2013 Tenth International Conference on Wireless and Optical Communications Networks

(WOCN 2013)

Bhopal, India 26-28 July 2013



IEEE Catalog Number: CFP13604-POD **ISBN:**

978-1-4673-5998-6

WOCN 2013 CONFERENCE PROGRAM Conference Venue @ Courtyard Marriott, Bhopal, India Tutorial @ TIT COLLEGE, BHOPAL, Madhya Pradesh, INDIA

Friday, 26th of July, 2013

9:00 AM - 17:00 PM Location: TIT College Bhopal, Madhya Pradesh

Tutorials will be held at: Technocrats Institute of Technology, Anand Nagar, Near Hathai Kheda Dam, Post Piplani, Bhopal (Madhya Pradesh), India, 462021

Tutorials Morning

T1 - Challenges in the Wireless Sensor Communications Networks Professor Vivek S Deshpande, MIT College of Engineering, Pune

T2 - Optical Network Systems and Devices Professor Dr. Alok Kumar Das, Jadavpur University, Kolkata

Tutorials afternoon

T3 - Near Shannon Limit Channel Codes: Modified Turbo Codes Professor Dr. Prakash D. Vyavahare, S. G. S. Institute of T&S, Indore

T4 - Visible Light Communication: A New Emerging Technology Dr. Navin Kumar, CMR Institute of Technology, Bangalore

Saturday, 27th of July, 2013 - WOCN2013 Conference

Location: Courtyard Marriott Bhopal

9:00 - 11:00 am - Opening remarks - Room: Lotus 1 and Lotus 2

Dr. Asif Ullah Khan, Director, TIT Main, CONFERENCE CHAIR Professor Dr. Durgesh Kumar Mishra, Sri Aurobindo Institute of Technology, Indore, India

Keynote Speakers / Invited Talk

Professor Dr. Dharma P. Agrawal, University of Cincinnati, USA

Title: Why are Femtocells Invading Wireless Technologies?

Dr. Mo Shakouri, Chairman WiMAX Forum, Silicon Valley USA

Title: The WiGRID Sandbox: A Survey of Wireless Technology and SDN for Open Utility Communication Networks

10:00 am - 10:30 am also Coffee Breaks

10:30 am - 12:30 pm - Room: Lotus 1

Session 1. MIMO and Beam Forming and OFDM Chair: Professor Dr. Prakash D. Vyavahare, Department of Electronics and Telecom Engg. , S. G. S. Institute of Technology and Science, Indore

Performance Evaluation of MIMO-OFDM System using Matlab Simulink With Real Time Image Input 1 by Archana Ogale, Shubhangi Chaoudhary, A. J. Patil

Design and Development of Non Data Aided Estimation Algorithm for Carrier Frequency-offset and I/Q Imbalancing in OFDM-based Systems 6 by *Lalitha H, Reema Sharma, Navin Kumar*

A DPC based MMSE Beamforming Design for a MIMO System with Interference 10 by *Prateek Rathore, Aditya Trivedi*

10:30 am - 12:30 pm - Room: Lotus 2

Session 2. Network Management and Services Chair: Professor Dr. Durgesh Kumar Mishra, Sri Aurobindo Institute of Technology, Indore, India

Analysis of Visibility and Temperature Patterns of Indian Cities and It's Clustering to Identify the Effect of Presence of Aerosol Particles in the Atmosphere 14 by *Vijay Anand Sullare, Asif Ullah Khan, Bhupesh Gour*

Information Theft Through Covert Channel by Exploiting HTTP Post Method 17 by *Nishi Tomar, Manoj Singh Gaur*

Analysis of Signature and Signature Free Bufferoverflow Detection for gif and jpg Format 22 by *Pankaj B. Pawar, Malti Nagle, Pankaj K. Kawadkar, Padmashree Kunthe Ambare*

12:30 pm - 1:30 pm – Lunch

1:30 pm - 3:00 pm - Room: Lotus 1

Session 3. Optical Passive and Active Components and Devices Chair: Professor Dr. Alok Kumar Das, Gargi Memorial Institute of Technology, Kolkata, India

Analysis of the Effect of both Shot and Thermal Noises on the Performance of Dynamic OC2DMA Correlation Receivers Using Fiber Bragg Grating 27 by *Reda Elsheshtawy, Ahmed F.Mashaal, Ashraf G. Elmeligy, El-Sayed A. El-Badawy* All-Optical Half Adder Design based on Semiconductor Optical Amplifier 32 by *Rekha Mehra, Shikha Jaiswal, H.K. Dixit*

Performance Evaluation of Filters at X Band Frequency 37 by *P. Chandra Sekhar, T.Naga Venkata Chandra Sekhara rao, Y.Raj Gopal, P.Palini, Rishabh Jha*

Study of effect of parameters of Laser Diode on the performance of Free Space Optical Terrestrial Link 42 by *Pooja Mishra, D. Chadha, Vinod Chandra*

1:30 pm - 3:00 pm - Room: Lotus 2

Session 4. Quality of Service and Traffic Management and Characterization Chair:

Quality of Service Provisioning in Metropolitan Area Networks using Optical Burst Switching 46 by *Behrang Shivae, Khalim Amjad Meerja, Shaowen Song, Abdallah Shami*

QOS Constrained Routing Algorithm Using Directional Antenna 52 by *Divya Gupta, Sangeeta Singh, Bharti Modi*

Cursor CAPTCHA – Implementing CAPTCHA Using Mouse Cursor 56 by *Varun Ambrose Thomas, Karanvir Kaur*

Distributed Task Allocation and Coordination Scheme for a Multi-UAV Sensor Network 61 by *Simi S, Rakesh Kurup, Sethuraman Rao*

3:00 pm - 3:30 pm - Coffee Break

3:00 pm - 5:30 pm - Room: Lotus 1

Session 5. WIRELESS Communications and Networking Chair:

CMOS Active Inductor for Low Voltage and Low Power Wireless Applications 66 by *Vandana Niranjan, Ashwni Kumar, Shail Bala Jain*

Parametric Analysis of Impact of Jamming in Wireless Sensor Networks 70 by *Sethuraman Rao, Deepak S, Preeja Pradeep*

Wireless Power Transfer to Underground Sensors Using Resonant Magnetic Induction 75 by *K.A. Unnikrishna Menon, Vippalapalli Vikas, Balaji Hariharan*

A Genetic Algorithm Based PAPR Reduction In WPM System 80 by Neha Dixit, Namrata Singh, Sayali Mandake, Mudassar H. Naikwadi, Kishor P. Patil

A Novel Defense Scheme against DDOS Attack in VANET 85 by *Ayonija Pathre, Chetan Agrawal, Anurag Jain* Group Authentication Using Paillier Threshold Cryptography 90 by Nitish Mehta, Piyush Jadhav, Pavan Lupane, Paresh Honrao, Parikshit Mahalle

Outage Performance of Decode-forward and Amplify-forward Protocols in Cooperative Wireless Communication 94 by *Om Jee Pandey, Aditya Trivedi, Mahendra Kumar Shukla*

Performance Analysis of Comb Type Pilot Aided Channel Estimation in OFDM with Different Pilot Sequences 99 by *Vaibhav Mishra, Pragati Rana, Priya Keerti Tripathi, Hem Dutt Joshi*

A Review: Remote File Manager for Android Platform using FTP4Android 104 by *Tanuj S. Rohankar, Rakesh Bhujade, Amit Sinhal, Bhupendra Verma*

Emergency Response Systems for Vehicular search and rescue in 3G WCDMA Networks 109 by *Kartic Bhargav K R, Rahul Singhal*

Subband Adaptive Array for STBC W-CDMA System 115 by *Nirmala Devi, K.Kishan Rao*

3:00 pm - 5:30 pm - Room: Lotus 2

Session 6. Mobile Ad - Hoc and Sensor Mesh Networks Chair: Associate Professor Vivek S Deshpande, MIT College of Engineering, Pune, India

Variety Event Detection in Wireless Sensor Networks through Single Hop Cluster Topology 123 by *Aditi Chatterjee, Debaprasad Mukherjee*

Enhanced Optimization of Field Based Routing for Macro Mobility in IEEE 802.11s Mesh 128 by *Er. Shiva Raj Pokhrel, Saroj Shakya*

Context Aware Wireless Sensor System Integrated with Participatory Sensing for Real Time Road Accident Detection 133 by *Maneesha Vinodini Ramesh, Vidya P.T, Preeja Pradeep*

Black Hole Attack Prevention in Mobile Ad Hoc Networks using Route Caching 138 by *Prachee N. Patil, Ashish T. Bhole*

A Load Balanced Clustering Architecture with Two Cluster heads 144 by *Seema Yadav, Sanjiv Kumar Tomar*

A Reliable and Cost Effective Next Hop Selection for Aggregative Path Generation in UWSN 149 by *Aarti, Sanjiv Kumar Tomar*

Energy Efficient Clustering in Wireless Sensor Network using Cluster of Cluster Heads 154 by *Vaibhav V. Deshpande, Arvind R. Bhagat Patil*

Security Enabled DSR for Establishing Symmetric Key and Security in MANETs 159 by *Aruna Sanjay Khubalkar, Lata R. Ragha*

Connectivity-enhanced Interference-aware Cooperative Energy Spanner in 3D Cooperative Wireless Ad Hoc Networks 164 by *Dong Wang, Xiao-Hui Xiong, Shan-Ling Li, Xiao-Hong Li*

5:30 pm - 6:00 pm - Room: Lotus 1

Mini - Session 7. Optical Communications and Networking Chair: Dr. Navin Kumar, CMR Institute of Technology, Bangalore, India

Dynamic TCP-IP/MPLS based VPN over Broadband Dense Wave Division Multiplexer Rings 171 by *Ahamed Farzad, Mohamed Musthak, Pragash.N Nagaiyan*

Characterization of RoF GPON Performance for Different Modulation Schemes 175 by *Priya Dane, Hemani Kaushal*

5:30 pm - 6:00 pm - Room: Lotus 2

Mini - Session 8. WLAN and WIMAX and Mobile Communications Chair:

Design of U-Shape Microstrip Patch Antenna for WiMAX Applications at 2.5 GHz 181 by *Sanjeev Dwivedi, Abhishek Rawat, R.N.Yadav*

A Sequence Number based WLAN Authentication Scheme for Reducing the MIC Field Overhead 186 by *Rajeev Singh, Teek Parval Sharma*

6:00 pm - 6:30 pm - Room: Lotus 1

Mini - Session 7 Continue. Health Care and Home Networking Chair:

Wearable Wireless Tongue Controlled Assistive Device Using Optical Sensors 190 by *K.A. UnniKrishna Menon, Revathy Jayaram, Divya.P*

Evolution in Health Care Sector with Emerging Technologies 195 by *Mukhwinder Kaur, Sulakshna Thakur, Suita Aeri, Ummar Hussain*

6:00 pm - 6:30 pm - Room: Lotus 2

Mini - Session 8 Continue. Dynamic Spectrum Access/Cognitive Radio Networks Chair:

Individual vs Cooperative Spectrum Sensing for Cognitive Radio Networks 199 by *Pulkit Sharma, Vinayak Abrol*

A Novel Architecture and Media Access Protocol for Cognitive Radio based Autonomous Femtocell Networks 204 by *Khalim Amjad Meerja, Pin-Han Ho, Bin Wu, Hsiang-Fu Yu* 6:30 - 7:30 pm Panel Session

Panel Title: Compact Waveguide Devices and Switching Implementation in Optical Network

7:30 - 10:30 pm Banquet Dinner

Location: Courtyard Marriott Bhopal

Sunday, 28th of July, 2013 - WOCN2013 Conference

Location: Courtyard Marriott Bhopal

9:00 am - 12:00 pm - Room: Lotus 1

Session 9. Application of Information and Communications Technologies Chair:

An Efficient De noising Based Clustering Algorithm for Detecting Dead Centers and Removal of Noise in Digital Images 209 by Lakshmana Phaneendra Maguluri, Ramesh Babu Vallabhaneni, V. Rajesh

A New Modified UMP BP Decoding Algorithm of Quasi-cyclic LDPC Codes Based On Oscillation Estimation 213 by *Fa Xun Zhang, Fa Xia Yang, Meng Dong*

Cosine, Walsh and Slant Wavelet Transforms for Robust Image Steganography 218 by *Sudeep D. Thepade, Smita S. Chavan*

Design and Implementation of Numerical Controlled Oscillator on FPGA 223 by *Nehal.A.Ranabhatt, Sudhir Agarwal, Raghunadh.K.Bhattar, Priyesh.P.Gandhi*

Multi Speaker Detection and Tracking using Audio and Video Sensors with Gesture Analysis 227 by *Balaji Hariharan, Hari S, Uma Gopalakrishnan*

Removal of Gaussian Noise from Stationary Image using Shift Invariant Wavelet Transform 232 by *Vikas Gupta, Rajesh Mahle, Ashish Shukla*

SIP-based Interactive Voice Response System using FreeSwitch EPBX 236 by *Abdullah Mohammad Ansari, Md. Faisal Nehal, Mohammed Abdul Qadeer*

GSM and PSTN Gateway for Asterisk EPBX 241 by *Priyanka Gupta, Neha Agrawal, Mohammed Abdul Qadeer*

An Efficient Free Fair Contract Signing Protocol using OTPK 246 by *Bhagyashree Bodkhe, Pallavi Jain* Multiband Channel Restoration Scheme for Opportunistic Spectrum Access in Cognitive Radio 251 by *Bharti Modi, Sangeeta Singh*

Hardware Implementation of GPRS Enabled Embedded Server for Remote Access Terminal256by Abhishek N. Tripathi, Utkarsh Sharma, Deepak Simaiya256

9:00 am - 12:00 pm - Room: Lotus 2

Session 10. Simulation, Modeling, Analysis and Performance Evaluation Chair:

Incitement Rational Nodes to Cooperation in Wireless Networks Based on IPD Game 259 by *M. Arghavani, M. Karampanah, S. Abasi, R. Rezaee*

STESA: Self Transmission Energy Saving Algorithm for Road Surveillance 263 by *Roma Kudale, Rachana Satao*

An Empirical Review on the Spray and Wait Based Algorithms for Controlled Replication Forwarding in Delay Tolerant Networks 268 by *Nikhitha Kishore, Sweta Jain, Vasco N.G.J. Soares*

A Visual Modeling Method of Entity-based Network Architecture 273 by *Zhang Lei, Shen Jun*

Optimizing network traffic by generating association rules using Hybrid Apriori-Genetic algorithm 278 by *Surendra Kumar Chadokar, Divakar Singh*

Implementation of Restoration of Blurred Image Using Blind Deconvolution Algorithm 283 by *Punam Patil, R.B.Wagh*

Image Denoising using Wavelet Transform Method288by Vikas Gupta, Rajesh Mahle, Raviprakash S Shriwas

Effect of Fault Patterns on Systems Level Diagnosis of Mesh Networks 292 by *Hari Om Srivastava, Suresh C Gupta*

Mobility Models and Performance of FISHEYE, LANMAR, OLSR and AODV 296 by *Deepak Kumar, Suresh C. Gupta*

Comparative Analysis of Speech Enhancement Methods 301 by *Pankaj Goel, Prateek Saxena, Mahesh Chandra, V.K.Gupta*

Dual Band CPW Filter using Koch Fractal Structure 306 by *Nutan Reddy A*, *Rajeshkumar V*, *Raghavan S*

A Survey of Comparative Analysis of Sequence Matching Algorithms 308 by *A.D.Pathak, S.J.Karale*

Simulation and Performance Evaluation of Energy Efficient MAC Protocols for Wireless Sensor Networks 312 by Deepak Simaiya, Utkarsh Sharma, Abhishek N. Tripathi 10:00 am - 10:30 am - Also Coffee Break

12:00 pm - 1:30 pm - Lunch

1:30 pm - 3:30 pm - Room: Lotus 1

Session 11. Mobile Communications and Mobility Chair:

Construction of LT Codes with Unequal Erasure Protection for Rateless Data Transmission 317 by *Fa Cun Zhang, Xi Ying Duan, Meng Dong*

Cluster Formation through Improved Weighted Clustering Algorithm (IWCA) For Mobile Ad-hoc Networks 322 by *Neha Gupta, Rajeev Kumar Singh, Manish Shrivastava*

Design of Cell Phone Operated Robot Using DTMF for Object Research 327 by Manish Kumar, Nikita Kaushal, Harish Bhute, Mukesh Kumar Sharma

Comprehensive Monitoring of Firefighters by a Wireless Body Area Sensor Network 332 by *Saibal K Ghosh, Suryadip Chakraborty, Anagha Jamthe, Dharma P. Agrawal*

Cluster Dynamics Analysis of Human Mobile Network in Urban Environment 338 by *Dong Wang, Yong Zhang, Xiao-Hong Li*

Analysis of MAC Schemes for Cognitive Radio Network: Perfect and Imperfect Learning Modelling 344 by Lokesh Chouhan, Aditva Trivedi

Detection of Chemicals Used in Explosive Devices Using Mobile Communication and Satellite Communication 350 by Sarita Bhan, B. L. Koul

1:30 pm - 3:30 pm - Room: Lotus 2

Session 12. Ultra Wide Band UWB and RFID Chair:

Indoor Object Localization 355 by Sameer Marulkar, Mrunal Khadilkar, Veena Prabhu

Ultra Wide Band Three Layer Microstrip Patch Antenna Using Single Layer Helical Resonating Metamaterial Cover 360 by Shridhar E. Mendhe, Y. P. Kosta

U Shaped Multiband Microstrip Patch Antenna For Wireless Communication System and Parametric Variational Analysis 365 by *Amit Kumar, P.R.Chadha* A Novel Directive Ultra wideband Vertical Quarter Elliptical (VQE) Sheet Antenna Design 369 by *Anuj Y. Modi, Nilima Pisharody, Jigar Mehta*

A Novel Design of Monolithically Integrated Phased Array Antenna Employing 4-bit DMTL Phase Shifter 373 by Manish Puri, Anamika Das, Jitendra Singh Sengar

3:30 pm - 4:00 pm - Coffee Break

3:30 pm - 5:30 pm - Room: Lotus 1

Session 13. Cloud Computing / Grid Communications Chair:

Convergence: Smart Home into Cloud 379 by *Ioannis Karamitsos, Charalampos Apostolopoulos*

Study of Intrusion Detection System for DDoS Attacks in Cloud Computing 383 by *Naresh Kumar, Shalini Sharma*

FTAB: Fault Tolerance Approach by Using HMM with BAUM-WELCH Algorithm in MCC 388 by *Pushpraj Patel, Vijay Prakash*

Smart Architecture for Home Area Electrical Grid in India 392 by *Aryadevi Remanidevi Devidas, Subeesh T. S, Maneesha Vinodini Ramesh*

3:30 pm - 5:30 pm - Room: Lotus 2

Session 14. Architecture, Devices and Security/ Dynamic Spectrum Access and Satellite Communications Systems Chair:

VLSI Design of Fast DCTQ-IQIDCT Processor for Real Time Image Compression 397 by Harish V. Dixit, Amutha Jeyakumar, Piyush S. Kasat, Chirag Warty

Advanced Face Recognition System Using Fourier Optics and Neural Networks 402 by *Syed Natheem.M, Narayanan.R, Pragash N. Nagaiyan*

Optimized Cluster Head Selection & Rotation for Cooperative Spectrum Sensing in Cognitive Radio Networks 405 by *Pulkit Sharma, Vinayak Abrol*

Overview of Satellite Image Resolution Enhancement Techniques 410 by *Ahire Rina B., V. S. Patil*

~ ~ End of WOCN2013 conference program ~ ~