

# **2019 IEEE 28th North Atlantic Test Workshop (NATW 2019)**

**Burlington, Vermont, USA  
13-15 May 2019**



**IEEE Catalog Number: CFP19NAT-POD  
ISBN: 978-1-7281-3383-6**

**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:	CFP19NAT-POD
ISBN (Print-On-Demand):	978-1-7281-3383-6
ISBN (Online):	978-1-7281-3382-9
ISSN:	2573-7589

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# TABLE OF CONTENTS

<b>Convolutional Neural Networks (CNNs)-Assisted Voltage Regulation: A New Power Delivery Scheme .....</b>	<b>1</b>
<i>Yiming Wen ; Weize Yu</i>	
<b>Malicious Attacks on Physical Unclonable Function Sensors of Internet of Things .....</b>	<b>7</b>
<i>Weize Yu ; Yiming Wen</i>	
<b>Improved Random Pattern Delay Fault Coverage Using Inversion Test Points .....</b>	<b>13</b>
<i>Soham Roy ; Brandon Stiene ; Spencer K. Millican ; Vishwani D. Agrawal</i>	
<b>Behavioral Modeling of a Charge Trap Transistor One Time Programmable Memory .....</b>	<b>19</b>
<i>Eric Hunt-Schroeder ; Darren Anand ; Edward Hwang ; Aaron Cummings ; Matthew Deming ; Michael Roberge ; Michael Ziegerhofer</i>	
<b>Case Study of Advanced Diagnostic Techniques for Multi Port Register File .....</b>	<b>25</b>
<i>Uma Srinivasan ; William Huott ; Chad Adams ; Pete Freiburger ; Franco Stellari ; Peilin Song ; Phong Tran ; Dave Albert</i>	
<b>Matlab JTAG AXI Master opens new dimensions for development and testability .....</b>	<b>34</b>
<i>Mark Fosberry ; Ben McMahon</i>	
<b>Author Index</b>	