

2020 IEEE Workshop on Design Automation for CPS and IoT (DESTION 2020)

**Sydney, Australia
21 April 2020**



**IEEE Catalog Number: CFP20Y16-POD
ISBN: 978-1-7281-9995-5**

**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:	CFP20Y16-POD
ISBN (Print-On-Demand):	978-1-7281-9995-5
ISBN (Online):	978-1-7281-9994-8

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

2020 IEEE Workshop on Design Automation for CPS and IoT (DESTION) **DESTION 2020**

Table of Contents

Message from the Organizers .vii.....
Committees .viii.....

Session 1: CPS Tools

Workflow Automation for Cyber Physical System Development Processes .1.....
Charles Hartsell (Vanderbilt University), Nagabhushan Mahadevan (Vanderbilt University), Harmon Ninè (Vanderbilt University), Ted Bapty (Vanderbilt University), Abhishek Dubey (Vanderbilt University), and Gabor Karsai (Vanderbilt University)

The UCEF Approach to Tool Integration for HLA Co-Simulations .10.....
Thomas Roth (National Institute of Standards and Technology), Christopher Lemieux (National Institute of Standards and Technology), and Martin Burns (National Institute of Standards and Technology)

TE-SAT: Transactive Energy Simulation and Analysis Toolsuite .19.....
Himanshu Neema (Vanderbilt University), Janos Sztipanovits (Vanderbilt University), David J. Hess (Vanderbilt University), and Dasom Lee (Vanderbilt University)

Demo: The Neural Network Verification (NNV) Tool .21.....
Hoang-Dung Tran (Vanderbilt University), Diego Manzananas Lopez (Vanderbilt University), Xiaodong Yang (Vanderbilt University), Patrick Musau (Vanderbilt University), Luan Viet Nguyen (University of Notre Dame), Weiming Xiang (Augusta University), Stanley Bak (Safe Sky Analytics), and Taylor T. Johnson (Vanderbilt University)

Session 2: Transportation CPS

Towards Formalization of Wireless Vehicular Networking .23.....
Ramneet Kaur (University of Pennsylvania), Jungyeol Kim (University of Pennsylvania), Oleg Sokolsky (University of Pennsylvania), Saswati Sarkar (University of Pennsylvania), Radoslaw Ivanov (University of Pennsylvania), and Insup Lee (University of Pennsylvania)

Streaming Computation Algorithms for Spatiotemporal Micromobility Service Availability .32.....
William Barbour (Vanderbilt University), Michael Wilbur (Vanderbilt University), Ricardo Sandoval (Vanderbilt University), Abhishek Dubey (Vanderbilt University), and Daniel B. Work (Vanderbilt University)

Intelligent Intersection Management with Non-Connected and Non-Autonomous Motorcycles 39...
Chia-Chu Kung (National Taiwan University), Tsung-Lin Tsou (National Taiwan University), and Chung-Wei Lin (National Taiwan University)

Interstate-24 MOTION: Closing the Loop on Smart Mobility 49.....
Derek Gloudemans (Vanderbilt University), William Barbour (Vanderbilt University), Nikki Gloudemans (Vanderbilt University), Matthew Neuendorf (Vanderbilt University), Brad Freeze (Tennessee Department of Transportation), Said ElSaid (Tennessee Department of Transportation), and Daniel B. Work (Vanderbilt University)

Author Index 57