2018 IEEE Green Energy and **Smart Systems Conference** (IGESSC 2018)

Long Beach, California, USA 29 – 30 October 2018



IEEE Catalog Number: CFP1831Y-POD

ISBN:

978-1-5386-7742-1

Copyright © 2018 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:
 CFP1831Y-POD

 ISBN (Print-On-Demand):
 978-1-5386-7742-1

 ISBN (Online):
 978-1-5386-7741-4

ISSN: 2639-2356

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



S1: Power Systems Session

Solar-Powered Microgrid Capacity Planning for a General Hospital.....1

Sasan Haghani (University of the District of Columbia, USA); Khashayar Mahani, Kien Chau and Mohsen Jafari (Rutgers University, USA)

Analyzing Performance of Balancing Compensators in a Three Phase Microgrid System.....N/A

Tracy Toups (California State University, USA); Allen Le (CSUS, USA)

Optimal Control of Photovoltaic Enabled Grid with Energy Storage System in Utility Side.....7

Yu Yang, Hen-Geul Yeh and Son Doan (California State University Long Beach, USA); Hannes Wegleiter (Graz University of Technology, Austria)

Generic Simulation Framework for Grid-Connected Photovoltaic and Energy Storage Systems.....13

Bernhard Schweighofer, Armin Buchroithner and Hannes Wegleiter (Graz University of Technology, Austria); Yu Yang and Hen-Geul Yeh (California State University Long Beach, USA)

Energy management for microgrids using a reinforcement learning algorithm.....N/A

Rui Hu and Alexis Kwasinski (University of Pittsburgh, USA)

Symlets Techniques for Real Time Detection of Transients generated by HIF.....21

Sokhom Sim (CSULB, USA); Richard Bravo (SCE, USA)

Validation of Microgrid Models.....27

Eduardo H. Enrique (RRC Companies, USA)

A Comparison of Small Signal Stability of Type-3 and Type-4 Wind Units.....32

Arash Jamehbozorg (California State University Los Angeles, USA); Nasser Keshmiri (Innovative Solar Systems, LLC, USA); Masood Shahverdi (California State University, USA)

S2: Networking and Security

S3: Energy Storage

Use of time series load data to size energy storage systems.....38

Yuko Yoshida (University of South Carolina & Metro-North Railroad, USA); Hernan Figueroa (Columbia University, USA); Roger A Dougal (University of South Carolina, USA)

Vibration Based Energy Scavenging System for Battery Powered Sensor Networks.....44

Salim Masumdar, Mohammad Mozumdar and Fei Wang (California State University, Long Beach, USA)

State of Charge Estimation of Sodium Ion Battery under different Operating Conditions.....50

Bibek Tiwari and Indranil Bhattacharya (Tennessee Technological University, USA)

S4: Communications

Cooperative Algorithms in Adaptive Signal Processing.....55

Sammuel Jalali (California State Univcersity, Long Beach, USA)

A Downlink Multiuser MIMO OFDM Decomposition Method in Frequency Selective Fading Channels.....61

Ning Kong (UCSD, USA); Zhensheng Zhang (UCLA, USA); Henry Yeh (California State University Long Beach, USA); John Cartelli (Northdrop Grumman, USA)

An Uplink Multiuser MIMO Decomposition without Feedback/Precoding for Frequency Flat Fading Channels.....67

Ning Kong (UCSD, USA); John Cartelli (Northdrop Grumman, USA); Patrick Fitzsimmons (UCSD, USA); Henry Yeh (California State University Long Beach, USA)

Space-Time Parallel Cancellation Orthogonal Frequency Division Multiplexing in Power Line Systems.....73

Ali Fadaei Tehrani and Hen-Geul Yeh (California State University Long Beach, USA)

Capacity of Polarized-MIMO (P-MIMO) System in Different Wireless Channels.....78

Seungcheol Oh (California State University Long Beach, USA); Sean (Seok-Chul) Kwon (California State University - Long Beach, USA)

S5: Smart Systems

Estimating Joint Torques of a Robotic Arm Based on Kinematics Using Neural Networks.....84

Roja Zakeri (California State University, Long Beach, USA); Praveen Shankar (California State University Long Beach, USA)

Hazard Monitoring for Particle Swarm Motion of Autonomous Vehicles.....91

Shivangi Agarwal, Francesca Favarò and Nazanin Nader (San Jose State University, USA)

Design of Bubuchuan Smart Substation.....97

Yao Qinghua and Dong Linhui (Tangshan Power Supply Company State Grid Jibei Electric Power, P.R. China); Kang Jian (North China University of Science and Technology, P.R. China); Tan Jinwen (North China Electric Power University, P.R. China)

Serial-Dependency Grouping-Proof Protocol for RFID EPC C1G2 Tags.....101

Vanya Cherneva (LSU, United States, USA); Jerry Trahan (Louisiana State University, USA)

Adaptive model predictive control based on the steady state constrained ARX model.....107

Yu Yang and Anthony Perez (California State University Long Beach, USA)

Comparison of Simulated Annealing and Greedy Optimizations for Controllable Loads.....N/A

Tuncer Haslak (Friedrich-Alexander University Erlangen-Nürnberg & Hof University, Germany)

Smart Street Light towards Energy Saving and Neighborhood Security.....N/A

Yuan Xu (Shenzhen Technology University, P.R. China); Tongsheng Tang and Yanghao Zheng (Shenzhen University, P.R. China); Kezhong Yang (Shenzhen Nephotonics Technology Co. Ltd, P.R. China); Zhiyong Xiao (Shenzhen Technology University, P.R. China)

S6: Power Electronics

Stabilization of SPMS Wind Generator With Boost Converter Using Backstepping Approach.....113

Khalid Alharbi and Roy McCann (University of Arkansas, USA)

S10: Poster (will not be published in IEEE Xplore)

Fabrication of Optimized PDMS and their Applications in planar Tandem Solar Cells.....N/A

Asad Ali (University of Engineering and Technology Peshawar & Arizona State University, Pakistan); Waqar Ali (University of Engineering and Technology Peshawar, Pakistan)

Energy Recovery from Recycled Food Waste....N/A

Aaron Czerniak (California State University, Long Beach & Sanitation Districts of Los Angeles County, USA)

Density Functional Theory Study of Catalytic Capabilities of Nitrogen doped Graphene....N/A

Jared Jetter (California State University, Long Beach, USA)

Hydrogen evolution reaction with platinum using density fictional theory....N/A

Charlie Norng (CSULB, USA)

DFT Simulation of Nitrogen-Doped Carbon Nanosheets as HER Catalyst in artificial photosynthesis....N/A

Brian Novoa (CSULB, USA)

Vehicle Re-Identification Using Dynamic Time Warping Algorithm....N/A

Morgan Ware, Christina Braga, Timothy Shuck and Mohammad Mozumdar (California State University, Long Beach, USA)