

2019 IEEE CyberPELS (CyberPELS 2019)

**Knoxville, Tennessee, USA
29 April – 1 May 2019**



**IEEE Catalog Number: CFP19U26-POD
ISBN: 978-1-7281-2926-6**

**Copyright © 2019 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:	CFP19U26-POD
ISBN (Print-On-Demand):	978-1-7281-2926-6
ISBN (Online):	978-1-7281-2925-9

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

POTENTIAL CYBERSECURITY ISSUES OF FAST CHARGING STATIONS WITH QUANTITATIVE SEVERITY ANALYSIS	1
<i>Yongwan Park ; Omer C. Onar ; Burak Ozpineci</i>	
BLOCKCHAIN-BASED COMMUNICATION AND DATA SECURITY FRAMEWORK FOR IOT-ENABLED MICRO SOLAR INVERTERS	8
<i>Upamanyu Sinha ; Abdullah A. Hadi ; Tasnimun Faika ; Taesic Kim</i>	
CYBERSECURITY RISK ASSESSMENT FOR CALIFORNIA'S SMART INVERTER FUNCTIONS	13
<i>Oluwadamilola T. Soyoye ; Kay C. Stefferud</i>	
ENHANCED UPTIME AND FIRMWARE CYBERSECURITY FOR GRID-CONNECTED POWER ELECTRONICS	18
<i>S. J. Moquin ; Sangyun Kim ; Nicholas Blair ; Chris Farnell ; Jia Di ; H. Alan Mantooth</i>	
HYBRID INTRUSION DETECTION SYSTEM DESIGN FOR DISTRIBUTED ENERGY RESOURCE SYSTEMS	24
<i>A. Chavez ; C. Lai ; N. Jacobs ; S. Hossain-McKenzie ; C. B. Jones ; J. Johnson ; A. Summers</i>	
INVESTIGATION OF VULNERABILITIES ON SMART GRID END DEVICES	30
<i>Yutian Gui ; Ali Shuja Siddiqui ; Suyash Mohan Tamore ; Fareena Saqib</i>	
DESIGN OF SECURE RECONFIGURABLE POWER CONVERTERS	36
<i>Ali Shuja Siddiqui ; Prithwiraj Roy Chowdhury ; Yutian Gui ; Madhav Manjrekar ; Somasundaram Essakiappan ; Fareena Saqib</i>	
Author Index	