

# **IET Chennai 3rd International Conference on Sustainable Energy and Intelligent Systems**

## **(SEISCON 2012)**

**IET Conference Publications 624**

**Tiuchengode, India  
27-29 December 2012**

**ISBN: 978-1-62993-607-9**

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2012) by the Institution of Engineering and Technology  
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact the Institution of Engineering and Technology  
at the address below.

Institution of Engineering and Technology  
P. O. Box 96  
Stevenage, Hertfordshire  
U.K. SG1 2SD

Phone: 01-441-438-767-328-328  
Fax: 01-441-438-767-328-375

[www.theiet.org](http://www.theiet.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## TABLE OF CONTENTS

<b>Multiphase Induction Motor Drives.....</b>	1
<i>P. W. Wheeler</i>	
<b>Decoupled Dynamic Control of Series-connected Five-phase and Six-phase Two-motor Drive Systems .....</b>	<b>2</b>
<i>A. Iqbal</i>	
<b>Image Denoising and Enhancement for Lung Cancer Detection using Soft Computing Technique .....</b>	<b>3</b>
<i>P. Yuvarani</i>	
<b>SDSR: A Secure on-Demand Routing Protocol for MANETS.....</b>	<b>7</b>
<i>L. Vijayanand; R. K. Negesh</i>	
<b>Brain Tumour Detection Using Pulse Coupled Neural Network (PCNN) and Back Propagation Network .....</b>	<b>12</b>
<i>M. M. Subashini; S. K. Sahoo</i>	
<b>Cluster Based Data Transfer Scheme for Virtual Private Networks.....</b>	<b>18</b>
<i>C. Mahalakshmi; M. Ramaswamy</i>	
<b>Search Engine: Intelligent Web Service Search.....</b>	<b>25</b>
<i>N. Rajkumar; B. Gohin; V. Vinod</i>	
<b>Privacy Preservation Using Geometric Data Perturbation and Fragmentation Approach in Wireless Sensor Networks .....</b>	<b>32</b>
<i>K. Sreekumar; E. Baburaj</i>	
<b>Performance Comparison of Voxel Based Morphometry and K Means Algorithm on Longitudinal MR Images .....</b>	<b>36</b>
<i>T. Varghese; R. S. Kumari; P. S. Mathuranath; A. Singh</i>	
<b>Agent based QOS Routing in Mobile Ad-hoc Networks: An Overview .....</b>	<b>40</b>
<i>B. Suganthi; D. Sivakumar</i>	
<b>Design of Controlling the Charging Station of PHEV System Based on Virtual Instrumentation .....</b>	<b>45</b>
<i>R. Hariharan</i>	
<b>Cancer Cell Diagnostics Based on Tissue Morphology using Image Processing .....</b>	<b>49</b>
<i>M. M. Subashini; S. K. Sahoo; S. Sagar</i>	
<b>Coupling and Cohesion Metrics in Java for Adaptive Reusability Risk Reduction.....</b>	<b>54</b>
<i>M. Iyapparaja; S. Sureshkumar</i>	
<b>Effectual Extraction of Data Relations from Unstructured Data .....</b>	<b>60</b>
<i>S. Geetha; G. S. A. Mala</i>	
<b>Segmentation of MR Brain Images Using FCM Technique in Frontotemporal Dementia .....</b>	<b>64</b>
<i>R. S. Kumari; T. Varghese; P. S. Mathuranath; C. Kesavadas</i>	
<b>Effectiveness of Hybrid Co-operative Bacteria Foraging Algorithm (CBFO-H), CBFO-SERIAL and BFO on Optimization Problems .....</b>	<b>68</b>
<i>R. Phukan; A. Rathinam</i>	
<b>A Cloud Service and Conceptual Modeling of IAAS .....</b>	<b>75</b>
<i>N. Junath; G. Shanmugarathinam</i>	
<b>Biometric Recognition for Safe Transaction using Vein Authentication System .....</b>	<b>79</b>
<i>M. M. S. Ibrahim; F. S. M. Al Naimy; L. Rajaji; S. S. Amma</i>	
<b>Clustering Analysis by Improved Particle Swarm Optimization and K-Means Algorithm .....</b>	<b>85</b>
<i>A. J. M. Rani; L. Parthipan</i>	
<b>Assessment of Sparse Forest and Fire Detection Using Threshold Watershed Algorithm.....</b>	<b>91</b>
<i>E. Menaka; S. S. Kumar; P. Parameshwari</i>	
<b>Application of Sensor Networks in Agriculture .....</b>	<b>97</b>
<i>N. Vijay</i>	
<b>A Modified Effective Image Restoration Algorithm using an Effective Kernel Matrix and Smoothing Parameter.....</b>	<b>103</b>
<i>N. Kopperundevi; S. Sureshkumar</i>	
<b>Modelings and Techniques in Named Entity Recognition: An Information Extraction Task .....</b>	<b>106</b>
<i>N. Kanya; T. Ravi</i>	
<b>A Highly Secured Digital Watermarking Algorithm for Binary Watermark Using Lifting Wavelet Transform and Singular Value Decomposition.....</b>	<b>111</b>
<i>S. Sarkar; K. Senthilkumar</i>	
<b>Green Cloud Computing .....</b>	<b>116</b>
<i>B. Gayathri</i>	

<b>Detection of PARD Attack on Secure Authentication System Based on Fingerprint Impression.....</b>	121
<i>I. Verma; A. K. Vatsa</i>	
<b>An Intelligent Uninterrupted Isolated Power Management System Based on ARM Microcontroller .....</b>	130
<i>A. J. Winney; B. Narayanan; P. B. Murugan</i>	
<b>Quantum Key Distribution Model Using Quantum Gates .....</b>	136
<i>T. Godhavari; N. R. Alamelu</i>	
<b>Cooperative MIMO Based Cellular Networks: A Comprehensive Survey .....</b>	143
<i>K. Shamganth; M. Sibley; F. S. Al-Naimy; M. P. Reena</i>	
<b>Estimation of Available Transfer Capability using Soft Computing Techniques .....</b>	151
<i>R. Prathiba; C. C. A. Rajan</i>	
<b>Characterization of Semiconductor with Spintronic Dopant.....</b>	157
<i>K. S. Kumar; M. Ravindiran; S. K. Sarkar; A. Karmakar</i>	
<b>Speaker Change Detection - An Comparative Study Using Support Vector Machines.....</b>	163
<i>J. G. M. Britto; S. S. Kumar</i>	
<b>Low Power and Area Optimized Truncated Multiplier Architecture.....</b>	168
<i>J. Selvakumar; V. C. Bhaskar</i>	
<b>Modelling and Analysis of Island Region in Single Electron Transistor with Nanotube and Oxide Layers .....</b>	174
<i>M. Ravindiran; S. Mahalakshmi; P. Shankar</i>	
<b>Stability Testing of Two Dimensional NSHP Filters Using Simplified Mapping Methods.....</b>	182
<i>A. Rathinam; R. Ramesh; P. S. Reddy</i>	
<b>An Efficient and Economical Multi-Cloud Storage in Cloud Computing.....</b>	187
<i>S. K. Hussain; Sreenivasulu</i>	
<b>Color Based Urban and Agricultural Land Classification by GLCM Texture Features.....</b>	194
<i>M. Umaselvi; S. S. Kumar; M. Athithya</i>	
<b>Scheduling Optimality for Multi hop Wireless Mobile ad hoc Networks .....</b>	198
<i>S. Vijayanand; R. Balakrishna</i>	
<b>Classification of Day-Ahead Prices in Asia's First Liberalized Electricity Market Using GRNN .....</b>	204
<i>S. Anbazhagan; N. Kumarappan</i>	
<b>Variable Structure Control (VSC) Strategy for Cascaded SEPICs.....</b>	209
<i>A. Ezhilarasi; M. Ramaswamy</i>	
<b>A Modified Seven Level H Bridge Z Source Inverter for Photovoltaic Systems .....</b>	214
<i>V. Saravanan; A. Thukku; R. Ramanujam; M. Arumugam</i>	
<b>Improved Quasi Z Source Inverter Topologies for Photovoltaic Systems .....</b>	221
<i>A. Thukku; V. Saravanan; R. Ramanujam; M. Arumugam</i>	
<b>Performance Characteristics of Three Phase Wind Driven SEIG for Drive Applications .....</b>	227
<i>F. M. Savio; M. Sasikumar</i>	
<b>Development of a Fuzzy Logic Based, Photovoltaic Maximum Power Point Tracking Control System Using Boost Converter .....</b>	233
<i>S. Vasantharaj; G. Vinodhkumar; M. Sasikumar</i>	
<b>Fuel Free Electric Vehicle: Performance and Environmental Analysis .....</b>	239
<i>C. Chellaswamy; P. Glaretsubin; P. Rathinakumar; P. Muthukrishnan</i>	
<b>Three-Phase Matrix Converter with Ripple Free Output .....</b>	247
<i>S. K. Sahoo; K. V. Kandasamy; S. S. Singh</i>	
<b>Performance Analysis and Simulation of Three Phase Voltage Source Inverter using basic PWM Techniques.....</b>	254
<i>S. K. Sahoo; A. Ramulu; S. Batta; S. Duggal</i>	
<b>Sinusoidal Output Voltage H-bridge Multilevel Inverters .....</b>	261
<i>J. Prakash; S. K. Sahoo; S. P. Karthikeyan</i>	
<b>Realization of Cascaded H-Bridge 5-Level Multilevel Inverter as Series Active Filter .....</b>	267
<i>A. M. Krishna; K. N. V. Prasad; G. R. Kumar</i>	
<b>Critical Evaluation of SVPWM Scheme for Capacitor balancing in NPC-MLI .....</b>	275
<i>C. Bharatiraja; S. Jeevananthan; R. Palanisamy; K. V. R. S. P. Rao</i>	
<b>Performance Analysis and Simulation of Five Level and Seven Level Single Phase Multilevel Inverters .....</b>	282
<i>S. K. Sahoo; A. Ramulu; J. Prakash; Deeksha</i>	
<b>Modelling of Nonlinear Superheated Temperature Control Process using Neural Networks .....</b>	289
<i>S. Gupta; L. Rajaji; S. Kalika</i>	
<b>Design of Off-grid Homes with Renewable Energy Sources .....</b>	294
<i>M. V. S. Lakshmi; C. Sai Babu; S. Prasad</i>	
<b>Shunt FACTS Devices for First-Swing Stability Enhancement in Inter-Area Power System.....</b>	301
<i>P. Gopi; I. P. Reddy; P. S. Hari</i>	

<b>Modeling and Simulation of PEM Fuel Cell Based Power Supply and its Control.....</b>	308
<i>B. Sathyaprabakaran; S. Paul</i>	
<b>Maximum Power Tracking with Voltage Stability Studies in Wind Energy Conversion System : A Review.....</b>	314
<i>A. Dixit; P. Singh; N. Mishra; D. Singh</i>	
<b>Designing and Implementation of MPPT Controller for Varying Radiance in Solar PV system .....</b>	323
<i>S. Kalika; L. Rajaji; S. Gupta</i>	
<b>Enhancement of Available Transfer Capability using Particle Swarm Optimization Technique with Interline Power Flow Controller .....</b>	328
<i>N. Kalpana; G. Y. S. Varshini</i>	
<b>Wavelet Transform Based Fault Classification and Location in DPFC Compensated Transmission .....</b>	332
<i>N. Kumarappan; K. Rajasangu</i>	
<b>Ring Main Distribution State Estimation through Optimal Meter Placement.....</b>	338
<i>L. Ramesh; S. P. Chowdhury; S. Chowdhury; N. Chakraborty</i>	
<b>The Impact of Dynamic Voltage Restorer on Voltage Sag Mitigation .....</b>	346
<i>M. Venmathi; L. Ramesh</i>	
<b>Advanced Cloud Computing in Smart Power Grid .....</b>	353
<i>C. Sivapragash; S. R. Thilaga; S. S. Kumar</i>	
<b>Investigation of Harnessing High Altitude Tethered Rotorcraft Wind Systems .....</b>	359
<i>E. S. Percis; L. Ramesh; A. Nalini; Shadhik</i>	
<b>A 180nm CMOS Low Power Latched Comparator for NMR Applications .....</b>	365
<i>K. N. Shesharaman; H. M. Kittur</i>	
<b>A Divide and Conquer Feature Reduction and Feature Selection Algorithm in KDD Intrusion Detection Dataset .....</b>	370
<i>A. Das; R. B. Nayak</i>	
<b>An Improved Speaker Recognition by Using VQ &amp; HMM.....</b>	374
<i>A. A. Malode; S. L. Sahare</i>	
<b>Cellular Neural Network Based Algorithm in Image Analysis of Age Related Macular Degeneration .....</b>	381
<i>A. R. Chowdhury; S. Banerjee</i>	
<b>Component Based Real Time Software for Student Imaging Satellite.....</b>	385
<i>M. Thiruniraiselvan; G. R. Gouda; R. Suguna</i>	
<b>Effects of Dibenzyl Disulfide on Pressboard.....</b>	393
<i>F. A. Khan; J. S. Rajan; M. Z. A. Ansari; D. Sivan</i>	
<b>Coordinate Matching for Effective Capturing the Similarity Between Query Keywords and Outsourced Documents .....</b>	398
<i>A. Karapakula; M. Puramchand; G. M. Rafi</i>	
<b>Energy Efficient Image Compression Scheme Using ZonalDCT for Wireless Sensor Networks.....</b>	405
<i>Y. A. V. Phamila; R. Amutha</i>	
<b>Human Detection Based on Discrete Wavelet Transform.....</b>	412
<i>M. M. Deshpande; J. G. Rana; M. M. Pawar</i>	
<b>Performance Analysis of LTE for QoS Enhancement in Mixed Traffic Scenarios .....</b>	416
<i>R. Sudhaa; I. J. L. Paul</i>	
<b>Enhanced Sensitivity of Motion Detection in Satellite Videos using Instant Learning Algorithms .....</b>	421
<i>J. F. Joe</i>	
<b>An Intelligent Intrusion Detection System for Ad Hoc Networks.....</b>	427
<i>S. Ganapathy; K. Kulothungan; P. Yogesh; A. Kannan</i>	
<b>Multicloud Computing for On-Demand Resource Provisioning using Clustering.....</b>	432
<i>T. S. George; V. P. S. Kumar</i>	
<b>Reliable Routing Strategy for Data Communication in Vehicular Adhoc Networks .....</b>	438
<i>S. Cloudin; Kalairani</i>	
<b>Coalescing Clustering and Classification.....</b>	443
<i>G. B. Mohan; R. P. Kumar; T. Ravi</i>	
<b>Preventive Approach to Avoid Intrusion in Relational Databases using Response Patterns .....</b>	448
<i>N. S. Judith; S. Bairavel</i>	
<b>Author Index</b>	