

Resilience Week 2014 Overall Track Plan

07/17/14

Tuesday, August 19 (Special Topics Sessions)

	Resilience Models and Measures Track Chair: Marco Carvalho, FIT <i>[Crystal Peak B/C]</i>	Mixed Human-Automation Resilience Track Chairs: Frank Ferrese, NAVSEA; Will Nothwang, ANL <i>[Mt. Elbert A]</i>	Resilient Infrastructure Track Chairs: David Alderson, NPS; Cherrie Black, INL Sean McArar, INL <i>[Mt. Evans]</i>
7:00	Coffee and Registration <i>[Capitol Pre-Function Area, 38th Floor]</i>		
8:00	Symposium Opening Plenary <i>[Capitol Peak]</i> Bill Bryan, U.S. DOE Deputy Assistant Secretary, Infrastructure Security and Energy Restoration		
8:20	Logistics <i>[Capitol Peak]</i>		
	Keynote Speakers		
8:30	Bill Sanders, UIUC	Lynne Parker, UTK	Stephen Flynn, NU
9:15/30	Nancy Leveson, MIT	Chris Wickens, UIUC	Morning Break
10:00	Morning Break		Invited Speakers
	Invited Speakers		Stakeholder Perspectives Facilitator: Cherrie Black, INL David Alderson, NPS John Madden, State of Alaska Sean McArar, INL
10:30	<u>Control-Cyber Research Perspective</u> Craig Rieger, INL Matt Gaston, SEI	<u>Cyber-Control Research Perspectives</u> David Garlan, CMU Nathan Michael, CMU	
11:30	Hosted Lunch with Plenary Speaker <i>[Capitol Peak]</i> Rosemary Wenchel, DHS Deputy Assistant Secretary for Cybersecurity Coordination		
	Invited Speakers		Lightning Talks
01:00	<u>Cyber-Cognitive Research Perspectives</u> Marco Carvalho, FIT Nick Multari, PNNL Michael Assante, NBISE	<u>Cognitive-Control Research Perspectives</u> Anthony Seman, ONR Willard Curtis, AFRL Kaleb McDowell, ARL	J. Phillips, ANL, "Critical Infrastructure Dependencies" I. Martinez-Moyano, ANL, "Community Resilience and the Role Played by Critical Infrastructure" L. Genik, DRDC, "Systems Analysis of Community Resilience" J. Phillips, ANL, "Critical Infrastructure and Regional Resilience" J. Richards, DHS, "Regional Resiliency Assessment Program Successes and Goals" R. Bowman, NEU, "Focusing the Lessons of Disaster through the Lens of Resilience: A Case for More Case Studies" D. Alderson, NPS, "Moving Away from Threat--- Based Analysis"
2:30	Afternoon Break <i>[Crystal Peak A]</i>		
	Facilitated Discussions		Panel Discussion
3:00	<u>Promising Interdisciplinary Methodologies</u> Facilitator: Marco Carvalho, FIT	<u>Research Challenges</u> Facilitators: Frank Ferrese, NAVSEA Will Nothwang, ARL	<u>Challenges and Opportunities</u> Moderator: Stephen Flynn, NU David Brannegan, ANL Connie Lau, HEI John Madden, State of Alaska Brandon Wales, DHS
	Industry-sponsored Reception, GridGame Competition and Poster Session <i>[Crystal Peak A / Pre-function Area]</i>		
4:30	A. Rege Temple U., "Adversary Dynamics and Smart Grid Security: A Multiagent System Approach" D. Bodeau, MITRE, "Resiliency Techniques for Systems-of-Systems: Extending and Applying the Cyber Resiliency Engineering Framework to the Space Domain" D Naidu, ISU, "Nonlinear Model Predictive Control for Regulation of a Class of Nonlinear Singularly Perturbed Discrete-time Systems" N.Gong, Temple U., "Evaluation of Highly Conditionally Diagnosable (n,k)-star Topology for Applications in Resilient Network on Chip" Q. Ren, Temple U. "A BDI Multi-agent Approach for Power Restoration" Xie Feng, China ITSEC, "Using Simulation Platform to Analyze Radio Modem Security in SCADA"		
6:30	Adjourn for Day		

Wednesday, August 20 (Papers)

Time	Cyber Track Chairs: Marco Carvalho, FIT; Annarita Giani, LANL [Crystal Peak B/C]	Control Track Chairs: Frank Ferrese, NAVSEA; David Scheidt, JHU APL [Mt. Elbert A]	Cognitive-Communications Track Chairs: Dr. Roger Lew, UI; Jie Wu, Temple [Grays Peak A/B]	Resilient Infrastructure Track Chairs: David Alderson, NPS; Cherrie Black, INL; Sean McAraw, INL [Mt. Evans]
7:30	Coffee and Registration [Capitol Pre-Function Area, 38th Floor]			
8:20	Logistics [Capitol Peak]			
8:30	Keynote Speaker [Capitol Peak] Michael VanPutte, MOD-2			Invited Speakers Connie Lau, HEI, "CEO's View of Resilience" Brandon Wales, DHS, "Analyzing Infrastructure Interdependencies: Lessons Learned"
09:30	Morning Break [Crystal Peak A]			
	Cyber Security Methodologies	Power and Energy Systems	Human System Interaction and Training	Lightning Talks
10:00	N. Evans, ANL, "Multiple OS Rotational Environment: An Implemented Moving Target Defense"	*E. Archibong, ISU, "Time Scale Analysis and Synthesis for Model Predictive Control under Stochastic Environments"	R. Lew, INL, "A Prototyping Environment for Research on Human-Machine Interfaces in Process Control: Use of Microsoft WPF for Microworld and Distributed Control System Development"	N. Mehravari, CMU, "Evaluating and Improving Cyber Resilience Capabilities of the Electricity and Oil & Natural Gas" J. Phillips, ANL, "Mathematical Disruption and Impact Models for Addressing Regional Resilience"
10:30	C. Miles, UL, "VirusBattle: State-of-the-Art Malware Analysis for Better Cyber Threat Intelligence"	B. Niemoczynski, NAVSEA, "Closed Loop Control of Hysteretic Magnetization"	R. Lanier, Design Interactive, "Aptitude Testing for Selection, Specialization, and Training, of Airport Security X-ray Imaging Operators (X-APT)"	B. Thomas, ORNL, "Modeling Climate Impacts on Critical Infrastructures" D. Judi, LANL, "Urban Water System Modeling and Simulation Tools to Evaluate Infrastructure Resilience"
11:00	M. Atighetchi, BBN, "A Framework for Resilient Remote Monitoring"	C. Nwankpa, DU, "Performance Indicator Dependency on Measurement Sets in a DC Multi-Converter Power System"	R. Lew, INL, "A Prototype Computerized Operator Support System"	N. Mehravari, CMU, "Improving the Resilience of National Postal and Related Transportation Critical Infrastructure" K. Stamber, SNL, "Event Response Resource Quantification and Prioritization" P. Roeger, INL, "Metrics for Energy Resilience"
11:30	Hosted Lunch with Plenary Speaker [Capitol Peak] Kevin Moore, CSM			
	Cyber Security and Control Systems [Mt. Elbert A]		Keynote Speaker [Capitol Peak] Jalal Mapar, HSARPA RSD	
1:00	R. Hink, ORNL, "Machine Learning for Power System Disturbance and Cyber-attack Discrimination"		Facilitated Discussion [Capitol Peak] <u>Workforce Development</u> Facilitator: David Alderson, NPS	
1:30	C. Patterson, Virginia Tech, "Isolating Trust in an Industrial Control System-on-Chip Architecture"			
2:00	W. Abbas, Vanderbilt U., "Resilient Consensus Protocol in the Presence of Trusted Nodes"			
2:30	Afternoon Break [Crystal Peak A]			
	Evaluation and Analysis of Defense Systems	Perturbed Systems and Nonlinear Control	Resilience Measurement	Lightning Talks
3:00	*G. Martins, Vanderbilt U., "Performance Evaluation of an Authentication Mechanism in Time-Triggered Networked Control Systems"	D. Naidu, ISU, "Time Scale Analysis and Synthesis for Unmanned Aerial Vehicles(UAVs)"	S. Duff, Design Interactive, "The Diagnosis and Measurement of Team Resilience in Sociotechnical Systems"	D. Christiansen, INL, "Virtual Simulation for Cyber and Physical Integration" R. Bent, LANL, "Optimal Resilient Distribution Grid Design"
3:30	M. Balchanos, Georgia IT, "Metrics-based Analysis and Evaluation Framework for Engineering Resilient Systems"	J. Kollmer, Temple U., "Hovering Synchronization of a Fleet of Quadcopters"	C. Rieger, INL, Resilient Control Systems Practical Metrics Basis for Defining Mission Impact	B. Jennings, SNL, "Resilience certification for commercial buildings: A study of stakeholder perspectives"

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4:00	Z. Beech, PNNL, "Quantifying Cyber-Resilience Against Resource-Exhaustion Attacks"	D. Naidu, ISU, "Real-Time Algorithm for Nonlinear Systems With Incomplete State Information Using Finite-Horizon Optimal Control Technique"	P. Ostovari, Temple U, "Priority-Based Broadcasting of Sensitive Data in Error-Prone Wireless Networks"	S. Tam, ANL, "Applications of Nonlinear Dynamics to Resiliency Analysis" C. Unis, SNL, "Understanding Complexities in Emergency Management in Order to Mitigate Cascading Consequences" D. Egli, JHU APL, "The Value Proposition of Operationalizing Resilience" J. DiRenzo III, USCG, "Maritime Strategic Surprise: Can An Emphasis on Resilience Be The True Center of Gravity?" P. Roege, INL, "Resilience: Modeling for Conditions of Uncertainty and Change"
4:30	Industry-sponsored Reception <i>[Wynkoop Brewing Company, 1634 18th Street]</i>			
7:00	Adjourn for Day			

* Best Paper(s) of Symposium

Thursday, August 21 (Special Topics Sessions)

Time	Industrial Control System Cyber Security Track Chairs: Subbaram Naidu, ISU; Sean Peisert, LBNL; Miles McQueen, INL <i>[Crystal Peak B&C]</i>	Resilient Infrastructure Solutions User Group Track Chairs: David Alderson, NPS; Cherrie Black, INL; Sean McAraw, INL <i>[Capitol Peak B]</i>
7:30	Coffee and Registration <i>[Capitol Pre-Function Area, 38th Floor]</i>	
8:20	Logistics <i>[Capitol Peak A]</i>	
	Panel <i>[Capitol Peak A]</i>	
8:30	<u>Resilient Infrastructure Needs and Capabilities</u> Facilitator: Ron Fisher, INL Matt Gibson, EPRI Fred Hintermister, NERC Steven Kuhr, Colorado Springs Utilities Kevin Morley, AWWA	
9:30	Morning Break <i>[Crystal Peak A]</i>	
	Keynote Speakers	Invited Speakers
10:00	David Corman, NSF	<u>Current Tools: Domain, Impact, Potential Gaps</u> Mike Pozmantier, DHS S&T Doug Macdonald, PNNL David McKinnon, PNNL John Hummel, ANL Julia Philips, ANL Ron Fisher, INL Ryan Hruska, INL Craig Miles, INL
10:45	Zach Tudor, DHS S&T	
11:30	Hosted Lunch with Plenary Speaker <i>[Capitol Peak A]</i> Samara Moore, Whitehouse National Security Staff	
01:00	Keynote Speaker Robert Laddaga, DARPA	Invited Speakers <u>Current Tools: Domain, Impact, Potential Gaps</u> Tim McPherson, LANL Russell Bent, LANL David Judi, LANL Ben Thomas, ORNL Steve Fernandez, ORNL EAR
	Overviewing Questions for Panel/Facilitated Discussion	
02:00	Facilitators: Chairs	Facilitators: David Alderson, NPS Ron Fisher, INL
02:30	Afternoon Break <i>[Crystal Peak A]</i>	

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03:00	<i>Panel Discussion</i> <u>State of the Art in ICS Security</u> Facilitators: Chairs Track Keynote Speakers Tom Longstaff, NSA	<i>Facilitated Discussion</i> <u>Recognized Gaps and Needs Prioritization</u> Facilitators: David Alderson, NPS Ron Fisher, INL
04:30	Closing Thoughts <i>[Capitol Peak A]</i>	
04:40	Adjourn	

Friday, August 22 (Tours)

Time	Tours
09:00	Congregate for Tours <i>[Grand Hyatt Entry]</i>
09:30	The Money Museum at the Federal Reserve Bank of Kansas City - Denver Branch
11:00	Historical Tour of the Colorado State Capital
12:00	Tour Completion