Guest Editorial
Selected papers from ICASI 2016

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The IEEE 2016 International Conference on Applied System Innovation (IEEE ICASI 2016) was held in Okinawa, Japan on May 27~31, 2016, and provided a unified communication platform for researchers in area of topics from innovation design, communication science & engineering, industrial design, computer science, electrical & electronic engineering, mechanical & automation engineering. Mechanical Engineering and Design Innovations are both an academic and practical engineering field that involves systematic technological materialization through scientific principles and engineering designs. Technological innovation by Mechanical Engineering includes IT-based Intelligent Mechanical Systems, Mechanics and Design Innovations. IT-based Intelligent Mechanical Systems, which implant intelligence to machine systems, is an interdisciplinary area combining conventional mechanical technology and new information technology. The main goal of this special issue "Selected papers from ICASI 2016" is to publish research results in "Applied System Innovation". The ultimate aim is to discover new scientific knowledge relevant to IT-based Intelligent Mechanical Systems, Mechanics and Design Innovations.

There are 1063 abstracts submitted to IEEE ICASI 2016, whereby 520 papers have been accepted to present in IEEE ICASI 2016. This special issue selects 5 excellent papers from IEEE ICASI 2016. **Chang** presents a paper entitled "Cluster Validity Indexes to Uncertain Data for Multi-Attribute Decision-Making Datasets". This paper proposes a novel function, designated as the multi-attribute (MA) index function (derived from the conventional PBMF-index function), is used to evaluate the quality of the clustering solution in terms of the number of clusters assigned to each attribute and the accuracy of the corresponding Rough Set (RS) classification. The MA-index function processes a set of parameter values obtained from the Fuzzy C Mean method, Fuzzy Set theory, and RS theory. **Hsieh** presents a paper entitled "Employing MCDM Methodology to verify correlationship between social media and service quality in the dynamic m-commerce era". This research innovatively employs Quality Function Deployment model of the House of Quality method (QFD-HOQ) model to identify the most potential and influenced determinants of SM technology in order to provide the highest service quality in customer's purchasing processes through comprehensively evaluate the SM technologies functions of customer's desired (WHATs) and the SM technological services of company provided (HOWs). **Wu et al.** present a paper entitled "An Integration System of communication App on Image Recognition". This paper is to solve this problem to let users enjoy communication with each other without being worried about the application brand. Moreover, the solution results in less space occupation as users do not demand to install many similar applications on one mobile phone. **Yeh et al.** present a paper entitled "New Navigation System Combining QR-Code and Augmented Reality". This research combines augmented reality, QR code with cloud computing to establish a cloud navigation system. Throughout the ability of camera from the cellular phone device and apps of QR code, transmits to the operating system by the local wireless networking. After it sends back to the user along with information such as video motion clip and music. Mean while augmented reality uses Park Navigation to identify immediately live scene, letting what is filming through digit information translating telling the user its location, no longer need old style map that costs confusion from the inconvenience of immediate display of information. **Chen et al.** present a paper entitled "An Investigator Unearths Illegal Behavior via a Subliminal Channel". This paper proposes a novel scheme to protect investigators' safety and ensure the security of the collected evidence via a subliminal channel. It uses a cryptographic mechanism to solve the replay attack,

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forgery attack, non-repudiation, untraceable and authentication issues. The scheme not only protects investigators' identity and safety but also constitutes a fair arbitration mechanism.

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Guest Editors

Teen-Hang Meen was born in Tainan, Taiwan on August 1, 1967. He received his BS degree from Department of Electrical Engineering, National Cheng Kung University (NCKU), Tainan, Taiwan in 1989, M.S. and Ph.D. degree from Institute of Electrical Engineering, National Sun Yat-Sen University (NSYSU), Kaohsiung, Taiwan in 1991 and 1994, respectively. He was the chairman of the Department of Electronic Engineering from 2005 to 2011 in National Formosa University, Yunlin, Taiwan. He got the excellent research award of National Formosa University in 2008 and 2014. Currently, he is a professor with the Department of Electronic Engineering, National Formosa University, Yunlin, Taiwan. Since 2011, he is the president of Taiwanese Institute of Knowledge Innovation. He has published more than 100 SCI and EI papers in recent years.

Artde Donald Kin-Tak Lam was born in Hong Kong on February 23, 1965. He received the B.S. degree in mechanical engineering from National Cheng Kung University (NCKU), Tainan, Taiwan, in 1987, and the Ph.D. degree in mechanical engineering (in field of mechanical design) from National Sun Yat-Sen University (NSYSU), Kaohsiung, Taiwan, in 1993. He was a Distinguished Professor, the academic leader and the Director of the Department of Digital Media Arts and Design from 2013 to 2016 in Xiamen Academy of Arts and Design, Fuzhou University, Xiamen, China. Currently, he is a Distinguished Professor and the academic leader and Dupety Dean of the School of Design, Fujian University of Technology, Fuzhou, Fujian, China. He got the first prize of Fujian Natural Science Paper Award in 2014. His current research interests include nanotechnology, innovation design, creative design and Fractal Theory.

Stephen D. Prior has been working in the area of Field Robotics for the past 25 years. His research interest in autonomous systems relates to a shortlisted entry to the MoD Grand Challenge event in August 2008, where he led a team to design, make and test a novel unmanned aerial vehicle, which consisted of a patented Y6 arrangement. On the basis of this, he founded the Autonomous Systems Lab and has been researching with a small team of staff/students working on defence-related robotic technologies. He is on the editorial board for the International Journal of Micro Air Vehicles and has published widely on the subject. Recent work involved the design and development of a series of Nanotechnology platforms, which were demonstrated and flown at the DSEi exhibition at the Excel Centre in London (September 2011), as well as developing the winning entry to the DARPA UAVForge challenge 2012. During the last year he has been building a Tethered UAS solution for persistent stare capability.