2016 IEEE Region 10 Humanitarian Technology Conference (R10-HTC 2016)

Agra, India
21-23 December 2016

IEEE Catalog Number: CFP1634U-POD
ISBN: 978-1-5090-4178-7

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

IEEE Catalog Number: CFP1634U-POD
ISBN (Print-On-Demand): 978-1-5090-4178-7
ISBN (Online): 978-1-5090-4177-0

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
Web: www.proceedings.com

Table of Contents

Paper S.No.	Area	Title/Page	Authors
1	Agriculture & Dairy Technology	Effect of ICT on Knowledge Management Process in Indian Milk Co-operatives: A Structural Equation Modeling Approach 1	Ram Naresh Kumar Vangala
2		Design and testing of a Semi-Automatic Rubber Tree Tapping machine (SART) 7	Soumya Susan John, S Vishnu Rajendran, Arjun R Nair and Bhavani R Rao
3		Hybrid Evolutionary Computational Algorithm for Dairy Cattle feed cost Optimization 11	Astuti V and Hans Raj Kandikonda
4		Plant growth monitoring system, with dynamic user-interface 17	Manu Maheshwar P and Jerrin James
5		Energy Management Unit - Managing energy sources for a farm 22	Shristi Shakya, Ujjwal Shrestha, Manish Shrestha, Rosy Bhattarai and Shailendra Kumar Jha
6		Sugar decolorization through activated carbon made from agricultural by-product based waste material 27	Sudhir Verma, Sana Ansari, Harsha Devnani and Sachin Saxena
7		Agricultural by-product based Carbon Paste Sensor for the Trace Determination of heavy metals Pb and Cd by Adsorptive Stripping Voltammetry 33	Sachin Saxena, Harsha Devnani, Sudhir Kumar Verma and Soami P. Satsangee
8	Education Technology	Technology integration in Indian schools using a value-stream based framework 39	Deepti Sawhney
9		Environmental Education: component of sustainable development 45	Arti Prasad and Radha Mogla
10		A New Approach to Teach Molecular Biology in High School Using Python 49	Sanchita Sarkar and Santu Sarkar
11		Electronic Assessment and Training Curriculum Based on Applied Behavior Analysis Procedures to Train Family Members of Children diagnosed with Autism 54	Manu Kohli and Swati Kohli
12		Increasing Target Behavior of Children with Developmental Disorders by Designing Innovative Multistage Tablet Games 60	Manu Kohli and Swati Kohli
13	Electronics Applications	Arduino-Based Smart Irrigation Using Water Flow Sensor, Soil Moisture Sensor, Temperature Sensor and ESP8266 WiFi Module 66	Pushkar Singh and Sanghamitra Saikia
14		Design of an Autonomous Seed Planting Robot 70	Nandagopal Srinivasan, Prithviraj Prabhu, Sanjana Smruthi Srinivasan, Vivek Sivaraman Narayanaswamy, Joseph Gladwin, Rajavel R and Abeshek Ram Natarajan
15		Design and Development of Phasor Measurement Unit on FPGA 74	Ankit Agarwal, Nisha Verma, Himani Tiwari, Juhi Singh and Varun Maheshwari
16		Smart Walking Cane for the Visually Challenged 80	Sharada Murali, Shrivatsan R, Srihaarika Vijjappu, Sreenivas V, Joseph Gladwin and Rajavel R

17	Energy Systems	Mitigation of power quality problem in underground mine using different control strategies 84	Sukanth T, Singam Jayanthu and A Jaya Laxmi
18		Optimal Grid Network for Rural Electrification of Upper Karnali Hydro Project Affected Area 88	Ashish Shrestha, Shailendra Kumar Jha, Bibhu Shah and Bidur Raj Gautam
19		Congestion Management by using FACTS Controller in Power System 93	Jai Govind Singh, S N Singh and S C Srivastava
20		Community Development and Energy Equality: Experiences from Micro Hydro Implementation in A Tribal Settlement in India 100	Ravindran Nair, Ravishankar A N, Ilango K, Sai Shibu N B, Deepthi B, Nikhila Sanampudi, Renjith Mohan and Balaji H
21		Optimal Placement of Capacitor on Three Phase Radial Distribution System by Using Direct Search Algorithm 107	Happy Aprillia, Jai Govind Singh, Ontoseno Penangsang and Adi Soeprijanto
22		Harmonics measurement using FFT algorithm in Digital Signal Controller for Smart Micro-grid system 115	Sourish Sinha, Jaydeep Shah and Harshada Nerkar
23		Samrt Grid intiative in United States - A Case Study of planning and Achievements in City of Naperville, IL USA 120	Bernard T. Saban, Niti Prasad, Sanjay Prasad
24	Environment Systems	AquaPredicto - Freshwater Quality Management System for Lakes 126	Apratim Halder, Amit Baran Roy, Rahul Sharma, Veena Hegde and Kumuda S
25		Automatic Quantification of Escherichia coli bacteria to determine the Potability of water 134	Syed Mohammad Ghouse, Sanjay Kimbahune, Sunil Kumar Kopparapu and Kishore Padmanabhan
26		A study on monitoring of air quality and modeling of pollution control 138	Ranjit Kumar, Pratima Gupta, Shailndra Pratap and Ashok Jangid
27		Thermocatalytic Degradation: Solution for Plastic Waste Management in Kerala 142	Salman Nizarudin and Deepak B
28		A review on Work Environment Quality in Shop Floor: Impact of Aerosols 148	Amandeep Singh Oberoi, Deepu Philip and Janakarajan Ramkumar
29		Effect of different microbil culture on Biohydrogen production from Benincasa Hispida waste 154	Minu Kumari, Dolly Kumari, Pooja Chahar, Yogita Singhal and Radhika Singh
30		Cleansing air using billboards 159	Amirtha Varshini Sriprabhu, Sowndharya Lakshmi Sathianarayanamoorthi, Priya Samidurai and Babu
31		Synergistic Relationship between Surface Ozone and Meteorological Parameters: A case study 163	Nidhi Verma, Anita Lakhani and Maharajkumari Kanikonda
32		Process improvement through Six Sigma – A case study of Agra foundry 169	Dilip Kumar, Ranjit Singh and Ashok Yadav
33		A review on friction stir welding : An environment friendly welding technique 176	Ashish Swarnkar and Rahul Kumar
34		Chemical Speciation and Environmental Health Risk of Heavy Metals in Fine Particulate Matter 180	Dinesh Sah, Puneet Kumar Verma, Kandikonda Maharaj Kumari and Anita Lakhani
35	Technology for	Control of Filariasis by Silver Nanoparticles: A green method for Health Care 186	Shweta Yadav and Soam Prakash

36	Healthcare	Bio-Telemetry And Bio-Instrumentation Technologies For Health Care Monitoring Systems 193	Abhishek Srivastava, Devarshi Das, Vignesh M S, Bharadwaj K., Sourya Dewan and Maryam Shojaei Baghini
37		Tackling Child Malnutrition: An innovative approach for training health workers using ICT. 199	Mithilesh Shah, Pawan Kamble and Satish Agnihotri
38		An Ensemble Approach for Brain Computer Interface Applications 205	Suman Deedwaniya and Tapan Kumar Gandhi
39		Indexing Facial attractiveness and well beings using machine learning 209	Garima Choudhary and Tapan Kumar Gandhi
40		Comparative Analysis of Fundus Image Enhancement in Detection of Diabetic Retinopathy 215	Sharad Kumar Yadav, Shailesh Kumar, Basant Kumar and Rajiv Gupta
41		A Robust Design and Analysis of Analog Front End for Portable ECG Acquisition System 220	Shubham Jain, Shashwat Pathak and Basant Kumar
42		A novel Cataract Detection Algorithm using Clinical Data Mapping 225	Shashwat Pathak, Shubham Gupta and Basant Kumar
43		Cu-Zn and Ag-Cu Bimetallic Nanoparticles as Larvicide to Control Malaria Parasite Vector 230	Savy P. Minal and Soam Prakash
44		Real Time Heart Rate Detection and Heart Rate Variability Calculation 236	Sukriti Paliwal, Vasantha Lakshmi and Patvardhan Chellapilla
45		A fuzzy expert system for diagnosis of malnutrition in children 240	Antika Thapar and Mehar Goyal
46		Theoretical Analysis of Matched Impedance Concentric Square Ring Doubly Negative Material at Microwave Frequency 246	Komal Saxena and K. S. Daya
47		Heterogeneous Modular Deep Neural Network for Diabetic Retinopathy Detection 250	Soniya, Sandeep Paul and Lotika Singh
48		Psychosomatic Disorders and Biliary System 256	Suchi Agarwal and Ashima Srivastav
49		Continuous Multi-biometric User Authentication: Fusion of Face Recognition and Keystoke Dynamics 261	Stuti Srivastava and Prem Sewak Sudhish
50		Exploring nanobiotechnology in controlling malaria and cancer 268	Neh Satsangi and Shabad Preet
51		A review on NIOSH Lifting Equation applicability 279	Amandeep Singh Oberoi, Sushmita Singh, Deepu Philip and Janakarajan Ramkumar
52	Modelling & Simulation	Earth Simulation for Time Domain GPR Application using gprMax Simulator 284	Sumona Chatterjee and Amitabha Bhattacharya
53		Design & simulation of the workspace for a stationary robot system 289	Tc Manjunath, Pavithra G, Nagaraj Bg, Satvik M Kuagur, Dr. Arunkumar G and Spoorthi Jainar
54		Dynamics of a simple food chain with a mutualist (Facultative Mutualism) 294	Soumya Sinha and Ravinder Kumar
55	Renewable Energy Systems	Control Strategies for Output Power Smoothening of DFIG with SVC in Wind Conversion System 300	Sn Singh, Ankit Jain and Praveen Prakash Singh
56		Safety Performance Simulation for the Effect of a Photovoltaic Module Output Difference in Mega Solar Photovoltaic Systems 307	Naotaka Oka, Yasuhito Takahashi, Koji Fujiwara, Hidaka Kazuyuki and Hiroshi Morita
57		Green and Hybrid Microgrid for Rural Electrification 313	Shailendra Kumar Jha, Petter Stoa and Kjetil Uhlen

58		Performance Evaluation of 40 kWp Solar Photovoltaic Plant 318	Pritam K Satsangi, D Bhagwan Das and A K Saxena
59		Recent Techno-Economic Development of Renewable Energy Sector in India 323	Digambar Singh and Yog Raj Sood
60		Shunt active filter using five level CHB multilevel inverter for mitigation of harmonics from solar power system 329	Jaydeep Shah, Bhoomika Gupta and Nitiksha Gupta
61		Advanced Control technique for Solar PV Plant to Provide Ancillary Services 333	Sharad Dhamal, Harshada Nerkar and Sourish Sinha
62		Wind Power Generation by PMSG and Fault protection Using Over-Current and Differential Frequency Relay 339	Dinesh Kumar Singh, Navneet Kumar Singh, Asheesh K Singh and Soumya Mohanty
63		Optimal Battery Sizing for Energy Scheduling in Hybrid Power System using Heuristic Technique 345	Navin Kumar Paliwal, Asheesh Kumar Singh and Navneet Kumar Singh
64		Fuzzy Logic Controller based model for Rooftop/Grid connected Solar Photovoltaic System 351	Chandragiri Radha Charan, Pritam K Satsangi and K. Naga Sujatha
65		Economic Energy Scheduling of Grid Connected Microgrid with Diesel Engine and Reserve Constraint 357	Navin Kumar Paliwal, Asheesh Kumar Singh and Navneet Kumar Singh
66	Technologies for Smart Villages	Factors Influencing G-SMS Adoption by Jordanian Citizens 363	Emad Abu-Shanab and Shurouq Shihadeh
67		A Novel Approach in Information and Communication Technology combined with traditional practices for Smart Villages 369	R Hemalatha, M Shenbagapriya and N Santhiyakumari
68		Gyansetu – build with a human touch 374	Dipanka Sarmah and Upendra Kumar Garapati
69		MQTT based Home Automation System Using ESP8266 378	Ravi Kodali
70		IoT based Smart Greenhouse 383	Ravi Kodali, Vishal Jain and Sumit Karagwal
71		Transformation of Culture for Slum Residents 389	Ravindra Joshi and Sudarshan Saini
72		Smart home management with online power measurement 396	Madhuri Bayya
73		Enhanced n-Wheeler Post Accidental Rescue System 400	Abhinav Parashar, Varun Maheshwari and Amit Shrivastava
74		Smart village- Meerpur 404	Rahul Hingar, Adarsh Mishra and Rohit Jain
75	Soft Computing	Hybrid Neural Network Approach for Predicting Signal Propagation Loss in Urban Microcells 408	Joseph Isabona and Viranjay M Srivastava
76		Object-Based Land Use and Land Cover Mapping From LiDAR Data and Orthophoto Application of Decision Tree-Based Data Selection for SVM Classification 413	Lawrence Charlemagne David and Alejandro Jr Ballado
77		Mapping inland aquaculture from orthophoto and LiDAR data using object-based image analysis 418	Lawrence Charlemagne David, Alejandro Jr Ballado, Shydel Sarte and Rolando Pula
78		Some New Results on Fuzzy Graphs 423	Richa Bansal and Sandhya Rajput

79		Application of Interval Type-2 Subsethood Neural Fuzzy Inference System in Classification 426	Vuppuluri Sumati, C Patvardhan and V Mehar Swarup
80	Wireless Sensor Networks	POF control of smart intelligent structures for an hollow composite beam 432	Tc Manjunath, Arunkumar G, Spoorthi Jainar and Satvik M Kuagur
81		Heuristic Algorithm for finding Maximal Breach Path in Wireless Sensor Networks with Omnidirectional Sensors 438	Nguyen Thi My Binh, Nguyen Huy Hoang, Pham Anh Tu and Huynh Thi Thanh Binh
82		Error detection and Concealment Algorithm for compressed video Transmission 444	Ketki Pathak and Shubhi Singh
83	Women Empowerment	Empowering Women In Rural Telangana Through Dedicated Women Technology Park 449	Swati Devabhaktuni, Hari Shankar Jain and Sarah P
84		Design of a women safety device 453	Divya Chitkara, Nipun Sachdeva and Yash Dev Vashisht
85		Women Empowerment towards Developing India 456	Priyadharshini A, Thiyagarajan R, Kumar V and Radhu T
86		Better Livelihood Opportunities for Tribals through Supply Chain Interventions of Hirda 462	Tanjum Haque, Prashant Tak and Anand B Rao