

Monday, September 18		Jones
		Encompassing Resilience Throughout the Entire Enterprise Chair: Alan Updike, DOE Kansas City National Security Campus (KSCNSC) managed by Honeywell FM&T
	1:30 – 5:00	<p>Moderator: Dr. Starnes Walker, Founding Director, University of Delaware Cybersecurity Initiative</p> <p style="text-align: center;">Panelists</p> <ul style="list-style-type: none"> ▪ Jason Christman, Honeywell, Cyber Security Chief, Product Security and Privacy, <i>Product Design for IoT</i> ▪ Paul Ferrillo, Weil Litigation, Chief Counsel, <i>Enterprise Governance and Legal Implications</i> ▪ John Abeles, System 1 Inc., President and CEO, Supply Chain Cyber Security, <i>Trusted Supply Chain and the Cyber Framework Policy</i> ▪ Stu McArthur, Sr. Director, Mission Assurance, DOE Kansas City National Security Campus (KSCNSC) managed by Honeywell FM&T, <i>Insider Threat</i> ▪ Gregory Conti, Director of Research, IronNet Cybersecurity, <i>Future Threats</i>
		Governors' Hall
	5:30 – 7:00	Registration and KCP-sponsored Reception

Tuesday, September 19		Governors' Hall / Christina Ballroom			
	7:00	Registration and Full Breakfast			
	7:30	Resilience Week History and Welcome: Zachary Tudor, Idaho National Laboratory			
	7:50	Resilience Week Welcome and Plenary Introduction: Starnes Walker, University of Delaware			
	8:00 – 9:00	Symposium Opening Plenary: Richard Mroz, Chairman of the Critical Infrastructure Committee for the National Association of Regulatory Utility Commissioners (NARUC)			
		Harlan & Hollingsworth	Pusey & Jones	Lobdell	
		Social/Community Resilience Chair: Daniel Aldrich, Northeastern Univ.	Resilience Models and Measures Chairs: David Manz, PNNL; Michael Haney, UI	Resilient Critical Infrastructure Chairs: David Alderson, NPS; Cherrie Black, INL	
	9:00 – 10:30	<p>Moderator: Daniel Aldrich</p> <p style="text-align: center;">Panelists</p> <ul style="list-style-type: none"> ▪ Daniel Aldrich, Director of the Security and Resilience Studies Program and Professor, Northeastern University ▪ Kimberly Gill, Research Scientist, Disaster Research Center at the University of Delaware ▪ Stephanie Haeffele-Balch, Senior Research Fellow, Deputy Director of Academic and Student Programs, Mercatus Center at George Mason University ▪ Duane Gill, Regents Professor of Sociology and Director of the Center for the Study of Disasters and Extreme Events, Oklahoma State University 	<p>Panel: <i>Cyber resilience for Buildings to Grid (B2G) infrastructure</i></p> <p>Moderators: Sid Sridhar & Aditya Ashok, Pacific Northwest National Laboratory</p> <p style="text-align: center;">Panelists</p> <ul style="list-style-type: none"> ▪ Ankit Tiwari, Associate Director, United Technologies Research Center ▪ Mark Rice, Senior Cyber Controls Engineer, Pacific Northwest National Laboratory 	<p style="text-align: center;">Keynote Speaker: Stephen Flynn, Ph.D., Director, Global Resilience Institute, Northeastern University, <i>Leveraging Disasters to Advance Critical Infrastructure Resilience</i></p>	
	10:30	Morning Break			

10th ANNIVERSARY



Tuesday, September 19

11:00 - 12:00	Keynote Speaker: Daniel Aldrich, Northeastern University, <i>How Social Infrastructure Drives Resilience</i>	Avoiding Skynet – Humans Interacting with Autonomy Chairs: David Scheidt, Weather Gage Tech, Julie Marble, JHUAPL	Lightning Talks <u>Community and Regional Resilience, Part II</u> Chair: John Hummel <ul style="list-style-type: none"> ▪ Paul Lewis, <i>Climate Change Adaptation Cost Curves for Resilient Community Development</i> ▪ Allison Reilly, <i>Transforming FEMA’s Public Assistance Program: Implications to States and local recipients</i> ▪ Gina Tonn, <i>Insurance and Incentives for Strengthening Critical Infrastructure Resilience</i> ▪ Jennifer Schneider, <i>Pulling a String: creating laddered metrics for community resilience management</i> ▪ Robert Jeffers, <i>Lessons learned through urban resilience analysis</i> 	
	12:00 No-host Lunch			
	1:30 - 3:00	Resilience Models and Measures Chairs: David Manz, Pacific Northwest National Laboratory; Michael Haney, University of Idaho	Invited Speaker: Scott Mix, Senior Grid Cyber Security Project Manager, Pacific Northwest National Laboratory, <i>NERC CIP Standards: A 15-Year Retrospective</i>	Panelists <ul style="list-style-type: none"> ▪ Bill Lawless, Paine University ▪ Phil Bennett, Sandia National Laboratory ▪ Andy Novicin, University of Delaware
	2:30 - 4:00	Guided Audience Discussion: <i>Are cyber measures a myth?</i>	Lightning Talks <u>Infrastructure Interdependencies and Assessments</u> Chair: Paul Lewis <ul style="list-style-type: none"> ▪ Yuanchi Liu, <i>Infrastructure Resilience: Exploring and Interpreting Measures for Roads and Bridges</i> ▪ Hussam Mahmoud, <i>A New Finite Element Tool for Quantifying Community Resilience</i> ▪ Andrey Likhov, <i>Detection of cyber-physical faults and intrusions from physical correlations</i> ▪ Kevin Stamber, <i>Identifying "Tipping Points" in the Function of Electricity-Dependent Infrastructures</i> 	
Governors’ Hall				
3:00 - 6:00	ANL-sponsored Reception and Poster Session			

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Governors' Hall / Christina Ballroom			
7:15	Registration and Full Breakfast		
7:40	Student Competition Winners		
7:55	Plenary Introduction: Starnes Walker, University of Delaware		
8:00 - 9:00	Plenary Speaker: John McDonald, Director, Technical Strategy and Policy Development for GE Energy's Digital Energy		
	Harlan & Hollingsworth	Lobdell	Pusey & Jones
	Cyber	Control	Resilient Critical Infrastructure
	Chairs: David Manz, PNNL; Michael Haney, UI	Chairs: Frank Ferrese, NAVSEA; David Scheidt, Weather Gage Tech.	Chairs: David Alderson, NPS; Cherrie Black, INL
9:00 - 10:30	<ul style="list-style-type: none"> Aunshul Rege, Tem.U, <i>Using Simulators to Assess Knowledge and Behavior of "Novice" Operators of Critical Infrastructure under Cyberattack Events</i> *Arif Sarwat, FIU, <i>A Distributed Intelligent Framework for Electricity Theft Detection Using Benford's Law and Stackelberg Game</i> John Cavazos, UDel., <i>Large-Scale Exploration of Feature Sets and Deep Learning Models to Classify Malicious Applications</i> Sherif Hussein, UIId., <i>VANET Clock Synchronization for Resilient DSRC Safety Applications</i> 	<ul style="list-style-type: none"> *Morteza Sarailoo, Bing.U, <i>An Optimal Algorithm for Resilient Upgrade of PMU Networks</i> Matthew O'Kelly, UPenn., <i>AVCAD: Computer-Aided Design for Safe Autonomous Vehicles</i> Daniel Marino Lizarazo, VCU, <i>Data Driven Decision Support for Reliable Biomass Feedstock Preprocessing</i> Hao Xu, UNev., <i>Robust Adaptive Event-triggered Consensus Control for Multi-Agent Systems in Presence of Uncertain System Dynamics</i> 	<p>Panel: <i>Visualizing Data, Communicating Information, and Promoting Insight in CI Resilience</i></p> <p>Moderator: Rob Edsall, INL</p> <p>Panelists</p> <ul style="list-style-type: none"> Jennifer Schneider, Ph.D., RIT Kameron Baumgardner, CTO, RS21 Ellie Graeden, Ph.D., Talus Analytics Rob Edsall, Ph.D., INL
10:30	Morning Break		
11:00 - 12:00	<ul style="list-style-type: none"> Kiyoshi Nakayama, NEX, <i>Energy Management Systems with Intelligent Anomaly Detection and Prediction</i> Aditya Ashok, PNNL, <i>A Testbed Environment for Buildings-to-Grid Cyber Resilience Research & Development</i> 	<ul style="list-style-type: none"> Tim McJunkin, INL, <i>Electricity Distribution System Resilient Control System Metrics</i> Morteza Sarailoo, Bing.U, <i>An Ellipsoidal Expansion Algorithm for Estimating an Representing Regions of Attraction for Enhanced Resilience of Large Power Systems</i> Will Parker, UIId., <i>Identifying Critical Resiliency of Modern Distribution Systems with Open Source Modeling</i> 	<p>Lightning Talks</p> <p><i>Community and Regional Resilience, Part II</i>, Chair: Paul Lewis</p> <ul style="list-style-type: none"> Stacey Stanchfield, <i>International Focus on Regional Resilience</i> Marilee Orr, <i>Hitting the Accelerator: How will Electric Vehicles Affect Grid Resilience?</i> Neza Vodopivec, <i>Quantifying the Impacts of Disruption on Transportation-Communication System Resilience for Diverse Populations</i> Ming Xiao, <i>Human-Infrastructure Interdependencies in Response to Extreme Events</i> Thomas Sharkey, <i>Measuring the impact of decentralized decision-making in interdependent infrastructure restoration</i>
Christina Ballroom			
12:00	Serving Hosted Lunch		
12:25	Plenary Introduction: Zach Tudor, Idaho National Laboratory		
12:30	Hosted Lunch with Plenary Speaker: Patricia Hoffman, Acting Assistant Secretary, DOE-OE		

Wednesday, September 20

1:30 – 2:30	Keynote Speaker: John-Francis Mergen, Chief Scientist, Raytheon BBN		1:30 – 2:00	Keynote Speaker: Scott Breor, Dir., Protective Security Coordination Division, DHS Office of Infrastructure Protection, <i>Perspectives on Infrastructure Resilience</i>
	Harlan & Hollingsworth	Lobdell		RRAP Panel Moderators: Dan Genua, DHS Panelists ▪ Will McNamara, DHS ▪ Mia Steinemann, DHS ▪ Paul Lewis, ANL ▪ Peter Fitzmaurice, INL
	Communications Chairs: Krishna Kant, Temple U., Gurdip Singh, SU	Cognitive Chairs: Roger Lew, UI; Phil Bennett, SNL		
2:30 – 3:30	Alberto Jonathan, UMinn., <i>Ensuring Reliability in Geo-Distributed Edge Cloud</i>	▪ *Judi See, SNL, <i>Incorporating Human Readiness Levels at Sandia National Laboratories</i> ▪ Aunshul Rege, Tem.U, <i>Using a Critical Infrastructure Game to Provide Realistic Observation of the Human in the Loop by Criminal Justice Students</i>	2:00 – 3:30	
3:30	Afternoon Break			
	Invited Speaker: George Owen Mohler, IUPUI, <i>Real-time algorithms and software systems for heterogeneous data driven policing of social harm</i>	▪ Roger Lew, UI., <i>Applications of the Rancor Microworld Nuclear Power Plant Simulator</i>		Owner/Operator Panel Moderator: Cherrie Black, INL Panelists ▪ Bill Robinson, PBF Energy ▪ Christopher O’Shea, Passaic Valley Sewerage Commission ▪ Joseph Picciano, NYU Langone Medical Center ▪ Mark DeVoti, PSE&G
4:00 – 5:30	Communications Panel: Network Resilience in Smart Cities Moderator: Gurdip Singh, SU Panelists My Thai, UFL Tarek Abdelzaher, UIUC Taieb Znati, Pitt Fan Ye, Stoneybrook	Human Dimension Abstract Presentation ▪ Mark Rice, <i>Enabling Situation Assessment/Awareness for Utility Operators and Cybersecurity Professionals: Phase 2</i> Invited Speaker: Phil Bennett, SNL, <i>Human Dimension work at the National Laboratories</i>		
5:30	Adjourn Meetings			
	Firestone Roasting House, 110 South West Street			
6:30 – 8:30	Claroty-sponsored Reception Highlighting Best Papers			

*Best Paper in Track

10th ANNIVERSARY



Thursday, September 21		Governors' Hall / Christina Ballroom		
	7:15	Registration and Continental Breakfast		
	7:35	Claroty Presentation: Detecting Threats Early in the "Kill Chain" Across Generation and Transmission Control Systems		
	7:50	Panel Introduction: Paul Stockton, Sonecon		
	8:00 – 9:00	Cyber Security Panel of Utilities Moderator: Paul Stockton, Sonecon Panelists: Jonathon Monken, PJM Interconnection; Mikhail Falkovich, Con Edison; Jamey Sample, Ernst & Young LLP		
		Harlan & Hollingsworth	Pusey & Jones	
		Resilient Critical Infrastructure R&D Papers Chair: Nii Attoh-Okine, University of Delaware		Resilient Critical Infrastructure Chairs: John Hummel, Paul Lewis, and Frederic Petit, ANL
	9:00 – 10:30	9:00	Keynote Speaker: Sandeep Neema, DARPA, <i>Building Resilient Software Systems</i>	Lightning Talks <i>Response and Recovery in Disrupted Systems</i> Chair: Vanessa Vargas <ul style="list-style-type: none"> ▪ Chris Dyer, <i>Recovery from Large-Scale System Events Using Oasis Microgrids</i> ▪ Edgar Portante, <i>Scenario Development Activities in Support of MISO's Emergency Planning and Power System Restoration Group</i> ▪ Vanessa Vargas, <i>2017 RDD Consequence Study</i> ▪ Walter Beyeler, <i>Preparing Medical Laboratory Networks for Outbreak Response</i> ▪ Quanyan Zhu, <i>A framework to understand energy and transportation interdependencies with combined co-location and co-functionality interconnections for disabling urban transit systems</i> ▪ Rae Zimmerman, <i>The Water Nexus with Multiple Infrastructures</i>
		10:00	Invited Speaker: Nii Attoh-Okine, University of Delaware, <i>The Diversity of Graphical Models in Addressing the Resilience of Critical Infrastructure</i>	
	10:30	Morning Break		
	11:00 – 1:00	11:00	<ul style="list-style-type: none"> ▪ Jacob Ulrich, ISU, <i>A Symmetric Address Translation Approach for a Network Layer Moving Target Defense to Secure Power Grid Networks</i> ▪ *Bradley Potteiger, Vand.U, <i>Evaluating the Effects of Cyber-Attacks on CPS using a HIL Simulation Testbed</i> ▪ Aiden Ferdowsi, V.Tech, <i>Game Theory for Secure Critical Interdependent Gas-Power-Water Infrastructure</i> ▪ Yachen Tang, MTU, <i>Switching Reconfiguration of Fraud Detection within An Electrical Distribution Network</i> ▪ Mark Hereld, ANL, <i>Disaster = Infrastructure + Hazard</i> ▪ Saqib Hasan, Vand.U, <i>Heuristics-Based Approach for Identifying Critical N - k Contingencies in Power Systems</i> 	Keynote Speaker: Tom Seager, Ph.D., School of Sustainable Engineering & the Built Environment, Arizona State University, <i>Resilience Lessons from the Oroville Dam: Dynamic Robustness and Graceful Extensibility</i>
		12:00		RCI Wrap-up David Alderson, NPS Cherrie Black, INL
	1:00	Adjourn Symposium		
		Constitution Yards, 308 Justison Street		
4:30	No-host Social			

*Best Paper in Track

10th ANNIVERSARY



Friday, September 22	Optional Tour - University of Delaware: Pick up/Drop off at DoubleTree Downtown
	<p>8:00 - 12:30</p> <p> UD STAR Campus BADER Consortium GoBabyGo The Grid-Integrated Vehicle with Vehicle to Grid Technology ISE Lab UD Nanofabrication Facility Cyber iSuite </p>

■ 10th ANNIVERSARY ■

