Image Processing, Image Analysis and Real-Time Imaging (IPIARTI) Symposium 2013

Symposium on Acoustic, Speech and Signal Processing (SASSP) 2013

9th May 2013, Universiti Tenaga Nasional, Putrajaya Campus, Malaysia

IEEE Signal Processing Society Malaysia Chapter and the Center for Signal Processing and Control Systems (*CSPaCS*), Universiti Tenaga Nasional, will jointly organize the 4th symposium on Image Processing, Image Analysis and Real Time Imaging (IPIARTI 2013) and the 1st Symposium on Acoustics, Speech and Signal Processing (SASSP 2013), on 9th May 2013 at Universiti Tenaga Nasional, Putrajaya Campus, Selangor, Malaysia.

These **FREE** events, open to all IEEE members and non-members, are organized

- to bring the university and industry community together to share and discuss the latest trends in image and signal processing, analysis and real-time implementation, and
- to promote IEEE Signal Processing Society Malaysia Chapter to the Malaysian academic and industry community as a forum for professional networking and advancement.

PROGRAM

Free Registration!

08.30 - 09.00: Registration
09.00 - 09.30: Welcoming Speech
09.30 - 10.30: Keynote Speech #1
The Status of Digital Watermarking,
Dr. Ton Kalker, VP, Security and DRM, DTS Inc., USA.
10.30 - 11.00: Morning Tea
11.00 - 12.00: Keynote Speech #2
Technologies in Cardiac Imaging,
Prof. Dr. Ir. Eko Suprianto, Director, IJN-UTM Cardiovascular Engineering centre, UTM
12.00 - 13.00: Keynote Speech #3
From theory to practice – Experiences with the DSP-Microcontroller for Mechatronic systems,
Dr. Farrukh Hafiz Nagi, Associate Professor, Universiti Tenaga Nasional
13.00 - 14.30: Lunch and Prayer
14.30 - 15.30: Parallel Session #1A (SASSP); Parallel Session #1B (IPIARTI)
15.30 - 16.30: Parallel Session #2A (SASSP); Parallel Session #2B (IPIARTI)
16.30 - 17.00: Closing and Evening Tea

ABSTRACT SUBMISSION FOR REGULAR PRESENTATION

Prospective presenters are invited to submit a one-page abstract of their work. The selected presenters will receive a certificate of appreciation as an invited speaker.

Deadline for abstracts submission is **30th April 2013**.
Please email your abstract to myspsoc@ieee.org

REGISTRATION

Whether you are presenting or just attending the symposium, please email the following information to myspsoc@ieee.org.

Name: _____ **Presenter**: Yes/No

Affiliation: _____ **IEEE Membership ID**:_____

Email:_____ **Tel. No**:_____

LUNCH AND REFRESHMENTS PROVIDED!

http://spsocmalaysia.org

ORGANIZED BY:

IEEE (Malaysia Section) Signal Processing Society

CO-ORGANIZED BY:

CSPaCS Universiti Tenaga Nasional

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KEYNOTE SPEAKERS

Ton Kalker received both his M.S. and Ph.D. degrees in mathematics from the University of Leiden, The Netherlands, in 1979 and 1983, respectively. He has made significant contributions to the field of media security, in particular digital watermarking, robust media identification and interoperability of Digital Rights Managements systems. His research in this growing field started in 1996, submitting and participating in the standardization of video watermarking for DVD copy protection. His solution was accepted as the core technology for the proposed DVD copy protection standard and earned him the title of Fellow of the IEEE (2002). His subsequent research focused on robust media identification, where he laid the foundation of the Content Identification business unit of Philips Electronics (currently Civolution), successful in commercializing watermarking and other identification technologies. Dr. Kalker is co-author on 40+ granted patents and 40+ patent applications.

Dr. Kalker is currently VP of Security and DRM at DTS. Prior to that he was VP of Technology for the Innovation Center of Huawei in Santa Clara, responsible for driving the media research program, focusing on real-time communication, media technologies for future Internet architectures, and HMI. Prior to Huawei, as a Distinguished Technologist at Hewlett-Packard Labs, he focused his research on the problem of non-interoperability of DRM systems. He was one of the three lead architects of Coral, publishing a standard framework for DRM interoperability in the summer of 2007. Subsequently, he co-chaired the Technical Working Group of DECE (http://www.decellc.com), publicly known as UltraViolet (http://www.uvvu.com). He also actively participates in the academic community.

Dr. Kalker is Co-Founder, IEEE Transactions on Information Forensics (2005); Co-Founder and Chair, Information Forensics and Security Technical Committee (2006-2007); Guest Editor, IEEE Transactions on Signal Processing Supplement on Secure Media; Associate Editor, IEEE Transactions on Information Forensics and Security (2005-Present); Associate Editor, IEEE Transactions on Multimedia (2004-2005) (2011-Present); Associate Editor, IEEE Transactions on Image Processing (2011-Present); Associate Editor, IEEE Signal Processing Letters (2003-2004); Associate Member, Information Forensics and Security Technical Committee; Member, Image and Multidimensional Signal Processing Technical Committee (2000-2005); Member, Image, Video, and Multidimensional Signal Processing Technical Committee (2011-Present); Member, Signal Processing Fellow Evaluation Committee (2009-2011); Technical Program Chair, the first Workshop on Information Forensics and Security (WIFS-09 in London); Tutorial Co-Chair, ICME (2010); and Tutorial Co-Chair, ICIP (2011). Dr Kalker was part-time faculty at the University of Eindhoven, the Netherlands (1998-2004).

Dr. Kalker has worked on a wide variety of topics related to media security, carefully balancing theoretical and practical aspects. Of particular importance are Ton's contributions on the following: real-time video watermarking technologies on constrained platforms for active copyright enforcement; assessing the security of watermarking technologies, including secure watermark detection; watermarking for traitor tracing and forensics; secure signal processing (processing in the encrypted domain); limits and methods for reversible watermarking; robust hashing of audio, with an emphasis on efficient search strategies; semantic compression (compressed representations that maintain semantic significance); secure biometrics; interoperability of Digital Rights Management, based upon his work in Coral and DECE.

Abstract: The Status of Digital Watermarking

Digital Rights Management (DRM) refers to a set of technologies and systems with the aim of controlling access to and use of (valuable) digital content. The perceived overarching reason for the deployment of DRM is to 'restore' the pecuniary feedback from content consumers to content creators & owners.

Traditional DRM technologies require cryptographic wrappers as a core component. In the mid-nineties however, awareness arose that cryptographic wrappers cannot be relied upon in the whole of the content creation to content consumption chain: human perception requires plaintext content representation. Thus arose the interest in media technologies that allow content management tools that do not rely on wrappers. Digital watermarking and robust identification are the two main representatives in this class of techniques.

In this talk we will sketch the state-of-the-art of digital watermarking, preceded by an historical overview. In particular we will show how digital watermarking has evolved from hiding logos in images to a method for robustly transmitting information hidden in a chosen host object. We will address the basic performance parameters, with particular emphasis on watermark security. In passing we will also shortly mention reversible watermarking, data hiding and the relation with robust recognition. Finally, we will highlight the strengths and the weaknesses of digital watermarking in the context of DRM.