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Technical Papers

23 November 2016, Wednesday

Session	[WE1A.SS1.1] SS01: Computational Intelligence Techniques and Applications
Date / Time	23 November 2016, Wednesday / 2.00 pm – 3.30 pm
Venue	Melati Junior Ballroom 4D
Organizer(s) / Chair(s)	Justin Dauwels; Lipo Wang; Erdal Kayacan; Teck Hou Teng

- 1 **Artificial Neural Networks for Gesture Classification with Inertial Motion Sensing Armbands**
Ananta Srisuphab and Piyanuch Silapachote
- 6 **Appliance Recognition using Hall Effect Sensors and K-Nearest Neighbors for Power Management Systems**
Lester James V. Miranda, Marian Joice S. Gutierrez, Samuel Matthew Dumlao and Rosula S. J. Reyes
- 10 **Machine Learning Application for Refrigeration Showcase Fault Discrimination**
Adamo Santana, Yoshikazu Fukuyama, Kenya Murakami and Tetsuro Matsui
- 14 **Self-Organizing Neural Grove: SONG**
Hirotaka Inoue
- 18 **An Interpretation of Sentiment Analysis for Enrichment of Business Intelligence**
Bharat Singh, Nidhi Kushwaha and Om Prakash Vyas
- 24 **Application of Novel Swarm Intelligence Algorithm for Congestion Control in Structural Health Monitoring**
Vijayalakshmi Senniappan, Jayashree Subramanian and Athish Thirumal
- 28 **Waitress Quadcopter Explores How to Serve Drinks by Reinforcement Learning**
Efe Camci and Erdal Kayacan

Session	[WE2A.CI.1] CI: Machine Learning
Date / Time	23 November 2016, Wednesday / 2.00 pm – 3.00 pm
Venue	Lotus Junior Ballroom 4E
Chair(s)	Hiroshi Ninomiya; P N Suganthan

- 33 **Pyramid Stack Data Stream Mining for Handling Concept-drifting**
Zhuoran Xu, Cuiqin Hou, Yingju Xia, Jun Sun, Hiroya Inakoshi and Nobuhiro Yugami
- 38 **Recursive Total Error Rate Minimization**
Se-In Jang, Geok-Choo Tan and Kar-Ann Toh
- 42 **Enhancement of Keyphrase-Based Approach of Automatic Bangla Text Summarization**
Md. Majharul Haque, Suraiya Pervin and Zerina Begum
- 47 **Enhancement of EEG Signals Classification for Imaginary Movement by Detailing Discriminant Parameters**
Yulianto Tejo Putranto, Mohammad Hariadi, Tri Arief Sardjono and Mauridhi Hery Purnomo

- 51 **Neural Network Training based on quasi-Newton Method using Nesterov's Accelerated Gradient**
Hiroshi Ninomiya

Session	[WE3A.SS3.1] SS03: Power Electronics and Drives
Date / Time	23 November 2016, Wednesday / 2.00 pm – 3.30 pm
Venue	Melati Junior Ballroom 4011
Organizer(s) / Chair(s)	Kye Yak See; Abhijit Choudhury; S. Prabhakar Karthikeyan

- 55 **High-frequency Model and Simulation for the Investigation of Bearing Current in Inverter-Driven Induction Machines**
Tengiz Svimonishvili, Fei Fan, Kye Yak See, Xiong Liu, Michael Adam Zagrodnik and Amit Kumar Gupta
- 60 **A New Slope Suppression Technique to Compensate for Voltage Unbalance in Multilevel Inverters**
J. Anitha Roseline, M. Senthil Kumaran and V. Rajini
- 65 **Analysis of Nonlinear Phenomena in Digital Integral-Controlled Buck Converters**
Xin Zhao, Changyuan Chang, Yuanye Li and Zhongjie Zhou
- 70 **Comparison of Fuzzy and MPC Based Flying Capacitor Multicell Converter**
P. Ponnambalam, J. Belwin Edward, G. Gokulakrishnan, M. Praveenkumar J. Gowrishankar and K. Aroul
- 77 **A 2.2 kW SiC Based High Frequency Battery Charger for Substation Backup Power Supply**
Abhijit Choudhury
- 82 **A Lower Switching Noise Two-Legs Three-Phase Inverter Applying New Type Modulation Scheme**
Atsushi Hirota, Saad Mekhilef and Mutsuo Nakaoka

Session	[WE4A.SS4] SS04: Recent Advances in Security and Safety for Intelligent Transportation Systems
Date / Time	23 November 2016, Wednesday / 2.00 pm – 3.30 pm
Venue	Melati Junior Ballroom 4111
Organizer(s) / Chair(s)	Guo Huaqun; Justin Dauwels

- 87 **Bayesian Prediction of the Duration of Non-recurring Road Incidents.**
Banishree Ghosh, Muhammad Tayyab Asif and Justin Dauwels
- 91 **Simulating a Disaster-Social Solidarity in an Emergency**
Muhammad Faisal Bin Zainal Abiden, Stephen Kheh Chew Chai and Antoine Fagette
- 95 **SecureRails: Towards an Open Simulation Platform for Analysing Cyber-Physical Attacks in Railways**
Zhan-Teng Teo, Bao Anh N. Tran, Subhash Lakshminarayana, William G. Temple, Binbin Chen, Rui Tan and David K. Y. Yau
- 99 **Securing Vehicular Ad-hoc Networks from Data Falsification Attacks**
Danda B. Rawat, Bhed B. Bista and Gongjun Yan

- 103 **Verification of Flow of Commuters for Alleviating Congestion at the Time of Rush Hour**
Yoichi Utsunomiya and Takashi Okuda
- 108 **Numerical Modelling of Train Aerodynamics in Confined Space**
Zhuan Lun Yeo and Peng Cheng Wang

Session	[WE5A.SS2] SS02: Radio Frequency Identification (RFID)
Date / Time	23 November 2016, Wednesday / 2.00 pm – 3.30 pm
Venue	Orchid Junior Ballroom 4211
Organizer(s) / Chair(s)	Qing Xianming; Lau Pui Yi; O. P. Gan

- 116 **U slot Multi-Resonator RFID Tag with Enhanced Bitencoding Capacity**
M. Sumi, R. Dinesh, C. M. Nijas, S. Mridula and P. Mohanan
- 120 **An Overview: Zero-Phase-Shift Line (ZPSL) Loop Antennas for Near-field RFID Applications**
Xianming Qing, Zeng Yunjia, Zhi Ning Chen and Jin Shi
- 123 **Computer Simulations for a Site-Specific Modeling of Indoor Radio Wave Propagation**
Yuko Suzuki and Manabu Omiya
- 127 **Implementation Aspects of a New RFID Anti-collision Algorithm**
K. Reshmi and Dhanesh G. Kurup
- 130 **Reliable RFID Bulk Reading Using Adaptive Time and Power Control**
O. P. Gan, L. L. Aw and H. Sheng
- 135 **Directional UHF Near-field RFID Reader Antenna with an Improved Magnetic Field Distribution**
Yunjia Zeng, Xianming Qing, Zhi Ning Chen and Jian-Ming Jin

Session	[WE6A.SS29] SS29: Methodologies for VLSI System Optimization and Recent Advances
Date / Time	23 November 2016, Wednesday / 2.00 pm – 3.30 pm
Venue	Orchid Junior Ballroom 4212
Organizer(s) / Chair(s)	Manoj Sharma; Jatindra Kumar Deka; Rajib Kar

- 138 **Optimal Design of Low Power Three-Stage CMOS Operational Amplifier Using Simplex-PSO Algorithm**
K. B. Maji, R. Kar, D. Mandal and S. P. Ghoshal
- 142 **Mobility Degradation in Nano-Dimensional InAlAs/InGaAs Single Gate HEMT**
Neetika Sharma, Pritam Sharma and Jyotika Jogi
- 147 **Implementation of High Speed Vedic BCD Multiplier Using Vinculum Method**
G. Sree Lakshmi, Kaleem Fatima and B. K. Madhavi
- 152 **Design and Analysis of Low Run-time Leakage in a 10 Transistors Full adder in 45nm Technology**
Md. Masood Ahmad, K. Manjunathachari and K. Lalkishore

- 157 **On-line Testing of Coexistent Stuck-at and Open Faults in NoC Interconnects**
Biswajit Bhowmik, Santosh Biswas and Jatindra Kumar Deka
- 163 **Performance Variation Measurement on Commercial FPGAs under various Operating Conditions**
Takashi Asada, Makio Eguchi and Yukio Mitsuyama

Session	[WE7A.SS23] SS23: IEEE Women in Engineering (WIE)
Date / Time	23 November 2016, Wednesday / 2.00 pm – 3.30 pm
Venue	Orchid Junior Ballroom 4311
Organizer(s) / Chair(s)	Hla Nu Phyu; Celia Shahnaz; Huang Shaoying

- 167 **A Hybrid Approach to Matching Taxis and Customers**
Malika Meghjani and Katarzyna Marczuk
- 170 **Mobile Acoustic Emotion Recognition**
Wei Yang Quek, Dong-Yan Huang, Weisi Lin, Haizhou Li and Minghui Dong
- 175 **New Migration Operator in Biogeography-based Optimization for Solving Traveling Salesman Problem**
Huynh Thi Thanh Binh and Pham Dinh Thanh
- 181 **Performance Evaluation of Data Communication in Wireless Power Transfer under Multiple Terminals**
Shinpei Noguchi, Mamiko Inamori and Yukitoshi Sanada
- 186 **Investigation of Indoor Positioning System Using Visible Light Communication**
Y. C. See, Norliza Mohd Noor and Y. M. Calvin Tan
- 190 **Sub-frame Based Apnea Detection Exploiting Delta Band Power Ratio Extracted from EEG Signals**
Celia Shahnaz, Ahmed Tahseen Minhaz and Sk. Tanvir Ahamed
- 194 **FPGA Based Efficient Elliptic Curve Cryptosystem Processor for NIST 256 Prime Field**
N. Shylashree, V. Sridhar and Deepthi Patawardhan
- 200 **Performance Evaluation of Moth Flame Optimization on Real Parameter Single Objective Optimization and Computationally Expensive Optimization**
Remya Kommadath and Prakash Kotecha
- 204 **Investigation of the Effect of Winding Structure and MMF Harmonics on the Rotor Eddy Current Loss of High Speed Permanent Magnet Motor**
H. N. Phyu, N. L. H. Aung and Jiang Quan

Session	[WE8A.CT1] CT: Computing Architectures and Systems
Date / Time	23 November 2016, Wednesday / 2.00 pm – 3.30 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Tohari Ahmad; Rajesh C. Panicker

- 210 **Fast 1-itemset Frequency Count using CUDA**
Roger Luis Uy and Nelson Marcos

- 214 **CALVIS32: Customizable Assembly Language Visualizer and Simulator for Intel x86-32 Architecture**
Jennica Grace Alcalde, Goodwin Chua, Ivan Marlowe Demabildo, Marielle Ashley Ong and Roger Luis Uy
- 218 **A Software Energy Analysis Method Using ExecutableUML**
Ryusuke Yoshimoto, Tomonori Kadono, Kenji Hisazumi and Akira Fukuda
- 222 **Software Design Pattern Recognition using Machine Learning Techniques**
Ashish Kumar Dwivedi, Anand Tirkey, Ransingh Biswajit Ray and Santanu Kumar Rath
- 228 **A Hash Based Architecture of Longest Prefix Matching for Fast IP Processing**
Surajeet Ghosh and Maitraya Baliyan
- 232 **Design and Development of Generic Web Based Framework for Log Analysis**
Raghav Rastogi, S. Akash, G. Shobha, G. Poonam, D. Pratiba and Ankit Singh
- 237 **ACO based Embedded System Testing using UML Activity Diagram**
Vikas Panthi and Durga Prasad Mohapatra

Session	[WE1B.SS1.2] SS01: Computational Intelligence Techniques and Applications
Date / Time	23 November 2016, Wednesday / 4.00 pm – 5.30 pm
Venue	Melati Junior Ballroom 4D
Organizer(s) / Chair(s)	Justin Dauwels; Lipo Wang; Erdal Kayacan; Teck Hou Teng

- 243 **Items-mapping and Route Optimization in a Grocery Store using Dijkstras, Bellman-Ford and Floyd-Warshall Algorithms**
Jennifer C. Dela Cruz, Glenn V. Magwili, Juan Pocholo E. Mundo, Giann Paul B. Gregorio, Monique Lorraine L. Lamoca and Jasmin A. Villaseñor
- 247 **Improved Identification of Hammerstein Plant using a Non-linear Model Trained with Symbiotic Organisms Search**
Arnapurna Panda and Sabyasachi Pani
- 251 **Design of Hardware Circuit Based on a Neural Network Model for Rapid Detection of Center of Gravity Position**
Masahiro Teramura, Noritaka Shigei and Hiromi Miyajima
- 255 **Automobile Driving Support System Evolved by Genetic Programming**
Go Yakami, Ivan Tanev, Katsunori Shimohara, Shigeru Katagiri and Miho Ohsaki
- 259 **Application of data mining techniques to build Master Plant Relationships based on heterogeneous databases**
Periasamy Karthik Raja, Gu Zhan, Sivaprakasam Gokula Krishnan and Selvaraj Sankar
- 263 **Single Level Production Planning in Petrochemical Industries using Moth-flame Optimization**
Sandeep Singh Chauhan and Prakash Kotecha

Session	[WE2B.CI.2] CI: Machine Learning
Date / Time	23 November 2016, Wednesday / 4.00 pm – 5.30 pm
Venue	Lotus Junior Ballroom 4E
Chair(s)	Dorien Herremans; Damon Wong

- 272 **Comparative Study of Markov Model based Synthesis and Recognition Systems**
Himakshi Choudhury, Subhasis Mandal and S. R. Mahadeva Prasanna
- 277 **Optimization of HMM Parameters for Online Handwriting Synthesis**
Himakshi Choudhury, Subhasis Mandal and S.R.Mahadeva Prasanna
- 282 **Morpheus: Automatic Music Generation with Recurrent Pattern Constraints and Tension Profiles**
Dorien Herremans and Elaine Chew
- 286 **Cluster of Tweet Users Based on Optimal Set**
Amit Paul, Animesh Dutta and Frans Coenen
- 291 **An Improved Collision Avoidance Scheme using Artificial Potential Field with Fuzzy Logic**
John Paolo C. Tuazon, Ken Gilfed V. Prado, Neil John A. Cabial, Reeann L. Enriquez, Francesca Louise C. Rivera, and Kanny Krizzy D. Serrano
- 297 **Effect of the Multiple Intelligences in Multiclass Predictive Model of Computer Programming Course Achievement**
Unhawa Ninrutsirikun, Bunthit Watanapa, Chonlameth Arpikanondt and Naphongthawat Phothikit

Session	[WE3B.SS3.2] SS03: Recent Advancements in Power Systems
Date / Time	23 November 2016, Wednesday / 4.00 pm – 5.30 pm
Venue	Melati Junior Ballroom 4011
Organizer(s) / Chair(s)	Kye Yak See; J. Gowrishankar; Kun Xia

- 301 **Operation Control and Simulation Research of the Variable-speed Constant-frequency System of the Ship Shaft Generator**
Kun Xia, Zhongwei Zhang, Nan Wang and Ping Zhang
- 305 **Predictive Voltage Controller for T-Type NPC Inverter**
Hai N. Tran, Tuyen D. Nguyen and Tran Thanh Vu
- 311 **Co-Simulation of Sliding Mode Control of Single Phase Grid Connected LCL Filtered Voltage Source Inverter using LabVIEW and Multisim**
Bandi Sudhakar and Gudey Venkata Eswara Satish Kumar
- 316 **Model Predictive Current Control For T-type NPC Inverter Using New On-line Inductance Estimation Method**
Dzung Phan Quoc, Tuyen Nguyen Dinh, Tien Nguyen The and Viet Nguyen Chan
- 322 **A Single Switch Two Stage Elementary Converter Based Topology For Hybrid Standalone Microgrid Applications**
Milind D. Bagewadi and Sanjay S. Dambhare

327 **A Single Phase Hybrid Multilevel Inverter with High Step up DC-DC Converter for Photovoltaic System**

J. Gowri Shankar, J. Belwin Edward, P. Ponnambalam and K. Sathish Kumar

Session	[WE4B.SS16] SS16: Wearable Medical Devices and Healthcare Computing
Date / Time	23 November 2016, Wednesday / 4.00 pm – 5.30 pm
Venue	Melati Junior Ballroom 4111
Organizer(s) / Chair(s)	M. Sabarimalai Manikandan; R. Barathram Ramkumar; Ishikawa Seiji

337 **An Experimental Analysis of Active Living Technologies to Review Device Accuracy**

Geoff Skinner and Reem Altamimi

344 **Implementation of a Wearable Cardio-Respiratory Monitoring Device.**

Megha Vishwaracharya and Rajasekar Mohan

350 **A Novel Medical Priority Aware Transmission Mechanism for Cognitive Radio Based Hospital**

Ishtiaq Al Mamoon, A. K. M. Muzahidul Islam, Sabariah Baharun, Shozo Komaki and Ashir Ahmed

354 **BBCast: Intuitive Design and Utility of a Cloud Based Bulletin Board**

Miguel Luis Ting, Jan Franz Palngipang and Rowel Atienza

358 **An Ego-camera Based Finger-spelling Recognition System**

Joo Kooi Tan, Satoshi Hamada, Manabu Hirakawa, Hyoungeop Kim and Seiji Ishikawa

364 **Proposal of Fall Down Detection Method using Shape of Feature Quantity Obtained by Obrid-Sensor**

Shingo Aramaki, Yudai Moriyoshi, Kanya Tanaka, Shota Nakashima and Shenglin Mu

368 **QRS Complex Detection Using Zero Frequency Filtering**

Kanjit Ray, C. M. Vikram and S. R. Nirmala

Session	[WE5B.SS26] SS26: Recent Advances in Intelligent Video Surveillance Systems
Date / Time	23 November 2016, Wednesday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4211
Organizer(s) / Chair(s)	Maheshkumar Hanmant Kolekar; Vinay Kumar Mittal

373 **COLT: Extending CONCOLIC Testing to Measure LCSAJ Coverage**

Arpita Dutta, Sangharatna Godbole and Durga Prasad Mohapatra

379 **Simultaneous Aerial Vehicle Localization and Human Tracking**

Kiran Kumar Lekkala and Vinay Kumar Mittal

384 **Post-disaster Rescue Facility: Human Detection and Geolocation Using Aerial Drones**

A. J. A. Rivera, A. D. C. Villalobos, J. C. N. Monje, J. A. G. Mariñas and C. M. Oppus

387 **A Novel Krawtchouk Moment Zonal Feature Descriptor For User-independent Static Hand Gesture Recognition**

Subhamoy Chatterjee, Piyush Bhandari and MaheshKumar H. Kolekar

- 393 **Hidden Markov Model Based Human Activity Recognition using Shape and Optical Flow Based Features**
Maheshkumar H. Kolekar and Deba Prasad Dash
- 398 **Detection of Fence Climbing Using Activity Recognition by Support Vector Machine Classifier**
Maheshkumar H Kolekar, Nishant Bharti and Priti N Patil

Session	[WE6B.SS30] SS30: Recent Challenges in Biomedical Applications
Date / Time	23 November 2016, Wednesday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4212
Organizer(s) / Chair(s)	Celia Shahnaz; S. A. Fattah

- 403 **Multi-Satellite Task Allocation Algorithm for Earth Observation**
Pratik Kumar Sinha and Animesh Dutta
- 409 **An Algorithm to Decode Movement and Laterality From Deep Brain Local Field Potentials Utilizing Time and Frequency Domain Features**
Abu Shafin Mohammad Mahdee Jameel and Khondaker Abdullah Al Mamun
- 414 **Autism Express-A cloud based framework for autism screening, confirmation and intervention**
Sharmistha Bardhan, Anwar Ullah, Helal Uddin Ahmed, Mohammad Golam Rabbani and Khondaker Abdullah Al Mamun
- 420 **An Approach for Automatic Sleep Apnea Detection Based on Entropy of Multi-Band EEG Signal**
Suvasish Saha, Arnab Bhattacharjee, Md. Abu Aeioub Ansary and Shaikh Anowarul Fattah
- 424 **Emotion Recognition Based on Wavelet Analysis of Empirical Mode Decomposed EEG Signals Responsive to Music Videos**
Celia Shahnaz, Shoaib-Bin-Masud and S. M. Shafiul Hasan
- 428 **Test Case Generation For Concurrent Systems Using UML Activity Diagram**
Prateeva Mahali, Saswat Arabinda, Arup Abhinna Acharya and Durga Prasad Mohapatra

Session	[WE7B.SS10] SS10: Smart Distribution Systems: Technologies and Management
Date / Time	23 November 2016, Wednesday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4311
Organizer(s) / Chair(s)	Sivanand Kumar; Dipti Srinivasan; Thillainathan Logenthiran; Abhisek Ukil

- 436 **Compute Intensive Code Offloading in Mobile Device Cloud**
Sajeeb Saha, Ahsan Habib and Abdur Razzaque
- 441 **Analysis of Ambient Temperature Effects and Airflow Rate for Energy Efficient HVAC in Buildings**
Zhang Hanwen and Abhisek Ukil
- 447 **Secured Real-Time Impact Monitoring System for Integrating Solar PV in Distribution Network**
Congmiao Li, Dipti Srinivasan and Thomas Reindl

- 451 **Forecasting of Wind Energy Generation using Self-Organizing Maps and Extreme Learning Machines**

Kianhwee Tan, Thillainathan Logenthiran and W. L. Woo

- 455 **Forecasting of Photovoltaic Power using Regularized Ensemble Extreme Learning Machine (RE-ELM)**

Tiong Teck Teo, Thillainathan Logenthiran, Wai Lok Woo and Khalid Abidi

Session	[WE8B.CT2] CT: Network and Cyber Security
Date / Time	23 November 2016, Wednesday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Tohari Ahmad; Rajesh C. Panicker

- 459 **A Novel Approach for Evaluating Trust of Resources in Cloud Environment**

Usha Divakarla and K. Chandrasekaran

- 464 **Annulus: A Novel Image-based CAPTCHA Scheme**

Haichang Gao, Fang Cao and Ping Zhang

- 468 **Elliptic Curve Cryptography Implementation on FPGA using Montgomery Multiplication for Equal Key and Data Size Over GF(2^m) for Wireless Sensor Networks**

G. Leelavathi, K. Shaila and K. R. Venugopal

- 472 **Web Proxy Log Classification for Burst Behavior**

Nattapol Kiatkumjounwong, Sudsanguan Ngamsuriyaroj and Anon Plangprasopchok

- 478 **Overlapped Scheme for Neighboring Similarity Method in Video-based Data Hiding**

Diksy Media Firmansyah and Tohari Ahmad

- 482 **Modelling of UDP Throughput**

Sneha Thombre

- 488 **Energy Efficient Grid Clustering Based Data Aggregation in Wireless Sensor Networks**

N. Rajathi and L. S. Jayashree

Session	[WE.OIF1] Oral Interactive Forum
Date / Time	23 November 2016, Wednesday / 12.30 pm – 2.30 pm
Venue	Orchid Main Ballroom 4201AB – 4306
Chair(s)	Sree Sharmila T.; Arokiaswami Alphones; Sahoo S. K

- 493 **Adaptive Sparse Range-spread Target Detection in Homogeneous Generalized Pareto Clutter**

Shuwen Xu, Penglang Shui, Xueying Yan and Jia Pu

- 497 **GuiTones-I: An Audio-Visual Database of Monophonic Guitar Tones**

Arpit Aggarwal, Rajeev Kumar, Tanvi Sahay and Mahesh Chandra

- 501 **Fault Location Estimation for VSC-HVDC System Using Artificial Neural Network**

Somasundaram Vasanth, Yew Ming Yeap and Abhisek Ukil

- 505 **Conceptual Design and Cooling Strategies of Current Lead for Superconducting Power Transmission Applications**
Vikul Vasudev, Raja Sekhar Dondapati, Mohit Kalsia and Preeti Rao Usurumarti
- 511 **Lexicographical Buyer-Seller Profile Matching in Pool based Electricity Market**
Deep Kiran, A. R. Abhyankar, B. K. Panigrahi and N. Senroy
- 515 **Auxiliary Noise Power Scheduling in Active Noise Control Systems with Acoustic Feedback Path Modeling**
Zhe Wu and Weiming Ni
- 520 **The Effects of Harmonics & Resonance on a Weak Network with DFIG based Wind Generation**
Rene Rossi
- 525 **GORA: A Grid Operation Risk Assessment software**
Yang Yang, Chao Qin, Yuan Zeng, Yanli Liu, Yinsheng Su and Peng Li
- 530 **Grid Code Compliance for Grid-Connecting a PV System to an Existing Facility in Singapore**
L. G. H. Brenda, Thillainathan Logenthiran, K. Yathunanthan and P. Amirthan
- 534 **System Frequency Control using Emergency Demand Response in Power Systems with Large - Scale Renewable Energy Sources**
Takahiro Uehara, Hidehito Matayoshi, Gul Ahmad Ludin, Atsushi Yona, Tomonobu Senjyu, Manoj Datta, Abdul Motin Howlader and Toshihisa Funabashi
- 538 **System Impact Assessment of Connecting Planned Large-Scale Wind Turbine Testing Site to Distribution Power Network in Taiwan**
Yu-Jen Liu, Cheng-Wei Lin and Pei-Hsiu Lan
- 542 **A New Method for Reference Network Considering Contingent Events Based on Line Outage Distribution Factor**
Shan Li, Xueshan Han, Mingqiang Wang, Yunpeng Wang and Qiang Zhang
- 546 **Solving Dynamic Economic Dispatch With Valve Point Effect by A Two-Step Method**
Pengpeng Yang, Chunping Zhu, Long Zhao, Mingqiang Wang, Xingyao Ning and Yuan Liu
- 551 **Student Authentication by Updated Facial Information with Weighting Coefficient in e-Learning**
Taisuke Kawamata, Takatoshi Ishii, Susumu Fujimori and Takako Akakura
- 556 **Development of a DC-DC Converter with Current Mode Control for Multi-Source Renewable Energy Harvesting System**
Japhet Alfeo Niño D. Ang, Ralph Raymond D. Borja, Rahl Steven C. Diaz, Sarah Denise O. Samson, Jesica Lourds A. Sanchez and Engr. Edison A. Roxas
- 560 **Performance Improvement of Grid Connected DFIG Fed by Three Level Diode Clamped MLI using Vector Control**
Giribabu Dyanamina and Amit Kumar
- 566 **Facial Feature Extraction for Head Tilt Images based on Eye Canthus**
J. Sofia Jennifer, T. Sree Sharmila and R. Srinivasan
- 571 **Grid Stability with Large Wind Power Integration - A Case Study**
J. Sreedevi, K. S. Meera, P. Noor Cheshma, S. Ravichandran, R. Santhanakumar and T. Sumathi
- 576 **Analyses of Kagura Musical Signals using LMS-based Fourier Analyzer**
Satoru Ishibashi, Norimasa Kudoh, Hiroyuki Kamaya and Yoshiaki Tadokoro

- 580 **A Study on an ANC System Using Narrow-Band Signals**
Kosei Narita, Norimasa Kudoh, Hiroyuki Kamaya and Yoshiaki Tadokoro
- 584 **A Novel Noise-induced Annoyance Measurement Method**
Huan Zhou, Rongshan Yu and Ying Song
- 588 **Annoyance Measurement of Singapore Urban Environmental Noise**
Ying Song, Rongshan Yu, Huan Zhou and Haiyan Shu
- 592 **Spatial Electromagnetic Suppression in Ultra-High Voltage(UHV) Partial Discharge Test**
Wei Bengang, Huang Hua, Fu Chenzhao and Li Honglei
- 595 **Identification of Transfer Function Component on Normalized Estimate by Adaptive Filter in ANC and Beamformer**
Jinsoo Jeong
- 599 **A Study on Howling Canceller using Quasi - whitened Input Signals**
Tatsuhiro Fujimura, Norimasa Kudoh, Hiroyuki Kamaya and Yoshiaki Tadokoro
- 603 **Study of Lightning Impulse Propagation and Reflection in Transmission Line Tower**
Anuj K. Mishra, Mayur K. Borah and Supriyo Das
- 607 **Development of a Graphics Processing Unit Accelerated Stereo Vision System for Depth Estimation**
Renz Christian Bagaporo, Arnold Paglinawan, Febus Reidj Cruz and Charmaine Paglinawan
- 612 **Low Complexity Distributed Active Noise Control Using Secondary Path Constraints**
Ruchi Kukde, M. Sabarimalai Manikandan and Ganapati Panda
- 617 **Moth Flame Optimization Based Optimal Bidding Strategy under Transmission Congestion in Deregulated Power Market**
Sadhan Gope, Subhojit Dawn, Arup Kumar Goswami and Prashant Kumar Tiwari
- 622 **Detection of Location and size of Water Tree in XLPE Cables by Frequency Response Analysis: A Simulation Study**
K. M. Shahul Hameed, Jineeth Joseph and T. K. Sindhu
- 627 **Comparative Analysis of Storage Systems in a Microgrid with MTDC Based DFIG Connection**
S. Gayathri Nair and Nilanjan Senroy
- 632 **A Novel On-Demand Routing Protocol For Cluster-Based Cognitive Radio Ad-Hoc Network**
Nafees Mansoor, AKM Muzahidul Islam, Mehdi Zareei, Sabariah Baharun and Shozo Komaki
- 637 **Comparative Evaluation of Power Loss in HVAC and HVDC Transmission Systems**
Thu Win May, Yew Ming Yeap and Abhisek Ukil
- 642 **An ANN-based Method for Wind Speed Forecasting with S-Transform**
Hiroyuki Mori and Soichiro Okura
- 646 **Impact of Large Photovoltaic Penetration on Small Signal Stability**
Samundra Gurung, Sumate Naetiladdanon and Anawach Sangswang
- 651 **Assessing the Economics of Customer-Sited Multi-Use Energy Storage**
Wuhua Hu, Ping Wang and Hoay Beng Gooi
- 655 **Comparison of Synchronous and Stationary Frame PI based Flux Weakening Controls for DC-link Overvoltage Minimization of WECS under Grid Fault**
Papan Dey, Manoj Datta, Nuwantha Fernando and Tomonobu Senjyu

- 661 **Sparse Representation of LPC for Analysis of Stressed Speech in Lower Dimensional Subspace**
Bhanu Priya and S. Dandapat
- 667 **Dynamic Economic Dispatch of Hybrid Microgrid with Energy Storage Using Quadratic Programming**
Rony Seto Wibowo, Kemas Robby Firmansyah, Ni Ketut Aryani and Adi Soeprijanto
- 671 **Optimal Power Flow in Grid connected Microgrid using Artificial Bee Colony Algorithm**
Navin Kumar Paliwal, Navneet Kumar Singh and Asheesh Kumar Singh
- 676 **Fuzzy Logic Based Vehicular Plate Character Recognition System Using Image Segmentation and Scale-Invariant Feature Transform**
Rhen Anjerome Bedruz, Edwin Sybingco, Ana Riza Quiros, Aaron Christian Uy, Argel Bandala, Ryan Rhay Vicerra and Elmer Dadios
- 682 **Denoising of Low Dose CT Image with Context-Based BM3D**
L. L. Chen, S. P. Gou, Yao Yao, Jing Bai, Licheng Jiao and Ke Sheng
- 686 **Classification of Magnetic Circuit Asymmetry Due to Source Supply Unbalance, Load Variations and Stator Turn Fault in Induction Motors Using Observer Coil Technique**
Gulamfaruk N. Surya, Zafar Javed Khan and Makarand S. Ballal
- 691 **Multi-Resolution Spatial Incorporation for MODIS and LANDSAT Image Fusion using CSSTARFM**
R. Swathika and T. Sree Sharmila
- 697 **Spectral Analysis of SPWM-controlled Cascaded three-level Inverter Drive**
N. Pratibha and S. Srinivas
- 703 **A Hybrid Intelligent System for Electricity Price Forecasting**
Hiroyuki Mori and Satoshi Itaba
- 707 **Carrier Phase Shifted SPWM for CMV Reduction in a Three-Level Inverter Using Open-end Winding Induction Motor Drive**
G. Narendra Kumar and S. Srinivas
- 267 **Efficient Unit Commitment — A Modified Branch-and-Bound Approach**
Daria Palis and Stefan Palis
- 713 **Frequency Converter Based Tuned High Voltage AC Transmission: Design and Implementation Issues**
Abhisek Ukil
- 718 **Virtual Synchronous Generators as Potential Solution for Electricity Grid Compliance Studies**
VSK Murthy Balijepalli, A. Ukil, N Karthikeyan, A. K. Gupta and Yang Shicong
- 723 **Proportional Generation and Proportional Load Based Approach for Transmission loss/cost Allocation in Deregulated Electricity Market**
K. Shafeeque Ahmed and S. Prabhakar Karthikeyan

Session	[WE.OIF2] Oral Interactive Forum
Date / Time	23 November 2016, Wednesday / 3.00 pm – 5.00 pm
Venue	Orchid Main Ballroom 4201AB – 4306
Chair(s)	Sree Sharmila T.; Arokiaswami Alphones; Sahoo S. K

- 726 **Coil Design Guidelines for High Efficiency of Wireless Power Transfer (WPT)**
J. P. K. Sampath, A. Alphones and Hitoshi Shimasaki
- 730 **Improved Micro-Doppler Features Extraction Using Smoothed-Pseudo Wigner-Ville Distribution**
Roger Tan, Lim Hock Siong, Adriaan. B. Smits, Ronny. I. A. Harmanny and Lorenzo Cifola
- 734 **Automatic Generation Control in Competitive Market Conditions with Moth-flame Optimization based Cascade Controller**
More Raju, Lalit Chandra Saikia and Debdeep Saha
- 739 **Evaluation of Superconducting Coil for Microwave Power Transmission**
Hiromasa Kondo, Satoko Iida, Kosei Tanii and Takanobu Ohno
- 743 **Active Contour Energy Used in Object Recognition Method**
Zhiheng Zhou, Kaiyi Liu and Xiaowen Ou
- 746 **Joint Cyber and Physical Attacks Against Topology of Electric Grids**
Ying Sun, Wen-Tai Li, Wentu Song and Chau Yuen
- 751 **Robots for the Bottom of the Pyramid: Mobile Robot Racing Over the Internet**
Harini Venkatachalam Subramani, Dharani Marimuthu, Kamal P. Balaji and Shunmugham R. Pandian
- 756 **Current-fed Full-Bridge and Half-Bridge Topologies with CCL Transmitter and LC Receiver Tanks for Wireless Inductive Power Transfer Application**
Suvendu Samanta, Akshay Kumar Rathore and Sanjib Kumar Sahoo
- 762 **Reduced Network based Voltage Stability Monitoring by using PMU Measurements**
Ch. V. V. S. Bhaskara Reddy, Saikat Chakrabarti and S. C. Srivastava
- 766 **System Voltage and Frequency Control using DFIG based Wind Energy Conversion System**
Arup Kumar Goswami, Dwip Jyoti Goswami, Chinmaya Behera, Galiveeti Hemakumar Reddy and Pranju Chakrapani
- 772 **Impedance Source Converter for Grid-connected Photovoltaic Applications**
Tan Hui Ying Felicia, R. T. Naayagi and Thillainathan Logenthiran
- 777 **DC Equipment Identification using K-means Clustering and kNN Classification Techniques**
Y. T. Quek, W. L. Woo and T. Logenthiran
- 781 **Adjacent and Functional LBP Based Background Model Learning for Video Object Detection**
Subhabrata Acharya, Pragyan Snigdha Priyadarsini and Pradipta Kumar Nanda
- 789 **Symmetrical DC-link Capacitor Voltage for Cascaded H-Bridge Inverter Supported from Solar PV Array**
Rahul Sharma and Rajesh Gupta
- 793 **Implementation and Power-Loss Characteristics of 400-V, 10-kW, 20-kHz Three-way Isolated DC/DC Converter as A Power Routing Unit for Constructing Microgrid Systems**
Ryosuke Kasashima, Shota Nakagawa, Koya Nishimoto, Yuichi Kado and Keiji Wada

- 797 **Experimental Verification of Operation and Method of Decision of Maximum DC Link Voltage in Wireless power Transfer System**
Hideaki Tokunaga, Hayato Tanabe, Akihiro Imakiire, Masahiro Kozako and Masayuki Hikita
- 801 **Experimental Investigation of an Indirect Current Controlled Fuzzy-SVPWM Based Shunt Hybrid Active Power Filter**
Jarupula Somlal, M. Venu Gopala Rao and S. Prabhakar Karthikeyan
- 807 **Performance Improvement in SHVC using Contrast Sensitivity Function**
M. Sini Simon and G. Sreelekha
- 812 **Design and Implementation of RTRL Based Adaptive Controller for TCSC to Enhance Power System Stability**
K. C. Sindhu Thampatty and P. C. Reghu Raj
- 818 **Suitability of Rogowski Coil for DC Shipboard Protection**
Denisha Francis Antony, Qiu Zhengting, Kuntal Satpathi, Navpreet Thukral and Abhisek Ukil
- 823 **Complete Solution of Optimal PMU Placement Using Reduced Exhaustive Search**
Abdul Aziz G. Mabaning and Jordan Rel C. Orillaza
- 827 **Dynamic Equivalent Modeling of Wind Farm Considering Operational Condition of Wind Turbines**
Ruiming Fang and Mingling Wu
- 831 **Time Compensated Models of Switching Elements for Hardware in Loop Simulation**
T. Charles, Sarat Kumar Sahoo, M. Balamurugan, C. Rani, V. Vishnu, A. Ajeesh, Nevin Samuel and Renji V Chako
- 837 **Ripple Current Reduction Using Interleaving Technique for Three-level ZVZCS DC-DC Converter**
Meesrisuk Watanyu, Sarasiri Nuapett and Jangwanitlert Anuwat
- 842 **Human Detection using a Combination of Face, Head and Shoulder Detectors**
Feng Su, Gu Fang and Ju Jia Zou
- 846 **On the Detection of Power System Interharmonics Affected by Frequency Variability**
Diego Bellan and Sergio A. Pignari
- 850 **Identification and Analysis of Subsynchronous Oscillations in DFIG Based Wind Power Plants**
S. R. Jayakrishnan, J. Dhanuja Lekshmi, Elizabeth P. Cheriyan and T. K. Sindhu
- 854 **Optimal Algorithms for Energy Harvesting Based Systems with Circuit Power Considerations**
Yepuri Sudhakara Rao and A.S. Madhukumar
- 859 **Modelling and Simulation of Multilevel Inverter for Grid Connected Photovoltaic System**
Mariah Binte Marzuki, R. T. Naayagi and Van-Tung Phan
- 864 **Study of Telugu Vowels using Acoustic Features**
Pruthvi Raj Myakala, Rajasree Nalumachu and V. K. Mittal
- 869 **A Regression Model-Based Approach to Fast Contingency Screening for Transient Stability**
Monyvathna Chheng and Allan C. Nerves
- 873 **Video Classification using Compacted Dataset Based on Selected Keyframe**
Reza Fuad Rachmadi, Keiichi Uchimura and Gou Koutaki
- 879 **PMU Based Disturbance Analysis and Fault Localization of a Large Grid Using Wavelets and List Processing**
Abraham T. Mathew and M. N. Aravind

- 884 **Study on the Current Analysis of a Transmission System with Wind Power Penetration Using Stochastic Power Flow Calculations**
Akihiko Sakai, Zuo Hu, Kazuaki Iwamura, Yosuke Nakanishi and Kenji Iba
- 888 **Dynamic Security Analysis for Voltage Security Using Decision Trees**
Nikhil Chaudhari, Trupti Hinge and Sanjay Dambhare
- 893 **The EMC Design of Electromagnetic Environment Monitor with Three-dimensional High Accuracy**
Yuchen Wang, Xianglian Xu, Zhiwu Lu, Jialiang Li and Jianchao Wang
- 898 **Design and Analysis of a Double Band Hysteresis SMC for Cascaded Inverter-Based PV System**
Nayan Kumar, Tapas Kumar Saha and Jayati Dey
- 903 **FPGA Based Direct Matrix Converter: The Harmonic Analysis with Three Modulation Techniques**
Anshul Agarwal, Irfan Ahmad Khan and Vineeta Agarwal
- 909 **Parameter Estimation and Multi-Pulse Target Detection of MIMO Radar**
Chang Gao, Hongping Zhou, Ruowu Wu, Xiong Xu, Fei Shen and Zhongyi Guo
- 915 **Electromagnetic Interference in Photovoltaic System and Mitigation of Conducted Noise at DC Side**
Jukkrit Jiraprasertwong and Chaiyan Jettanasen
- 921 **Integration of Battery Energy Storage using Single Phase Inverter for Intermittency Mitigation**
Nur Ashikin Binte Shaikh Fauzan, R. T. Naayagi, Thillainathan Logenthiran and Van-Tung Phan
- 926 **Noise Robustness of Different Front-end Features for Detection of Vowels in Speech Signals**
Avinash Kumar, S. Shahnawazuddin and Gayadhar Pradhan
- 930 **Sub-Synchronous Resonance Analysis on DFIG Based Windfarm**
R. Mahalakshmi and K. C. Sindhu Thampatty
- 936 **Fuzzy Quadratic Programming Model for the Optimal Design of an Algal Bioenergy Park under Optimal Price Markdown Percentage**
Aristotle T. Ubando and Kyle Darryl T. Aguilar
- 942 **Torsional Oscillation Damping Control for Wind Turbine Generator under Strong Wind Conditions**
Atsushi Kina, Gul Ahmad Ludin, Tomonobu Senjyu, Abdul Motin Howlader and Mir Sayed Shah Danish
- 946 **Signal Processing Development for Low Probability of Intercept Radar System**
Sulistyaningsih, Yussi Perdana Saputera and Mashury Wahab
- 951 **Application of Prosody Modification for Speech Recognition in Different Emotion Conditions**
V. V. Vidyadhara Raju, P. Gangamohan, Suryakanth V. Gangashetty and Anil Kumar Vuppala
- 955 **Extended Spectral Unmixing for the Classification of Fluorescently Labeled Plastic Waste**
Siegfried Brunner and Christian Kargel
- 961 **Analytical Hierarchy Process with Artificial Neural Network: A Case Study of Algal Biofuel Production Impact Prioritization in the Philippines**
Aristotle T. Ubando, Ivan Henderson V. Gue and Kyle Darryl T. Aguilar
- 966 **Word Boundary Estimation for Continuous Speech Using Higher Order Statistical Features**
Vijayakrishna Naganoor, Akshay Kumar Jagadish and Krishnan Chemmangat

- 970 **Zero Time Windowing Based Severity Analysis of Hypernasal Speech**
Akhilesh Kumar Dubey, S. R. Mahadeva Prasanna and S. Dandapat
- 975 **An Algorithm to Secure the Zone 3 Operation of Distance Relay**
Prashant Gawande, Pallavi Bedekar, Vidyulata Joshi and Sanjay Dambhare
- 979 **Ear Recognition using Bilinear Probabilistic Principal component analysis and Sparse classifier**
J. Sheeba Rani and Sandeep Jangilla
- 984 **Low-Voltage Ride-Through Capability of Full-Row Connected Cascaded H-Bridge Converters**
Hossein Dehghani Tafti, Ali Iftekhar Maswood, Georgios Konstantinou, Christopher D. Townsend and Josep Pou
- 988 **Dual Channel Signal Analysis of Oral and Nasal Consonants**
Priyankoo Sarmah, Biswajit Dev Sarma, Nagaraj Adiga, Pamir Gogoi and S. R. M. Prasanna
- 993 **Low Complexity Surveillance Video Coding based on Distributed Compressive Video Sensing**
Sathiya Narayanan and Anamitra Makur

24 November 2016, Thursday

Session	[TH1A.BE1] BE: Biomedical Imaging
Date / Time	24 November 2016, Thursday / 8.30 am – 10.15 am
Venue	Melati Junior Ballroom 4D
Chair(s)	Worapan Kusakunniran, <i>Mahidol University, Thailand</i> Rajib Kar, <i>NIT Durgapur, India</i>

- 997 **Automatic Quality Assessment and Segmentation of Diabetic Retinopathy Images**
Worapan Kusakunniran, Jirat Rattanachosin, Krittanat Sutassananon and Phuthimeth Anekkitphanich
- 1001 **Assessment of Speckle Denoising in Ultrasound Carotid Images using Least Square Bayesian Estimation Approach**
Y. Nagaraj, C. S. Asha and A. V. Narasimhadhan
- 1005 **A New Way of Applying Spatial Filters and Wavelets to Reduce Noise in Medical Images**
Alberto Palacios Pawlovsky and Makoto Hozaki
- 1009 **Optimal Design of Full Subtractor using Particle Swarm Optimization with Aging Leader and Challenger Algorithm**
S. Kumar, P. K. Prasad, R. Das, A. Kumar, R. Kar, D. Mandal and S. P. Ghoshal
- 1013 **Modeling Bipedal Locomotion Trajectories Using Hybrid Automata**
Gora Chand Nandi, Vijay Bhaskar Semwal, Manish Raj and Akanksha. Jindal
- 1019 **A Study of Data Fusion for Alzheimers Disease Based on Diffusion Magnetic Resonance Imaging**
Changle Zhang, Shuai Mao, Chun Sing Wong, Edward S Hui, Chenfei Ye, Hengtong Li, Jingbo Ma and Ting Ma
- 1023 **Automatic Classification of Leukocytes using Morphological Features and Naive Bayes Classifier**
Anjali Gautam, Priyanka Singh, Balasubramanian Raman and Harvendra Bhadauria

Session	[TH2A.IoT] ET: Internet of Things
Date / Time	24 November 2016, Thursday / 8.30 am – 10.15 am
Venue	Lotus Junior Ballroom 4E
Chair(s)	N. Sathish Kumar, <i>Sri Ramakrishna Engineering College, India</i> Josyl Mariela B. Rocamora, <i>University of Santo Tomas, Philippines</i>

- 1028 **IOT Based Smart Garbage Alert System using Arduino UNO**
N. Sathish Kumar, B. Vijayalakshmi, R. Jenifer Prarthana and A. Shankar
- 1035 **Analysis of Traffic Information Dissemination using Vehicular Ad Hoc Network Simulations**
Neil Calvin C. Roque, Angelica Mari D. Guico, Elladine Faye C. Mondia, Arianne Louise P. Garing, Josyl Mariela B. Rocamora and Edison A. Roxas
- 1039 **FogR: A Highly Reliable and Intelligent Computation Offloading on the Internet of Things**
Md. Tanzim Saqib and Md. Abdul Hamid
- 1043 **Stimulation Methods for Students Studies using Wearable Technology**
Toshiki Ueda and Yoshikazu Ikeda

- 1048 **Smart Attendance Management using Bluetooth Low Energy and Android**
Raghav Apoorv and Puja Mathur
- 1053 **Performance Analysis of Intermittently Connected Sensor Networks**
Masahiro Fukuoka, Tomotaka Kimura, Kouji Hirata and Masahiro Muraguchi
- 1057 **Fuzzy Logic Based Algorithm for Context Awareness in IoT for Smart Home Environment**
Arpit Patel and Tushar A. Champaneria

Session	[TH3A.CS1.1] CS: Antennas, Propagation and Computational EM
Date / Time	24 November 2016, Thursday / 8.30 am – 10.15 am
Venue	Melati Junior Ballroom 4011
Chair(s)	X. Zhao, <i>National University of Singapore</i> Nasimuddin, <i>Institute for Infocomm Research, Singapore</i>

- 1061 **Polarization Reconfigurable Square Slot Ring Antenna with CPW-to-Slotline Transition**
Bharathi Anantha, Lakshminarayana Merugu and P.V.D. Somasekhar Rao
- 1065 **A Wideband Circularly Polarized Antenna for Low Mutual Coupling Ka-band Phased Arrays**
Nasimuddin, Xianming Qing and Zhi Ning Chen
- 1068 **Design and Equivalent Circuit Modeling of Textile Antenna for WBAN Applications**
Abhaikumar Sakthi, Roshni S. Nair, Arokiaswami Alphones and S. Raju
- 1075 **Design of Wideband Planar Loop Antenna with Two Perpendicular Modes for Mobile Platforms**
X. Zhao, B. N. Tian, S. P. Yeo and L. C. Ong
- 1078 **A Circularly Polarized Beam--Steering Antenna System for GNSS Applications**
Xinyi Tang, Nasimuddin, Xianming Qing and Zhi Ning Chen
- 1082 **Triple Bands MIMO Antenna for WLAN Applications**
Guiping Jin, Yong Huang, Chuhong Deng and Guangde Zeng
- 1085 **Composite Right/Left Handed (CRLH) Based Frequency Selective Surfaces (FSS) for Enhancement in Performance of Microstrip Antennas**
Karthik Thothathri Chandrasekaran, Muhammad Faeyz Karim, Nasimuddin, Arokiaswami Alphones, Leong Siew Weng and Michael Ong Ling Chuen

Session	[TH4A.CS2.1] CS: Wireless Communications and Networks
Date / Time	24 November 2016, Thursday / 8.30 am – 10.15 am
Venue	Melati Junior Ballroom 4111
Chair(s)	Md. Ahsan Habib, <i>University of Dhaka, Bangladesh</i> Padmalaya Nayak, <i>GRIET, India</i>

- 1088 **Intelligent Cross-Layer Protocol with Traffic-Differentiation-Based QoS for Wireless Sensor Networks**
Jawad Ahmad Haqbeen, Takayuki Ito, Mohammad Arifuzzaman and Takanobu Otsuka
- 1093 **Starfish Routing for Wireless Sensor Networks with a Mobile Sink**
Ahsan Habib, Sajeeb Saha, Fernaz Narin Nur and Abdur Razzaque
- 1097 **Collaborative Neighbor Discovery in Directional Wireless Sensor Networks**

Fernaz Narin Nur, Selina Sharmin, Ahsan Habib, Abdur Razzaque and Shariful Islam

- 1101 **Peak-to-Average Power Ratio Reduction in OFDM System Using Amplitude Clipping**
Pramesh Gautam, Prawal Lohani and Brajesh Mishra
- 1105 **An Efficient Compressive Spectrum Sensing Technique for Cognitive Radio System**
Hao Chen and Chan Hua Vun
- 1111 **A Fuzzy Logic based Dynamic Channel Allocation Scheme for Wireless Cellular Networks to optimize the Frequency Reuse**
Padmalaya Nayak, Bhavani Vathasavai and M. Shanthi
- 1117 **Performance Evaluation of Caching Policies in NDN-An ICN Architecture**
Samar Shailendra, Senthilmurugan Sengottuvelan, Hemant Kumar Rath, Bighnaraj Panigrahi and Anantha Simha
- 1122 **Analysis of Spectrum Handoff under Secondary User Mobility in Cognitive Radio Networks**
Shanidul Hoque, Mohd Azmal and Wasim Arif

Session	[TH5A.SIP1.1] SIP: Image Processing
Date / Time	24 November 2016, Thursday / 8.30 am – 10.15 am
Venue	Orchid Junior Ballroom 4211
Chair(s)	Sharmil Randhawa, <i>Flinders University, Adelaide, Australia</i> Debby D. Wang, <i>Caritas Institute of Higher Education, Hong Kong</i>

- 1126 **Biclustering-based Iterative Segmentation of Human Face Images for Facial Feature Extraction**
Debby D. Wang, Haoran Xie, Fu Lee Wang, Ran Wang, Xuefei Zhe and Hong Yan
- 1130 **Opto-mechanical Tilt Sensor using Moire Effect for Slope Movement Remote Sensing**
Pei Ying Tan, Mani Maran Ratnam, Yen Kin Sam and Fauziah Ahmad
- 1135 **Lost Label Prediction Algorithm for Three Description Lattice Vector Quantization System**
Hui Ting Teo and Mohd Fadzli Mohd Salleh
- 1139 **Enhancement of Depth Map Using Texture and Depth Consistency**
Ting-An Chang and Jar-Ferr Yang
- 1143 **Edge Preserving CFA Demosaicking based on Nonlinear Weighted Color Differences**
Ngai Li, Jim S. Jimmy Li, Sharmil Randhawa and Donald G. Bailey
- 2453 **Image Annotation Using Multi-view Non-negative Matrix Factorization and Semantic Co-occurrence**
Fuping Zhong and Lihong Ma
- 1147 **Diffusion and Interpolation Method for Gradient Vector Flow**
Ruzheng Zhao, Zhiheng Zhou and Huiqiang Zhong

Session	[TH6A.SIP2.1] SIP: Signal Processing
Date / Time	24 November 2016, Thursday / 8.30 am – 10.15 am
Venue	Orchid Junior Ballroom 4212
Chair(s)	Shinichi Koike, <i>Consultant, Japan</i> Aditya K. Jagannatham, <i>Indian Institute of Technology Kanpur, India</i>

- 1150 **Phase-Compensator Design Using Two-Step Mathematical Programming**
Tian-Bo Deng
- 1154 **Subspace Based Multi-User Spectrum Sensing in Frequency Selective Cognitive Radio Systems**
Mohit Rajput, Saumya Dwivedi, Adarsh Patel and Aditya K. Jagannatham
- 1158 **Adaptive Step-Size Q-Normalized Least Mean Modulus-Newton Algorithm**
Shin'ichi Koike
- 1162 **Effect of Minimum Phase Whitening Filter in Adaptive Beamforming Structure on Fluctuating Acoustic Signal**
Jinsoo Jeong
- 1166 **A Digital Signal Processing Algorithm on Read Out Circuit for Electrical Capacitance Tomography**
Arba'i Yusuf, Dodi Sudiana, Agus Santoso Tamsir and Harry Sudibyo S
- 1171 **Accurate Design of Digital Fractional Order Differentiators using Improved Particle Swarm Optimization**
Shibendu Mahata, Rajib Kar, Durbadal Mandal and Suman Kumar Saha
- 1175 **Efficient design of IIR Fractional Order Digital Integrators using Craziness based Particle Swarm Optimization**
Shibendu Mahata, Rajib Kar, Durbadal Mandal and Suman Kumar Saha
- 1180 **Mathematical Modeling of Predictive Grinding for Ball Mill**
Sonali Sen, Arup Kumar Bhaumik and Jaya Sil

Session	[TH7A.POW1.1] PEPE: Micro Grids and Distributed Generation
Date / Time	24 November 2016, Thursday / 8.30 am – 10.15 am
Venue	Orchid Junior Ballroom 4311
Chair(s)	Farhad Shahnia, <i>Murdoch University, Australia</i> Thillainathan Logenthiran, <i>Newcastle University, Singapore</i>

- 1185 **Smart Home Demonstration on LabVolt Home Energy Production Training System**
K. R. Tan, Thillainathan Logenthiran, W. L. Woo and R. T. Naayagi
- 1190 **Connecting an Embedded Generator to an Existing Facility in Singapore Power Grid**
Tan Xiao Xuan, Thillainathan Logenthiran, K. Yathunanthan and P. Amirthan
- 1194 **Total Optimization of Smart Community by Differential Evolution Considering Reduction of Search Space**
Mayuko Sato and Yoshikazu Fukuyama

- 1198 **Study in the Impact of Distributed Generator (DG) Placement and Sizing on a Ring Distribution Network**
Amir Alipour, Christian Alexander C. Asis, Jefferson Joseph P. Avanzado and Michael C. Pacis
- 1204 **Dependability Evaluation of Parallel Differential Evolutionary Particle Swarm Optimization for On-line Optimal Operational Planning of Energy Plants**
Norihiro Nishimura, Yoshikazu Fukuyama and Tetsuro Matsui
- 1208 **Optimal Allocation of FACTS Device to Improve Voltage Profile and Power Loss using Evolutionary Programming Technique**
Nur Ashida Binti Salim and Josepely Maika
- 1216 **Defining the Suitable Adjacent Microgrids to From a Temporary System of Coupled Microgrids**
Farhad Shahnian and Ali Arefi
- 1220 **Stability of a Sustainable Remote Area Microgrid**
Farhad Shahnian

Session	[TH8A.SS5] SS05: Magnetics and Spintronics
Date / Time	24 November 2016, Thursday / 8.30 am – 10.15 am
Venue	Orchid Junior Ballroom 4010AB
Organizer(s) / Chair(s)	S. N. Piramanayagam

- N/A **Investigation of Artificial Magnetic Lattices [Invited]**
Hironaga Uchida
- N/A **Process Controlled Magnetic Properties in thin Film Ferrite Systems [Invited]**
Venkataramani Narayanan
- N/A **Stress Induced Magnetization Rotation in Nanoscale Magnetic Elements and its Applications for Electrical Power Generation [Invited]**
Liu Xiaoxi
- 1224 **Performance Analysis of Media-based Cache via Analytical and Simulation Model**
Mingzhou Xie, Jun Xu and Li Xia
- N/A **Holographonics**
Ranjbar Mojtaba

Session	[TH1B.BE2] BE: Biomedical Imaging
Date / Time	24 November 2016, Thursday / 10.45 am – 12.30 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Rajgopal Kasi, <i>Indian Institute of Science, Bengaluru</i> Zaid Omar, <i>Universiti Teknologi Malaysia, Malaysia</i>

- 1230 **Optimization of Declarative Graphics by Parallel Programming**
Aishwarya Rajan, Kriti Nagori, Meenakshy Balachandran, Shashidhar G Koolagudi and Fathima Afroz

- 1236 **Machine Learning Algorithm for Retinal Image Analysis**
R. Santhakumar, E. R. Rajkumar, Megha Tandur, K. S. Geetha, Kumar Thirunellai Rajamani and Girish Haritz
- 1241 **Automated Edge Detection of Breast Masses on Mammograms**
Sarmistha Chakraborty, Mrinal Kanti Bhowmik, Anjan Kumar Ghosh and Tannistha Pal
- 1246 **A Multi Clue Heuristic Based Algorithm For Table Detection**
G V S S K R Naganjaneyulu, N Veerendra Sathwik and A. V. Narasimhadhan
- 1250 **A Novel Method for Pitch Detection via Instantaneous Frequency Estimation using Polynomial Chirplet transform**
G V S S K R Naganjaneyulu, M Venkata Ramana and A. V. Narasimhadhan
- 1254 **Artificial Bee Colony (ABC) Based Variable Density Sampling Scheme for CS-MRI**
Akshay Kumar Jagadish, Soumya Goswami, Pramit Saha, Satrajit Chakrabarty and Rajgopal Kasi
- 1258 **Noisy Brain MR and CT Image Registration using MRF Model**
Sunita Samant, Pradipta Kumar Nanda and Asish Ghosh
- 1262 **Wavelet-based Medical Image Fusion via a Non-linear Operator**
Zaid Omar, Saif S. Ahmed, Musa Mokji, Marsyita Hanafi and Vikrant Bhateja

Session	[TH2B.SS9.1] SS09: Renewable Energy-based Microgrids and Sustainable Development
Date / Time	24 November 2016, Thursday / 10.45 am – 12.30 pm
Venue	Lotus Junior Ballroom 4E
Organizer(s) / Chair(s)	Dr. Taha Selim Ustun; Sarat Kumar Sahoo

- 1266 **Feasibility of Microgrid Optimization and Grid Extension for Rural Electrification**
Andrew Harrison Hubble and Taha Selim Ustun
- 1270 **Overview of Grand Challenges and SmartGrid Research Framework for a Smooth Transition in Qatars Electrical Sector**
Taha Selim Ustun
- 1274 **Wireless Power Grid: Leapfrogging in Power Infrastructure of Developing Countries**
Ashok Tak and Taha Selim Ustun
- 1278 **Generation of Electricity using Concentrated Solar Power and Thermo-electric Module**
Tahmid Tisad Prantor, Mehedi Hasan and Chowdhury Akram Hossain
- 1284 **Voltage Control and Power Balance in a Standalone Microgrid Supported from Solar PV System**
Vivek Kumar and Rajesh Gupta
- 1289 **Micro-grid Operation and Control of Photo-Voltaic Power with Canal Based Small Hydro Power Plant**
Dushyant Sharma, Sukumar Mishra and Janardan Nanda
- 1294 **Feasibility Study of Solar Power System in Fishing Trawlers in Chittagong Region of the Bay of Bengal**
Sajib Chakraborty, S.M. Safayet Ullah, Mohammed Mahedi Hasan and M. Abdur Razzak

Session	[TH3B.CS1.2] CS: Antennas, Propagation and Computational EM
Date / Time	24 November 2016, Thursday / 10.45 am – 12.30 pm
Venue	Melati Junior Ballroom 4011
Chair(s)	Deeplaxmi V. Niture , <i>College of Engineering, India</i> Rahul Singhal, <i>BITS, Pilani-Campus, India</i>

- 1298 **Monopole Antenna with Double Rectangular Slot and Truncated Corners Ground for Ultra-Wideband Application**
Ria Aprilliyani, Fariz Azhar Abdillah, Rian Gilang Prabowo, Teguh Samudra Firdaus and Fitri Yuli Zulkifli
- 1302 **Frequency and Polarization Reconfigurable Square Ring Antenna for Wireless Application**
Deeplaxmi V. Niture, Padwal Ashish Govind and S. P. Mahajan
- 1307 **Performance Comparison of Probe-fed Polygonal Patch Antennas for L-Band Applications**
Abhishek Joshi and Rahul Singhal
- 1312 **Probe-Fed Regular Hexagonal Narrow-Slot Antenna with Reduced Ground Plane for WLAN Applications**
Abhishek Joshi and Rahul Singhal
- 1317 **Model Comparison for Estimating Cloud Liquid Water Content and Attenuation in Tropical Region**
Feng Yuan, Shilpa Manandhar, Yee Hui Lee and Yu Song Meng
- 1321 **Weather Radar to Detect Cloud Occurrence Level**
Shilpa Manandhar, Feng Yuan, Soumyabrata Dev, Yee Hui Lee and Yu Song Meng

Session	[TH4B.CS2.2] CS: Wireless Communications and Networks
Date / Time	24 November 2016, Thursday / 10.45 am – 12.30 pm
Venue	Melati Junior Ballroom 4111
Chair(s)	Soumitra Bhowmick, <i>Indian Institute of Technology, Kanpur, India</i>

- 1325 **Energy Harvesting Aware Protocol for 802.11-based Internet of Things Network**
Lukman Rosyidi and Riri Fitri Sari
- 1329 **A Proposal on Void Zone Aware Greedy Forwarding Method over Manet**
Yuto Terao, Phonepadith Phoummavong, Keisuke Utsu and Hiroshi Ishii
- 1334 **Study of Expected Delay of Multi-hop Desynchronization for Wireless Sensor Networks**
Dujdow Buranapanichkit
- 1338 **Bit Error Rate of Spatial Modulation Systems for Nakagami- m Fading**
Nodar Ugrelidze, Mariam Sordia and Sergo Shavgulidze
- 1344 **Method of Determining the Relationship between Audio/Video QoE and Route Availability in a MANET**
Tamotsu Yashima and Kazumasa Takami
- 1348 **Method of Detecting a Stray Diver Using Underwater Ultrasonic-Band Multicast Communication**
Shinya Kaido and Kazumasa Takami

- 1352 **Effect of Probabilistic Sensing Models in a Deterministically Deployed Wireless Sensor Network**
Nitika Rai and Rohin D Daruwala
- 1356 **Development and Analysis of 3D-Copula Model for Statistical Dependencies in Wireless Sensor Networks**
Sunayana Jadhav and Rohin Daruwala

Session	[TH5B.SIP1.2] SIP: Image Processing
Date / Time	24 November 2016, Thursday / 10.45 am – 12.30 pm
Venue	Orchid Junior Ballroom 4211
Chair(s)	Wen Chen, <i>The Hong Kong Polytechnic University, China</i> Stefan Winkler, <i>Advanced Digital Sciences Center (ADSC), Singapore</i>

- 1361 **Video Inpainting Detection and Localization Using Inconsistencies In Optical Flow**
Shobhita Saxena, Venkata Subramanyam and Hareesh Ravi
- 1366 **MSCM-LiFe: Multi-Scale Cross Modal Linear Feature for Horizon Detection in Maritime Images**
Dilip K. Prasad, Deepu Rajan, C. Krishna Prasath, Lily Rachmawati, Eshan Rajabally and Chai Quek
- 1371 **Automatic Detection of Defective Welding Electrode Tips Using Color Segmentation and Hough Circle Detection**
Chisung Kim, Dong Seog Han, Jin Kyoung Kim and Byoung Ik Kim
- 1375 **Optical Decoded-Image Correlation using Simultaneous Compression of Input Image and the Phase in the Recording Plane**
Wen Chen
- 1379 **Comparison of Human and Machine Performance for Copy-Move Image Forgery Detection Involving Similar but Genuine Objects**
Ye Zhu, Ramanathan Subramanian, Tian-Tsong Ng, Stefan Winkler and Rama Ratnam
- 1384 **Biometric Association using Transfer Subspace Learning**
Rupali Sandip Kute and Vibha Vyas
- 1388 **Detail and Contrast Enhancement for Images Using Dithering Based on Complex Wavelets**
Sunpreet Sharma, Ju Jia Zou and Gu Fang

Session	[TH6B.SIP2.2] SIP: Signal Processing
Date / Time	24 November 2016, Thursday / 10.45 am – 12.30 pm
Venue	Orchid Junior Ballroom 4212
Chair(s)	Fuxi Wen, <i>Singapore University of Technology and Design, Singapore</i> Lay Teen Ong, <i>National University of Singapore, Singapore</i>

- 1392 **Vehicle Black Box with 24GHz FMCW Radar**
Jung-Hwan Kim, Sun-Kyu Kim, Sang-Hyuk Lee, Tae-Min Lee and Joonhong Lim
- 1397 **Exploring Acoustic Factor Analysis for Limited Test Data Speaker Verification**
Salil Mamodiya, Lav Kumar, Rohan Kumar Das and S. R. Mahadeva Prasanna

- 1402 **Speaker Verification using Acoustic Factor Analysis with Phonetic Content Compensation in Limited and Degraded Test Conditions**
Akhil Babu Manam, Tummala Sai Revanth, Rohan Kumar Das and S. R. Mahadeva Prasanna
- 1407 **A Generalized l_p - l_q Norm Minimization Approach for Distributed Estimation in Sensor Networks**
Fuxi Wen and Zhongmin Wang
- 1411 **Experimental Study on Spatial Smoothing Direction of Arrival Estimation for Coherent Signals**
Lay Teen Ong
- 1415 **Self-Training-Based No-Reference SSIM Estimation for Single Video Frame**
Zhenyu Wu and Hong Hu
- 1419 **Design of Non-uniform Modified DFT Filter Banks**
V. Sakthivel and Elizabeth Elias
- N/A **Acoustic Segmentation of Speech using Time Reversal: Single Frequency Filtering Analysis of Hypothesized Boundaries**
Raghu Ram Nevali, Sudarsana Reddy Kadiri, Bhanu Teja Nellore, Sri Harsha Dumpala and Suryakanth V Gangashetty

Session	[TH7B.POW1.2] PEPE: Micro Grids and Distributed Generation
Date / Time	24 November 2016, Thursday / 10.45 am – 12.30 pm
Venue	Orchid Junior Ballroom 4311
Chair(s)	Gayadhar Panda, <i>NIT Meghalaya, India</i> Byungmoon Han, <i>Myongji Univ., South Korea</i>

- 1429 **Modelling and Hardware-in-Loop Validation of a Modified Controller for Intermittent Operation of a Standalone Low Voltage DC Fuel Cell System**
Bonu Ramesh Naidu, Gayadhar Panda and R Ganesh
- 1435 **Strategical Studies on Frequency and Voltage Control of an Islanded Microgrid**
N. J. L. Lim, Thillainathan Logenthiran, R. T. Naayagi and V. T. Phan
- 1439 **Investigation on FPGA based Passive Anti-Islanding Protection Schemes for Grid Interfaced Distributed Generation System**
Satabdy Jena, Gayadhar Panda and Rangababu Peesapati
- 1445 **Battery SoC-based DC Output Voltage Control of BESS in Stand-alone DC Microgrid**
Byungmoon Han
- 1450 **Optimal Design Combined with Power Management for Stand-Alone Microgrid**
Dzung Phan Quoc, Viet Nguyen Chan, Tuyen Nguyen Dinh, Tien Nguyen and Hiep Le Chi
- 1456 **Performance Analysis of Static Versus Rotary DC/AC Power Converters for Hybrid Renewable Energy Based Microgrid Applications**
Y. V. Pavan Kumar and Ravikumar Bhimasingu

Session	[TH8B.POW2.1] PEPE: Power Generation, Transmission and Distribution
Date / Time	24 November 2016, Thursday / 10.45 am – 12.30 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Masahiro Furukakoi, <i>University of the Ryukyus, Japan</i> Hiroki Hayashi, <i>Kyushu University, Japan</i>

- 1462 **Profit Maximization with Integration of Wind Farm in Contingency Constraint Deregulated Power Market using Moth Flame Optimization Algorithm**
Subhojit Dawn, Sadhan Gope, Arup Kumar Goswami and Prashant Kumar Tiwari
- 1467 **Hybridization of Genetic Algorithm and Priority List to Solve Economic Dispatch Problems**
B. M. S Muhammad Ramadan, Thillainathan Logenthiran, R. T. Naayagi and Charles Su
- 1471 **Optimal Operation for Transmission Systems with Uncertainty of Demand Forecasting and Voltage Stability**
Masahiro Furukakoi, Ahamad Samim Noorzad, Mohammad Masih Sediqi and Tomonobu Senjyu
- 1475 **Load Frequency Control of a Multi-area, Multi-source System Using Firefly Algorithm Optimized F2DOFIDD Controller**
Upasana Sarma, L. C. Saikia, Arindita Saha and Puja Dash
- 1480 **An Active Power Spot Price based Approach for Congestion Management by Optimal Allocation of TCSC in Competitive Power Market**
Subhojit Dawn, Prashant Kumar Tiwari, Sadhan Gope, Arup Kumar Goswami and Prakash Kumar
- 1485 **Detection of Acetylene Dissolved in Insulation Oil Using Pt-decorated ZnO Gas Sensor**
Hiroki Hayashi, Michihiko Nakano and Junya Suehiro
- 1489 **Neutral Grounding Reactors for Shunt Compensated EHV Transmission Lines**
K. S. Meera and Puneeth Bhurat
- N/A **Short-term Forecasting of Ports Power Load Based on Similarity of Wind Conditions**
Chungheng Ling, Gang Yao, Yongjian Sun and Fushen Xue

Session	[TH1C.BE3] BE: Biomedical Signal Processing and Instrumentation
Date / Time	24 November 2016, Thursday / 2.00 pm – 3.00 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Niyan Marchon, <i>Goa University, India</i> Roy Francis Navea, <i>De La Salle University, Philippines</i>

- 1499 **Development of Wear-Free Health Monitoring System for Independent Aged People-Biological Signal Monitoring Using Piezoelectric-film Sensor**
Hitoshi Ueno
- 1503 **Classification of Wavelet-denoised Musical Tone Stimulated EEG Signals using Artificial Neural Networks**
Roy Francis Navea and Elmer Dadios

- 1509 **Acquisition and Analysis of Electrocardiogram Waveforms with Diagnosis Transmission through Short Message Service Communication System**
Bernice Mae Yu Jeco, Renz Vergil Doma, Michael Anthony Morales, Elisha Grace Tarroza, Ma. Fatima Villaflores, Angelo dela Cruz, Emmanuel Guevara, Ryan Rhay Vicerra and Ma. Luisa Asilo
- 1515 **Improving the Performance of Multi-parameter Patient Monitors using Feature Mapping and Decision Fusion**
J. Rajevenceltha, C. Santhosh Kumar and A. Anand Kumar
- 1519 **Detection of Fetal Heart Rate using ANFIS Displayed on a Smartphone**
Niyana Marchon and Gourish Naik
- 1524 **Spectral Analysis of Heart Rate Variability and Its Coherence with Pulse Transit Time Variability in Prehypertension**
Ye Zhu, Yang Chen, Liangkun Qi and Heather T. Ma

Session	[TH2C.SS22.1] SS22: Engineering in Medicine and Biology
Date / Time	24 November 2016, Thursday / 2.00 pm – 3.30 pm
Venue	Lotus Junior Ballroom 4E
Organizer(s) / Chair(s)	Chee-Kong Chui; Damon Wong

- 1536 **Eye Movement Correction for 3D Optical Coherence Tomography Volume by using Saliency and Center Bias Constraint [Invited]**
Huazhu Fu, Yanwu Xu, Damon Wing Kee Wong and Jiang Liu
- 1528 **High Performance Differential Capacitive MEMS Sensor Readout with Relaxation Oscillator Front-End and Phase Locked Loop Time-To-Digital Converter Back-End**
Kevin T. C. Chai, Chao Wang, Jifang Tao, Jinghui Xu, Liang Zhong and Ru S. Tan
- 1532 **Multiscale Modeling of Liver Bio-impedance and Frequency Control for Radiofrequency Ablation**
Bin Duan and Chee-Kong Chui
- 1540 **AQUIR-A System to Generate Quantitative and Customized Vision Measurement Template**
Ying Quan, Beng-Hai Lee, Ai Ping Yow, Zhuo Zhang, Damon Wing Kee Wong and Jiang Liu
- 1544 **Automatic Image Classification in Intravascular Optical Coherence Tomography Images**
Mengdi Xu, Jun Cheng, Damon Wing Kee Wong, Akira Taruya, Atsushi Tanaka, Jiang Liu, Nicolas Foin and Philip Wong

Session	[TH3C.CS1.3] CS: Antennas, Propagation and Computational EM
Date / Time	24 November 2016, Thursday / 2.00 pm – 3.00 pm
Venue	Melati Junior Ballroom 4011
Chair(s)	Abhay N. Gaikwad, Babasaheb Naik College of Engineering Pusad, India Venkateswaran N., SSN College of Engineering, India

- 1548 **An Empirical Propagation Model for UHF Frequency Bands in Varied Types of Tree Lines**
Vanpiti Jungpanich and Supachai Phaiboon

- N/A **Ultra-wideband Rectangular Slot Antenna With U-Shaped Tuning Stub**
A. Bharathi
- 1556 **Square Fractal Ring Loaded CPW-Fed Circular Polarized Antenna**
Satyadeep Das and Sudhakar Sahu
- 1560 **Design of Microstrip TV Antenna for In-Campus Digital Broadcast System at 479 MHz**
Jennifer C. Dela Cruz , Alejandro H. Ballado Jr., Flordeliza L. Valiente, Mark Luis M. Lubrin , Kirk Nicole D. Matoza, Joshua C. Pineda and Aaron M. Polancos
- 1565 **Experimental Study and Analysis of Stepped-Frequency Continuous Wave Based Radar for Through the Wall Detection of Life Signs**
Abhay N. Gaikwad, Utkarsh S. Verulkar and Kalpesh S. Dongre
- 1570 **DOA Estimation of Near-Field Sources Using Support Vector Regression**
N. Venkateswaran and Ashok C.

Session	[TH4C.CS2.3] CS: Wireless Communications and Networks
Date / Time	24 November 2016, Thursday / 2.00 pm – 3.00 pm
Venue	Melati Junior Ballroom 4111
Chair(s)	Yuhong Wang, <i>Institute for Infocomm Research, Singapore</i> S. M Sameer, <i>National Institute of Technology Calicut, India</i>

- 1575 **A New Integer Frequency Offset Estimation Method for OFDM Signals**
Soumitra Bhowmick and Kasturi Vasudevan
- 1579 **Enhancement of PRoPHET Routing in Delay Tolerant Networks from an Energy Prospective**
Bhed Bahadur Bista and Danda B. Rawat
- 1583 **SSIM based Resource Optimization for Multiuser Downlink OFDM Video Transmission Systems**
Finto Raphael and S. M. Sameer
- 1587 **Analytical Computation of Frequency Metric for a Synchronous Ethernet Network**
Satheesh Kumar S
- 1593 **Performance Analysis of HWMP Protocol for Wireless Mesh Networks Using NS3**
A. B. Nataraju, H. D. Maheshappa and Amar Devkotte
- 1599 **Analysis of the Half-Duplex Decode-and-Forward Relay-Assisted Asymmetric Interference Channel**
Rajendra Prasad Sirigina and AS Madhukumar
- 1605 **High Sensitivity ZigBee Baseband Receiver Design**
Yuhong Wang, Zhongding Lei and Ho Huat Peh

Session	[TH5C.SIP1.3] SIP: Image Processing
Date / Time	24 November 2016, Thursday / 2.00 pm – 3.00 pm
Venue	Orchid Junior Ballroom 4211
Chair(s)	Balasubramanian Raman, <i>Indian Institute of Technology Roorkee, India</i> Xiangrong Zhang, <i>Xidian University, China</i>

- 1610 **Human Shadow Detection for Real-time Applications**
Mosin Russell, Ju Jia Zou and Gu Fang
- 1614 **Image Segmentation Using K-Means Color Quantization and Density-Based Spatial Clustering of Applications with Noise (DBSCAN) for Hotspot Detection in Photovoltaic Modules**
Genevieve C. Ngo and Erees Queen B. Macabebe
- 1619 **A New Approach for Jawi Sub-word Segmentation using Histogram Projection**
Khairun Saddami, Khairul Munadi and Fitri Arnia
- 1624 **Medical Image Denoising Based on Improving K-SVD and Block-Matching 3D filtering**
Jing Bai, Yanchao Sun, Ting Fan, Shu Song and Xiangrong Zhang
- 1628 **A Reversible Robust Watermarking Scheme Based on Two out of Two Visual Cryptography Approach**
Priyanka Singh, Balasubramanian Raman and Manoj Misra
- 1634 **Information Security Display System on Android Device**
Yuanchun Chen, Ning Liu, Guangtao Zhai, Zhongpai Gao and Ke Gu

Session	[TH6C.SIP2.3] SIP: Signal Processing
Date / Time	24 November 2016, Thursday / 2.00 pm – 3.00 pm
Venue	Orchid Junior Ballroom 4212
Chair(s)	S. R. M. Prasanna, <i>IIT Guwahati, India</i> Kailash Chandra Ray, <i>Indian Institute of Technology Patna, India</i>

- 1638 **CORDIC-based Parallel Architecture for One Dimensional Discrete Mellin Transform**
Kailash Chandra Ray and Anindya Sundar Dhar
- 1644 **Study of Prosodic Feature Extraction for Multidialectal Odia Speech Emotion Recognition**
Monorama Swain, Aurobinda Routray, P. Kabisatpathy and Jogendra N. Kundu
- 1650 **Detection of Similarity in Music Files using Signal Level Analysis**
Mathew Thomas, Mintu Jothish, Navin Thomas, Shashidhar G. Koolagudi and Y. V. Srinivasa Murthy
- 1655 **Shouted/Normal Speech Classification using Speech-Specific Features**
Shikha Baghel, Banriskhem K. Khonglah, S. R. M. Prasanna and Prithwijit Guha
- 1660 **Implementation of Pipelined Radix-2 FFT using SDC and SDF Architecture**
Deepika Hiremath and B. Rajeshwari
- 1664 **Pattern Recognition Using Fragmentation and Concatenation**
Irwan Ramli and Cesar Ortega-Sanchez

Session	[TH7C.POW1.3] PEPE: Renewable Energy Sources and Technology
Date / Time	24 November 2016, Thursday / 2.00 pm – 3.00 pm
Venue	Orchid Junior Ballroom 4311
Chair(s)	Gudey Venkata Eswara Satish Kumar, <i>Gayatri Vidya Parishad College of Engineering, India</i>

- 1670 **Energy Contraption Design Using Playground Seesaw for Lighting Load Applications**
John Ray B. Abad, Merryll D. Capucan, Lynette Dane C. Legaspi, Jesus Martinez Jr. and Michael C. Pacis

- 1674 **Multi-AOA Optimization of Variable-Speed Wind Turbine Airfoils**
Yang Zhiqiang, Yin Minghui, Chen Xiaoyang, Chen Zaiyu and Zou Yun

- 1678 **Control of Single Phase Power Inverter using Model Predictive Controller for Grid Integrated Renewable Energy Systems**
Aditi Chatterjee and K. B. Mohanty

- 1682 **Capture Chamber Modelling and Validation in OWC on-shore Devices**
Aitor Garrido, Izaskun Garrido, Erlantz Otaola, Jon Lekube, Fares M'Zoughi, Khaoula Ghefiri, Diclobin G. Mundackamattam and Iñigo Oleagordia

- 1686 **Islanding Operation of Small Vertical Axis Wind Turbine Under a Wide Wind Speed Area**
Hidehito Matayoshi, Atsushi Kina, Tomonobu Senjyu, Nobuaki Hiranaka and Abdul Motin Howlader

- 1690 **A Comparative Study of Different MPPT Techniques Using Different DC-DC Converters in a Standalone PV System**
Bikram Sah and Gudey Venkata Eswara Satish Kumar

Session	[TH8C.POW2.2] PEPE: Power Generation, Transmission and Distribution
Date / Time	24 November 2016, Thursday / 2.00 pm – 3.00 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	S. Prabhakar Karthikeyan, <i>VIT University, India</i> Zhen Shu, <i>Energy R&D, DNV GL, Singapore</i>

- 1696 **Hydrothermal Scheduling using Modified Flower Pollination Algorithm: A Parallel Approach**
Suman Sutradhar, N. B. Dev Choudhury and N. Sinha

- 1701 **Sensitivity Assessment on Locational Marginal Price under Deregulated Electricity Market**
Ashok Thomas Aby, S. Prabhakar Karthikeyan, Polly Thomas, and Emil Ninan Skariah

- 1706 **Modeling Method of Controllable Loads with Decentralized and PID+DD Control Systems for use in Electric Power Transmission Systems**
Michael Palmer, Takahiro Uehara, Ryuto Shigenobu, Tomonobu Senjyu and Atsushi Yona

- 1712 **Analysis of Singapore Electricity Market Clearing Model with Transmission Network Consideration**
Zhen Shu, Shengfeng Zhou, Kelvin Tan Kian Hock and Gooi Hoay Beng

- 1716 **Interruptible Load Scheme: Demand Response Management for Buildings**
B. Sivaneasan, K. Thachinamoorthi and K. P. Goh

- 1720 **Realization of Effect of Relative Humidity on Domestic Tariff for Low Tension Customers in India**
M. Yunus Ali Khan, Syed Yusuf Ahmed and S. Prabhakar Karthikeyan
- 1724 **Modeling Diesel Generators for Weak and Strong Grid Conditions: Emphasis on LVRT Compliance**
Sruti Keerti, VSK Murthy Balijepalli, Abhisek Ukil, Yang Shicong, N. Karthikeyan and Amit K. Gupta

Session	[TH1D.BE4] BE: Biomedical Signal Processing and Instrumentation
Date / Time	24 November 2016, Thursday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Yap Roderick, <i>De La Salle University, Philippines</i> Saman S. Abeysekera, <i>Nanyang Technological University, Singapore</i>

- 1728 **K-Nearest Neighbor: Detection of NS1 from SERS Spectra of Adulterated Saliva**
Nur Hainani Othman, Lee Yoot Khuan, Afaf Rozan Mohd Radzol, Wahidah Mansor and Ummu Rakinah Mohd Rashid
- 1733 **Photoplethysmographic Signal Analysis via Beat-to-beat Periodicity Estimation**
Saman S. Abeysekera
- 1737 **Bernstein Polynomial and Rational Bezier Curve for Blood Pressure Simulation**
I. Kanjanasurat, V. Chutchavong, C. Benjangkaprasert, V. Pirajnanhai and K. Janchitrapongvej
- 1742 **A wireless Blood Sugar Monitoring System Using Ion-Sensitive Field Effect Transistor**
Jason M. Dy Perez, Windel B. Misa, Patrick Alvin C. Tan, Roderick Yap and Julita Robles
- 1747 **Spectral Analysis on Vibroarthrographic Signal of Total Knee Arthroplasty**
Tanut Aranchayanont, Jitkomut Songsiri and Kakanand Srungboonmee
- 1752 **On a New Model for Ebola disease**
Manuel De la Sen, Santiago Alonso-Quesada, Raúl Nistal and Asier Ibeas

Session	[TH2D.SS22.2] SS22: Engineering in Medicine and Biology
Date / Time	23 November 2016, Wednesday / 4.00 pm – 5.30 pm
Venue	Lotus Junior Ballroom 4E
Organizer(s) / Chair(s)	Chee-Kong Chui; Damon Wong

- N/A **Development of Flexible Electronics in Biomedicine [Invited]**
Lee Chengkuo
- 1769 **Research of Beam Hardening in CBCT imaging [Invited]**
Jing Zhang, Yongliang Tian, Qi Liu, Ling He, Kai Liu
- 1755 **Modeling and Simulation of a Remote Center of Motion Mechanism**
Chin-Boon Chng, Bin Duan and Chee-Kong Chui
- 1759 **Development of a Sign Language Translator Using Simplified Tilt, Flex and Contact Sensor Modules**
Katrina Nicole M. Ramos and Carlos Emmanuel A. Quiapo

- 1764 **A Modular Sensorized Handle for the Training of Functional Tasks with Planar Neurorehabilitation Setups**
Ming Jeat Foo, Simone Kager, Mohammad Esmaeili, Asif Hussain and Domenico Campolo

Session	[TH3D.CS1.4] CS: RF/Millimeter-wave Circuits and Systems
Date / Time	24 November 2016, Thursday / 4.00 pm – 5.30 pm
Venue	Melati Junior Ballroom 4011
Chair(s)	L. Snehalatha, <i>Indian Institute of Technology, India</i> Kouzani Abbas, <i>Deakin University, Australia</i>

- 1773 **A Study on Tunable Bulk Acoustic Wave Macro Resonators**
Hock Lim, Abbas Z. Kouzani and Akif Kaynak
- 1777 **Concurrent Dual-frequency Oscillator Using a Dual-band Filter**
L. Snehalatha, Nagendra P. Pathak and S. K. Manhas
- 1781 **Validation of Damping Terminations for Signal Integrity Management in Digital Switching**
Wei-Juet Wong and Antonio Cantoni
- 1786 **The Simplest Rectifier Topology Tolerant of Load Resistance Variation and Circuit Analysis by Square-Wave Approximation**
Kyohei Yamada, Yoichiro Miyazaki, Shinji Abe, Naoki Sakai and Takashi Ohira
- 1790 **Analytical Drain Current Model to Study the Impact of Negative Capacitance Phenomenon in Symmetric Double Gate Junctionless Transistor**
Hema Mehta and Harsupreet Kaur
- 1794 **Magnetic Circuit for a Sheet Electron Beam Ka-band Microfabricated Traveling Wave Tube**
Shaomeng Wang and Sheel Aditya

Session	[TH4D.CS2.4] CS: Wireless Communications and Networks
Date / Time	24 November 2016, Thursday / 4.00 pm – 5.30 pm
Venue	Melati Junior Ballroom 4111
Chair(s)	Sanjay K. Bose, <i>Indian Institute of Technology Guwahati, India</i> David Tung Chong Wong, <i>Institute for Infocomm Research A*STAR, Singapore</i>

- 1798 **Multicasting in Wireless Networks with Correlated Links**
Prateek Rathore, Kalpana Dhaka and Sanjay K. Bose
- 1803 **On the Complementary Nature of the Signature Matrices with Orthogonal Subsets for Overloaded CDMA**
Amiya Singh and Poonam Singh
- 1807 **Two-hop AF MIMO Relay Systems with Direct Link - Transceiver Design Based on New Protocol**
Jinnian Zhang, Wanning Liu, Zhiqiang He and Yue Rong
- N/A **Training Design and Two Stage Channel Estimation for Correlated Two-way MIMO Relay Systems Under Colored Disturbance**
Huiming Chen and Wong-Hing Lam

- 1817 **Performance Analysis of a Slotted Aloha with Decollision Algorithm (SADA) MAC Protocol for Satellite Uplink Access**
David Tung Chong Wong
- 1821 **A Low Delay Cross-Layer Contention Based Synchronous MAC Protocol for a Multi-hop WSN**
Ripudaman Singh, Brijesh K. Rai and Sanjay K. Bose

Session	[TH5D.ROB1] OT: Robotics, Control, Instrumentation and Automation
Date / Time	24 November 2016, Thursday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4211
Chair(s)	Scott Adams, <i>Deakin University, Australia</i>

- 1825 **A Redundant Flight Recovery System Implementation During an Octocopter Failure**
Elmer R. Magsino, Karl Obias, John Paul Samarista, Marc Francis Say and John Amos Tan
- 1829 **A Rapid Screening Algorithm Using a Quadrotor for Crack Detection on Bridges**
Elmer R. Magsino, John Robert B. Chua, Lawrence S. Chua, Carlo M. de Guzman and Jan Vincent L. Gepaya
- 1834 **Design of a Compact and Economical Remotely Operated Vehicle for Aquatic Monitoring**
Giridharan Kumaravelu, Chetan Soni and Shunmugham R. Pandian
- 1839 **Mathematical Modeling and DLQR Based Controller Design for a Non-Minimum Phase Electro Hydraulic Servo System (EHS)**
Mazid Ishtique Ahmed and A. K. M. Azad
- 1845 **Wireless Tool Holder Sensor Design for Cutting Force Measurement Applied to Chatter Detection**
D. A. Reyes Uquillas and T. Hsiao
- 1849 **Development of a Single Axis Tilting Quadcopter**
Russell Oliver, Sui Yang Khoo, Michael Norton, Scott Adams and Abbas Kouzani

Session	[TH6D.ITS] TT: Intelligent Transport Systems
Date / Time	24 November 2016, Thursday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4212
Chair(s)	Maode Ma, <i>Nanyang Technological University, Singapore</i>

- 1853 **Specularity Removal for Robust Road Detection**
Falak Shah, Pratik Shah and Rahul Dubey
- 1859 **Travel-Time Prediction With Deep Learning**
Chaiyaphum Siripanpornchana, Sooksan Panichpapiboon and Pimwadee Chaovalit
- 1863 **Routing in Taxi and Public Transport Based Heterogeneous Vehicular Networks**
Gen Li, Maode Ma, Chunfeng Liu and Yantai Shu
- 1867 **Cooperative Multi-channel Dissemination of Safety Messages in VANETs**
Odongo Steven Eyobu, Jhihoon Joo and Dong Seog Han

- 1871 **Intelligent System Architecture for a Vision-Based Contactless Apprehension of Traffic Violations**
Robert Kerwin C. Billones, Argel A. Bandala, Edwin Sybingco, Laurence A. Gan Lim and Elmer P. Dadios
- 1875 **Passenger Demand Forecast Using Optical Flow Passenger Counting System for Bus Dispatch Scheduling**
Cyrill O. Escolano, Robert Kerwin C. Billones, Edwin Sybingco, Alexis D. Fillone and Elmer P. Dadios

Session	[TH7D.POW1.4] PEPE: Renewable Energy Sources and Technology
Date / Time	24 November 2016, Thursday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4311
Chair(s)	Abhisek Ukil, <i>Nanyang Technological University, Singapore</i>

- 1879 **Modelling and Implementation of Single Phase Dual Stage Grid-Tied Solar Power Inverter**
Jeanette Lam Min Yi, R. T. Naayagi and Thillainathan Logenthiran
- 1884 **Parameter Extraction of Solar Photovoltaic System Using Lambert-W Function for Different Environmental Condition**
Prashant Upadhyay, Madhav Sharma, Subrahmanyam Pulipaka and Rajneesh Kumar
- N/A **Evaluation Method of Photovoltaic Power Prediction System Based on Order Relation Analysis Method and Entropy Method**
Fushen Xue, Wenhai Yang, Fan Zhang, Yajing Gao, Chunlai Li and Libin Yang
- 1894 **A Method to Reduce DC-link Overvoltage of PMSG Based WECS During LVRT**
Papan Dey, Manoj Datta, Nuwantha Fernando and Tomonobu Senjyu
- 1900 **Single-Phase Grid-Tied Photovoltaic Inverter to Control Active and Reactive Power with Battery Energy Storage Device**
Maheswar Prasad Behera, Pravat Kumar Ray and Gooi Hoay Beng
- 1905 **Modeling and Performance Assessment of Pontoon Roller Wave Energy Converter in Singapore**
Manni Xiong, Abhisek Ukil, Jiyun Zhao, Michael Lochinver and Narasimalu Srikanth

Session	[TH8D.SS25] SS25: Evolutionary Optimization Methods Applied to Smart Grid
Date / Time	24 November 2016, Thursday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4010AB
Organizer(s) / Chair(s)	Dipti Srinivasan; Anupam Trivedi; Rohit Bhakar

- 1910 **A Multi-objective Shuffled Bat Algorithm for Optimal Placement and Sizing of DGs with Load Variations**
Chandrasekhar Yammani
- 1916 **Swarm and Bacterial Foraging Based Optimal Power System Stabilizer for Stability Improvement**
Prakash K. Ray, Shiba R. Paital, Asit Mohanty, T. K. Panigrahi, Manish Kumar and Harishchandra Dubey

- 1921 **Maximizing DG Penetration using Optimal Placement of Shunt Devices in Distribution Systems**
Dhivya Sampath Kumar, Dipti Srinivasan and Thomas Reindl
- 1925 **Multi-objective V2G Energy Storage System for Grid Support with Cost and Emission Reduction**
Samar Ahmad and S. Sivasubramani
- 1929 **Optimized Support Vector Regression Models for Short Term Solar Radiation Forecasting in Smart Environment**
Sreenu Sreekumar, Kailash Chand Sharma and Rohit Bhakar

Session	[THU.OIF1] Oral Interactive Forum
Date / Time	24 November 2016, Thursday / 9.00 am – 11.00 am
Venue	Orchid Main Ballroom 4201AB – 4306
Chair(s)	Michael Ong; T. Sree Sharmila; Sahoo S. K.

- 1933 **Re-jagged AR4JA LDPC Coded Outdoor Optical Wireless Communication System**
Madhusmita Mishra, Sarat Kumar Patra, Ashok Kumar Turuk and Pabitra Mohan Khilar
- 1937 **A Diversity Order Design of Linearly Precoded MU-MIMO Downlink System**
Nobuaki Shimakawa and Yasunori Iwanami
- 1941 **Coherent GFSK Receiver on MIMO Frequency Selective Channels**
Kazuki Yoshida and Yasunori Iwanami
- 1945 **Air Pollution Analysis Using Enhanced K-Means Clustering Algorithm for Real Time Sensor Data**
R. Kingsy Grace, R. Manimegalai, M. S. Geetha Devasena, S. Rajathi, K. Usha and N. Raabiathul Baseria
- 1950 **Detecting Irregular Fuzzy Coherent Rules in a Predefined Taxonomy**
R. Anuradha, N. Rajkumar and S. Praveenkumar
- 1957 **Receiver Angle Control in an Infrastructure-to-Car Visible Light Communication Link**
Jiseong Jeong, Chung Ghiu Lee, Inkyu Moon, Moonsoo Kang, Seokjoo Shin and So Eun Kim
- 1961 **Design and Simulation of X Band Microstrip Circulator**
Vishwa Kelaiya and Mehul R. Naik
- 1965 **Event Log-Based Fraud Rating Using Interval Type-2 Fuzzy Sets in Fuzzy AHP**
Evi Septiana Pane, Adhi Dharma Wibawa and Mauridhi Hery Purnomo
- 1969 **Visible Light Communication System for Wearable Patient Monitoring Device**
Trio Adiono, Radhian Ferel Armansyah, Swizya Satira Nolika, Fadhli Dzil Ikram, Rachmad Vidya Wicaksana Putra and Amy Hamidah Salman
- 1973 **AES in Partially Reconfigurable CGRAs**
Chinmaya Dash, Kolin Paul and D Roy Chowdhury
- 1977 **An Area-Efficient Implementation of a Message Authentication Code (MAC) Algorithm for Cryptographic Systems**
Jingjing Lan, Jun Zhou and Xin Liu
- 1980 **Millimeterwave Eight-way Waveguide Combiner for High Power Combining**
Shi Bo, Luo Bin, Leong Siew Weng and Wang Wenjiang

- 1983 **Precision Agriculture: On the Accuracy of Multilevel and Clustered ANFIS Models for Sugarcane Yield Categorization**
L. S. Jayashree, N. Rajathi and Athish Thirumal
- 1988 **AF Cooperative Communications with Expansion of Channel Matrix and QRM-MLD for MU-MIMO**
Ken Tezuka, Chang-Jun Ahn and Ken-ya Hashimoto
- 1992 **Compatible Interference Rejection with Low System Complexity using Polarization for MU-MIMO**
Satoshi Taroda, Chang-Jun Ahn and Ken-ya Hashimoto
- 1996 **A Reduced Complexity and Latency for Massive MIMO using Parallel Detection Algorithm**
Shoichi Higuchi, Chang-Jun Ahn and Ken-ya Hashimoto
- 2000 **On the Design of MAC Protocol and Transmission Scheduling for Internet of Things**
Tanmay Chaturvedi, Kai Li, Chau Yuen, Abhishek Sharma, Linglong Dai, and Meng Zhang
- 2004 **A Probabilistic Framework to Estimate Minimum Bit Error Rate in a WDM Receiver with Component Crosstalk**
Pinak Pani Mukherjee, Santu Sarkar and Nikhil R. Das
- 2008 **Radio Irregularity Model Based on Received Signal Strength for Three Dimensional Wireless Sensor Network**
Niharika Anand, Rajeev Ranjan and Shirshu Varma
- 2013 **Implementation of Genetic Algorithm to Academic Scheduling System**
Hanny Prastya Hariyadi, Triyanna Widiyaningtyas, M. Zainal Arifin and Siti Sendari
- 2017 **Nonlinear Electromagnetic-Acoustic Sensing and Imaging**
Fei Gao, Xiaohua Feng, Siyu Liu, Ruochong Zhang, Ran Ding, Rahul Kishor and Yuanjin Zheng
- 2021 **Implementation of Swarm Aggregation in Quadrotor Swarms using an Artificial Potential Function Model**
Gerard Ely Faelden, Jose Martin Maningo, Reiichiro Christian Nakano, Argel Bandala, Ryan Rhay Vicerra and Elmer Dadios
- 2027 **A Proximity-coupled Circularly Polarized Slotted-Circular Patch Antenna for RF Energy Harvesting Applications**
Ang Ming Jie, Nasimuddin, Muhammad Faeyz Karim, Luo Bin, Francois Chin and Michael Ong
- 2031 **Application of Fuzzy Logic in Recognition of Tomato Fruit Maturity in Smart Farming**
Joan Baez U. Dimatira, Elmer P. Dadios, Francisco Culibrina, Jo-Ann Magsumbol, Gerald Ely Faelden, John Dela Cruz, Kristine Sumage, Mary Tamar Tan and Mike Gomez
- 2036 **Detecting Rainfall Onset Using Sky Images**
Soumyabrata Dev, Shilpa Manandhar, Yee Hui Lee and Stefan Winkler
- 2040 **Heterogeneous Ensemble for Power Load Demand Forecasting**
Aruna Charukesi Palaninathan, Xueheng Qiu and Ponnuthurai Nagaratnam Suganthan
- 2046 **Region of Interest Based Robust Watermarking Scheme Exploiting the Homogeneity Analysis**
Priyanka Singh, Balasubramanian Ramaan and Manoj Misra
- 2052 **A Comparative Study Between DWT-ANFIS and DWT-SVM in ECG Classification**
Czarina Isabelle M. Cruz, Jastine P. Marasigan, Anna Patricia G. Perez, Joana Erika V. Pillejera, Nikka Veron and Angelo R. dela Cruz

- 2056 **Performance Analysis of Various Segmentation Techniques for Detection of Brain Abnormality**
M. G. Sumithra and B. Deepa
- 2062 **Routine Colon Cancer Detection using Local Image Descriptors**
Suvidha Tripathi, Salini Mishra and Satish Kumar Singh
- 2066 **Underwater Turbo-Code Optical Communication System Compatible with Partial Erasure Channel**
Ran Sun, Hiromasa Habuchi and Yusuke Kozawa
- 2070 **Formation Control in Quadrotor Swarm Aggregation using Smoothed Particle Hydrodynamics**
Jose Martin Maningo, Gerard Ely Faelden, Reiichiro Christian Nakano, Argel Bandala, Ryan Rhay Vicerra and Elmer Dadios
- 2076 **Data Analysis to Predictive Modeling of Marine Engine Performance Using Machine Learning**
T. K. Chan and C. S. Chin
- 2081 **Development of a Variable Negative Pressure Jamming Gripper through Visual Object Size Classification and Artificial Neural Network**
Philip Ronald B. Fajardo, Veronica Frances S. Genoves, Jonathan G. Libiran, Reggie Boy T. Ortiz, Kristianne Viktoria B. Torres and Kanny Krizzy D. Serrano
- 2086 **Efficient Spectrum Sensing for Cognitive Radio using Cosine Modulated Filter Banks**
Indrakanti Raghu, Sai Sumanth Chowdary and Elizabeth Elias
- 2090 **Research of Base Station Spatial Distribution Model Based on Real Metropolis Data**
Xiaoxing Yu and Jing Feng
- 2094 **Automated Traffic Violation Apprehension System Using Genetic Algorithm and Artificial Neural Network**
Aaron Christian Uy, Ana Riza Quiros, Rhen Anjerome Bedruz, Argel Bandala, Alexander Abad, Edwin Sybingco and Elmer Dadios
- 2100 **The Very Fast Method for Contracted Capacity Optimization Problem in Singapore**
Ali K. Ferdavani and H. B. Gooi
- 2104 **Machine Vision of Traffic State Estimation Using Fuzzy Logic**
Ana Riza F. Quiros, Rhen Anjerome Bedruz, Aaron Christian Uy, Alexander Abad, Argel Bandala and Elmer P. Dadios
- 2110 **Design of an On-Demand Wireless Network Using Multi-Carrier CDMA with Modified Pseudo Orthogonal M-Sequence Sets**
Tomohiro Okawa and Hiromasa Habuchi
- 2115 **Rasch Measurement Analysis for Validation Instrument to Evaluate Students Technical Readiness for Embedded Systems**
Intisar Ibrahim Ridwan, Rosmah Ali, Izzeldin Ibrahim Mohamed, Mohamad Zulkefli Adam and Nazar ElFadil
- 2120 **Impact of Node Failure on the Routing Performance in Wireless Mesh Network**
Nirmalkumar S Benni and Sunilkumar S Manvi
- 2126 **Iris Recognition Using Daugman Algorithm on Raspberry Pi**
Febus Reidj G. Cruz, Carlos C. Hortinela IV, Benner E. Redosendo, Bianca Karla P. Asuncion, Christian Jay S. Leoncio, Noel B. Linsangan and Wen-Yaw Chung

- 2130 **Composite Indoor Localization and Positioning System Based on Wi-Fi Repeater Technology**
Md Tahmid Rashid, Shadman Sakib Chowdhury and Mehas Fairuz Nawal
- 2134 **Performance Improvement of a Machine Translation System using LID and Post-Editing**
K. Mrinalini, G. Sangavi and P. Vijayalakshmi
- 2138 **Simultaneous Heat Transfer Search for Single Objective Real-Parameter Numerical Optimization (CEC2016)**
Debasis Maharana and Prakash Kotecha
- 2142 **Efficiency Comparison of Voltage Multiplier and Boost Converter Topologies for Radio Frequency Energy Harvesting Circuit using HSPICE**
Febus Reidj G. Cruz, Wen-Yaw Chung, Marianne M. Sejera, Jesus M. Martinez Jr., Trizia Anne N. Cosme, Vivian Elaine C. Guray, Danielle Grace B. Agustin and Patrizia Ann E. Palmero
- 2147 **A Novel Medical Image Fusion Scheme Employing Sparse Representation and Dual PCNN in the NSCT Domain**
Anisha Mohammed, K L Nisha and P S Sathidevi
- 2152 **BER Performance Degradation of a PDM-QPSK Self-Coherent Detection Optical Transmission System Due to Cross Polarization Effects**
Satya Prasad Majumder and Kazi Abu Taher
- 2156 **Human Action Unit Detection of Patient using Geometric Feature Analysis**
Kiran Talele and Kushal Tuckley
- 2162 **Hardware Validated Efficient and Simple Time Synchronization Protocol for Clustered WSN**
G. S. S. Chalapathi, Raunak Manekar, Vinay Chamola, K. R. Anupama and S. Gurunarayanan
- 2167 **Enhanced Harmonics for Music Appreciation on Cochlear Implant**
Dhany Arifianto and Epri Wahyu Pratiwi
- 2172 **Investigation of Wireless Sensor Network Energy Detection under Varying WiFi Multimedia Streaming in Real-home Environment**
Noraini Azmi, Latifah Munirah Kamarudin, David L. Ndzi, Sabira Khatun and Ammar Zakaria
- 2176 **Optimal Channel Ranking Using Multiple Channel Permutation for QRM-MLD**
Ye Tian, Takumi Saito and Chang-Jun Ahn
- 2180 **Hybrid Radius Particle Swarm Optimization**
M. Munlin and M. Anantathanavit
- 2185 **Electrocardiogram Denoising using Wavelet Decomposition and EMD Domain Filtering**
Ashish Verma, Pratik and Gayadhar Pradhan
- 2190 **Modeling of a Compact Triple Band PIFA using Knowledge Based Neural Network**
Ruchi Varma and Jayanta Ghosh
- 2193 **Tunable-Q wavelet transform based optimal compression of cardiac sound signals**
Shivnarayan Patidar and Ram Bilas Pachori
- 2202 **Evolutionary Algorithms for Resource Constrained Project Scheduling Problems: Current Issues & Future Directions**
Shelvin Chand

Session	[THU.OIF2] Oral Interactive Forum
Date / Time	24 November 2016, Thursday / 11.30 am – 1.30 pm
Venue	Orchid Main Ballroom 4201AB – 4306
Chair(s)	Michael Ong; T. Sree Sharmila; Sahoo S. K.

- 2205 **Datawarehouse: A Data Warehouse Artist Who Have Ability to Understand Data Warehouse Schema Pictures**
Harco Leslie Hendric Spits Warnars and Richard Randriatoamanana
- 2209 **Design and Evaluation of an IoT Enabled Secure Multi-service Ambulance Tracking System**
Sarbpreet, Somanath Tripathy and Jimson Mathew
- 2215 **Prosodic Features of Marathi News Reading Style**
Sanket Barhate, Shruti Kshirsagar, Niramay Sanghvi, Kamini Sabu, Preeti Rao and Nandini Bondale
- 2219 **Reference Table Based Cache Design using LRU Replacement Algorithm for Last Level Cache**
T. Reishi Kumar, Anamika Sharma and M. Bhaskar
- 2224 **RnSIR:A New Model of Information Spread in Online Social Networks**
N. Sumith, B. Annappa and Swapan Bhattacharya
- 2228 **Ultrasonic Sensing System for Detecting Water Adulteration in Milk**
Aditya Dave, Dishant Banwari, Sumit Mansinghani, Satyam Srivastava and Shashikant Sadistap
- 2232 **Algorithm Development for Power System Contingency Screening and Ranking using Voltage-Reactive Power Performance Index**
Ernest F. Dela Cruz, Alex N. Mabalot, Raymond C. Marzo, Michael C. Pacis and John Heinrich S. Tolentino
- 2236 **Empowering Consumers in Selected Public Markets in Metro Manila: A Framework for the Development of AgriWatchPH**
Glenor L. Novio, John Austin M. Cruz, John Carl Neil S. Deinla, Marphy James T. Rollan and Bernie S. Fabito
- 2242 **T-@npi: A Twitter-Based Safety Confirmation System**
Keisuke Utsu, Ayami Manaka, Rie Abe, Akio Ogata, Yoshiro Yamamoto, Hiroshi Ishii and Osamu Uchida
- 2247 **T-c@re: A Twitter-Based Status Monitoring System**
Keisuke Utsu, Rie Abe, Ayami Manaka, Mana Tsutsumi, Ayaha Suzuki, Hiroshi Ishii and Osamu Uchida
- 2251 **Collection of Disaster-related Information by Focusing on Twitter Posts Immediately after Retweeting Announcement Posts**
Ayami Manaka, Shiori Kodama, Akio Ogata, Osamu Uchida, Yoshiro Yamamoto, Hiroshi Ishii and Keisuke Utsu
- 2256 **Development of the System and Method for Delivery using Radio Frequency Identification (I-BOX)**
Mark Angelo C. Purio, Michael Joshua P.L. Sacopon, John Jason O. Salvador and Ferdinand Alerick B. Velasco

- 2262 **An Intranet-Based ISO Document Management and Monitoring System Framework: A Case for the National University Quality Management Office**
Judi Diane F. Miñon, Christine Mae A. Lim, Julie Ann L. Morano, Raymart F. Fajutagana and Bernie S. Fabito
- 2268 **The Planet: A 3D Gamifying Earth Care**
Maria Rosario D. Rodavia, Ma. Corazon G. Fernando, Maria Rizza L. Armildez and Maria Vicky S. Solomo and Cleo R. Martinez
- 2272 **3D Printed Hydrogel Soft Actuators**
Ali Zolfagharian, Abbas Z. Kouzani, Sui Yang Khoo, Ian Gibson and Akif Kaynak
- 2278 **Optical Pin Interface for 90-deg Optical Path Conversion Coupling to Printed Wiring Board**
Osamu Mikami, Yuzafirah Yaacob, Nurul Atiqah Baharudin, Sumiaty Ambran and Chiemi Fujikawa
- 2281 **3D Printing of a Pavlova**
Abbas Z. Kouzani, Scott Adams, Russell Oliver, Yok Yen Nguwi, Bronwyn Hemsley and Susan Balandin
- 2286 **Interface Driven Service Discovery: Colored Petri-Net Based Approach**
Megha Gaur, Amit Kr Mandal and Anirban Sarkar
- 2292 **A 2D Electrode-Skin Model for Electrical & Contact Impedance Characterization of Bio-Impedance**
Sudipta Ghosh, M. Mahadevappa and Jayanta Mukhopadhyay
- 2296 **Adaptive Yin-Yang-Pair Optimization on CEC 2016 Functions**
Varun Punnathanam and Prakash Kotecha
- 2300 **Identification of River Hydromorphological Features using Viola-Jones Face Detection Algorithm**
Jerome Cuevas, Alvin Chua, Edwin Sybingco and Elmi Abu Bakar
- 2307 **Test Case Selection: Vital Model for Software Maintenance**
Adtha Lawanna and Jittima Wongwuttiwat
- 2311 **Polygon Partition and Shape Rectification For Automatic Generation Of 3D Building Model**
Kenichi Sugihara, Takahiro Murase and Xinxin Zhou
- 2315 **A PVT-Tolerant Relaxation Oscillator in 65nm CMOS**
Bharath Cimbili, D. Wang, R. C. Zhang, X. L. Tan and P. K. Chan
- 2319 **Simulation of High-Speed CMOS Inverter-based Driver for Silicon Photonic Segmented Mach-Zehnder Modulator**
Masayuki Takahashi, Kotaro Takeda, Ken Tsuzuki, Shinsuke Nakano, Tsutomu Takeya and Takashi Saida
- 2323 **1500V Solar Inverter at Megawatts Level in NPC1 Topology Enabled by High-density IGBT Module**
Xin Hao, Kwok-wai Ma, Yong Yang and Jia Zhao
- 2327 **Review on Application of Additive Manufacturing for Electrical Power Converters**
Vivek Muthu, Pradip Chatterjee and Tseng King Jet
- 2334 **GaN-based Double Gate MOSFETs: Effect of Gate length**
Safayet Ahmed, Muhammad Shaffatul Islam, Iktiham Bin Taher and Tanvir Hasan
- 2338 **Transient Thermal Analysis of SiC High Power Density Inverter**
Arie Nawawi, Rejeki Simanjourang, Hui Chen Yang, Chin Foong Tong, Assel Sakanova and K. J. Tseng

- 2342 **Detection of Aedes Aegypti Mosquito by Digital Image Processing Techniques and Support Vector Machine**
Dionis A. Padilla, Jumelyn L. Torres, Jessie R. Balbin, Anna Monica M. De Los Reyes, Anna Camille A. Reyes, and Jocelyn F. Villaverde
- 2346 **Layout-dependent Effect Evaluation of Transistor Array-style Phase Locked Loop**
Atsushi Nanri, Bo Liu and Shigetoshi Nakatake
- 2350 **Soft-Coupling with A/D and D/A Converters for Analog Reconfigurable System**
Futa Yoshinaka, Bo Liu, Daishi Isogai and Shigetoshi Nakatake
- 2354 **Development of Basic Fault Model and Corresponding ATPG for Single Input Missing Cell Deposition Defects in Majority Voter of QCA**
Vaishali Dhare and Usha Mehta
- 2360 **Logical Level Design of NoSQL Databases**
Shreya Banerjee and Anirban Sarkar
- 2366 **ProcGen-A Framework for Learning Computer Architecture**
Dinesh Thangavel, Rajesh C. Panicker and Bharadwaj Veeravalli
- 2370 **Standalone Frequency Based Automated Trash Bin and Segregator of Plastic Bottles and Tin Cans**
Marloun Sejera, Joseph Bryan Ibarra, Anrol Sarah Canare, Lyra Escano, Dianne Claudinne Mapanoo and John Phillip Suaviso
- 2373 **Heavy-Ion Irradiation effect in Trigate SOI Tunnel FETs with High-k Spacer Technology**
K. P. Pradhan, P. K. Sahu and Mallikarjunarao
- 2377 **Performance of FinFET Based Adiabatic Logic Circuits**
K. Srilakshmi, A. V. N. Tilak and K. Srinivasa Rao
- 2383 **XEBRA: XEn Based Remote Attestation**
Naman Agarwal and Kolin Paul
- 2387 **Soil pH and Nutrient (Nitrogen, Phosphorus and Potassium) Analyzer using Colorimetry**
Rigor G. Regalado and Jennifer C. Dela Cruz
- 2392 **A High-Throughput Multi-Match Priority Encoder for Data Retrieval on 65-nm SOTB CMOS Process**
Xuan-Thuan Nguyen, Hong-Thu Nguyen and Cong-Kha Pham
- 2396 **Space Comfort Maximization -- A Review**
Cheryl M. Siy and Jhoanna Rhodette I. Pedrasa
- 2401 **Improvement of Schottky Power Diode Performance by Electrode Geometry and Surround Trenching of Schottky Contact**
Stanley Luong, Yue Pan, Mohammad S. Alnassar and Anthony Holland
- 2404 **Constraint Specification in Multi Agent System**
Mangilal Sharma, Mauajama Firdaus, Rajib Kumar Chatterjee and Anirban Sarkar
- 2410 **Architecture, Textual Context Description and Quiz Generation Scheme for the Movie Based Context-Aware Learning System**
Hazriani, T. Nakanishi and A. Fukuda
- 2414 **An Earthquake Activated Power Interrupting Device Using A Triaxis Accelerometer**
Joy N. Carpio, Febus Reidj G. Cruz and Wen-Yaw Chung
- 2418 **A Concurrent Approach to Detect and Diagnose Shorts in Interconnects of on-Chip Networks**

Biswajit Bhowmik, Jatindra Kumar Deka and Santosh Biswas

- 2424 **A WebRTC based Live Streaming Service Platform with Dynamic Resource Provisioning in Cloud**
Woo-Joong Kim, Hyungyu Jang, Gyu-Beom Choi, Il-Sun Hwang and Chan-Hyun Youn
- 2428 **Workload-Aware Resource Management for Energy Efficient Heterogeneous Docker Containers**
Dong-Ki Kang, Gyu-Beom Choi, Seong-Hwan Kim, Il-Sun Hwang and Chan-Hyun Youn
- 2432 **Parallel Matricization for n -D Array Operations**
Md Abu Hanif Shaikh, G. G. Md. Nawaz Ali, Peter Han Joo Chong and Yong Liang Guan
- 2436 **Reduction of Electromagnetic Interference from Mobile Devices with High Permittivity BaTiO₃ and Fe₃O₄- TiO₂ thin film**
C. B. Soh, Neelakantam Venkatarayalu, C. M. Simon Yu and Darren J. R. Chng
- 2440 **Serialization of Tree Structured Quadrature Mirror Filter Bank**
Luyun Wang, Ronggang Qi, Lu Wang and Guoan Bi
- 2444 **Security Enhancements on Home Area Networks in Smart Grids**
Tianhe Shen and Maode Ma
- 2448 **A Big Data Approach for Memory Quality Management**
Yvonne Yeo Chii, Feng Xue, Wen Wei Low, Jung H. Yoon and Steve Gold

25 November 2016, Friday

Session	[FR1A.BE5] BE: Biomedical Signal Processing and Instrumentation
Date / Time	25 November 2016, Friday / 8.30 am – 10.15 am
Venue	Melati Junior Ballroom 4D
Chair(s)	M. Sabarimalai Manikandan, <i>Indian Institute of Technology Bhubaneswar, India</i>

- 2457 **Towards in-vivo ATP Sensing**
Scott Adams, Abbas Z. Kouzani, Kevin Bennet and Susannah J. Tye
- 2461 **Discriminant Feature Vectors for Characterizing Ailment Cough vs Simulated Cough**
Ravi Shekhar Jha, Vishwanath Pratap Singh and Viany Kumar Mittal
- 2466 **Statistical Feature Analysis for EEG Baseline Classification : Eyes Open vs Eyes Closed**
K. Gopika Gopan, Neelam Sinha and J. Dinesh Babu
- 2470 **A Robust Sparse Signal Decomposition Framework for Baseline Wander Removal from ECG Signal**
Udit Satija, Barathram Ramkumar and M. Sabarimalai Manikandan
- 2474 **Fourier Decomposition Method Based Descriptor of EEG Signals to Identify Dementia**
Ekta Kapoor, Vinith Johnson, Soumya Pati and Vijay Kumar Chakka
- 2479 **An Intelligent Technique for Posture and Fall Detection using Multiscale Entropy Analysis and Fuzzy Logic**
Alok Verma, Reshma A. Merchant, Santhosh Seetharaman and Haoyong Yu
- 2483 **ThinICA-CSP Algorithm for Discrimination of Multiclass Motor Imagery Movements**
Deepa Beeta Thiyam, Sergio Cruces and E. R. Rajkumar

Session	[FR2A.CT3] CT: Network and Cyber Security
Date / Time	25 November 2016, Friday / 8.30 am – 10.15 am
Venue	Lotus Junior Ballroom 4E
Chair(s)	Geoff Skinner, <i>The University of Newcastle, Australia</i> Sye Loong Keoh, <i>University of Glasgow, United Kingdom</i>

- 2487 **Cyber Security for Younger Demographics-A Graphic Based Authentication and Authorisation Framework**
Geoff Skinner
- 2491 **A Secure Accountability Protocol Based on Public Key Encryption**
Chian Techapanupreeda and Supakorn Kungpisdan
- 2496 **Design of a Two-factor Authentication Ticketing System for Transit Applications**
N. Edna Elizabeth and S. Nivetha
- 2503 **Accountability for Electronic-Health Systems**
Chian Techapanupreeda and Chokngamwong Roongroj
- 2507 **Secure Message Transmission Algorithm for Vehicle to Vehicle (V2V) Communication**
Trupil Limbasiya and Debasis Das

- 2513 **A Cloud Authentication Protocol using One-Time Pad**
Lexus Jun Hong Sim, Shu Qin Ren, Sye Loong Keoh and Khin Mi Mi Aung

Session	[FR3A.CS1.5] CS: RF/Millimeter-wave Circuits and Systems
Date / Time	25 November 2016, Friday / 8.30 am – 10.15 am
Venue	Melati Junior Ballroom 4011
Chair(s)	Chaitali Koley, <i>NIT Mizoram, India</i> Bo Shi, <i>Institute for Infocomm Research, A*STAR, Singapore</i>

- 2517 **Mixer Linearization Using Dynamic Bias Circuit with an Integrated Diode Linearizer**
Bo Shi
- 2521 **High-efficiency OFDM Power Amplifier System Using a New Polar Modulation Technique**
Ryota Ishioka, Tomotaka Kimura and Masahiro Muraguchi
- 2525 **15-GHz-Band Low-Power and Low Phase-Noise LC VCO IC with a Second Harmonic Filter in 130-nm SiGe BiCMOS**
Xu Xiao, Xinyi Wang and Toshihiko Yoshimasu
- 2528 **Fully Integrated 24 GHz CMOS Injection-Locked VCO With Folded Marchand Balun**
Boon-Eu Seow, Wei-Cheng Lai, Tzuen-Hsi Huang and Huey-Ru Chuang
- 2531 **Studies on the performance of a Gunn Oscillator based Demodulator System in presence of Chaos modulated signal**
Chaitali Koley, Arun Kanti Guin and Bishnu Charan Sarkar
- 2536 **FPGA Design and Implementation of ANC-EPWM Transmitter**
Takashi Funabashi and Yasushi Yamao

Session	[FR4A.CS2.5] CS: Wireless Communications and Networks
Date / Time	25 November 2016, Friday / 8.30 am – 10.15 am
Venue	Melati Junior Ballroom 4111
Chair(s)	Maode Ma, <i>Nanyang Technological University, Singapore</i>

- 2539 **Compressed Sensing Based Channel Estimation and Impulsive Noise Cancelation in Underwater Acoustic OFDM Systems**
Peng Chen, Yue Rong, Sven Nordholm, Alec J. Duncan and Zhiqiang He
- 2543 **Training Sequence Optimization for Estimating the Channel in the Presence of Colored Interference for MIMO-OFDM Systems**
E. Sharma, Himanshu B. Mishra and K. Vasudevan
- 2547 **Dynamic Interference Estimation in Secure Gate System using Intra-body Communication**
Yuki Wada, Keisuke Furuya, Ryota Kato and Mitsuru Shinagawa
- 2551 **Interference Problem of Fixed Transmitter during Intra-body Communication**
Keisuke Furuya, Yuki Wada, Ryota Kato, Mitsuru Shinagawa, Ken Seo, Daisuke Saito, Kyoji Oohashi and Yuichi Kado

- 2555 **Implementation of an LDPC Decoder on a Heterogeneous FPGA-CPU Platform using SDSoC**
Si-Dong Roh, Keol Cho and Ki-Seok Chung
- 2559 **Proposal of a New OFDM Scheme for a Doubling of Spectral Efficiency**
Misaki Hirabayashi, Kazutaka Yamai, Takenao Yokomori, Tomotaka Kimura and Masahiro Muraguchi

Session	[FR5A.SIP1.4] SIP: Image Processing
Date / Time	25 November 2016, Friday / 8.30 am – 10.15 am
Venue	Orchid Junior Ballroom 4211
Chair(s)	Stefan Winkler, <i>ADSC, Singapore</i>

- 2563 **Short-Term Prediction of Localized Cloud Motion Using Ground-Based Sky Imagers**
Soumyabrata Dev, Florian M. Savoy, Yee Hui Lee and Stefan Winkler
- 2567 **Mass Characterization in Mammograms using an Optimal Ensemble Classifier**
Dhadma Balachandran and R. Lavanya
- 2571 **Weighted Median Filter with Minimum Spanning Tree-based Adaptive Window**
Takanori Koga, Saki Asamoto and Noriaki Suetake
- 2575 **Crack Detection using Spectral Clustering Based on Crack Features**
Takumi Matsuoka and Kousuke Matsushima
- 2579 **Hybrid LASSO and Neural Network Estimator for Gaze Estimation**
S. Deepthi Iyer and Hariharan Ramasangu
- 2583 **Visibility Enhancement Techniques for Fog Degraded images: A Comparative Analysis with Performance Evaluation**
Tannistha Pal, Mrinal Kanti Bhowmik, Debotosh Bhattacharjee and Anjan Kumar Ghosh
- 2589 **A High Throughput Fully Parallel-Pipelined FPGA Accelerator for Dense Cloud Motion Analysis**
Bibin Johnson and J. Sheeba Rani

Session	[FR6A.SIP2.4] SIP: Signal Processing
Date / Time	25 November 2016, Friday / 8.30 am – 10.15 am
Venue	Orchid Junior Ballroom 4212
Chair(s)	Priyankoo Sarmah, <i>Indian Institute of Technology Guwahati, India</i> P. Palanisamy, <i>National Institute of Technology, Tiruchirappalli, India</i>

- 2593 **Low Frequency Region of Vocal Tract Information for Speech / Music Classification**
Banriskhem K. Khonglah and S. R. Mahadeva Prasanna
- 2598 **Accurate Parameter Estimation from a Complex Sinusoid-Pair: An Application in Power Systems**
Saman S. Abeysekera
- 2602 **A Strict Bound for Dimension of Measurement Matrix for CS Beamformer MUSIC Algorithm**
Abhishek Aich and P. Palanisamy

- 2606 **A Design Method for Low-Delay Band-Pass Maximally Flat FIR Digital Differentiators with Stopband based on L_p Norm Criterion**
Ryosuke Kunii, Takashi Yoshida and Naoyuki Aikawa
- 2610 **Dysarthric Speech Corpus in Tamil for Rehabilitation Research**
T. A. Mariya Celin, T. Nagarajan and P. Vijayalakshmi
- 2614 **Text to Speech Synthesis System in Indian English**
Deepshikha Mahanta, Bidisha Sharma, Priyankoo Sarmah and S. R. Mahadeva Prasanna
- 2619 **2D Sparsity for Joint DOA and Frequency Estimation of Harmonic Acoustic Signals**
Lu Wang, Lifan Zhao, Qiang Wang, Xiangyang Zeng and Guoan Bi

Session	[FR7A.POW1.5] PEPE: Renewable Energy Sources and Technology
Date / Time	25 November 2016, Friday / 8.30 am – 10.15 am
Venue	Orchid Junior Ballroom 4311
Chair(s)	Supachai Phaiboon, <i>Mahidol University, Thailand</i>

- 2624 **Offshore Wind Energy - Potential for India**
Col. Madan Singh
- 2628 **Fault Ridethrough and Power Quality Improvement of Doubly-Fed Induction Generator based Wind Turbine System During Grid Fault with Novel Active Crowbar Protection Design**
Snehaprava Swain and Pravat Kumar Ray
- 2634 **The Generation Characteristics of the Improved Configuration of the Stator and the Mover in the Linear Generator Using Vibration Energy**
Kiko Ishida, Jyunki Muranishi, Tomoya Aoki and Shunsuke Ohashi
- 2638 **Design and Performance Analysis of a ZVS Parallel Quasi Resonant Converter for a Solar Based Induction Cooking System**
Saila Ishrat Annie, Khosru M Salim, Zaima Tasneem and Mohammad Rejwan Uddin
- 2642 **Numerical Analysis of I-V Characteristics and Diode Currents of a PV Module Reflected by Partial Shadow**
Cheikh Ibra Wade, Yu Fukamachi, Noriyuki Hayashi, Ryo Torihara and Tatsuya Sakoda
- 2646 **Fuzzy Model for Predicting Electric Generation from Sea Wave Energy in Thailand**
Supachai Phaiboon and Khunchai Tanukitwattana

Session	[FR8A.POW2.3] PEPE: Power Generation, Transmission and Distribution
Date / Time	25 November 2016, Friday / 8.30 am – 10.15 am
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Atthapol Ngaopitakkul, <i>Faculty of Engineering, King Mongkuts Institute of Technology Ladkrabang, Thailand</i> Pradeep Kumar Yemula, <i>IIT Hyderabad, India</i>

- 2650 **Selection of Proper Input Pattern in Fuzzy Logic Algorithm for Classifying the Fault Type in Underground Distribution System**
Jittiphong Klomjit and Atthapol Ngaopitakkul

- 2656 **New Optimization Method Considering Combinatorial and Multi-Objective Optimization Problem for Distribution Systems**
Ryuto Shigenobu, Masahiro Furukakoi, Atsushi Yona and Tomonobu Senjyu
- 2662 **Parallel Discrete EPSO for Distribution Network Reconfigurations**
Hiroyuki Mori and Hiromitsu Ikegami
- 2666 **Short-Term Power Market Services on Cloud**
K. Jagan Mohan, M. Siddharth Rao, R. K. Senthil Kumar and G. L. Ganga Prasad
- 2671 **Voltage Stability Improvement by Optimal Active Power and Reactive Power Output Control of Storage Battery System**
Mitsuki Sagara, Mohammad Masih Sediqi, Tomonobu Senjyu, Mir Sayed Shah Danish and Toshihisa Funabashi
- 2675 **Distribution Utility Survey on Electricity Prepaid Metering**
Jordan Rel Orillazaa, Angelico Angeles, Arnulfo Barra Jr. and Louella Orillaza
- 2679 **Reduction in Loss of Life of Transformer with Demand Response**
S. Charan Teja and Pradeep Kumar Yemula

Session	[FR1B.BE6] BE: Biomedical Signal Processing and Instrumentation
Date / Time	25 November 2016, Friday / 10.45 am – 12.30 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	M. Sabarimalai Manikandan, <i>IIT Bhubaneswar, India</i> T. S. Bindya, <i>National Institute of Technology Calicut, India</i>

- 2684 **Reconfigurable Low Complexity Hearing Aid System using Adjustable Filter Bank**
A. Amir, Rakesh Inani, T. S. Bindya and Elizabeth Elias
- 2689 **Brain-Computer Interface and Voice-Controlled 3D Printed Prosthetic Hand**
Carlos M. Oppus, Jesus Roselito R. Prado, Jocel C. Escobar, Juan Antonio G. Mariñas and Rosula S. J. Reyes
- 2694 **An Efficient Rate Allocation Algorithm For Transmission And Storage of Compressed Biomedical Signals In Wireless Health Monitoring Systems**
J. F. Wu, S. C. Chan, A. L. Liu and H. C. Wu
- 2698 **Application Specific Integrated Circuit (ASIC) for Ion Sensitive Field Effect Transistor (ISFET) L-Asparagine Biosensor**
Febus Reidj G. Cruz, Clarissa M. Magsipoc, Francez Eunika B. Alinea, Marvin Edrian P. Baronia, Mohammad M. Jumahadi, Ramon G. Garcia and Wen-Yaw Chung
- 2703 **Discernibility Matrix Based Dimensionality Reduction for EEG Signal**
Rajdeep Chatterjee, Dibyajyoti Guha, Debarshi Kumar Sanyal and Sachi Nandan Mohanty
- 2707 **Removal of Power Line Interference in EEG Signals with Spike Noise Based on Robust Adaptive Filter**
Jianqiang Lin, Xu Sun, Jiafei Wu, Shing-Chow Chan and Weichao Xu
- 2711 **Effective Systolic Peak Detection Algorithm Using Variational Mode Decomposition and Center of Gravity**
Simhadri Vadrevu and M. Sabarimalai Manikandan

Session	[FR2B.OT] OT: Other Topics
Date / Time	25 November 2016, Friday / 10.45 am – 12.30 pm
Venue	Lotus Junior Ballroom 4E
Chair(s)	Mohammad Faisal, <i>BUET, Bangladesh</i> Rajendra K. Pandey, <i>IIT (BHU), India</i>

- 2716 **Optimizing Path for Kinematically Redundant Robotic Inspection System using Obstacle Based Probabilistic Roadmap and Genetic Algorithm**
Prashin Sharma, Iacopo Gentilini and Kenji Shimada
- 2722 **Ultrahigh Birefringent Index Guiding Photonic Crystal Fibers**
Md. Nafiz Amin, Mohammad Faisal and Md. Mostafizur Rahman
- 2726 **Design and Implementation of a Web-Based Thesis Coordinator System (TCS)**
Geanne Ross L. Franco and Carlo Ysmael C. De Guzman
- 2730 **ATC Enhancement with SSSC-Knowledge Inference based Intelligent Controller Tuning**
Rajendra K. Pandey and Deepak Kumar Gupta
- 2734 **Algorithm for Finding Influential User: Based on Users Information Diffusion Region**
Amrita Namtirtha, Shaswat Gupta, Animesh Dutta, Biswanath Dutta and Frans Coenen
- 2739 **A Smartcard-Based Framework for Delegation Management in Healthcare Access Control Systems**
M. Fahim Ferdous Khan and Ken Sakamura
- 2743 **Source Location Privacy Using Data Mules in Wireless Sensor Networks**
Jyoti Prakash Singh, Pradeep Kumar Roy, Sunil Kumar Singh and Prabhat Kumar

Session	[FR3B.NAN] DMP: Nano-electronics
Date / Time	25 November 2016, Friday / 10.45 am – 12.30 pm
Venue	Melati Junior Ballroom 4011
Chair(s)	Muhammad Faeyz Karim

- 2748 **Temperature Dependent Modeling and Performance Analysis of Single - Walled Carbon nanotube(SWCNT) Bundle Interconnects.**
Saurabh Lavaniya, Satbir Singh and Mayank Kumar Rai
- 2753 **InxGa1-xAs/GaAs-based Intermediate Band Solar Cell: Effects of Quantum Dots**
Sayed Anika Amin, Md. Tanvir Hasan and Muhammad Shaffatul Islam
- 2757 **Fast Response time Photodetector based on Annealed TiO₂ Nanowires deposited by GLAD**
Biraj Shougaijam, Chitralkha Ngangbam and Trupti Ranjan Lenka
- 2761 **Comparative Study of Quantum Mechanical Capacitance Voltage Characteristics and Threshold Voltage of Two Different Structures of Junction Less Nanowire Transistor**
Nujhat Tasneem, Mohsinur Rahman Adnan, Samzid Bin Hafiz and Quazi D. M. Khosru
- 2765 **Electrochemical Modeling of Carbon Nanotube Based Dual Gated Junctionless Enzyme Field Effect Transistor**
Sharma Purnima Kumari and Dutta Jiten Chandra

- 2771 **Chirality Dependence of Single Wall Carbon Nanotube Based Gas Sensor**
G. R. Ahmed Jamal, M. Rezanur Islam, M. Adnan Rahman, J. Ferdous Meem and R. Akter Sathi
- 2775 **A Molecular Dynamics Study on Thermal Conductivity of Armchair Graphene Nanoribbon**
Asir Intisar Khan, Ishtiaque Ahmed Navid, Fahim Ferdous Hossain, Maliha Noshin and Samia Subrina

Session	[FR4B.CS2.6] CS: Wireless Communications and Networks
Date / Time	25 November 2016, Friday / 10.45 am – 12.30 pm
Venue	Melati Junior Ballroom 4111
Chair(s)	Pushpendu Kar, <i>Energy Research Institute, Nanyang Technological University, Singapore</i> Noritaka Shigei, <i>Kagoshima University, Japan</i>

- 2779 **Three-Phase Overlay D2D Communications in Traffic-Aware Two-Way Cellular Systems**
Devendra S. Gurjar and Prabhat K. Upadhyay
- 2784 **Joint Link-Channel Selection and Rate Allocation Heuristic for Cognitive Radio Mesh Networks**
Maheen Islam, Abdur Razzaque and Mamun-Or-Rashid
- 2788 **A Strategy for AP Selection with Mutual Concessions in Sustainable Heterogeneous Wireless Networks**
Hideo Kobayashi, Eiichi Kameda, Yoshiaki Terashima and Norihiko Shinomiya
- 2792 **SDH: Self Detection and Healing Mechanism for Dumb Nodes in Wireless Sensor Network**
Subhransu Das, Pushpendu Kar and Dipak Kumar Jana
- 2796 **Multiple-Sink Approach for Prolonging Network Lifetime of Wireless Sensor Network**
Noritaka Shigei, Jo Kawasaki and Hiromi Miyajima
- 2801 **Design of Automobile Intelligence Control Platform Based on Bluetooth Low Energy**
Kun Xia, Haibo Wang, Nan Wang, Wei Yu and Tong Zhou

Session	[FR5B.SIP1.5] SIP: Image Processing
Date / Time	25 November 2016, Friday / 10.45 am – 12.30 pm
Venue	Orchid Junior Ballroom 4211
Chair(s)	Amit M. Joshi, <i>Malaviya National Institute of Technology, India</i> Venkateswaran N., <i>SSN College of Engineering, India</i>

- 2806 **A Reduced Region of Interest Based Approach for Facial Expression Recognition from Static Images**
Kashyap Chitta and Neeraj N. Sajjan
- 2810 **Gastric Lymph Nodes Detection Based on Visual Saliency and Dictionary Learning**
Nuo Tong, Shuiping Gou, Yao Yao, Chenjiao Wang and Jing Bai
- 2814 **Accuracy of Personal Identification Based on Joint Motions Extracted from 2D Positions of a Reduced Set of Joints**
Risako Aoki and Ryusuke Miyamoto

- 2818 **Fingerprint Based Biometric Watermarking Architecture using Integer DCT**
Ayush Vashistha and Amit M. Joshi
- 2822 **Philippine Vehicle Plate Localization using Image Thresholding And Genetic Algorithm**
Rhen Anjerome Bedruz, Ana Riza Quiros, Aaron Christian Uy, Argel Bandala and Elmer Dadios
- 2826 **Visible and Thermal Image Fusion using Curvelet Transform and Brain Storm Optimization**
K. Madheswari, N. Venkateswaran and V. Sowmiya
- 2830 **Semi-Supervised Sparse Dimensionality Reduction For Hyperspectral Image Classification**
Xiangrong Zhang, Ning Huyan, Nan Zhou and Jinliang An

Session	[FR6B.SIP2.5] SIP: Signal Processing
Date / Time	25 November 2016, Friday / 10.45 am – 12.30 pm
Venue	Orchid Junior Ballroom 4212
Chair(s)	Elizabeth Elias, <i>National Institute of Technology Calicut, India</i>

- 2834 **Improved Multimodal Sentiment Detection Using Stressed Regions of Audio**
Harika Abburi, Manish Shrivastava and Suryakanth V. Gangashetty
- 2838 **An Efficient Transformation for Two Dimensional Circularly Symmetric Wideband FIR Filters**
T. Bindima, Manju Manuel and Elizabeth Elias
- 2842 **AMRITATCS-IITGUWAHATI Combined System for the Speakers in the Wild (SITW) Speaker Recognition Challenge**
Kuruvachan K. George, Rohan Kumar Das, Sarfaraz Jelil, K. Arun Das, C. Santhosh Kumar, S. R. Mahadeva Prasanna and Ashish Panda
- 2847 **Analysis of Source and System Features for Speaker Recognition in Emotional Conditions**
K. N. R. K. Raju Alluri, V. V. Vidyadhara Raju, Suryakanth V. Gangashetty and Anil Kumar Vuppala
- 2851 **Performance of Zero Forcing Precoder for Vectored DSL**
Rajani Katiyar and K. V. Padmaja
- 2856 **A Rainfall Estimation Method based on RBFNN**
Jing Feng, Dinglian Yuan and Aixia Zhou
- 2860 **Speckle Noise Reduction in Images using Wiener Filtering and Adaptive Wavelet Thresholding**
R. Rajesh Mohan, S. Mridula and P. Mohanan

Session	[FR7B.POW1.6] PEPE: Switching Circuits and Power Converters
Date / Time	25 November 2016, Friday / 10.45 am – 12.30 pm
Venue	Orchid Junior Ballroom 4311
Chair(s)	Yong Liu, <i>Nanyang Technological University, Singapore</i> Watcharin Srirattanawichaikul, <i>Chiang Mai University, Thailand</i>

- 2864 **Modified Single-carrier-based Modulation Technique for Grid-connected Three-level NPC Converters**
Watcharin Srirattanawichaikul and Suttichai Premrudeepreechacharn

- 2868 **Analysis of High Frequency Gate Driver Using Push-Pull LC Self-Excitation Oscillator**
Naoyuki Ishibashi, Kazuki Eshita, Masahiko Hirokawa and Akihiko Katsuki
- 2874 **A Study on Voltage Equilibration Circuit of EDLC Using Self-Oscillation Circuit**
Sho Sukegawa, Hiroshi Ohsawa and Yosuke Asano
- 2878 **Universal R-Dump Converter for Switched Reluctance Motor-Realisation Using Bidirectional Switches**
C. M. Vijayaragavan, B. Umamaheswari and P. Kavitha
- 2884 **Analysis and Design of Coupled Inductor and Output Harmonic Filter for Interleaved Three Phase VSCs**
Yong Liu, Kye Yak See, Lim Ziyong, Rejeki Simanjorang, Shan Yin, Chin Foong Tong, Hui Chen Yang, Arie Nawawi, A. Sakanova, King Jet Tseng, Jih-Sheng Lai and Amit K. Gupta
- 2888 **Demonstration of a 50 kW and 100 kHz SiC High Power Density Converter for Aerospace Application**
Shan Yin, K. J. Tseng, Yong Liu, Rejeki Simanjorang, C. F. Tong and Amit K. Gupta
- 2892 **Sub-Period Interleaved Fibonacci Switched Capacitor Converter**
Vivekanandan Subburaj and Debashisha Jena

Session	[FR8B.POW2.4] PEPE: Power Quality
Date / Time	25 November 2016, Friday / 10.45 am – 12.30 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Ray Pravat Kumar, <i>Nanyang Technological University, Singapore</i> A. K. Kapoor, <i>IIT(BHU), Varanasi, India</i>

- 2896 **A Partial Feedback Linearization based Approach to Shunt Active Power Filter Design**
Soumya Ranjan Mohapatra, Pravat Kumar Ray and Gooi Hoay Beng
- 2901 **Static Series-Connected Compensator with Load-Side Connected Shunt Converter based on Single-Phase VSI for Voltage Sag Mitigation**
Watcharin Srirattana-wichaikul and Yuttana Kumsuwan
- 2905 **Energy Conservation with TCSC Controller of Electric Arc Furnace for Harmonic Analysis in Power Quality Disturbance Using Continuous Wavelet Transform**
Chamni Jaipradidtham
- 2909 **Adaptive DC-Link Voltage Regulation for DSTATCOM under Load Variations**
Hareesh Myneni, G. Siva Kumar and D. Sreenivasarao
- N/A **Power Quality Evaluation of valuation of Photovoltaic Generation Based on AHP-CRITIC and Improved TOPSIS**
Fushen Xue, Wenhai Yang, Yanping Sun, Yajing Gao, Chunlai Li and Libin Yang
- 2919 **Suppression of Voltage and Frequency Fluctuations by PID+DD and Decentralized Control in Transmission Systems**
Michael Palmer and Ryuto Shigenobu
- 2925 **Power Quality Analysis in a Grid Connected PV System Employing a Hybrid Technique Based on Fractional Wavelet Transform**
Smitha Joyce Pinto and Gayadhar Panda

- 2930 **A Dynamic Voltage Restorer Based on Voltage Balanced Back-to-Back Stacked Multicell Converter with Equal Voltage Sources**
Gaurav Sharma and A. K. Kapoor

Session	[FR1C.BE7] BE: Wearable Sensors for Healthcare monitoring
Date / Time	25 November 2016, Friday / 2.00 pm – 3.00 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Deepthi P. P., <i>NIT Calicut, India</i> Fazel Naghdy, <i>University of Wollongong, Australia</i>

- 2935 **Objective Clinical Functional Assessment of Breast Cancer Patients Using Inertial Motion Capture**
Sina Ameli, Fazel Naghdy, David Stirling, Golshah Naghdy and Morteza Aghmesheh
- 2939 **Smartphone-based Continuous Blood Pressure Monitoring Application-Robust Security and Privacy Framework**
Hamid GholamHosseini, Mirza Mansoor Baig, Farhaan Mirza and Dehan Luo
- 2943 **Machine Learning-based Clinical Decision Support System for Early Diagnosis from Real-time Physiological Data**
Mirza Mansoor Baig, Hamid GholamHosseini and Maria Lindén
- 2947 **Highly Sensitive TiO₂ Thin Film Matrix Biosensor for Glucose Detection in Blood**
B. Gopal Krishna, M. Jagannadha Rao, B. Nalinikant, D. K. Golhani and Sanjay Tiwari
- 2952 **GeO₂/SiO₂ Matrix Biosensor for Detection of Probiotic Bacteria *L. Plantarum***
B. Gopal Krishna, M. Jagannadha Rao, B. Nalinikant, D. K. Golhani and S. A. H. Zaidi
- 2957 **Secure Sensor Node Design for ECG in Body Area Network**
Teena P. Jose and P. P. Deepthi

Session	[FR2C.CI.3] CI: Neural Networks
Date / Time	25 November 2016, Friday / 2.00 pm – 3.00 pm
Venue	Lotus Junior Ballroom 4E
Chair(s)	Lipo Wang; Suganthan

- 2962 **Application Of Hybrid Artificial Neural Network Algorithms For The Prediction Of Standardized Precipitation Index**
Kavina S Dayal, Ravinesh C Deo and Armando A Apan
- 2967 **An Adaptive Learning Method of Deep Belief Network by Layer Generation Algorithm**
Shin Kamada and Takumi Ichimura
- 2971 **An Online BPN Gain Adapter for PID Through PLC on a Conical Tank System**
M. Balaji and K. Porkumaran
- 2976 **Typhoon Forecasting in the Philippines Using an Optimal Multilayer Feedforward Artificial Neural Network Model Trained in Resilient Propagation Algorithm**
Karla Louissa Marie D. Sobrevilla, Efraim O. Reyes, Christina A.C. Hendrickx and Sidney S. Yao

- 2981 **Daily Weather Forecast in Tiwi, Albay, Philippines using Artificial Neural Network with Missing Values Imputation**
Karla Louissa Marie D. Sobrevilla, Archie G. Quiñones, Kharl Vincent S. Lopez and Virna T. Azaña
- 2986 **Traffic Flow prediction with Long Short-Term Memory Networks (LSTMs)**
Hongxin Shao and Boon-Hee Soong

Session	[FR3C.SS6] SS06: Monitoring and Prognostics
Date / Time	25 November 2016, Friday / 2.00 pm – 3.00 pm
Venue	Melati Junior Ballroom 4011
Organizer(s) / Chair(s)	Ittipong Khemapech, <i>University of the Thai Chamber of Commerce, Thailand</i>

- 2990 **Inter-Turn Fault and Condition Identification in Induction Machines using Multiple Indicator Approach**
Danwei Wang, Jeevanand Seshadrinath, VietHung Nguyen, Abhisek Ukil, Viswanathan Vaiyapuri and Sivakumar Nadarajan
- N/A **Effect of Fog on the BER Performance of an Optical CDMA FSO Link with SIK Receiver**
S. P. Majumder and A. K. M. Islam
- 3000 **Development of Microcontroller-based Landslide Early Warning System**
Armin Jude Tiongson, Crissa Fernandez, Kirstin Mendoza and Melannie Mendoza
- 3006 **Condition Monitoring of Induction Motor using Statistical Processing**
S. Sridhar, K. Uma Rao, Raksha Umesh and K. S. Harish
- 3010 **A Real-time Health Monitoring and Warning System for Bridge Structures**
Ittipong Khemapech, Watsawee Sansrimahachai and Manachai Toahchoodee
- 3014 **Experiments on Children's Speech Recognition under Acoustically Mismatched Conditions**
Hemant Kumar Kathania, S. Shahnawazuddin, Gayadhar Pradhan and A. B. Samaddar

Session	[FR4C.CS2.7] CS: Wireless Communications and Networks
Date / Time	25 November 2016, Friday / 2.00 pm – 3.00 pm
Venue	Melati Junior Ballroom 4111
Chair(s)	S. M. Sameer, <i>National institute of Technology, Calicut, India</i> King Sun Chan, <i>Curtin University, Australia</i>

- 3018 **Precision Agriculture Monitoring System using Wireless Sensor Network and Raspberry Pi Local Server**
Kristoffer O. Flores, Isidro M. Butaslac, Jon Enric M. Gonzales, Samuel Matthew G. Dumlao and Rosula S. J. Reyes
- 3022 **A Novel Node Localization Algorithm for Anisotropic Wireless Sensor Networks with Holes Based on MDS-MAP and EKF**
Shi Zhang, Baihai Zhang, Meng Joo Er and Zixiao Guan
- N/A **Estimating the Network Throughput of Two Channels MAC for Multi-hop Wireless Networks**
Prihadi Murdiyat, Kah Seng Chung and King Sun Chan

- 3030 **Network Lifetime Aware Coverage Quality Maximizing for Heterogeneous Targets in DSNs**
Selina Sharmin, Fernaz Narin Nur, Abdur Razzaque and Mustafizur Rahman
- 3034 **Two-level Precoding Based Interference Reduction in Uplink for MIMO Femtocell Networks**
Megha M. Gandha, Najlah C. P and S. M. Sameer

Session	[FR5C.EDM1] DMP: Electronic Devices and Materials Processing
Date / Time	25 November 2016, Friday / 2.00 pm – 3.00 pm
Venue	Orchid Junior Ballroom 4211
Chair(s)	V. Rukkumani, <i>Sri Ramakrishna Engineering College, Coimbatore</i> Vineeta Agarwal, <i>MNNIT Allahabad, India</i>

- 3039 **Area Efficient Design and Analysis of an Amplifier using Submicron VLSI**
V. Rukkumani and N. Devarajan
- 3045 **Breakup of Carbon Nanotube Aggregates under High Electric Field and its Application to Nanocomposite Film**
Yoshihiko Obana, Michihiko Nakano and Junya Suehiro
- 3049 **Design and Analysis of Improved Logic Halo LDD NMOSFETs Robust to HCI Stress, Using TCAD Numerical Models**
Yon-Sup Pang, Sung-Bum Park, Leeyeun Hwang and Taejong Lee
- 3054 **Dielectrophoretic Modification of Carbon Nanotube with ZnO Nanoparticles for NO₂ Gas Sensing**
Shota Inoue, Yushi Nanba, Michihiko Nakano and Junya Suehiro
- 3058 **Design and Analysis of Sram Cells for Power Reduction Using Low Power Techniques**
V. Rukkumani, M. Saravanakumar and K. Srinivasan

Session	[FR6C.SIP2.6] SIP: Video Processing
Date / Time	25 November 2016, Friday / 2.00 pm – 3.00 pm
Venue	Orchid Junior Ballroom 4212
Chair(s)	V. R. Satpute, <i>Visvesvaraya National Institute of Technology Nagpur, India</i> Lalit K. Jiwani, <i>National Institute of Technology Goa, India</i>

- 3063 **Adaptive Inter-Layer Prediction Algorithm for Scalable Extensions of High Efficiency Video Coding**
Chan-Seob Park, Tae-Jung Kim, Jong-Hyeok Lee and Byung-Gyu Kim
- 3067 **Adaptive Energy Weighted Direction Method for Intra-Prediction Video Compression**
Lalit K. Jiwani, A. Siva Krishna and Mohammed Owais
- 3071 **3-D Redundant DCT Restoration Method for MPEG-Compressed Video**
Takashi Komatsu, Sougo Kondou and Takahiro Saito
- 3075 **Reconstruction-based No-Reference Video Quality Assessment**
Zhenyu Wu and Hong Hu

3079 **Early Depth Determination Algorithm for Enhancement Layer Intra Coding of SHVC**
Takafumi Katayama, Wen Shi, Tian Song and Takashi Shimamoto

3083 **Compressed Domain Video Watermarking using EZW and Chaos**
V. R. Satpute, Sneha Kadu and Ch. Naveen

Session	[FR7C.POW1.7] PEPE: Motors and Drives
Date / Time	25 November 2016, Friday / 2.00 pm – 3.00 pm
Venue	Orchid Junior Ballroom 4311
Chair(s)	M Venu Gopala Rao, <i>PVP Siddhartha Institute of Technology, Vijayawada, India</i> Viet Phuong Bui, <i>A*STAR Institute of High Performance Computing, Singapore</i>

3087 **A Sensorless Speed Estimation for Indirect Vector Control of Three-Phase Induction Motor Using Extended Kalman Filter**
JongKwang Kim, YongKeun Lee and JangHyeon Lee

3091 **A Rapid and Reliable Approach for Optimal Design of an Electromagnetic Nanopositioning Actuator**
Viet Phuong Bui and Tat Joo Teo

3095 **Experimental Investigation of Multiphase Transformer Fed Induction Motor**
B. Jyothi, M. Venu Gopala Rao and S. Prabhakar Karthikeyan

3101 **Levitation Characteristics of the Primary Coil Configuration in the Magnetically Levitated Conveyance System Using the Linear Stepper Motor**
Reoto Tamaki, Masaki Fukuda and Shunsuke Ohashi

3105 **Improvement of Velocity Control in the Permanent Magnet-HTS Hybrid Magnetically Levitated Conveyance System**
Yuta Takaki, Takuro Sumida and Shunsuke Ohashi

Session	[FR8C.POW2.5] PEPE: Power System Monitoring, Control and Protection
Date / Time	25 November 2016, Friday / 2.00 pm – 3.00 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Suchin Arunsawatwong, <i>Chulalongkorn University, Thailand</i> Daejin Park, <i>Kyungpook National University, South Korea</i>

3109 **Optimal Coordination of Directional Overcurrent Relays (DOCR) in a Ring Distribution Network with Distributed Generation (DG) using Genetic Algorithm**
Amir Alipour and Michael Pacis

3113 **Design of Load Frequency Control for Power Systems with BESS and Generation Rate Constraint Subject to Persistent Load Disturbances**
Suchin Arunsawatwong and Patipan Kalvibool

3119 **Modeling, Analysis and Measurement of Characteristics of Printed Coils for Current Monitoring Applications**
Jun Song Koh and Neelakantam Venkatarayalu

- 3123 **Transient Stability Multi-Swing Step-out Prediction with Online Anomaly Detection**
Takuya Omi, Hiroto Kakisaka, Tomomi Sadakawa and Shinichi Iwamoto
- 3127 **A Power System Operations Planning Method Considering Generator Outputs and System Voltages under Large-scale PV Penetration**
Toshiko Suzuki, Ayano Ishikawa, Tomoyuki Gomi, Shinichi Iwamoto, Shingo Sakaeda and Yukihiro Onoue

Session	[FR1D.SS8] SS08: Computing Architectures and Systems
Date / Time	25 November 2016, Friday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4010AB
Organizer(s) / Chair(s)	Zhang Lei; Bharat Singh

- 3131 **Accelerating Computer Vision on Mobile Embedded Platforms**
Rahul Singh and Lakmal Ranasinghe
- 3135 **Thermal Vision Human Classification and Localization using Bag of Visual Word**
Sourabh Malpani, C. S. Asha and A. V. Narasimhadhan
- 3140 **Domain Regularized Transfer Component Analysis**
Lei Zhang and Yan Liu
- 3144 **High-Dimensional Face Data Separation for Recognition via Low-Rank Constraints**
Tan Guo and Xiaoheng Tan
- 3148 **A Scalable Hybrid Ensemble Model for Text Classification**
Bharat Singh, Nidhi Kushwaha and O. P. Vyas
- 3153 **Pedestrian Crowd Level Estimation by Head Detection using Bio-inspired Retina Model**
Arun Kumar Chandran and Wai-Choong Wong

Session	[FR2D.CI.4] CI: Swarm and Evolutionary Computation
Date / Time	25 November 2016, Friday / 4.00 pm – 5.30 pm
Venue	Lotus Junior Ballroom 4E
Chair(s)	Yangyang Li, <i>Key Laboratory of Intelligent Perception and Image Understanding of Ministry of Education, China</i> Yuan Yuan, <i>Nanyang Technological University, Singapore</i>

- 3157 **Evolutionary Multitasking in Permutation-Based Combinatorial Optimization Problems: Realization with TSP, QAP, LOP, and JSP**
Yuan Yuan, Yew-Soon Ong, Abhishek Gupta, Puay Siew Tan and Hua Xu
- 3165 **MOQPSO: A New Quantum-Behaved Particle Swarm Optimization for Nearest Neighborhood Classification**
Yangyang Li, Yang Wang and Licheng Jiao
- 3169 **Evolutionary Algorithm Using Converted Problems**
Yangyang Li, Zhenghan Chen, Yang Wang and Licheng Jiao

3173 **Performance Evaluation of Floating Point Differential Evolution Hardware Accelerator on FPGA**

Rangababu Peesapati, Kiran Kumar Anumandla and Samrat L. Sabat

3179 **Effective Shepherd Behaviours Using Multi-Agent Systems**

Kaoru Fujioka and Sakiko Hayashi

3183 **A Fuzzy MLP Approach for Fault Diagnosis in Wireless Sensor Networks**

Rakesh Ranjan Swain and Pabitra Mohan Khilar

Session	[FR3D.SS9.2] SS09: Enhancing Power Quality, Reliability and Economic Performance of Microgrids
Date / Time	25 November 2016, Friday / 4.00 pm – 5.30 pm
Venue	Melati Junior Ballroom 4011
Organizer(s) / Chair(s)	Dr. Taha Selim Ustun; Chandrasekhar Yammani

3189 **Fuel Cost Minimization with Reserve Capacity and Inter-Area Flow Limit for Reliable and Cost Effective Operation of Multi Microgrids**

Chandrasekhar Yammani and Vamsi Krishna Macha

3195 **An Adaptive Fuzzy Sliding Mode Controller for Reactive Power & Transient Stability Management**

Asit Mohanty and Meera Viswavandya and Prakash Kumar Ray

3200 **Fuzzy Linear Programming Model for the Optimal Design of a Trigeneration Plant with Product Price Variability**

Andres Philip Mayol, Alvin B. Culaba, Kathleen B. Aviso, Denny K. S. Ng, Raymond R. Tan and Aristotle T. Ubando

3206 **Design of Hybrid Renewable Energy Systems Considering Optimal Real-time Pricing**

Shota Tobaru, Cirio Celestino Muarapaz, Foday Conteh, Tomonobu Senjyu, Abdul Motin Howlader and Mir Sayed Shah Danish

3210 **A Self Sustained Microgrid Realized Using Coordinated Control Mechanism**

E. Sheeba Percis, S. Manivannan, A. Nalini and Sarat Kumar Sahoo

Session	[FR4D.CS2.8] CS: Wireless Communications and Networks
Date / Time	25 November 2016, Friday / 4.00 pm – 5.30 pm
Venue	Melati Junior Ballroom 4111
Chair(s)	Tomotaka Kimura, Tokyo University of Science, Japan

3215 **Investigating Received Signal Characteristics Upon On-Axis Rotation of an Embedded Antenna in a Mobile Device**

Referendo D. Soriano and Joel Joseph S. Marciano Jr.

3220 **Performance Analysis of Multi-Relay Selective DF Based OFDM Cooperative Systems Over Time Selective Links with Imperfect CSI**

Akash Agarwal, Neeraj Varshney and Aditya K. Jagannatham

- N/A **Anti-Packet Counterfeiting Attacks in Intermittently Connected Mobile Ad Hoc Networks**
Tomotaka Kimura and Masahiro Muraguchi
- 3228 **Optimal Frame Size Analysis for Fragmentation and Aggregation Algorithm**
Eunbi Ku, Chulho Chung, Byungcheol Kang and Jaeseok Kim
- 3232 **Forest Fire Monitoring and Detection of Faulty Nodes using Wireless Sensor Network**
Santoshinee Mohapatra and Pabitra Mohan Khilar
- 3237 **Low-Complexity Lattice Reduction Aided MIMO Detection for Hardware Implementation**
Jihye Koo, Hyunsub Kim, Hyukyeon Lee, Hanjun Kim and Jaeseok Kim

Session	[FR5D.EDM2] DMP: Electronic Devices and Materials Processing
Date / Time	25 November 2016, Friday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4211
Chair(s)	Ran Ding, <i>Nanyang Technological University, Singapore</i> Y. Z. Yap, <i>Newcastle University International Singapore, Singapore</i>

- 3241 **Thermoelectric Energy Harvesting for Mobile Phone Charging Application**
Y. Z. Yap, R. T. Naayagi and W. L. Woo
- 3246 **Study the Effect of Inhomogeneous Broadening in Quantum Dots for Application in Medical Imaging**
Shampa Guin and Nikhil Ranjan Das
- 3249 **FPGA based Temperature Control and Monitoring System for X-ray Measurement Instrument**
Keyur K. Mahant, Amit V. Patel, Alpesh Vala and Riddhi Goswami
- 3253 **Effect of AlN Spacer Thickness on Device Characteristics of AlInN/AlN/GaN MOSHEMT**
Kanjalochoan Jena and Trupti Ranjan Lenka
- 3257 **High-performance Hybrid Organic-inorganic Perovskite Nanoparticles based Piezoelectric Energy Harvester**
Ran Ding, Fei Gao, Xiaohua Feng, Rahul Kishor, Huaxi Sun, Ruochong Zhang, Siyu Liu, Chuanshi Yang and Yuanjin Zheng
- 3261 **Effect of Mobility Degradation on the Device Performance of Organic thin-film Transistors**
Farkhanda Ana and Najeeb-ud-Din

Session	[FR6D.SS31] OT: Humanitarian Technologies
Date / Time	25 November 2016, Friday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4212
Organizer(s) / Chair(s)	Parkash Lohana; Irawan Yoke Saadia, <i>Institut Teknologi Bandung, Indonesia</i> Felan Carlo C. Garcia, <i>DOST, Philippines</i>

- 3265 **Health Source: A Web based Public Health Awareness with Heat Map on Common Illnesses using Social Media Stream**
Arlene O. Trillanes, Ma. Corazon G. Fernando, Bernie S. Fabito, Maria Rizza L. Armildez and Maria Rosario D. Rodavia

- 3270 **Towards Sustainable Mhealth Applications For Maternal And Child Healthcare: The Case Of Sahabat Bundaku – An Integrated Mobile Application For Mothers And Midwives**
Yoke S. Irawan, Soegijardjo Soegijoko, Allya P. Koesoema, Dody Q. Utama, Annisa Riyani, Archie A. Isdiningrat, Isa S. Isdiningrat and Farid Husin
- 3275 **Development of a Predictive Model for On-Demand Remote River Level Nowcasting: Case Study in Cagayan River Basin, Philippines**
Felan Carlo C. Garcia, Alvin E. Retamar and Joven C. Javier
- 3280 **R3Diver: Remote Robotic Rescue Diver for Rapid Underwater Search and Rescue Operation**
S. A. Fattah, F. Abedin, M.N. Ansary, M. A. Rokib, N. Saha and C. Shahnaz
- 3284 **Bangla Voice Controlled Robot for Rescue Operation in Noisy Environment**
Arnab Bhattacharjee, Asir Intisar Khan, M. Z. Haider, S. A. Fattah, D. Chowdhury, Mrinmoy Sarkar and Celia Shahnaz
- 3289 **Mitigation of the Issue of Plastic Wastes in Kerala : A Study on Necessity, Feasibility and Implementation**
Salman Nizarudin and B. Deepak

ession	[FR7D.POW1.8] PEPE: Motors and Drives
Date / Time	25 November 2016, Friday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4311
Chair(s)	Sahoo S. K., <i>National University of Singapore</i>

- 3294 **Improvement of Stability against Vibration at the Mechanical Resonance in Attractive type HTS-Permanent Magnet Hybrid Bearing**
Takahiro Minami, Shinichiro Sakai and Shunsuke Ohashi
- 3298 **Carrier-based PWM Modulation for Indirect Matrix Converter Fed Open-End Winding Load**
Tuyen Nguyen Dinh, Dzung Q. Phan, Viet C. Nguyen, Hai N. Tran and Tien T. Nguyen
- 3304 **Sliding-Mode Speed Control in Conjunction with Feedback Linearization Control for Induction Machine Drives**
Jie Li, Lang-tao Xing, Fei-fei Xiao and Hai-peng Ren
- 3309 **Efficiency Optimization of Induction Motors Based on Online Identification of Iron Loss Equivalent Resistance via Dual Extended Kalman Filter**
Jie Li, Shao-fei Nie, Qing-liang Meng and Hai-peng Ren
- 3313 **Design Optimization of a Six-Phase Induction Motor by Flower pollination and Modified Artificial Bee colony Algorithms**
Pratyush Prasanna Das and S. N. Mahato
- 3318 **Experimental implementation of Direct Torque Control of Open End Winding Induction Motor**
T. Vinay Kumar and K. V. Praveen Kumar

Session	[FR8D.POW2.6] PEPE: Power System Monitoring, Control and Protection
Date / Time	25 November 2016, Friday / 4.00 pm – 5.30 pm
Venue	Orchid Junior Ballroom 4010AB
Chair(s)	Rajnish Gupta, <i>Singapore Polytechnic, Singapore</i>

- 3324 **System Voltage Control with PV Output Prediction Considering PV Output Fluctuation**
Sho Ando, Tomoyuki Gomi, Ayano Ishikawa and Shinichi Iwamoto
- 3328 **Phase-Shifting Transformer Application to Power-Flow Adjustment for Large-Scale PV Penetration**
Yuki Kawaura, Sho Yamanouchi, Miki Ichihara, Shinichi Iwamoto, Yo Suetsugu and Tomoyuki Higashitani
- 3332 **A Novel LFC Scheme using Storage Battery Control and Generator Feed-Forward Control for Large-Scale Wind Power Penetration**
Yu Kurita, Yukimasa Moriya, Hiroto Kakisaka and Shinichi Iwamoto
- 3336 **A Reliable Complex Power Flow Calculation Based on Bus Current Equations**
Aya Fujiwara, Miki Ichihara, Sho Yamanouchi and Shinichi Iwamoto
- 3340 **A Novel Critical Fault Screening Method using Time Domain Equal-area Criterion Considering Controllers**
Kaoru Nakamura, Tomomi Sadakawa, Yukimasa Moriya and Shinichi Iwamoto

Session	[FRI.OIF1] Oral Interactive Forum
Date / Time	25 November 2016, Friday / 9.00 am – 11.00 am
Venue	Orchid Main Ballroom 4201AB – 4306
Chair(s)	Rajnish Gupta; Sahoo S. K; Maode Ma; Michael Ong

- 3344 **Approximation of Linear Gain Slope Equalizer using Bernstein-Stancu Polynomials**
Vanvisa Chutchavong, Kanok Janchitrapongvej, Hideyuki Nomura, Chisato Kanamori and Hisayuki Aoyama
- 3349 **Model Predictive Control-based Lane Change Control System for An Autonomous Vehicle**
Chao Huang, Fazel Naghdy and Haiping Du
- 3355 **A 7-Port Microstrip Grid Array**
Chen Zihao and Zhang Yueping
- 3359 **Comparison Between Microstrip Grid Array Antenna and Patch Array Antenna**
Chen Zihao and Zhang Yueping
- 3363 **A New Multi-Bug Path Planning Algorithm for Robot Navigation in Known Environments**
V. Bhanu Chander, T. Asokan and B. Ravindran
- 3368 **Managing Energy Consumption in Buildings through Offline and Online Control of HVAC Systems**
Bo Chai, Wayes Tushar, Naveed Ul Hassan, Chau Yuen and Zaiyue Yang
- 3374 **Stationary Behavior of Manufacturing Systems Modeled by Timed Weighted Marked Graphs**
Zhou He, Zhiwu Li and Alessandro Giua

- 3378 **Identification and Modeling of a Multivariable Thermodynamic System**
A. H. Tan and C. L. Cham
- 3382 **Design and Construction of a Mist Reactor System**
C. L. Cham, A. H. Tan and W. H. Tan
- 3386 **Intelligent Multi-Agent System for Power Grid Communication**
Weixian Li, Thillainathan Logenthiran, Van-Tung Phan and Wai Lok Woo
- 3390 **Robust Control of LTI Systems over Unreliable Communication Channels with Unreliable Acknowledgments**
Jun Moon and Tamer Basar
- 3394 **GaN based LED Drive Circuit for Visible Light Communication (VLC) With Improved Linearity Using On-Chip Optical Feedback**
Ahmad Wafi Mahmood Zuhdi, Jonathan J.D. McKendry, Robert K. Henderson, Erdan Gu, Martin D. Dawson and Ian Underwood
- 3398 **Internal Model Control Using Active Disturbance Rejection Control with Time Delay**
Naoaki Ikemoto, Ryo Tanaka and Yoshihisa Ishida
- 3402 **Simplified Design Method of a Filtered Smith Predictor for Unstable and Integrative Plants with Dead-Time**
Ryoichiro Haruyama, Ryo Tanaka and Yoshihisa Ishida
- 3406 **Reactive Tabu Search for Job-Shop Scheduling Problems Considering Peak Shift of Electric Power Energy Consumption**
Shuhei Kawaguchi and Yoshikazu Fukuyama
- 3410 **Zeros of Sampled-Data Models for Time Delay MIMO Systems**
Mitsuaki Ishitobi and Sadaaki Kunitatsu
- 3414 **Solar-Powered Paddy Grain Humidifier-Dryer**
Mark Angelo C. Purio, John Daniel P. Matanguihan, Sheila Kathryn R. PeÃ±a, Gerard Martie V. Principe and Ernest Joni T. Tabada
- 3420 **Smart Real-Time Traffic Congestion Estimation and Clustering Technique for Urban Vehicular Roads**
Vishwajeet Pattanaik, Mayank Singh, P. K. Gupta and S. K. Singh
- 3424 **DS1103 Real-time Operation and Control of Photovoltaic fed Unified Power Quality Conditioner**
Santanu Kumar Dash, Pravat Kumar Ray and Gayadhar Panda
- 3429 **A High-Speed Pipeline Architecture of Squarer-Accumulator (SQAC)**
Jian-feng Wang, Lie Xu, Hong-da Wang and Chiu-sing Choy
- 3433 **Optimizing Convolutional Neural Network on FPGA under Heterogeneous Computing Framework with OpenCL**
Zhengrong Wang, Fei Qiao, Zhen Liu, Yuxiang Shan, Xunyi Zhou, Li Luo and Huazhong Yang
- 3439 **Flight Results of New Technology Onboard a Lean Satellite HORYU-IV**
Mengu Cho and Hiroshi Fukuda
- 3443 **Reduced Order Unknown Input Observer for Discrete Time System**
Vivek Sharma, B. B. Sharma and R. Nath
- 3447 **A Comparative Study of Two Decoupling Control Strategies for a Coupled Tank System**
Soumya Ranjan Mahapatro, Bidyadhar Subudhi, Sandip Ghosh and Pawel Dworak

- 3452 **Translational Slip Movement with Supine Posture for Humanoid Robots**
Masanao Koeda and Reiji Murayama
- 3455 **Quality Analytics in a Big Data Supply Chain — Commodity Data Analytics for Quality Engineering**
Julian S. K. Tan, Ai Kiar Ang, Liu Lu, Sheena W. Q. Gan and Marilyn G. Corral
- 3464 **A Comparative Study Based on Classical and Newer Piezoelectric Materials Based Unimorph Actuators for Hard Disk Drive**
Parinya Wattananukulchai and Don Isarakorn
- 3468 **A New Model-Based Web Service Clustering Algorithm**
Huan Zhao, Junhao Wen, Junhua Zhao and Fengji Luo
- 3473 **Workspace Trajectory Tracking Control of Flexible Joint Robots Based on Backstepping Method**
Zhao-Hui Jiang and Kengo Shinohara
- 3477 **Formation Control of Quadrotors with Extended Feedback Linearization Based on Consensus Problem**
Jun-ichi Toji and Hiroyuki Ichihara
- 3481 **Error Rate Control through Dynamic Frequency Scaling for Minimum-Energy Point Operation in Razor-Based Processors**
Eugene John Y. Lim and Adelson N. Chua
- 3485 **Cost Models for 3-D Deployment of Wireless Multimedia Sensor Networks**
Ravindara Bhatt and Raja Datta
- 3490 **Self-localization by Omni-directional Camera and Luminous Landmarks for Autonomous Mobile Robot**
Shigeki Nakayama, Itaru Matsumoto and Masato Uchida
- 3494 **Design of Channel Sounder using an Agile RF transceiver based USRP3 and Matlab Simulink**
S. Mohamed Rabeek and M. Annamalai Arasu
- 3498 **Two Degree of Freedom Control of IM Modeled Through Discrete Lagrangian Approach**
Manoj Swargiary, Jayati Dey, Tapas Kumar Saha, Swagata Kumar Mohanty and Sankar Narayan Mahato
- 3502 **An Approach to Build Simplified Semi-Autonomous Mars Rover**
Nazmus Sakib, Zayed Ahmed , Araf Farayez and Md Hasanul Kabir
- 3506 **Development of a Doorway Occupancy Counter Based on Thermal Array Sensing Technology**
Christian Rabbi A. Garaza and Jhoanna Rhodette I. Pedrasa
- 3511 **Impact of Home Appliances on the Performance of Narrow-Band Power Line Communications for Smart Grid Applications**
Aneeq ur Rehman, Noman Bashir, Naveed Ul Hassan and Chau Yuen
- 3515 **Design of Model based Controller to Improve the Performance of a Nonlinear Multivariable System with Control Challenges**
D. Angeline Vijula and S. Allirani
- 3521 **Automatic Optical & Laser-Based Defect Detection and Classification in Brick Masonry Walls**
Meena Periya Samy, Shaohui Foong, Gim Song Soh and Kang Shua Yeo
- 3525 **Autonomous Docking of Miniature Spherical Robots with an External 2D Laser Rangefinder**
Yuan Hu, Akash Vibhute, Shaohui Foong and Gim Song Soh

- 3530 **Simple Power Outage Algorithm for Distribution Networks In Developing Countries**
Amit S Closepet and Uma Rao K.
- 3534 **Co-sharing Tracing Tasks with a Compliant Manipulator: Basic Framework and Preliminary Experimental Tests**
Sreekanth Kana, Dhanya Menoth Mohan, Han Bo and Domenico Campolo
- 3538 **Development of A Standalone VSCF Generation Scheme Through Three Stage Control of SCIG**
Rupa Mishra and Tapas Kumar Saha
- 3542 **Development of an Aerial Inspection Robot with EPM and Camera Arm for Steel Structures**
Shunsuke Akahori, Yoshiyuki Higashi and Arata Masuda
- 3546 **Feasibility Study: Highly Integrated Chipset Design for Compact Synthetic Aperture Radar Payload on Micro-Satellite**
Yong Wang, Kai Tang, Liheng Lou, Bo Chen and Yuanjin Zheng
- 3550 **Mobile-Phone Based Immobility Tracking System for Elderly Care**
Watsawee Sansrimahachai and Manachai Toahchoodee
- 3554 **Architecting 802.11AD WLAN SoC for Best Performance**
Veena Srinivas Chakravarthi, Satish Burli
- 3559 **A Memory Efficient DNA Sequence Alignment Technique Using Pointing Matrix**
Sanchita Saha Ray, Ananyo Banerjee, Anurupa Datta and Surajeet Ghosh
- 3563 **Observer based Backstepping Method for Tip Tracking Control of 2-DOF Serial Flexible Link Manipulator**
Umesh Kumar Sahu and Dipti Patra
- 3569 **Olfactory Classification Using Electronic Nose System via Artificial Neural Network**
Aaron Paulo D. Heredia, Febus Reidj Cruz, Jessie R. Balbin and Wen-Yaw Chung
- 3575 **Adaptive Distance Relaying Scheme With Fault Resistance Compensation**
Indrajeet Bhavar, Snehal Unde and Sanjay Damhare
- 3579 **Data Mining Approach in Seizure Detection**
Mohammad Khubeb Siddiqui and Md Zahidul Islam
- 3584 **A Framework for the Casualty Risk Assessment and Lifetime Determination of Small Satellites**
Wei-Ting Loke, Harsh Kamdar, Dan Feng, Andy Chia and Cher-Hiang Goh
- 3589 **Predicting Public Housing Prices Using Delayed Neural Networks**
Lipo Wang, Fung Foong Chan, Yaoli Wang and Qing Chang

Session	[FRI.OIF2] Oral Interactive Forum
Date / Time	25 November 2016, Friday / 11.30 am – 1.30 pm
Venue	Orchid Main Ballroom 4201AB – 4306
Chair(s)	Rajnish Gupta; Sahoo S. K; Maode Ma; Michael Ong

- 3593 **Enhanced Dynamic Range CMOS Photonics Receiver with an Adaptively-Biased Ge Photodiode for LR Applications**
Yu-Shun Wang, M. Kumarasamy Raja, Tsung-Yang Liow, Vishal V. Kulkarni, Bi Xiaojun, Do-Won Kim, Andy Eu-Jin Lim, Muthukumaraswamy Annamalai Arasu and Guo-Qiang Lo

- 3597 **From Source Coding to MIMO-A Multi-Level Unequal Error Protection**
Bashar Barmada and Saeed Rehman
- 3601 **Fiber Wireless Testbed using Universal Software Radio Peripheral (USRP)**
M. A. Ridwan, N. A. M. Radzi, F. Abdullah, N. M. Din and M. H. Al-Mansoori
- 3605 **An Expeditious Decision Based Algorithm for High Amplitude Noise Elimination from 3D Meshes**
Patitapaban Rath, Kireeti Bodduna and Rajesh Siddavatam
- 3610 **Optimization of DC Microgrid for Rural Applications in India**
Chitaranjan Phurailatpam, Bharat Singh Rajpurohit and Lingfeng Wang
- 3614 **Optimization of Trajectory Approach in End-to-End Delay Analysis Considering the Flow Offsets Scheduling**
Sihuan Liu, Feng He, Tong Wang and Yahui Li
- 3621 **Performance Analysis of Control Strategies of Permanent Magnet Synchronous Motor**
R. M. Pindoriya, A. K. Mishra, B. S. Rajpurohit and R. Kumar
- 3625 **Study on the Influence of the Number of Transient States (Starts/Stops) on Cogenerator Operation**
Marius Constantin Popescu and Antoanela Naaji
- 3631 **Evaluation of New Power Quality Indices Proposed for Estimation of Economic Loss Due to Poor Power Quality**
Archana Sharma, B. S. Rajpurohit, Samar Agnihotri and S. N. Singh
- 3635 **Effects of Varying Fiber Length Towards Packet Delay in Passive Optical Network**
N. A. M. Radzi, M. A. Ridwan, F. Abdullah, N. M. Din, M. H. Al-Mansoori, and H. Zainol Abidin
- 3639 **Design of Robust Roll Autopilot with Actuator Compensation**
Charulika Kohli and T. S. Chandar
- 3644 **An Accurate Hand tracking system for complex background based on modified KLT Tracker**
Joyeeta Singha, Vijay Bhaskar Semwal and Rabul Hussain Laskar
- 3648 **Induction Machine Rotor Time Constant Identification Using Bisection Search Method**
Li Niu, Xiong Liu, Youyi Wang, Amit K. Gupta and Jianyang Zhai
- 3653 **Flight Results of VELOX-CI Microsatellite Mission**
K. S. Low, Y. F. Tsai, G.X. Lee and M.S.C. Tissera
- 3658 **In-orbit Results of VELOX-II Nanosatellite**
K. S. Low, M. S. C. Tissera and J. W. Chia
- 3664 **Constrained Attitude Control of Agile Spacecraft using CMGs**
Qiang Shen, Cher Hiang Goh and Chengfei Yue
- 3670 **Photonic Sensor for Railway Track Safety**
Arup Banerjee, Parul Singh, Ashwani Kumar and Usha S. Mehta
- 3675 **Applying Position Prediction Model for Path Following of Ship on Curved Path**
Takanori Nagai and Ryo Watanabe
- 3679 **Input Interface Suitable for Touch Panel Operation on a Small Screen**
Susumu Chida, Shogo Matsuno, Naoaki Itakura and Tota Mizuno

- 3684 **Design of a Ka-Band Microfabricated PH-SEC Slow-Wave Structure with Coplanar Waveguide Couplers**
Shaomeng Wang and Sheel Aditya
- 3688 **Parameters Measurement for Grounding Grids of a 1000kV Ultra-High-Voltage Substation**
Si Wen-Rong, Fu Chen-Zhao, Lu Bing-Bing, Guo Xiang and Xu Zhi-Bing
- 785 **Reconstruction of Spatial Continuous Distribution Using Improved Lohmann-Type CGHs**
Huimin Lu, Shiyuan Yang, Seiichi Serikawa, Yujie Li and Yun Li
- 3691 **A High Accuracy Star Tracker using Running Sequential Angular Match Technique**
Mehta Deval Samirbhai, Shoushun Chen and Kay Soon Low
- 3695 **Advanced Receiver Design for Gigabit Satellite Downlink Transmission Over the X-band**
Lin Zhiwei, Kai Yen, Png Khiam Boon, Zhang Weiqiang, Law Sie Yong and Peng Xiaoming
- 3699 **Study on Calculation Methods of Steady Temperature Rise for Cable Group Based on Lumped Parameter**
Fu Chen-Zhao, Lu Bing-Bing, Li Hong-Lei, Yao Zhou-Fei and Si Wen-Rong
- 3704 **Evaluating Software Product Quality Based on the SQuaRE Series**
Hidehiko Nakai, Naohiko Tsuda, Kiyoshi Honda, Hironori Washizaki and Yoshiaki Fukazawa
- 3708 **Genesys: A Virtual Reality Scene Builder**
Josen Daniel O. De Leon, Romelio P. Tavas Jr., Rodolfo A. Aranzanso III and Rowel O. Atienza
- 3712 **Multi-wavelength Brillouin Erbium Fiber Laser with Pulsing Characteristics**
Tan Sin Jin and Sulaiman Wadi Harun
- 3716 **Cells — A Novel IOT Security Approach**
Peter K. K. Loh and Brian W. Y. Loh
- 3720 **A Development of TANZAKU Calligraphy Training System using Augmented Reality and Dynamic Font**
Rachanart Soontornvorn, Hiroyuki Fujioka and Takeshi Shimoto
- 3724 **DemNet: A Convolutional Neural Network for the Detection of Alzheimers Disease and Mild Cognitive Impairment**
Ciprian D. Billones Jr., Olivia Jan Louville D. Demetria, David Earl D. Hostallero and Prospero C. Naval Jr.
- 3728 **Phase Difference Detection Pixel Restoration Using Adaptive Weighted Interpolation**
Kwon Lee, Jinsoo Oh and Simon Ji
- 3731 **Demonstration of 6kW/kg 50kW Grid Facing Power Converter for Future Aircraft**
Chin Foong Tong
- 3736 **Multi-band Ambient RF Energy Harvesting Rectifier for Autonomous Wireless Sensor Networks**
Ngo Tung
- 3740 **Gain-Enhanced Plasmon Metal Nanoslit Sensor**
Xiong Xu, Ruowu Wu, Caiwang Ge, Fei Shen, Hongping Zhou and Zhongyi Guo
- 3743 **Multi-modal Affect Detection for Learning Applications**
Yash Gogia, Eejya Singh, Shreyash Mohatta and Sreejith V.
- 3748 **Deformable Motion Model for Frame Rate Up-Conversion In Video Coding**
Shen Songwei, Liang Fan and Luo Kun

- 3752 **Optimization of an Algae Ball Mill Grinder Using Artificial Neural Network**
Arvin H. Fernando, Archie B. Maglaya and Aristotle T. Ubando
- 3757 **Influence of Synchronization Jitter on BER in Optical-Wireless CSK-MPPM System**
Masayuki Ishikawa and Hiromasa Habuchi
- 3762 **Development of Intelligent Transportation System for Philippine License Plate Recognition**
John Paolo D. Dalida, Jean Louise M. Vallester, A-Jay N. Galiza, Aleck Gene O. Godoy, Masaru Q. Nakaegawa and Angelo R. dela Cruz
- 3767 **Frequency and Pattern Reconfigurable Antennas for Community Cellular Applications**
Miguel Carlo L. Purisima, Mikhaila Salvador, Sophia Gracia P. Agustin and Maria Theresa Cunanan
- 3771 **An Investigation of Array of Piezoelectric Transducer for Raindrop Energy Harvesting Application**
Chung Wei Chee, Chin-Hong Wong and Zuraini Dahari
- 3775 **An Analytical Study of Output Voltage Profile Generated from Raindrop Energy**
Azlina Hassan, Chin-Hong Wong and Zuraini Dahari
- 3778 **A Novel Approach to Attend Faces in the Crowd through Relative Visual Saliency**
Akanksha Das, Ravi Kant Kumar, Dakshina Ranjan Kisku and Goutam Sanyal
- 3782 **Development of Small Device for the Brain Computer Interface with Transient VEP Analysis**
Ryohei Osano, Masato Ikai, Shogo Matsuno, Naoaki Itakura and Tota Mizuo
- 3786 **Efficient Real-Time Mobile Traffic Information Acquisition**
Shiau Hong Lim, Yeow Khiang Chia and Laura Wynter
- 3790 **Implementation of Ultrasonic Communication for Wireless Body Area Network Using Amplitude Shift Keying Modulation**
Muhammad Harry Bintang Pratama, Arif Munandar, Khusnil Mujib, Erizco Satya Wicaksono and Ajub Ajulian Zahra
- 3794 **A Novel Motion-editing Technique using a Timeline-based Interface**
Natapon Pantuwong
- 3798 **Eye-Movement Measurement for Operating a Smart Device: A Small-Screen Line-of-Sight Input System**
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