digital Technology)
Session Chair – Rakesh Shrestha, **Moderator**: Rashid Ali

Time	Program
	HDR Panorama Multi-camera based Images through Feature Points Algorithm Seongsoo Cho, Chung Hyeok Kim, WoonShik Choi
	Design of Dual-Band Bandpass Filter with Controllable Bandwidth Tae-Hyeon Lee, Chang-Soon Kim, Bhanu Shrestha, and Kwang-Chul Son
	Changi Airport Passenger Volume Forecasting Based on an Artificial Neural Network Z. Xie, Z.W. Zhong
	Selling Spectrum to the Secondary Users Jongtae Lee and Gyanendra Prasad Joshi

Session-4 (Digital Convergence)
Session Chair – Muhammad Khalil Afzal, COMSATS Institute of Information Technology (CIIT) Wah Campus, Pakistan

Time	Program
Saturday May 28, 2016 10:30 am – 12:00 pm	Brand Loyalty in Male and Female: "It is difficult to attain male customers but easier to retain, female customers are easier to attain but difficult to retain" Shoaib Imtiaz and Maqbool Ahmad
	Factors affecting debt financing: An analysis of non-financial sector in Pakistan Maqbool Ahmad
	Impact of institutional ownership on firms' performance in Pakistan Shoaib Imtiaz and Maqbool Ahmad
	Coffee Break

Session-4 (Digital Convergence)	
Session Chair – Muhammad Khalil Afzal, COMSATS Institute of Information Technology (CIIT) Wah Campus, Pakistan	
Time	**Program**
	Wideband Bandstop Filter Disign for UWB Applications MdRoqibul Hasan and Surendra Shrestha
	A method for making artificially intelligent robots : A study on speech recognition and synthesis software Arshad Rafid and Fakir Mashuque Alamgir
	Cyber Crime in Cybercafés in Nepal Resham Bahadur Thapa, Bhim Bahadur Pun, Yagya Raj Pant
	Spectral Analysis of Rectangular, Hanning, Hamming and Kaiser Window for Digital Filter Ganesh Gautam and Surendra Shrestha
	Microwave Oscillator Designed with Multi-spurline Resonator Rajendra Lal Shrestha and Binaya Pradhan
	A Study on Application of the Image Processing for Skin Analysis in AR HMD Soon Chul Kwon, An Na Park, Kyeong Cheon Min, and Jeong Gwon Kim
	An Analytical Study of Trust and Environmental Issues of Electronic Auction Systems KaziMamun, Christine Chan, Craig Gelowitz

Conference Venue

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Dynamic Switch-Off Technique for Energy Efficient 802.11 Access Network

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Abstract

   Over the past few decades, wireless communication has experienced phenomenal growth and has now have become fundamental to daily activities. High-density of hundreds to thousands of access points (APs) has been deployed rapidly to serve customers during peak time periods. But unfortunately, they are more than sufficient when the traffic load is low. Thousands of WLANs worldwide compound this problem, as they remain idle for long periods of time, raising serious concerns about energy wastage. In this paper, we consider possible energy savings through dynamically turning off the APs. We propose switch off algorithm for APs, which exploits the knowledge of the distance between the User Equipment's (UEs) and their associated APs. We use Ns2 simulator to evaluate the proposed algorithm. Simulation results show that the proposed algorithm achieves significant power reduction of the network up to 30 to 40 % without significant reduction of overall network throughput.

Keywords- Access Points (APs), Energy Saving, Received signal strength indication (RSSI), Wireless Local Area Network (WLANS).