



THURSDAY
NOVEMBER

8 2018

**SERC SPONSOR
RESEARCH REVIEW**

Time: 8:00AM - 5:00PM

LOCATION: FHI360 CONFERENCE CENTER
1825 CONNECTICUT AVE NW, 8TH FLOOR,
WASHINGTON, DC 20009

Registration, Breakfast and Welcome

8:00a–8:30a	Registration and Continental Breakfast
8:30a–8:35a	Welcome from the SERC Executive Director and Chief Scientist Dr. Dinesh Verma, Executive Director, SERC and Dr. Barry Boehm, Chief Scientist and Chair, Research Council, SERC
8:35a–8:40a	Kickoff and Welcome Dr. Yehia Massoud, Dean, School of Systems and Enterprises - Stevens Institute of Technology
8:40a–9:00a	Systems Engineering Perspectives for Today’s Environment Dr. Paul Kaminski, Chairman & CEO, Technovation, Inc.

Sponsor Perspective and Challenges

9:00a–9:10a	Introductory Remarks Ms. Kristen Baldwin, Deputy Director, Strategic Technology Protection and Exploitation, ASD(R&E)
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Keynote Address

9:10a–10:00a	Morning Keynote Address – Mr. Paul Scharre, Senior Fellow and Director, Technology and National Security Program, Center for a New American Security; Author of Army of None: Autonomous Weapons and the Future of War
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10:00a–10:15a Poster and Networking Break

Research Reviews: Four parallel tracks with 40-minute sessions providing in-depth discussions on SERC research projects

	<u>Track 1: SE and Management Transformation (SEMT) (Vista Room)</u>	<u>Track 2: Model-Centric Systems Engineering (Angle Room)</u>	<u>Track 3: Trusted, Critical & Resilient Systems (Balcony Room D)</u>	<u>Track 4: Human Capital Development (Balcony Room E)</u>
10:15a–10:55a	Identifying and Measuring Modularity Violations in Cyber-Physical Systems Lu Xiao, Stevens	PEO Missiles & Space Systems Engineering Methods Brock Birdsong, Auburn	Human Machine Teaming Concepts for Resilient Cyber Physical Systems Inki Kim, UVA	SE Research Needs and Workforce Development Assessment (Pathfinder) Dinesh Verma, Stevens
11:00a–11:40a	Verification and Validation (V&V) of System Behavior Specifications Kristin Giammarco, NPS	Transforming Systems Engineering through Model-Centric Engineering (NAVAIR & ARDEC) Mark Blackburn, Stevens	Systemic Security and the Role of Hierarchical Design in Cyber-Physical Systems Val Sitterle, Georgia Tech	Workforce Evolution (Helix) Nicole Hutchison, Stevens
11:45a–12:30p	Framework for Analyzing Technical Debt Ye Yang, Stevens	Interactive Model-Centric Systems Engineering (IMCSE) Donna Rhodes, MIT	Data Science Approaches to Prevent Failures in Systems Engineering Karen Marais, Purdue	SE Experience Accelerator Jon Wade, Stevens



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12:30p–1:00p	Lunch (Catered) and Opportunity to View SERC Project Posters			
1:00p–1:30p	Lunchtime Keynote Panel - IAWG Leadership Panel, Moderated by Ms. Kristen Baldwin			
1:30p–1:45p	Poster and Networking Break			
	Track 1: SEMT (Vista Room)	Track 2: Model-Centric SE + (Angle Room)	Track 3: Trusted Systems + (Balcony Room D)	Track 5: Enterprise and Systems of Systems + (Balcony Room E)
1:45p–2:25p	Formal Methods in Resilient Systems Design using a Flexible Contract Approach Azad Madni, USC	Meshing Capability & Threat-Based S&T Resource Allocation Carlo Lipizzi, Stevens	Security Engineering 2018 Barry Horowitz, Peter Beling, UVA	ESoS Model for Digital Thread Enabled Acquisition Tom McDermott, Stevens
	Next Gen. Adaptive Cyber Physical Human Systems Azad Madni, USC			
2:30p–3:10p	System Qualities (SQs) Tradespace and Affordability Barry Boehm, USC	SERC Doctoral Fellows Best Paper Presentation TBA	Game-Theoretic Risk Assessment for Distributed Systems (GRADS) Paul Grogan, Stevens	Approaches to Achieve Modularity Benefits in the Acquisition Ecosystem Dan DeLaurentis, Navin Davendralingam, Purdue
3:15p–3:55p	Electronics Survivability and Product Assurance in Harsh Environments Nakul Kothari, Auburn	ODNI Sensemaking Suba Subbalakshmi, Stevens	Capstone Marketplace Bill Shepherd, Stevens	Mission Engineering Competencies Nicole Hutchison, Stevens
		SERC Workshops 2018 Tom McDermott, Stevens		
4:00-5:00p	Poster and Networking Session		Executive Advisory Board Meeting (invitation only)	