

Sunday, December 13, 2015

5:00 – 6:00 PM [Registration](#)

Monday, December 14, 2015

8:00 – 9:00 AM [Registration](#)

9:00 AM - 9:15 AM [Conference Opening](#)

9:16 AM - 10:40 AM [Session 1: Communication Theory](#)

A Trellis-Coded 16QAM Receiver With Virtual Channels in Overloaded MIMO

Satoshi Denno (Okayama University, Japan); Hidenori Osai (Okayama University, Japan)

Trellis based Node Operations for LDPC Decoders from the Information Bottleneck Method

Jan Lewandowsky and Gerhard Bauch (Hamburg University of Technology, Germany)

Performance Analysis of Noise-based Frequency Offset Modulation in Dense Frequency-Selective Fading Channels

Ibrahim Bilal (University of Twente, The Netherlands)

Performance Analysis of a Piecewise-and-Forward Relay Network on Rayleigh Fading Channels

Farnaz Gharari, Thi My Chinh Chu and Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden)

Synchronization and Channel Estimation in DFT Modulated Filter Bank Cognitive Radio Transceivers

Nour Mansour and Dirk Dahlhaus (University of Kassel, Germany); Prajwal Keshavamurthy (Universität Kassel, Germany)

10:40 AM - 11:00 AM [Coffee / Tea Break](#)

11:00 AM - 12:40 PM [Session 2: Signal Processing for Multimedia - 1](#)

Soundfield Control for Consumer Device Testing

Glenn Dickins (Dolby Laboratories, Australia); Hanchi Chen and Wen Zhang (Australian National University, Australia)

Prediction of Emotional States in Parent-Adolescent Conversations using Non-Linear Autoregressive Neural Networks

Melissa Stolar and Margaret Lech (RMIT University, Australia); Ian Burnett (University of Technology Sydney, Australia)

Towards Real-time Speech Emotion Recognition using Deep Neural Networks

Haytham M. Fayek, Margaret Lech and Lawrence Cavedon (RMIT University, Australia)

A Feedback based method for License plate image binarization

Mandar Sovani (University of Melbourne, Australia); Duc Vo and Subhash Challa (Sensen Networks, Australia); Marimuthu Palaniswami (University of Melbourne, Australia)

Dynamic Gesture Recognition Using Software Defined Radio Based on Smooth Pseudo Wigner-Ville Distribution

Gongjian Wei (Beijing University of Post and Telecommunication, P.R. China); Ting Jiang (Beijing University of Posts & Telecommunications, P.R. China); Wei Liu and Yue Liu (China Mobile Research Institute, P.R. China)

12:40 PM - 1:30 PM **Lunch**

1:30 PM - 3:10 PM **Session 3: Signal Processing for Communications - 1**

Non-Uniform Linear Antenna Array Design for Millimeter Wave MIMO Channels

Peng Wang (Huawei Technologies Sweden AB, Kista, Sweden, Sweden); Yonghui Li (University of Sydney, Australia); Yuexing Peng (Beijing University of Posts & Telecoms, P.R. China); Soung Chang Liew (The Chinese University of Hong Kong, Hong Kong); Branka Vucetic (The University of Sydney, Australia)

Baseband Equalizer for TX Leakage Cancellation in Active Duplexing

Shabbir Ahmed, Raheleh Eslampanah and Robabeh Antiohos (Victoria University, Australia); Stefan Andersson (Ericsson & Ericsson Research, Sweden); Mike Faulkner (Victoria University, Australia)

Lattice-Reduction-Aided Preequalization over Algebraic Signal Constellations

Sebastian Stern and Robert F.H. Fischer (Ulm University, Germany)

DOA Estimation in MIMO Radar Using Temporal Spatial Virtual Array with MUSIC algorithm

Hiroataka Hayashi and Tomoaki Ohtsuki (Keio University, Japan)

3:10 PM - 3:30 PM **Coffee / Tea Break**

3:30 PM - 5:10 PM **Session 4: Wireless Communications - 1**

On the Outage Capacity of an Underlay Cognitive Radio Network

Louis Sibomana and Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden); Hung Tran (ETS, Canada)

Symbol Error Probability and Effective Capacity of an Underlay CRN over alpha-mu Fading Channels

Charles Kabiri, Louis Sibomana and Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden)

Turbo Compressed Channel Sensing for Millimeter Wave Communications with Massive Antenna Arrays and RF Chain Constraints

Lingyi Han (Beijing University of Posts and Telecommunications, P.R. China); Yuexing Peng (Beijing University of Posts & Telecoms, P.R. China); Yonghui Li (University of Sydney, Australia); Hui Zhao (Beijing University of Posts and Telecommunications, P.R. China); Jiang Zhao (Researcher, P.R. China)

Distortion-Loop Analysis for Full-Duplex Amplify-and-Forward Relaying in Cooperative Multicast Scenarios

Omid Taghizadeh and Markus Rothe (RWTH Aachen University, Germany); Ali Cagatay Cirik (University of Edinburgh, United Kingdom); Rudolf Mathar (RWTH Aachen University, Germany)

Frequency Domain Blind Channel Estimation without Phase Ambiguity for QAM-OFDM Systems

Hiroshi Shiratsuchi and Hiromu Gotanda (Kindai University, Japan)

6:00 PM - 8:00 PM Reception

Tuesday, December 15, 2015

8:30 AM - 9:15 AM Keynote Address

Coded Slotted Aloha (CSA) Schemes for Machine-to-Machine Communications

Jinhong Yuan (University of New South Wales, Australia)

9:15 AM - 10:40 AM Session 5: Authentication and Security

A Secure DHT-based Key Distribution System for Attribute-based Encryption and Decryption

Dirk Thatmann and Artjom Butyrtschik (Technische Universität Berlin, Germany); Axel Küpper (TU Berlin, Germany)

Challenges in Emulating Sensor and Resource-Based State Changes for Android Malware Detection

Jacob Boomgaarden, Josh Corney, Holly Whittaker, George Dinolt and John C. McEachen (Naval Postgraduate School, USA)

An Artificial Fast Fading Generation Scheme for Physical Layer Security of MIMO-OFDM Systems

Yu Kozai and Takahiko Saba (Chiba Institute of Technology, Japan)

10:40 AM - 11:00 AM Coffee / Tea Break

11:00 AM - 12:40 PM Session 6: Signal Processing and Communication Theory

Modified labeled particle probability hypothesis density filter for joint multi-target tracking and classification

Yunxiang Li, Huaitie Xiao, Hao Wu and Qiang Fu (National University of Defense Technology, P.R. China); Rui Hu (Second Military Medical University, P.R. China)

An Upper Bound on the Capacity of Censored Channels

Gholamreza Alirezaei and Rudolf Mathar (RWTH Aachen University, Germany)

BER Analysis of Optical eU-OFDM Transmission over AWGN

Ronald Mulinde, Khoa D. Nguyen and William G Cowley (University of South Australia, Australia)

On the use of Slepian Functions for the Reconstruction of the Head-Related Transfer Function on the Sphere

Alice Bates (Australian National University, Australia); Zubair Khalid (Lahore University of Management Sciences, Pakistan); Rodney Andrew Kennedy (The Australian National University, Australia)

An Efficient Algorithm for Dictionary Learning with a Mixed-norm Regularizer for Sparsity Based on Proximal Operator

Zhenni Li, Ding, Takafumi Hayashi, Wuhui Chen and Yujie Li (University of Aizu, Japan)

12:40 PM - 1:30 PM Lunch

1:30 PM - 2:30 PM Poster Session 1

The technical-economics of spectrum use in the 'C-Band' downlink

Andrew J Kerans (James Cook University, Australia); Nelson Mesquita (Autoridade Nacional de Comunicações of Timor Leste, Timor-Leste)

Reducing the waveform autocorrelation and cross correlation for MIMO radar with multiple pulse train coding

Hao Wu, Zhiyong Song, Yunxiang Li and Qiang Fu (National University of Defense Technology, P.R. China)

Implementation of Downlink Control Channels for Millimeter Wave MHN System

Dae-Soon Cho (ETRI, Korea); Ilgyu Kim (ETRI of KOREA, Korea)

A promising set of spreading sequences to mitigate MAI effects in MIMO STS systems

Anh Tuyen Le, Le Chung Tran, Prashan Premaratne and David Stirling (University of Wollongong, Australia); Beata Wysocki and Tadeusz A. Wysocki (University of Nebraska-Lincoln, USA); Peter J Vial (University of Wollongong, Australia)

A Discrete Oscillator Phase Noise Effect Applied within Phase-Shift Keying RF Digital Signal Modulation

Ricardo Simeoni (Griffith University Gold Coast, Australia)

Throughput Analysis of Wireless-Powered Communications with Energy Beamforming and Adaptive Time Switching

He Chen and Yifan Gu (The University of Sydney, Australia); Yonghui Li (University of Sydney, Australia); Branka Vucetic (The University of Sydney, Australia); Yuexing Peng (Beijing University of Posts & Telecoms, P.R. China)

High Rate Serially Concatenated Codes with Low Error Floors

Bo Liu, Sheng Tong, Qinghua Guo, Jun Tong, Jiangtao Xi and Yanguang Yu (University of Wollongong, Australia)

Adaptive Weighted Energy Detection Receivers for NC-PPM-UWB Communication Systems

Zhonghua Liang, Peipei Li, Junshan Zang, Jinjin Liu and Xiaodong Peng (Chang'an University, P.R. China)

Performance Analysis of MANET Routing Protocols by Varying Mobility, Speed and Network Load

Nilotpal Sarmah (First Data Corporation, USA); Yaoqing (Lamar) Yang and Hamid Sharif (University of Nebraska-Lincoln, USA); Yi Qian (University of Nebraska–Lincoln, USA)

Improved Spectral Sensing in Cognitive Radios Using Photonic-Based Principal Component Analysis

Thomas Ferreira de Lima, Alex Tait, Mitchell Nahmias, Bhavin Shastri and Paul Prucnal (Princeton University, USA)

Voice Activity Detection Using Entropy-Based Method

Ning Xu (Hohai University, P.R. China); Chengcheng Wang (IoT Engineering of Hohai University, USA); Jingyi Bao (Changzhou Institute of Technology, P.R. China)

Reliability and Delay Analysis of AUV Navigation System Using EM Wave Based Underwater Sensor Network

Muhammad Sabbir Alam (Bangladesh University of Engineering and Technology, Bangladesh); Md. Farhad Hossain (Bangladesh University of Engineering and Technology (BUET), Bangladesh); Kumudu S Munasinghe (University of Canberra, Australia); Abbas Jamalipour (University of Sydney, Australia)

Differential Physical Layer Secret Key Generation Based On Weighted Exponential Moving Average

Mingqi Chen (Beijing University of Posts and Telecommunications, P.R. China); Ting Jiang (Beijing University of Posts & Telecommunications, P.R. China); Weixia Zou (BUPT, P.R. China)

2:45 PM - 3:45 PM [Poster Session 2](#)

On Approximated LLR of MMSE Equalizer for Millimeter-Wave in Presence of Phase Noise

Makoto Nishikori, Shinsuke Ibi and Seiichi Sampei (Osaka University, Japan)

Applications of Software Radio for Hand Gesture Recognition by Using Long Training Symbols

Wen Huang (Beijing University of Posts and Telecommunications, P.R. China); Ting Jiang (Beijing University of Posts & Telecommunications, P.R. China); Yue Liu and Wei Liu (China Mobile Research Institute, P.R. China)

Algebraic Constructions of Quasi-Cyclic LDPC Codes Based on Generators

Ningbo Zhang, Rui Zhang and Guixia Kang (Beijing University of Posts and Telecommunications, P.R. China); Yanyan Guo (Beijing University of Posts and Telecommunications, Ministry of Education, P.R. China)

Power allocation and partner selection for energy efficient decode and forward cooperation in wideband wireless sensor networks

Jianjie Tian, Stevan Mirko Berber and Gerard B. Rowe (University of Auckland, New Zealand)

Throughput Analysis by Simulation Considering Route Forms in Multi-hop Networks with Node-Skipping

Kohei Mimura and Kouji Ohuchi (Shizuoka University, Japan)

Flow-based anomaly detection using semi-supervised learning

Zahra Jadidi (University of Griffith, Australia); Vallipuram Muthukkumarasamy (Griffith University, Australia); Elankayer Sithirasanen (Griffith University & The Secure Net, Australia); Kalvinder Singh (Australia Development Lab, IBM and Griffith University, Australia)

Maximum Capacity Reservation Method in Wireless Multihop Networks

Hiroaki Higaki and Yuki Kubo (Tokyo Denki University, Japan)

Proposal for Superposed ACO-OFDM using Several Even Subcarriers

Tomoyuki Kozu and Kouji Ohuchi (Shizuoka University, Japan)

BLM Detection in AF Based Relay Networks

Omar Gatera (ITU, Turkey); Hacı İlhan (Yildiz Technical University, Turkey); Ahmet Hamdi Kayran (Istanbul Technical University, Turkey)

Passive Geolocation of Mobile Subscribers Using a Single Base Station with Third Party Capture

Benjamin Pimentel (Office of Naval Research, USA); Murali Tummala and John C. McEachen (Naval Postgraduate School, USA)

Performance of well-known frequency reuse algorithms in LTE downlink 3GPP LTE systems

Sinh Cong Lam (University of Technology, Sydney, Australia); Ramprasad Subramanian (University of Technology Sydney, India); Pantha Ghosal (University of Technology, Sydney & Centre for Real-Time Information Networks, Australia); Shouman Barua (University of Technology Sydney, Australia); Kumbesan Sandy Sandrasegaran (University of Technology, Sydney, Australia)

A Geometrical Sink-Based Cooperative Coverage Hole Recovery Strategy for WSNs

Ali Rafiei, Yashar Maali and Mehran Abolhasan (University of Technology Sydney, Australia); Daniel R Franklin (University of Technology, Sydney, Australia)

3:10 PM - 3:30 PM **Coffee / Tea Break**

4:00 PM - 5:00 PM **Poster Session 3**

Design of Degrees of Distribution of LDS-OFDM

Tao Huang and Jinhong Yuan (University of New South Wales, Australia); Xingqing Cheng (Huawei Technologies Co., Ltd., P.R. China); Wan Lei (Huawei Technology Ltd, P.R. China)

Advanced Link-to-System Modeling of MMSE-SIC Receiver in MIMO-OFDM Systems

Tao Huang and Jinhong Yuan (University of New South Wales, Australia); Xingqing Cheng (Huawei Technologies Co., Ltd., P.R. China); Wan Lei (Huawei Technology Ltd, P.R. China)

A Software Method to Extend Tonal Levels and Widen Tonal Range of CCD Sensor Images

Wei Wen and Siamak Khatibi (Blekinge Institute of Technology, Sweden)

Forward Backward Autoregressive Spectrum Prediction Scheme in Cognitive Radio Systems

Ashraf A Eltholth (National Telecommunication Institute, Egypt)

Multiple-Request Technique for Wireless Networks

Kittipong Warasup (Kochi University of Technology, Thailand); Masanori Hamamura (Kochi University of Technology, Japan)

Spectrum Occupancy Prediction Using a Hidden Markov Model

Hamid Eltom, Sithamparanathan Kandeepan and Bill Moran (RMIT University, Australia); Rob Evans (The University of Melbourne, Australia)

Design of Dictionary Based on Discrete Tchebichef Transform

Abdul Qayyum (UTP, Malaysia); Aamir S Malik (Senior Lecturer, Malaysia); Mahboob Iqbal and Mohamad Saad (UTP, Malaysia); TuanAbRashid TuanAbdullah (Universiti Tenaga Nasional, Malaysia)

An Interference Mitigation Approach for a Dense Heterogeneous Wireless Sensor Network

Dong Chen (The University of Newcastle, Australia); Jason Brown (University of Newcastle, Australia); Jamil Y Khan (The University of Newcastle, Australia)

Design of Digital Elevation Model Based on Orthorectified Satellite Stereo Images

Abdul Qayyum (UTP, Malaysia); Aamir S Malik (Senior Lecturer, Malaysia); Mahboob Iqbal and Mohamad Saad (UTP, Malaysia); Mohd Faris Abdullah (Universiti Teknologi PETRONAS, Malaysia)

Geolocation Database-Assisted QoS-Aware Cognitive Network Architecture

Samoda L Okanda Gamage, Jamil Y Khan and Duy T Ngo (The University of Newcastle, Australia)

Cooperative Spectrum Sensing in Cognitive Radio Networks Using Multiclass Support Vector Machine Algorithms

Olusegun P Awe (Loughborough University & Obafemi Awolowo University, United Kingdom); Sangarapillai Lambotharan (Loughborough University, United Kingdom)

7:00 PM - 10:00 PM [Banquet](#)

Wednesday, December 16, 2015

9:00 AM - 10:40 AM [Session 7: Signal Processing for Multimedia - 2](#)

Statistical Differences in Speech Acoustics of Major Depressed and Non-Depressed Adolescents

Abdel Hussenbocus and Margaret Lech (RMIT University, Australia); Nicholas Allen (University of Oregon, Australia)

Multi-Stage Classification Network for Automatic Age Estimation from Facial Images

Louis Quinn and Margaret Lech (RMIT University, Australia)

GPU Implementation of Cross-Correlation for Image Generation in Real Time

Konstantin Kapinchev, Adrian Bradu, Frederick Barnes and Adrian Podoleanu (University of Kent, United Kingdom)

Identification of Firearm Calibers via Acoustical Signature of the Ejected Cartridge Case

Luiz Gontijo Laborda Larrain (POLITEC and University of Brasília, Brazil); Joao Paulo Carvalho Lustosa da Costa (University of Brasília, Brazil); Tadeu Gross (POLITEC, Brazil)

Rotational Invariant LBP-SURF for Fast and Robust Image Matching

Penghui Jiang, Shengjie Zhao and Samuel Chen (Tongji University, P.R. China)

10:40 AM - 11:00 AM [Coffee / Tea Break](#)

11:00 AM - 12:40 PM [Session 8: System design and implementation trials](#)

A Visible Light Positioning System using Frequency Division Multiple Access with Square Waves

Steven De Lausnay, Lieven De Strycker and Jean-Pierre Goemaere (KU Leuven, Belgium); Bart Nauwelaers (Katholieke Universiteit Leuven, Belgium); Nobby Stevens (KU Leuven, Belgium)

Optimized Shape of a Parametric Designed HF Loop Antenna

Kevin D'hoel, Jean-Pierre Goemaere and Nobby Stevens (KU Leuven, Belgium); Bart Nauwelaers (Katholieke Universiteit Leuven, Belgium); Lieven De Strycker (KU Leuven, Belgium)

SDR based Through the Rubble Communications for Collapsed Mines: A Proof-of-Concept

Joseph McHugh, Matthew B Collingridge, Adrian Garrido Sanchis, Kumudu S Munasinghe and Braden McGrath (University of Canberra, Australia); Abbas Jamalipour (University of Sydney, Australia)

FPGA-accelerated simulation engine for non-viral gene delivery

David Perlaza (The University of Queensland, Australia); Adam Postula (University of Queensland, Australia); Lech Jozwiak (Eindhoven University of Technology, The Netherlands)

Energy Efficiency of Cellular Base Stations with Ternary-State Transceivers

Nahina Islam, Sithamparanathan Kandeepan and James Scott (RMIT University, Australia)

12:40 PM - 1:30 PM **Lunch**

1:30 PM - 3:10 PM **Session 9: Wireless Networks**

Performance Analysis of a JSW-based MAC Protocol for Mobile Underwater Acoustic Networks

Mingsheng Gao (Hohai University, P.R. China); Wei Li (Hohai University, USA); Jian Li (Hohai University, P.R. China)

A Three-Tier SDN Architecture for DenseNets

Ibrahim Elgendi (Canberra University, Australia); Kumudu S Munasinghe (University of Canberra, Australia); Abbas Jamalipour (University of Sydney, Australia)

IEEE 802.11 DCF with Successful Transmission Priority

Daisuke Umehara (Kyoto Institute of Technology, Japan); Hidekazu Murata (Kyoto University, Japan); Satoshi Denno (Okayama University, Japan)

Informed Dynamic Scheduling Strategies for Novel Majority-Logic Decoding of Non-Binary LDPC Codes

Xuan Liu (The University of Sydney, Australia); Abbas Jamalipour (University of Sydney, Australia)

Network Coding based Cooperative Device-to-Device Communications in the Uplink of Cellular Network

Gordhan Das Menghwar (Information Technology Centre, Sindh Agriculture University, Tandojam, Pakistan); Zhong Ting (University of Electronic Science and Technology of China, P.R. China); Shazia Soomro (University of Electronics Science and Technology China, P.R. China)

3:10 PM - 3:30 PM **Coffee / Tea Break**

3:30 PM - 5:00 PM **Session 10: Wireless Communications - 2**

On Mobile Positioning Via Cellular Synchronization Assisted Refinement (CeSAR) in LTE and GSM Networks

John Roth (United States Naval Academy, USA); Murali Tummala, John C. McEachen and James Scrofani (Naval Postgraduate School, USA)

An Analytical Model of Energy Consumption in Hybrid Technology Networking

Sushanta Mohan Rakshit (University of Nebraska - Lincoln, USA); Michael Hempel and Hamid Sharif (University of Nebraska-Lincoln, USA)

MMSE-based iterative channel estimation for HSUPA

Alexey Trushanin (Lobachevsky State University of Nizhny Novgorod & Radio Gigabit, Russia); Mikhail Shkerin and Andrey Shkerin (Lobachevsky State University of Nizhny Novgorod, Russia); Rashid

Kalimulin (Sitronics Labs / Radio Gigabit LLC, Russia); Roman Maslennikov (The University of Nizhny Novgorod, Russia); Maciej Januszewski (Nokia Siemens Networks, Poland)

Walking Parameters Estimation Through Channel State Information Preliminary Results

Saurabh Maheshwari (Govt. Women Engineering College Ajmer & Student Member IEEE, India); Anil Tiwari (IIT Jodhpur, India)

End of the Conference