

2020 International Conference on Computer, Electrical & Communication Engineering (ICCECE 2020)

**Kolkata, India
17 – 18 January 2020**



**IEEE Catalog Number: CFP20H66-POD
ISBN: 978-1-7281-4477-1**

**Copyright © 2020 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:	CFP20H66-POD
ISBN (Print-On-Demand):	978-1-7281-4477-1
ISBN (Online):	978-1-7281-4476-4

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

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Effect of Chiral Vector on Voltage Transfer Characteristics of CNTFET Inverter	1
A Paul and B Pradhan	
A Linear Array of Christmas-tree Shaped Antennas for DBS Applications	6
K S Kola and A Chatterjee	
Analysis Of Higher Order System Using Hybrid Functions Model Order Reduction Techniques	12
R Banerjee and A Biswas	
A Microcontroller-Based Design of Chopper Circuit for DC Motor Control	18
D Dhara and M Kule	
Determination of maximum loadability limit of power networks applying whale optimization algorithm	25
S Mukherjee and P K Roy	
Study of Power Factor Correction Technique for a grid connected Hybrid System	32
S Mukherjee, A Ganguly, R Mandal and A K Paul	
BER Performance of OFDM based hybrid PLC-VLC system.....	36
A Kumar, S K Ghorai and A Chaudhury	
Automation System for Secure Remote Control and Surveillance	42
P K Rath, N Mahapatro and S N Mishra	
Effect of the Positioning of Single and Double Bypass Diodes in a PV String on its Reliability	48
S Prajapati and E Fernandez	

TABLE OF CONTENTS

Optimal Reactive Power Dispatch based on Modified JAYA Algorithm	53
T Das, R Roy and K K Mandal	
Deep learning approach for image captioning in Hindi language	60
A Rathi	
Optimal allocation of wind based DG for enhancement of technical, economic & social benefits using Cuckoo Search Algorithm for radial distribution networks	68
A Chowdhury	
Contrast Enhancement of MRI Images using Histogram Equalization Techniques	74
J Kalyani and M Chakraborty	
Graph Database: A Survey	79
A Bhattacharyya and D Chakravarty	
Design, Development and RF characterization of a Coupled-cavity Slow-wave Structure for mm-wave TWT	87
S K Gupta, B Kumar, Y Venkateswarlu, B Geetha, R Govindan, M Sumathy, C N Murthy, M Santra, and S U M Reddy	
Comparison of PSO and GWO Techniques for SHEPWM Inverters	90
S Suman , D Chatterjee, R Mohanty	
Insulation and Cooling Performance of Transformer Oil Based Nanofluid	97
D C Shill, A K Das and S Chatterjee	

TABLE OF CONTENTS

Free Space Optical(FSO) Communication Link Design Under Adverse Weather Condition	101
S K Mandal, B Bera and G G Dutta	
Comparative study of controllers for Twin Rotor MIMO System	107
S Modak and S Bhaumik	
Estimation of one-dimensional energy density spectrum of surface waves using Genetic Algorithm ..	113
M Bhattacharya, S Biswas and M Sinha	
Modified Hairpin Unit with High Slow-wave Characteristics and Application to Miniaturization of Power Divider	119
M Kumar, A Ghosh, S K Parui and S Das	
A study of electronic transport through a nanoscale air film	123
R Sengupta, A Anil and S Talukder	
NARX-Wavelet Based Active Model for Removing Motion Artifacts from ECG	127
U Bhattacharjee and M Chakraborty	
Cost Optimal Design of a 3-Phase Power Inductor by Evolutionary Optimization	133
R Basak, A Basu, S Mukherjee, P K Jha and A Pradhan	
An Intelligence System Model to Study the Impact of Protruding length on Temperature Sensors for Cryogenic Propulsion	139
E Elayaperumal, Rajapandian S, Louis Sam Titus L	
On the Electrical Conduction Characteristics of Commercially Available Good Conductors Subjected to Saline-Water Corrosion.....	146

TABLE OF CONTENTS

R Sharmila, M S Kaiser and S R Ahmed

Detection and Classification of Faults in Distribution System Using Signal Processing Techniques ... 151

K Sarwagya and S Ranjan

Highly Birefringent Dispersion Compensating Index Guiding Square Photonic Crystal Fiber with Large Nonlinearity for Fiber Optic Transmission System 157

Md M A Mia, B Bhowmik, Md A Islam, Shah Md M Shaad, Md S Miah and S K Biswas

Design of one Adaptive Controller for Dynamic Framework and Study of its Tracking 162

S Maiti and A Das

Type-III Controller Design for Direct and Indirect Dual Mode Control of Tri-State Boost Converter 169

S S Ghosh, S Sarkar

PV based Isolated Irrigation System with its Smart IoT Control in Remote Indian Area 176

A Chatterjee and S Ghosh

Novel Algorithms for In Silico Peptide Vaccine Design with Reference to Ebola Virus 181

S Biswas, T Dey, S Chatterjee, S Manna, A Nandy, S Das, P Nandy and S C Basak

Global Positioning System Based Automated Railway Level Crossing 189

S Banerjee , S Mondal, A Chakraborty and S Chattaraj

Brain-Computer Interface based User Authentication System for Personal Device Security 193

T Hossain, A rakshit and A Konar

TABLE OF CONTENTS

An Inclusive Investigation of Potential Faults in Solar Photovoltaic Array	199
R D A Raj and S Bhattacharjee	
System biology approach to identify critical host genes for dengue infection	205
R K Barman, S Sen, A Mukhopadhyay, U Maulik and S Das	
A Comparative Electro-Mechanical Characterization of Tin-Lead Solder with Equal Proportion	210
F Fazlullah, Md. S Kaiser and S R Ahmed	
Development of a smart glove for affordable diagnosis of stroke-driven upper extremity paresis ...	216
D Dutta, S Sen, S Aruchamy and S Mandal	
Impact of Demand Response on transformer loss of life	223
N Loitongbam , T Ghose	
Design Of A Password Protected Automatic Car Washing System	228
H A Banna, S A Md Sanaullah, Md I H Patwary, S Hossain, S U Alam, Md I H Patwary	
Classification of Childhood Medulloblastoma and its subtypes using Transfer Learning features - A Comparative Study of Deep Convolutional Neural Networks	233
D Das, L B Mahanta, B K Baishya and S Ahmed	
Detection of Focal EEG Signals Employing Weighted Visibility Graph	238
S Modak, S S Roy, K Samanta, S Chatterjee, S Dey, R Bhowmik and R Bose	
Link Quality of a RF-assisted Relayed FSO System under Turbulence, Pointing Error and Fading ..	243

TABLE OF CONTENTS

B Bag , A Das, C Bose and A Chandra

Mitigation of Voltage And Current Harmonics In Double-Stage Grid-Connected PV Plant 249

R D A Raj and S Bhattacharjee

Short Term Electric Load Forecasting Using High Precision Convolutional Neural Network 256

S H Rafi and N A Masood

Design and Simulation of Active Power Filter Based on Feed Forward Neural Network for Harmonic Detection and Elimination 263

Md N Uddin and Md T Amin

A Three Stream Deep Network on Extracted Projected Planes for Human Action Recognition 269

S P Sahoo and S Ari

A High Efficient Wide Range Cross Coupled Rectifier for RFID Applications 274

T H Saika and Md T Amin

Automated Railway Inspection Prototype with Fastener Displacement Detection 280

S Maji, S Ghosh, S Mukherjee and T Mondal

A BigData Analytics Framework on the Impact of Non Communicable Diseases in Kolkata 284

S Bhattacharya, J Poray and P Debnath

A Simplified Cardiac Conduction Model and Twelve-Lead ECG Generation 292

T Tabassum and M Ahmad

TABLE OF CONTENTS

The Simulation Modeling for Safe Use of Technical Systems (Example: Forest Machines) 297

L Steshina, I Petukhov, A Glazyrin, D Velev and P Zlateva

**Double Side Optimal Bidding Strategy In Deregulated Electricity Market Using Krill Herd
Algorithm 301**

Uday K L, Sivanagaraju S, C Karri

Suitability of Alternate Fluids as Transformer Insulation - A Comprehensive Review 307

S Bhattacharya, S Dalai, B Chatterjee