

ICICS 2009

The Seventh International Conference on Information, Communications & Signal Processing

**8 – 10 December 2009
Macau**

COPYRIGHT AND REPRINT PERMISSION:

© 2009 IEEE. Personal use of this material is permitted. However, permission to reprint/republish this material for advertising or promotional purposes or for creating new collective works for resale or redistribution to servers or lists, or to reuse any copyrighted component of this work in other works must be obtained from the IEEE.

Copyright © 2009 by The Institute of Electrical and Electronics Engineers

Papers are printed as received from the authors.

All opinions expressed in the Proceedings are those of the authors and are not binding on the Institute of Electrical and Electronics Engineers, Inc.

IEEE Catalog Number: CFP09435

ISBN: 978-1-4244-4657-5

Library of Congress: 2009904679

**Seventh International Conference on
Information, Communications & Signal Processing
(ICICS 2009)**

Honorary Conference Chairs

Chan Hin KAM, Singapore
Meng Hwa ER, Singapore
Rui MARTINS, Macau

Organising Committee

Advisors

Tee Hiang CHENG
Kwok Hung LI
Yap Peng TAN

General Chairs

Perry SHUM
Mang I VAI
Lipo WANG

Program Chairs

Yong Liang GUAN
Anamitra MAKUR
Seng Pan U

Special Session Chairs

Kap Luk CHAN
Maode MA

Secretaries

Saman S ABEYSEKERA
Erry GUNAWAN

Finance Chairs

Lihui CHEN
Gaoxi XIAO

Tutorial Chairs

Peter H J CHONG
Pina MARZILIANO

Exhibition Chairs

Yee Hui LEE
Man Chung WONG
Ping XUE

Local Arrangement Chairs

Lap Pui CHAU
Pui In MAK
Sai Weng SIN
See Ho TING

Publication Chairs

Sheel ADITYA
Guoan BI

Publicity Chairs

Say Wei FOO
Yi GONG

Conference Manager

Joseph LIM

International Advisory Committee

Liang-Gee CHEN, Taiwan
Uday B. DESAI, India
Mounir HAMD, Hong Kong
Richard HARRIS, New Zealand
Soo Ngee KOH, Singapore
Alex C. KOT, Singapore
Anurag KUMAR, INDIA
Sun-Yuan KUNG, USA
Byeong Gi LEE, Korea
K. K. LEUNG, United Kingdom

Biswanath MUKHERJEE, USA
Jongkol NGAMWIWIT, Thailand
Zhisheng NIU, China
Wan-Chi SIU, Hong Kong
Geok Leng TAN, Singapore
Moe WIN, IEEE Fellow, USA
Naoaki YAMANAKA, Japan
Susumu YOSHIDA, Japan
Moshe ZUKERMAN, Hong Kong

Technical Program Committee

Hairul Azhar bin ABDUL RASHID, Malaysia
Fumiyuki ADACHI, Japan
Sanjay Kumar BOSE, India
Ajit CHATURVEDI, India
Ho-Shin CHO, Korea
Hsiao Hwa CHEN, Taiwan
Nopporn CHOTIKAKAMTHORN, Thailand
Anthony G CONSTANTINIDES, United Kingdom
Suhas DIGGAVI, Switzerland
Petar M DJURIC, USA
Mounir HAMD, Hong Kong
Jari IINATTI, Finland

Stan Ziqing LI, China
Teng Joon LIM, Canada
Chao LU, Hong Kong
T S NG, Hong Kong
Soo Chang PEI, Taiwan
Winston SEAH, Singapore
Svante SIGNELL, Sweden
Ulrich SPEIDEL, New Zealand
M N SWAMY, Canada
Fuqin XIONG, USA
Jacek M ZURADA, USA

Welcome Message from General Chairs



Prof. Perry SHUM
NTU, Singapore



Assoc. Prof. Mang I VAI
UMAC, Macau



Assoc. Prof. Lipo WANG
NTU, Singapore

Welcome to the International Conferences on Information, Communications and Signal Processing – ICICS 2009 in Macau SAR, China, which is the 7th of its series. ICICS 2009 is jointly organized by Nanyang Technological University and University of Macau. Besides these two institutions, the conference had also the collaboration and technical support of IEEE Communications Society, IET, IEEE Macau Section, IEEE Macau CAS / COM Joint Chapter, IEEE Singapore Section, IEEE Singapore Signal Processing Chapter, IEEE Singapore Communications Chapter, IEEE Singapore Circuits & Systems Chapter, IET Singapore Network and IET Hong Kong Network. It will be held in the Fisherman's Wharf, Macau, China, in a convenient location close to the prestigious UNESCO World Heritage sites.

We would like to take this opportunity to express our special thanks to the organizations and individuals who have made this meeting possible. First, we wish to acknowledge the generous support of University of Macau, and Nanyang Technological University. We would also like to express our appreciation to the conference co-sponsors and technical co-sponsors for their technical support and assistance. We are very grateful to the ICICS 2009 Organizing Committee members for their devotion of time and promptness in organizing this conference and their efforts to widely promote the conference, to all the honorable guests and invited speakers for their significant contributions to the Program, and, finally, the most important, to you for your participation in ICICS 2009; it is your participation that will make the meeting a successful event.

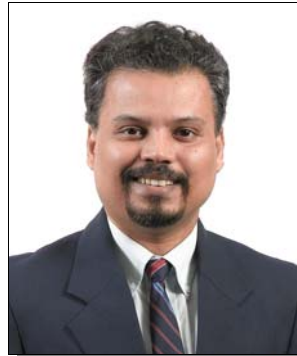
I hope you find ICICS 2009 an interesting forum for exchange of ideas and also enjoy your stay in Macau.

Perry SHUM, Mang I VAI and, Lipo WANG
General Chairs

Welcome Message from Program Chairs



Assoc. Prof. Y L GUAN
NTU, Singapore



Assoc. Prof. A MAKUR
NTU, Singapore



Assoc. Prof. S P U
UMAC, Macau

A very warm welcome to the seventh International Conference on Information, Communications and Signal Processing (ICICS 2009) from the Program Chairs and the Technical Program Committee. We are confident that you will find the technical presentations and technical interactions over the next three days to be interesting and inspiring.

At the forefront of technical program are three eminent keynote speakers starting each day's proceedings. Professor Charles Bouman of Purdue University will take on the challenges in digital imaging. Professor Khaled Letaief of Hong Kong University of Science & Technology will enlighten us on the resource management for wireless networks. Dr. Hong-Jiang Zhang from Microsoft Advanced Technology Center will get us thinking about multimedia content analysis and search. We are truly looking forward to these exciting talks.

Given the fact that this is the seventh conference in a series that started way back in 1997, and that ICICS over these years has created fan-following who look forward to the next ICICS, it was not surprising that the call for papers invoked a good response in spite of the depressive times. We received 578 full-paper submissions, and another about 20 invited abstracts, originating from 36 countries. These submissions were then assigned to several track chairs based on the area. The track chairs invited reviewers, and based on nominally three or more reviews, suggested a decision. Eventually 356 submissions were accepted for presentation at the conference. These presentations have been scheduled in 52 technical sessions spanning three days. The sessions include six special sessions, organized by researchers across the globe, on diverse but contemporary topics spanning wind and rain attenuation to human factors in communication.

A vast and diverse technical program such as this would not have been possible without the help of several people, whom we take this opportunity to thank: The keynote speakers, Professor Bouman, Professor Letaief, and Dr. Zhang, for sharing their expertise with us; The members of the Technical Program Committee, for their guidance and their role as track chair or reviewer; The track chairs, for arranging the reviews; The reviewers, for their time and their crucial inputs; The International Advisory Committee members for choosing the best student paper awards; The session chairs, for smooth running of the technical sessions; The delegates, for making this conference a success; The special session chairs for organizing exciting special sessions; The publication chairs for handling the publication of the conference proceedings; The publicity chairs for reaching out to so many researchers; and The management, technical staff and volunteers, for getting the dirty work done.

We hope you have a great time at the conference and also enjoy the stay in this UNESCO World Heritage City with a unique mix of East and West cultures.

Yong-Liang Guan, Anamitra Makur, Seng Pan U
Program Chairs

Session ThA3

Date **Thursday, 10 December 2009**
Time **10:30 - 12:30**
Venue **Room 3**

Image Coding and Enhancement

Session **S C CHAN**
Chair The University of Hong Kong

ThA3.1 P0496 10:30 - 10:50

Error Resilience Analysis of Wireless Image Transmission using JPEG, JPEG 2000 and JPWL

*Wei XIANG, Andrew CLEMENCE, John LEIS, *Yafeng WANG*
University of Southern Queensland
*Beijing University of Posts and Telecommunications

ThA3.2 P0104 10:50 - 11:10

A New Transform for Document Image Compression

*Aye AUNG, *Boon Poh NG, *Cherry Tin SHWE*
The University of Newcastle
*Nanyang Technological University

ThA3.3 P0347 11:10 - 11:30

Blocky Noise Reduction for JPEG Images using Total Variation Minimization

*Tomio GOTO, *Ryu KOMATSU, Masaru SAKURAI*
Nagoya Institute of Technology
*Sony EMCS Corporation

ThA3.4 P0605 11:30 - 11:50

Image Deblocking by the Dual Adaptive FIR Wiener Filter and Overcomplete Representation

Renqi ZHANG, Yiu-Leung FONG, Wai-Kuen CHAM
The Chinese University of Hong Kong

ThA3.5 P0442 11:50 - 12:10

Real-time Speckle Reducing by Cellular Neural Network

*Pham Duc LONG, *Pham Thuong CAT*
Thai Nguyen University - Vietnam
*Vietnamese Academy of Science and Technology

ThA3.6 P0599 12:10 - 12:30

An Approach to 2D-To-3D Conversion for Multiview Displays

K T NG, Z Y ZHU, S C CHAN
The University of Hong Kong

Session ThA4 - Special Session

Date **Thursday, 10 December 2009**
Time **10:30 - 12:30**
Venue **VIP Lounge**

Vehicle Communication

Session **Fabienne NOUVEL**
Chair Institute Electronic Telecommunication
Rennes/INSA

ThA4.1 P0640 10:30 - 10:50

A Reliable Route Selecting Algorithm for Vehicle Communication

*Huaqun GUO, *Feng TAO, **Maode MA, Yongdong WU*
Institute for Infocomm Research
*National University of Singapore
**Nanyang Technological University

ThA4.2 P0644 10:50 - 11:10

An Integrated Embedded System for Car Control

*Lanzi JIANG, *Huaqun GUO, Wai-Choong WONG*
National University of Singapore
*Institute for Infocomm Research

ThA4.3 P0701 11:10 - 11:30

Analysis of the Traveling Salesman Problem with a Subset of Intermediate Cities and Dynamic Edge Weights used with Intelligent Transportation Systems

Jeffrey MILLER
University of Alaska

ThA4.4 P0583 11:30 - 11:50

A Simulation Study for the Communication Subsystem of Wireless Traffic Information Service System

Qi WANG, Jianming HU, Yizhi WANG, Yi ZHANG
Tsinghua University

ThA4.5 P0645 11:50 - 12:10

What is about Future High Speed Power Line Communication Systems for In-vehicles Networks?

Fabienne NOUVEL, Philippe TANGUY
Institute Electronic Telecommunication
Rennes/INSA

ThA4.6 P0372 12:10 - 12:30

WiMAX Telemedicine System for Emergence Medical Service

Ka Lun LAM, Hoi Yan TUNG, Kim Fung TSANG, King Tim KO
City University of Hong Kong