

2017 2nd International Conference on Multimedia Systems and Signal Processing (ICMSSP 2017)

2017 4th International Workshop on Networks and Information Security (ICNIS 2017)

**Taichung, Taiwan
August 13-16, 2017**

Conference Abstract

Venue: The Splendor Taichung

会议地址: 台中金典酒店

Add.: No.1049, Chien Hsing Rd., West Dist., Taichung 403, Taiwan

地址: 台中市西區 403 健行路 1049 號 (中港路口)

Instructions for Oral Workshop

Note: The following time arrangement is for reference only. In case any absence or some presentations are less than 15 minutes, please come before your session starts.

*A best presentation will be selected from each session which will be announced and awarded an excellent oral presentation certificate at the end of this session.

Devices Provided by the Conference Organizer:

- ✧ **Laptops (with MS-Office & Adobe Reader)**
- ✧ **Projectors & Screen**
- ✧ **Laser Sticks**

Materials Provided by the Presenters:

- ✧ **PowerPoint or PDF files**
- ✧ **Poster Presentation: A1 Size, Portrait Direction**

Please copy your slide file to the desktop before session starts

During your poster session, the author should stay by your poster paper to explain and discuss your paper within visiting

Duration of Each Presentation:

- ✧ **Regular Oral Session: about 20 Minutes of Presentation including Q&A.**
- ✧ **Keynote Speech: 50 Minutes of Presentation including Q&A.**

About Dress Code

- ✧ **All participants are required to dress formally. Casual wear is unacceptable.**
- ✧ **National formal dress is acceptable.**

Keynote Speakers



Prof. Chin-Chen Chang
IEEE and IET Fellows, Feng Chia University, Taiwan

Professor Chin-Chen Chang obtained his Ph.D. degree in computer engineering from National Chiao Tung University. His first degree is Bachelor of Science in Applied Mathematics and master degree is Master of Science in computer and decision sciences. Both were awarded in National Tsing Hua University. Dr. Chang served in National Chung Cheng University from 1989 to 2005. His current title is Chair Professor in Department of Information Engineering and Computer Science, Feng Chia University, from Feb. 2005. Prior to joining Feng Chia University, Professor Chang was an associate professor in Chiao Tung University, professor in National Chung Hsing University, chair professor in National Chung Cheng University. He had also been Visiting Researcher and Visiting Scientist to Tokyo University and Kyoto University, Japan. During his service in Chung Cheng, Professor Chang served as Chairman of the Institute of Computer Science and Information Engineering, Dean of College of Engineering, Provost and then Acting President of Chung Cheng University and Director of Advisory Office in Ministry of Education, Taiwan. Professor Chang's specialties include, but not limited to, data engineering, database systems, computer cryptography and information security. A researcher of acclaimed and distinguished services and contributions to his country and advancing human knowledge in the field of information science, Professor Chang has won many research awards and honorary positions by and in prestigious organizations both nationally and internationally. He is currently a Fellow of IEEE and a Fellow of IEE, UK. And since his early years of career development, he consecutively won Institute of Information & Computing Machinery Medal of Honor, Outstanding Youth Award of Taiwan, Outstanding Talent in Information Sciences of Taiwan, AceR Dragon Award of the Ten Most Outstanding Talents, Outstanding Scholar Award of Taiwan, Outstanding Engineering Professor Award of Taiwan, Chung-Shan Academic Publication Awards, Distinguished Research Awards of National Science Council of Taiwan, Outstanding Scholarly Contribution Award of the International Institute for Advanced Studies in Systems Research and Cybernetics, Top Fifteen Scholars in Systems and Software Engineering of the Journal of Systems and Software, Top Cited Paper Award of Pattern Recognition Letters, and so on. On numerous occasions, he was invited to serve as Visiting Professor, Chair Professor, Honorary Professor, Honorary Director, Honorary Chairman, Distinguished Alumnus, Distinguished Researcher, Research Fellow by universities and research institutes. He also published over several hundred papers in Information Sciences. In the meantime, he participates actively in international academic organizations and performs advisory work to government agencies and academic organizations.

Speech Title: Using Meaningful Digital Shadow Images to Recover a Secret Message

Abstract: Secret sharing is an important technique to ensure well protection of transmitted information by dividing a secret message into several shadows that are held among a set of participants. In this talk, I will introduce a novel secret sharing method using two meaningful digital images with cheating detection. It allows a dealer to share a secret message into two different meaningful images through the guidance of the turtle shell magic matrix. Then, after performing a permutation operation, two meaningful shadow images are generated and distributed to two participants. The secret message can be reconstructed only when both participants cooperate by releasing real shadow images. Honest participant in this method can easily detect whether the other participant is cheating via presenting a faked shadow. Experimental results show that this method ensures high quality of shadow images and good embedding capacity. The cheating detection process is also effective and very easy to implement.



**Prof. Jeng-Shyang Pan,
National Kaohsiung University of Applied Sciences, Taiwan
Assistant President, Fujian University of Technology, China; Dean, College of
Information Science and Engineering**

Jeng-Shyang Pan received the B. S. degree in Electronic Engineering from the National Taiwan University of Science and Technology in 1986, the M. S. degree in Communication Engineering from the National Chiao Tung University, Taiwan in 1988, and the Ph.D. degree in Electrical Engineering from the University of Edinburgh, U.K. in 1996. Currently, he is the Assistant President and Dean of the College of Information Science and Engineering in Fujian University of Technology. He is also the Professor in the Harbin Institute of Technology. He has published more than 500 papers in which 200 papers are indexed by SCI, the H-Index is 37 and the total cited times are more than 5500. He is the IET Fellow, UK and has been the Vice Chair of IEEE Tainan Section. He was Awarded Gold Prize in the International Micro Mechanisms Contest held in Tokyo, Japan in 2010. He was also awarded Gold Medal in the Pittsburgh Invention & New Product Exposition (INPEX) in 2010, Gold Medal in the International Exhibition of Geneva Inventions in 2011 and Gold Medal of the IENA, International “Ideas – Inventions – New products“, Nuremberg, Germany. He was offered Thousand Talent Program in China in 2010. He is on the editorial board of International Journal of Innovative Computing, Information and Control, LNCS Transactions on Data Hiding and Multimedia Security, Journal of Information Hiding and Multimedia Signal Processing, Chinese Journal of Electronics and Springer Plus. His current research interests include soft computing, robot vision and big data mining.

Speech Title: TBA

Abstract: TBA



**Prof. James C.N. Yang,
National Dong Hwa University, Taiwan**

CHING-NUNG YANG received the B.S. degree and the M.S. degree, both from Department of Telecommunication Engineering at National Chiao Tung University. He received Ph.D. degree in Electrical Engineering from National Cheng Kung University. He is a professor in the Department of Computer Science and Information Engineering at National Dong Hwa University. Also, Prof. Yang is currently a Fellow of IET (IEE) and an IEEE senior member. He has published several hundreds of journal and conference papers in the areas of information security, multimedia security and coding theory. He is the guest editor of a special issue on "Visual Cryptography Scheme" for Communication of CCISA, and a coauthor of a series of articles on "Image Secret Sharing" for the Encyclopedia of Multimedia. He is the coeditor of two books "Visual Cryptography and Secret Image Sharing" published by CRC Press/Taylor & Francis, and "Steganography and Watermarking" published by Nova Science Publishers, Inc. He serves as a technical reviewer for over 30 major scientific journals in the areas of his expertise, and serves as editorial boards of some journals. Also, has served chairs, keynote speakers, and members of program committees of various international conferences. He is the recipient of the 2000, 2006, 2010, 2012, and 2014 Fine Advising Award in the Thesis of Master/PhD of Science awarded by Institute of Information & Computer Machinery. His current research interests include coding theory, information security, and cryptography.

Speech Title: Covering Codes for Applications in Steganography

Abstract: Steganography is an important research area combining methods and techniques coming from cryptography and image processing. This talk introduces covering code based steganography, which has wide and practical applications in modern digital environment. The covering code, using error correcting code (ECC), based steganography was first proposed by Crandall to improve embedding efficiency and meanwhile reduce the number of modified bits. Many ECC-based steganographic schemes were accordingly proposed, e.g., using Hamming code, BCH code, and Golay code. This talk will briefly describe some steganographic schemes using Hamming+1, Hamming-like, Golay+1, Golay+2, and unequal error protection (UEP). When considering ECC-based steganography on pixel domain, the ECC-based steganographic approach has tight relations between the well-known data hiding technologies LSB and OPAB. This talk we describe these three approaches, which are different ways to change bits for embedding secret data. On the other hand, we also introduce how to apply ECC-based steganography on non-pixel domain, e.g., frequency domain and AMBTC compression domain.

Day 1, Sunday, August 13, 2017 Arrival Registration & Feng Chia University Visiting	
10:30am - 12:00pm	Arrival Registration <i><Venue: Lobby></i>
14:00pm - 16:00pm	Feng Chia University Visiting

Day 2, Monday, August 14, 2017 Keynote Speeches & Authors' Presentation		
9:00am-9:05am	Opening Remarks	Prof. Jeng-Shyang Pan National Kaohsiung University of Applied Sciences, Taiwan Assistant President, Fujian University of Technology, China; Dean, College of Information Science and Engineering
9:05am-9:55am		Keynote Speech 1 Prof. Chin-Chen Chang IEEE and IET Fellows, Feng Chia University, Taiwan Speech Title: <i>Using Meaningful Digital Shadow Images to Recover a Secret Message</i>
9:55am-10:15am	Group Photo & Coffee Break	
10:15am-11:05am		Keynote Speech 2 Prof. Jeng-Shyang Pan, National Kaohsiung University of Applied Sciences, Taiwan Assistant President, Fujian University of Technology, China; Dean, College of Information Science and Engineering Speech Title: <i>TBA</i>
11:05am-11:55am		Keynote Speech 3 Prof. James C.N. Yang, National Dong Hwa University, Taiwan Speech Title: <i>Covering Codes for Applications in Steganography</i>

12:00pm-14:00pm	Lunch
From 14:00pm	Authors Presentations
Start from 17:30pm	Dinner Time

Day 3, Tuesday, August 15, 2017
One day tour

Conference Venue/会议地址

THE SPLENDOR TAICHUNG

台中金典酒店



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