

# **2016 2nd International Conference on Advances in Computing, Communication, & Automation (Fall) (ICACCA 2016)**

**Bareilly, India**

**30 September – 1 October 2016**



**IEEE Catalog Number: CFP16UAA-POD**  
**ISBN: 978-1-5090-3481-9**

**Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\*This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16UAA-POD
ISBN (Print-On-Demand):	978-1-5090-3481-9
ISBN (Online):	978-1-5090-3480-2

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# International Conference on Advances in Computing, Communication and Automation (Fall) (ICACCA -2016)

---

## Table of Contents

---

### TRACK-1

#### High Performance Computing

1. **A Comprehensive Evaluation of Aspect-Oriented Software Quality (AOSQ) Model using Analytic Hierarchy Process (AHP) Technique .....** 3  
*Pankaj Kumar and S. K. Singh*
2. **Optimizing Spatial Database Performance for Handling Moving Objects .....** 11  
*Parag Garg, Vikas Saxena and Sandeep K Singh*
3. **A New Approach towards IOT by Using Health care-IOT and Food distribution IOT.....** 15  
*Shashi Bhushan, Bhim singh Bohara and Vibhor Sharma*
4. **Geospatial Hadoop (GS-Hadoop).....** 22  
*Jhummarwala Abdul, MazinAlkathiri and Dr. M.B. Potdar*
5. **Adaptive Wearable Smart Fabric based on Body Posture and Temperature.....** 29  
*Gopi Krishna Durbhaka*
6. **A Game-Based Learning Model for English Classes in a Secondary School .....** 34  
*A. Pogrebnyi, P.W.C. Prasad, AbeerAlsadoon, A. K. Singh and A. Elchouemi*
7. **Meta-heuristics for Solving Nurse Scheduling Problem: A Comparative Study.....** 40  
*Snehasish Karmakar, Sugato Chakraborty, Tryambak Chatterjee, Arindam Baidya and Sriyankar Acharyya*
8. **Assessment of thickness effective value of hot-rolled steel sheets on the basis of the identification measurements.....** 45  
*K.T. Koshekov, Yu.N. Klikushin, M.V. Gladkov, S.V. Dvoinishnikov and A.K.Koshekov*
9. **Weight driven Position Update Artificial Bee Colony Algorithm.....** 50  
*Priyanka Tiwari and Sandeep Kumar*

# TRACK-2

## Advances in Communication, Network & Social Network Analysis

<b>10. Optical Microphone with real time display.....</b>	<b>56</b>
<i>Sukrit Sehgal, Sudhakar Sharma and Anu Mehra</i>	
<b>11. Enhancing the Data Transfer rate by Creating Alternative Path for AODV Routing Protocol in VANET .....</b>	<b>60</b>
<i>Shubham Mittal, Ramandeep Kaur and Kamlesh C. Purohit</i>	
<b>12. Verilog Design of Full Adder Based on Reversible Gates* .....</b>	<b>65</b>
<i>Varun Pratap Singh and Manish Rai</i>	
<b>13. Analysis and Effects of Speckle Noise in SAR Images.....</b>	<b>70</b>
<i>Prabhishek Singh and Dr. Raj Shree</i>	
<b>14. Stratification and Analysis of Routing Protocols (Wireless Sensor Networks).....</b>	<b>75</b>
<i>Leesha Aneja and Nihar Ranjan Roy</i>	
<b>15. Performance Comparison of Adder Architectures on 28nm FPGA.....</b>	<b>81</b>
<i>Nidhi Gaur, DevyaniTyagi, Deepika and AnuMehra</i>	
<b>16. Design and Development of Wireless Sensor Network for Biomedical Application.....</b>	<b>86</b>
<i>Resham Raj Shivwanshi, Chandni Ahuja, Preeti Abro and Balwinder Singh</i>	
<b>17. Wireless Power Transfer using Free Space Photonics.....</b>	<b>92</b>
<i>Dr. ChandniPani, Dr. Oindri Ray, AbhinabaGhosh, ZeeshanQadir, MdMasudSarkar andWasimReja</i>	
<b>18. Tree Based Variable Length Address Autoconfiguration Protocol For Mobile Ad Hoc Networks.....</b>	<b>97</b>
<i>Nagendra Ramakrishnaiah and Pakanati Chenna Reddy</i>	
<b>19. Performance Analysis Of Femtocell In Macro-Cellular Environment.....</b>	<b>103</b>
<i>Diwaker Pant, Vinod Kumar, Piyush Dhuliya and Tanuj Lal</i>	
<b>20. Building Custom, Adaptive and Heterogeneous Multi-Agent Systems for Semantic Information Retrieval Using Organizational-Multi-Agent Systems Engineering, O-MaSE .....</b>	<b>107</b>
<i>Gaurav Kant Shankhdhar and Manuj Darbari</i>	
<b>21. Modified Quasi Static Energy Recovery Adiabatic Logic Implementation for Low Power Application .....</b>	<b>114</b>
<i>M.L.Keote and P.T.Karule</i>	
<b>22. Feature Extraction and Classification for EMG Signals Using Linear Discriminant Analysis .....</b>	<b>120</b>
<i>SachinNegi, Yatindra Kumar and V. M. Mishra</i>	
<b>23. An Adaptive Technique based on separability Index to classify PALSAR data .....</b>	<b>126</b>
<i>Vartika Thakur, Pragati G.N. Ghildiyal, Rishi Prakash</i>	

<b>24. NEST-ec: Network Security Testing of Erasure Codes.....</b>	<b>134</b>
<i>Arvinder Kaur, Rahul Johari and Shikha Jain</i>	
<b>25. Lighting Audit Through MATLAB Graphical User Interface (GUI).....</b>	<b>140</b>
<i>Ranjay Kumar Ojha, Lini Mathew and Tilak Thakur</i>	
<b>26. SUSPICIOUS OBJECT DETECTION.....</b>	<b>146</b>
<i>Tarushika Joshi, Harsh Aarya and Prashant Kumar</i>	
<b>27. Routing Protocol Based on Sleep Scheduling and Tree Cluster Structure in Wireless Sensor Network.....</b>	<b>152</b>
<i>Parul Kansal and Surabhi Mishra</i>	
<b>28. MODIFIED NEW-ATTEMPT ROUTING PROTOCOL FOR WIRELESS BODY AREA NETWORK</b>	
<i>Smita Singh, Sarita Negi, Anchal Uniyal and Shashi Kant Verma .....</i>	<b>156</b>
<b>29. Temporal Compression in Wireless Sensor Networks using Compressive Sensing and ARMA modeling .....</b>	<b>161</b>
<i>Ashish Thapliyal and Rajender Kumar</i>	
<b>30. Energy Trends of Routing Protocols for H-WSN.....</b>	<b>165</b>
<i>Omkar Singh and Vinay Rishiwal</i>	
<b>31. ANALYSIS OF PATTERN MATCHING ALGORITHMS IN NETWORK INTRUSION DETECTION SYSTEMS.....</b>	<b>169</b>
<i>Vishwajeet Dagar, Vatsal Prakash and Tarunpreet Bhatia</i>	
<b>32. VLSI Design of 64bit × 64bit High Performance Multiplier with Redundant Binary Encoding.....</b>	<b>174</b>
<i>R.S. Keote and P.T. Karule</i>	
<b>33. Automatic Tracking and Alarm System for Eradication of Wild Life Injury and Mortality.....</b>	<b>180</b>
<i>Nirit Datta, Souvik Sarkar, Ashutosh Malik and Deepak Punetha</i>	
<b>34. BER versus BSNR Analysis of Conventional IDMA and OFDM-IDMA Based Systems with Tree Interleaving .....</b>	<b>184</b>
<i>Manish Yadav, Vinod Shokeen and Pramod Kumar Singhal</i>	
<b>35. A Novel Two Wheeler Security System Based on Embedded System.....</b>	<b>190</b>
<i>Prachi R. Rajarapolu and Nutan V. Bansode</i>	
<b>36. Performance improvement of a slot antenna using SRR and modified ground plane.....</b>	<b>195</b>
<i>Aadya Pant and R. P. S. Gangwar</i>	

# TRACK-3

## Intelligent Control System

<b>37. Performance Evaluation of Grid Connected Solar PV Power Plant .....</b>	<b>199</b>
<i>Kanchan Matiyali and Alaknanda Ashok</i>	
<b>38. Power System Oscillation Damping with Adaptive Unified Power Flow Controller .....</b>	<b>204</b>
<i>Ramakanta Jena, Sarat Chandra Swain, Prafulla Chandra Panda and Ritwik Bhattacharya</i>	
<b>39. Performance Evaluation of Rough Set Based Classification Models to Intrusion Detection System.....</b>	<b>209</b>
<i>Priyanka Suyal, Janmejay Pant, Akhilesh Dwivedi and Manoj Chandra Lohani</i>	
<b>40. Design of Configurable Power Efficient 3-Dimensional Crossbar Switch For Network-on-Chip(NoC).....</b>	<b>215</b>
<i>Shilpi Bansal, Satyendra Sharma and Nidhi Sharma</i>	
<b>41. Morphological Changes in Congestive Heart Failure ECG.....</b>	<b>220</b>
<i>Ashish Nainwal, Yatindra Kumar and Bhola Jha</i>	
<b>42. Evaluating the Accuracy of Wearable Heart Rate Monitors.....</b>	<b>224</b>
<i>Z. Ge, P.W.C. Prasad, N. Costadopoulos, AbeerAlsadoon, A. K. Singh and A. Elchouemi</i>	
<b>43. Estimation of Respiratory Rate from the ECG using Instantaneous Frequency Tracking LMS Algorithm .....</b>	<b>230</b>
<i>Shephali Gupta and Janki Ballabh Sharma</i>	
<b>44. Gene selection for tumor classification using resilient backpropagation neural network .....</b>	<b>235</b>
<i>Sukhdeep Kaur, Ajay Shiv Sharma, Harpreet Kaur and Karamjit Singh</i>	

# **TRACK-4**

## **Artificial Intelligence & Image processing**

<b>45. Proposed Model on Coupling Measures in Aspect Oriented Software Development Using Fuzzy Logic.....</b>	<b>240</b>
<i>Faraj Chishti and Abhishek Singhal</i>	
<b>46. Malayalam Text Summarization: Minimum Spanning Tree Based Graph Reduction Approach.....</b>	<b>246</b>
<i>Rahul Raj M and Rosna P Haroon</i>	
<b>47. Lexical Classes Based Stop Words Categorization for Gujarati Language.....</b>	<b>250</b>
<i>Rajnish M. Rakholia and Dr. Jatinder kumar R. Saini</i>	
<b>48. A Comparative Study of Otsu and Entropy Based Segmentation Approaches for Tumour Extraction From MRI .....</b>	<b>255</b>
<i>Sarita Jayaswal, Ajay Khunteta</i>	
<b>49. A Study and Comparison of Different Image Segmentation Algorithms .....</b>	<b>260</b>
<i>Vinod Kumar, TaujLal, Piyush Dhuliya and Diwaker Pant</i>	
<b>50. A New Stemmer For Nepali Language.....</b>	<b>266</b>
<i>Ingroj Shrestha and Shreeya Singh Dhakal</i>	
<b>51. An Approach to Face Detection and Alignment Using Hough Transformation with Convolution Neural Network.....</b>	<b>271</b>
<i>Oshin Misra and Ajit Singh</i>	
<b>52. An Effective Approach to Estimate Fingerprint Orientation.....</b>	<b>276</b>
<i>Bishwa Ranjan Roy, Amit Kumar Trivedi, Arun Kumar Yadav and Saptarshi Paul</i>	
<b>53. A Survey on Offline Handwritten Signature Verification System using Writer Dependent and Independent Approaches .....</b>	<b>280</b>
<i>Ashok Kumar and Karamjit Bhatia</i>	
<b>54. Refinement of Input Speech by Suppressing the Unwanted Amplitudes for Blue Hearing System .....</b>	<b>286</b>
<i>Parul Saxena and Ashish Mehta</i>	
<b>55. An Automated system for platelet segmentation using histogram-based thresholding.....</b>	<b>290</b>
<i>Kaushiki Roy, Ratnadeep Dey, Debotosh Bhattacharjee, Mita Nasipuri and Pramit Ghosh</i>	
<b>56. An Effective Texture Feature Extraction Approach For Iris Recognition System.....</b>	<b>297</b>
<i>Krishna Devi, Diksha Grover, Preeti Gupta and Anaahat Dhindsa</i>	
<b>57. Classification of DDoS Attack Tools and Its Handling Techniques and Strategy at Application Layer.....</b>	<b>302</b>
<i>Mahadev, Vinod Kumar and Krishan Kumar</i>	

<b>58. Liver tissue classification for ultrasound images .....</b>	<b>308</b>
<i>Harpreet Kaur, Ajay Shiv Sharma and Sukhdeep Kaur</i>	
<b>59. ASR – A real-time speech recognition on portable devices.....</b>	<b>312</b>
<i>Ajay Shiv Sharma and Rahul Bhalley</i>	



# TRACK-5

## Cloud Computing

<b>60. Advanced IN Based 3GPP Gateway over Cloud.....</b>	<b>316</b>
<i>Kinkar Choudhury and Oindri Ray</i>	
<b>61. The Impact of Agile based Software Engineering in Interactive Art Installations.....</b>	<b>322</b>
<i>Ajeet Kumar and Yashpal Singh</i>	
<b>62. Innovative Enhancement Of The Caesar Cipher Algorithm For Cryptography.....</b>	<b>327</b>
<i>Shreyank N Gowda</i>	
<b>63. Performance Enhancement in MMDSR through Information Management .....</b>	<b>331</b>
<i>Anupama Sharma, Abhay Bansal and Vinay Rishiwal</i>	
<b>64. A Survey on Effectiveness of Tool based Software Project Planning .....</b>	<b>337</b>
<i>Priyanka Pradhan, Vinay Rishiwal and Ashish Agarwal</i>	
<b>Author Index .....</b>	<b>345</b>