16th Annual
SYSTEMS ENGINEERING
Conference & Displays

HYATT REGENCY CRYSTAL CITY ▸ ARLINGTON, VA

OCTOBER 29-31, 2013
WWW.NDIA.ORG/MEETINGS/4870

EVENT 4870

Schedule At A Glance

TUESDAY, OCTOBER 29, 2013

8:30 am – 5:00 pm	Registration Open
8:30 am – 9:30 am	Continental Breakfast
9:30 am – 11:45 am	Plenary Session
11:45 am – 12:00 pm	Award Ceremony
12:00 pm – 1:30 pm	Luncheon
1:30 pm – 2:30 pm	Keynote Speaker
2:30 pm – 3:00 pm	Afternoon Break
3:30 pm – 5:00 pm	Plenary Session
5:00 pm – 6:30 pm	Networking Reception

WEDNESDAY, OCTOBER 30, 2013

7:00 am – 5:00 pm	Registration Open
7:00 am – 8:00 am	Continental Breakfast
8:00 am – 9:45 am	Concurrent Sessions
9:45 am – 10:15 am	Morning Break
10:15 am – 12:00 pm	Concurrent Sessions
12:00 pm – 1:30 pm	Luncheon
1:30 pm – 3:15 pm	Concurrent Sessions
3:15 pm – 3:30 pm	Afternoon Break
3:30 pm – 5:40 pm	Concurrent Sessions
5:40 pm	Adjourn

THURSDAY, OCTOBER 31, 2013

7:00 am – 3:30 pm	Registration Open
7:00 am – 8:00 am	Continental Breakfast
8:00 am – 9:45 am	Concurrent Sessions
9:45 am – 10:15 am	Morning Break
10:15 am – 12:00 pm	Concurrent Sessions
12:00 pm – 1:30 pm	Luncheon
1:30 pm – 3:50 pm	Concurrent Sessions
3:50 pm	Adjourn

16th ANNUAL SYSTEMS ENGINEERING CONFERENCE

Awards Presentation

FERGUSON AWARDS

Systems Engineering Excellence Individual Award
presented to

Air Force Research Laboratory
Dr. James T. Keeney

Systems Engineering Excellence Group Award
presented to

Northrop Grumman Information Systems
F-35 Communications, Navigation,
Identification (CNI)

TRACK OBJECTIVES

AFFORDABILITY

Affordability is a key theme in the DoD's Better Buying Poere Inititative. This year's papers address the development of frameworks for affordability analyses including SE tools.

AGILE SYSTEMS ENGINEERING

This track summarizes some the unique challenges and best practices from adapting agile development to the defense acquisition system, and broadening the awareness and engagement of agile into systems engineering and other disciplines.

ARCHITECTURE

The architecture track will feature papers highlighting desired architecting practices, examples of impacts that architectures have made on system development, and discussions around the integration of ility information into architectures. Architecture's role in model-based systems engineering will be described, including SysML applications. The latest DoDAF insights will also be provided.

DEVELOPMENTAL TEST & EVALUATION (DT&E)

The Developmental Test and Evaluation track addresses the entire continuum of test and evaluation from early planning to operational testing.

DT&E/STATISTICAL TEST OPTIMIZATION

The Statistical Test Optimization track focuses on effective use of scientific test and analysis techniques for test design and optimization.

DT&E/SOS

The joint Development Test and Evaluation for Systems of Systems track is one of the collaboration efforts in the NDIA Systems Engineering Division. The focus is to investigate best practices that can be applied to testing our SoS capabilities.

EARLY SYSTEMS ENGINEERING

The role of Early Systems Engineering is becoming increasingly important in starting programs off right. This track begins with out-briefs from the NDIA and Government Development Planning Working Groups, followed by Service and Industry perspectives on development planning and S&T/IR&D

EDUCATION & TRAINING

The theme of this year's Education and Training track is "Architecting an Effective Systems Engineer." This track is an excellent collection of a panel session and five presentations from government, industry, and academia that describe various ways to go about architecting an effective systems engineer. The panel will present industry's best practices for developing systems engineers and the presentations will describe important architecture components such as certification, competency frameworks, tools, leadership, evolution and adaptability of workforce development and the DNA of a systems engineer.

EHM

Enterprise Health Management is an enabling technology essential to achieving superior systems availability. A key component of health management is a disciplined approach to specialty engineering skills such as reliability, maintainability, and testability. This track will present topics addressing these specialty engineering disciplines.

ENVIRONMENT, SAFETY, AND OCCUPATIONAL HEALTH (ESOH)

Track 7 includes alternating ESOH and HSI sessions to reflect the interrelationships between the ESOH disciplines and HSI domains. The ESOH sessions include a mix of presentations on the evolving DoD Acquisition ESOH policy and guidance, and presentations on ESOH lessons learned from Operation Enduring Freedom (OEF) about integrating ESOH considerations into rapid system development and deployment.

HUMAN SYSTEMS INTEGRATION (HSI)

Track 7 includes alternating HSI and ESOH sessions intended to reflect the interrelationship between these HSI domains. The HSI sessions include DoD policy maturation and implementation, and technical papers including the application of the Agile Process to operator interface design and HSI implications in designing for complex systems. Together, this HSI/ESOH Track addresses the safe and effective interfaces between people and the tools, products and systems they interact with to optimize task performance in the course of their work.

LOGISTICS

The logistics track will address the dynamics of system sustainment and alternative sparing methodologies.

MODELING & SIMULATION (M&S)

The Modeling and Simulation (M&S) track focuses on the use of M&S in systems engineering. It includes sessions on M&S and Systems Engineering Planning, the use of M&S in the DoD systems acquisition process, standards for M&S in acquisition, Model-Based Systems Engineering, and selected M&S applications in systems engineering.

MODELING AND SIMULATION/SOS

Joint session of Modeling & Simulation and System of Systems committees on applying M&S to complex systems.

NET OPS

Interoperability is ability to operate in synergy in the execution of assigned tasks both within the DoD and its external mission partners. Interoperability is composed of balanced and synchronized set of processes, organization, people, information and materiel [POPIM] solutions that are tailored to the assigned task and will evolve over time. Net Centric Operations supports interoperability by providing the POPIM solution sets that allows the DoD and its mission partners to share information/ data/knowledge when needed, where needed, and in a form they can understand and act on with confidence, while protecting it from those who should not have it. Interoperability Net Centric Operations/Interoperability includes technologies such as Service Oriented Architecture, Data Center, Cloud Computing, information transport [e.g. internet, web, radios, data links], as well as both hardware and software [aka Information and Communicative Technology] together with people, operating alone or in organizations, as part of the System of Systems Systems Engineering. NCO/Interoperability solution sets are described in user requirements, "development", test & evaluation [aka verification], and fielding.

SYSTEMS ENGINEERING EFFECTIVENESS

The Systems Engineering (SE) Effectiveness Track focus is to discuss issues to assist the DoD and defense industry SE community in achieving a quantifiable and persistent improvement in program performance through appropriate application of systems engineering principles and best practices.

SYSTEMS OF SYSTEMS (SOS)

The SoS track will feature papers highlighting various approaches to addressing the governance and engineering of systems of systems.

SOS/ARCHITECTURE

The joint System of Systems / Architecture Track will feature papers discussing use of architectures in a system of system context.

SYSTEM SECURITY ENGINEERING (SSE)

The Systems Security Engineering track highlights current policy, strategies, and methods for comprehensive program protection and system security engineering.

SSE/SOS

The joint Systems Security Engineering for Systems of Systems track highlights strategies for applying comprehensive program protection and system security engineering to complex systems of systems.

THANK YOU TO OUR TRACK CHAIRS:

- Mr. Jeff Bergenthal
- Mr. Al Brown
- Mr. James Coolahan
- Mr. Paul Croll
- Ms. Judith Dahmann
- Mr. Steve Dam
- Mr. Geoff Draper
- Ms. Holley Coulter Dunlap
- Mr. Sherman Forbes
- Mr. Don Gelosh
- Ms. Lois Hollan
- Mr. Jeff Holland
- Ms. Dona Lee
- Mr. John Lohse
- Mr. Jeff Loren
- Mr. Neal Mackertich
- Mr. James Malas
- Mr. Joe Manas
- Mr. Bill Nolte
- Mr. John Palmer
- Mr. Chris Reisig
- Mr. Matt Risser
- Mr. Howard Savage
- Mr. Dave Schulte
- Mr. Steve Scukanec
- Mr. Frank Serna
- Ms. Barbara Sheeley
- Ms. Elaine Thorpe
- Dr. Beth Wilson
- Mr. Jack Zavin

TUESDAY, OCTOBER 29

8:30 am - 9:30 am — REGISTRATION & NETWORKING CONTINENTAL BREAKFAST
9:30 am - 9:45 am — ADMINISTRATIVE REMARKS AND WELCOME
9:45 am - 11:45 am

CHIEF SYSTEMS ENGINEERS PANEL

Engineering in the Face of Uncertainty

Moderator: Mr. Stephen P. Welby, *Deputy Assistant Secretary of Defense (Systems Engineering), Office of the Assistant Secretary of Defense (Research and Engineering)*

Panelists:

- ▶ Mr. Terence Edwards, *Chief Systems Engineer, Office of the Secretary of the Army for Acquisition, Logistics and Technology*
- ▶ Mr. James Smerchansky, *Deputy Commander, Systems Engineering Interoperability, Architecture & Technology, Marine Corps Systems Command*
- ▶ Dr. Thomas Christian, *Associate Deputy Assistant Secretary of the Air Force for Science, Technology & Engineering*
- ▶ Mr. James Tuttle, *Chief Systems Engineer, Under Secretary of Science and Technology, Department of Homeland Security*
- ▶ Dr. Michael Ryschkewitsch, *Chief Engineer, National Aeronautics and Space Administration*
- ▶ Mr. Albert (Benjie) Spencer, *Director, Systems Engineering Center, National Oceanic and Atmospheric Administration*

11:45 am - 12:00 pm — AWARD CEREMONY
12:00 pm - 1:30 pm — NETWORKING LUNCH
1:30 pm - 2:30 pm

KEYNOTE SPEAKER

- ▶ Mr. Alan Shaffer, *Assistant Secretary of Defense for Research and Engineering (Acting), U.S. Department of Defense*

2:30 pm - 3:00 pm — NETWORKING AFTERNOON BREAK

3:00 pm - 5:00 pm

INDUSTRY PANEL

How Can Systems Engineering Help Improve Program Development and Execution in Times of Tight Budgets

Moderator: Mr. Bob Rassa, *Director, Engineering Programs, Raytheon Space & Airborne Systems*
Panelists:

- ▶ Mr. Jeff Wilcox, *Vice President, Engineering, Lockheed Martin Corporation*
- ▶ Mr. Paul Bailey, *Chief Systems Engineer, Raytheon Company*
- ▶ Dr. Mike Papay, *Vice President, Information Security and Cyber Initiatives, Northrop Grumman*
- ▶ Mr. Craig Miller, *Vice President, Systems Engineering, Harris Corporation*

5:00 pm - 6:30 pm — NETWORKING RECEPTION

WEDNESDAY, OCTOBER 30

7:00 am - 8:00 am — REGISTRATION & CONTINENTAL BREAKFAST

8:00 am - 9:45 am — SESSION A

TRACK	8:00 AM - 8:35 AM	8:35 AM - 9:10 AM	9:10 AM - 9:45 AM
TRACK 1: **POTOMAC 1** NET-CENTRIC OPS/ INTEROPERABILITY	**16170 -** Joint Mission Environment Test Capability Mr. Marty Arnwine, *OSD Test Resource Management Center*	**16327 -** GEOINT Functional Managers Seal of Approval Mr. Michael Reidy, *National Geospatial Intelligence Agency*	**16012 -** Application of a Multi-algorithm Decision Scheme for Improving the Robustness of Network Intrusion Detection Mr. John Fossaceca, *The George Washington University*
TRACK 2: **POTOMAC 2** SYSTEMS ENGINEERING EFFECTIVENESS	**16045 -** An Integrating Framework for Supporting Systems Engineering LTC Britt E. Bray, USA (Ret), *Dynamics Research Corporation*	**16050 -** Quantitative Prediction and Improvement of Program Execution – A New Paradigm Dr. Shawn Rahmani, *The Boeing Company*	**15969 -** Effects of System Prototype Demonstrations on DoD Weapon Systems Development Mr. Edward Copeland, *George Washington University*
TRACK 3: **POTOMAC 3** DEVELOPMENTAL TEST & EVALUATION	**16299 -** Developmental Test and Evaluation Committee Results and Activities Dr. Beth Wilson, *Raytheon Company*	**16176 -** A Report on Leading Indicators for Requirements Verification & Validation Mr. Cory Lloyd, *Raytheon Company*	**15932 -** Reliability Growth Models Using System Readiness Levels Mr. Mark London, *George Washington University*
TRACK 4: **POTOMAC 4** EARLY SYSTEMS ENGINEERING	**16062 -** NDIA Development Planning Working Group Update: "Improving the Integration of Government and Industry S&T/ IR&D to Support Development Planning" Mr. John Lohse, *Raytheon Company*	**16215 -** Development Planning Working Group Update Mrs. Aileen Sedmak, *OSD(AT&L)*	**16131 -** The Integration of S&T/ IR&D and the Defense Innovation Marketplace Mr. Jaymie Durnan, *OASD (R&E)*
TRACK 5: **POTOMAC 5** AFFORDABILITY	**16211 -** A Model for Estimating SE Schedule Acceleration Dr. Barry Boehm, *USC*	**16017 -** Affordable, Achievable Squad Overmatch - Integrating Model Based Systems Engineering with Decision Analysis Mr. Richard Swanson, *Dynamics Research Corporation*	**15976 -** Sustainment Capability and Capacity Dr. Sarah Sheard, *Software Engineering Institute*
TRACK 6: **POTOMAC 6** ARCHITECTURE	**16066 -** Managing Requirements in the Context of Architecture Mr. Raymond Jorgensen, *Rockwell Collins*	**16064 -** Architectural Abstractions: Exploring Perspectives of Software Intensive System Design Mr. Raymond Jorgensen, *Rockwell Collins*	**16237 -** Scalable Data and Software Architectures - Getting Past the Hype Mr. John Klein, *Carnegie Mellon Software Engineering Institute*
TRACK 7: **WASHINGTON A** HSI	**16133 -** USAF Human Systems Integration Update Mr. Dale Burns, *Enterprise Resource Planning, International*	**16123 -** AF Application of Human Systems Integration: Assessing and Prioritizing within Acquisition Programs Ms. Sarah Orr, *Booz Allen Hamilton*	**16283 -** Adapting HSI Processes and Priorities for Agile Development Ms. Ariana Kiken, *Pacific Science and Engineering Group*
TRACK 8: **WASHINGTON B** MODELING & SIMULATION - "M&S AND SYSTEMS ENGINEERING PLANNING"	**16217 -** Writing a Systems Engineering Plan, or a Systems Engineering Management Plan? Think About Models and Simulations Ms. Philomena Zimmerman, *ODASD(SE)*	**16184 -** Final Report on the Identification of Modeling and Simulation Capabilities by Acquisition Life Cycle Phases Mr. Jeff Bergenthal, *Johns Hopkins University/Applied Physics Laboratory*	**16015 -** Discovery of Modeling and Simulation Assets to Support Systems Engineering Mr. Hart Rutherford, *SimVentions, Inc.*

9:45 am - 10:15 am — MORNING NETWORKING BREAK

10:15 am - 12:00 pm — SESSION B

TRACK	10:15 am - 10:50 am	10:50 am - 11:25 am	11:25 am - 12:00 pm
TRACK 1: POTOMAC 1 NET-CENTRIC OPS/ INTEROPERABILITY	**16253 -** Systems Engineering Designs on the Cloud Mr. Daniel Hettema, *SPEC Innovations*	**16263 -** Security on the Cloud Dr. Steven Dam, *SPEC Innovations*	**16254 -** Clustered Monte Carlo Simulation on Cloud Systems Mr. Robert Sperlazza, *SPEC Innovations*
TRACK 2: POTOMAC 2 SYSTEMS ENGINEERING EFFECTIVENESS	**16061 -** Rethinking DoD Acquisition Mr. Jeff Windham, *U.S. Army ARDEC*	**16068 -** Been There, Done That, Got the Banner: Is Best Practice Complacency Taking Over? Mr. Michael Knox, *TECHSOFT, Inc.*	**16089 -** Systems Engineering through a Systems Lens Dr. Michael Pennotti, *Stevens Institute of Technology*
TRACK 3: POTOMAC 3 DEVELOPMENTAL TEST & EVALUATION	**16070 -** Identification of Critical Integration Points using Multi-Dimensional Dependency Analysis Mr. Subash Kafle, *MITRE Corporation*	**16075 -** NDIA SE Statistical Test Optimization Synthesis Panel: Key Takeaways & Recommendations Dr. Neal Mackertich, *Raytheon Company*	**16128 -** An Industry Proof-of-Concept Demonstration of Modified Condition/Decision Coverage from Automated Combinatorial Testing Mr. Redge Bartholomew, *Rockwell Collins*
TRACK 4: POTOMAC 4 EARLY SYSTEMS ENGINEERING	**15984 -** Breakthroughs in Applying Systems Engineering to Technology Development Mr. Jeff Craver, *Defense Acquisition University*	**16160 -** Walking the OCI Line Mr. Cory Lloyd, *Raytheon Company*	**16130 -** Proposed Framework to Describe the Application of Tools in Early Program Planning Mr. Richard Schantz, *ASA (ALT)*
TRACK 5:			
TRACK 6: POTOMAC 6 ARCHITECTURE	**16096 -** Application of a Ground System Architecture Framework Using SysML Mr. William Pritchett, *DCS Corporation*	**16212 -** Architecture-Based Analysis of System Utility Synergies and Conflicts Dr. Barry Boehm, *USC*	**16221 -** Improving Affordability Using an Innovative Model-Driven Engineering Approach Ms. Tamara Valinoto, *Northrop Grumman Electronic Systems*
TRACK 7: WASHINGTON A ESOH	**16266 -** Latest Advances in DoD Acquisition ESOH Policy, Guidance, and Initiatives Mr. David Asiello, *ODUSD(I&E)*	**16197 -** Virtual Integration for Model Based Safety Assessment of Complex Systems Dr. David Redman, *AVSI*	**16272 -** HSI and ESOH Handbook for Pre-Milestone A JCIDS and Systems Engineering Activities Ms. Lucy Rodriguez, *Booz Allen Hamilton*
TRACK 8: WASHINGTON B M&S/SOS - "APPLYING M&S TO COMPLEX SYSTEMS"	**16069 -** Results from Applying a Modeling and Analysis Framework to an FAA NextGen System of Systems Program Dr. Mark Blackburn, *Stevens Institute of Technology*	**16028 -** Harmonizing Modeling and Simulation and MBSE to Cope with Rampant Complexity Mr. Jim Brake, *Lockheed Martin Corporation*	

12:00 pm - 1:30 pm — NETWORKING LUNCH

WEDNESDAY, OCTOBER 30

1:30 pm - 3:15 pm — SESSION C

TRACK	1:30 pm - 2:05 pm	2:05 pm - 2:40 pm	2:40 pm - 3:15 pm
TRACK 1:			
TRACK 2: POTOMAC 2 SYSTEMS ENGINEERING EFFECTIVENESS	**16214 -** Defense Acquisition Guidebook Systems Engineering Chapter Update Mrs. Aileen Sedmak, *OSD(AT&L)*	**16280 -** Why Systems Don't Measure Up Dr. Eric Honour, *Honourcode, Inc.*	**16273 -** DoD Software Assurance Ms. Kristen Baldwin, *ODASD(SE)*
TRACK 3: POTOMAC 3 DT&E/SOS	**16126 -** Always on Demand Dr. Nancy Bucher, *ASA(ALT) System of Systems Engineering & Integration*	**16140 -** Test and Evaluation of Autonomous Multi-Robot Systems Mr. Joseph Giampapa, *Software Engineering Institute, Carnegie Mellon University*	**16071 -** Using Statistical Test Power as a Foolproof Measure of Test Rigor is a No Brainer, Right? Mr. Kedar Phadke, *Phadke Associates*
TRACK 4: POTOMAC 4 AGILE & SYSTEMS ENGINEERING	**16241 -** Adapting Agile to the Defense Acquisition Framework Ms. Mary Ann Lapham, *Software Engineering Institute*	**16032 -** Agile SE - They Say That 'To Dissect is to Kill' but Let's Risk Some Collateral Damage - A Systems Engineering Perspective on Agile – What Does it Look Like? Mr. Jim Brake, *Lockheed Martin Corporation*	**16029 -** Enabling Agility on Complex System Developments Mr. Michael Coughenour, *Lockheed Martin Corporation*
TRACK 5: POTOMAC 5 SYSTEM SECURITY ENGINEERING	**16230 -** NDIA System Security Engineering Committee Welcome and Update Ms. Holly Coulter Dunlap, *Raytheon Company*	**16223 -** System Security Engineering and Comprehensive Program Protection Ms. Melinda Reed, *ODASD(SE)*	**16153 -** A Practical Educational Approach to Program Protection Planning Dr. Don Gelosh, *Worcester Polytechnic Institute*
TRACK 6: POTOMAC 6 ARCHITECTURE	**16090 -** The Department of Defense Architectural Framework 2.02 and the Better Buying Power Initiative 2.0 Mr. William M. Decker, IV, *DAU*	**16252 -** The Human Viewpoint: Facilitating Human System Integration with Architecture Frameworks Dr. Holly Handley, *Old Dominion University*	**16196 -** The Development Planning Role of Architecture in Defining the Solution Trade Space Mr. Michael Stokes, *Raytheon Company*
TRACK 7: WASHINGTON A HSI	**16008 -** Reducing Human/Pilot Error in Aviation Using Augmented Cognition Systems and Automation Systems in Aircraft Cockpit Mr. Ehsan Naranji, *The George Washington University*	**16007 -** Improving Human Performance in Air Traffic Control Using Augmented Cognition Together with Automation Systems Mr. Mohammad Kashef, *The George Washington University*	
TRACK 8: WASHINGTON B M&S – "DYNAMIC AND AGILE APPROACHES TO M&S"	**16082 -** Dynamic Multilevel Modeling Framework\ – A Cornucopia of Modeling and Simulation Capabilities Dr. Gary Allen, *U.S. Army PEO STRI*	**16072 -** Executable Scenario Definition Using Datalog to Describe Simulation Capabilities Dr. Joseph McDonnell, *Dynamic Animation Systems*	

3:15 pm - 3:30 pm — NETWORKING AFTERNOON BREAK

3:30 pm - 5:40 pm — SESSION D

TRACK	3:30 pm - 4:05 pm	4:05 pm - 4:40 pm	4:40 pm - 5:15 pm	5:15 pm - 5:40 pm
TRACK 1: POTOMAC 1 LOGISTICS	**16043 -** Using Crowdsourcing to Set Resource Levels for Deployed Repairables and Maintainers Ms. Susan Laird, *The George Washington University*	**15977 -** System Dynamics of Sustainment Mr. Robert Ferguson, *Software Engineering Institute*	**16026 -** Cannibalization in the Military: A Viable Sustainment Strategy? Mr. Peter Bogdanowicz, *Dynamics Research Corporation*	
TRACK 2: POTOMAC 2 SYSTEMS ENGINEERING EFFECTIVENESS	**16296 PANEL -** Value of Systems Engineering Mr. Joe Elm, *Software Engineering Institute*			
TRACK 3: POTOMAC 3 DT&E	**16248 -** Achieving Dramatic Increases in Effectiveness and Efficiency in the T&E Execution Phase by Leveraging Dynamic and Flexible M&S Tools for Rigorous Test-Event Designs Mr. Joe Murphy, *Analytical Graphics, Inc.*	**15936 -** Application of Live-Virtual-Constructive Environments for System-of-Systems Analysis Dr. Katherine Morse, *JHU/APL*		
TRACK 4: POTOMAC 4 AGILE & SYSTEMS ENGINEERING	**16238 PANEL -** Experiences with Agile for Systems Engineering in the Defense Industry Ms. Mary Ann Lapham, *Software Engineering Institute*			
TRACK 5: POTOMAC 5 SSE/SOS	**16076 -** Optimal Design of Computer Simulation Experiments for Architecting Systems-of-Systems Using a Main-Effects-Plus-Two-Factor-Interactions Model Dr. Edouard Kujawski, *EJK Associates*	**16077 -** Security Engineering in a System of Systems Environment Mr. George Rebovich, Jr., *The MITRE Corporation*	**16001 -** The Strategic Cybersecurity Threat Analysis Framework: Know Your Enemy, to Defeat Your Enemy Ms. Michele Myauo, *Microsoft*	**16111 -** A Supply Chain Attack Framework to Support Department of Defense Supply Chain Security Risk Management Dr. John Miller, *The MITRE Corporation*
TRACK 6: POTOMAC 6 ARCHITECTURE	**16278 -** "All for the Want of a Horseshoe Nail": An Examination of Causality in DoDAF Mr. Matthew Hause, *Atego*	**16023 -** Local Hawk MBSE Testbed Project: A Fruitful Collaboration between Industrial and Academic Worlds Mr. Thierry Ambroisine, *Dassault Systemes Americas Corporation*	**16175 -** Innovative Strategy for System Sustainability Mr. Brian London, *Charles Stark Draper Laboratory*	
TRACK 7: WASHINGTON A ESOH	**16177 -** OEF MRAP Roll-over Risk Reduction Team Lessons Learned Dr. Thomas English, *Naval Surface Warfare Center*	**16267 -** MIL-STD-882E: Implementation Challenges Mr. Jefferson Walker, *Booz Allen Hamilton*	**16270 -** MIL-STD-882E: Contracting - Task 108 and NAS 411 Mr. William Thacker, *Booz Allen Hamilton*	
TRACK 8: WASHINGTON B M&S - "APPLICATION OF M&S TO ACQUISITIONS"	**16240 -** FACT Enters the DoD Acquisition Process: Amphibious Combat Vehicle Feasibility Study Mr. Daniel C. Browne, *Georgia Tech Research Institute*	**16249 -** Enhancements to FACT for Representing the Marine Air-Ground Task Force for Energy Management Trade Space Exploration Dr. Santiago Balestrini Robinson, *Georgia Tech Research Institute*	**15986 -** Propagating Uncertainties in Simulation Assessments of Rockets, Artillery and Mortars Intercept Alternatives Mr. Frederick A. Ahrens, *Raytheon Company*	

THURSDAY, OCTOBER 31

7:00 am - 8:00 am — REGISTRATION & NETWORKING CONTINENTAL BREAKFAST

8:00 am - 9:45 am — SESSION E

TRACK	8:00 am - 8:35 am	8:35 am - 9:10 am	9:10 am - 9:45 am
TRACK 1: POTOMAC 1 EHM		**16093 -** The Use of Predictive Intelligence to Optimize System Availability Mr. Chuck Buckley, *Dassault Systems*	**16205 -** Business Case Assessment with a Modeled Enterprise (BeCAME) Mr. Elliott Reitz, *Advanced Automation Corporation*
TRACK 2: POTOMAC 2 SYSTEMS ENGINEERING EFFECTIVENESS	**16222 -** Achieving "True" Risk Reduction through Effective Risk Management Mr. Peter Nolte, *DASD(SE)*	**16111-** A Supply Chain Attack Framework to Support Department of Defense Supply Chain Security Risk Management Dr. John Miller, *The MITRE Corporation*	**16036 -** Using Operational Requirements to Develop an Improved Performance Predictive Model for Space-based Detector Technologies Mr. Moses Adoko, *George Washington University*
TRACK 3: POTOMAC 3 EDUCATION	**16014 -** INCOSE Certification Provides Common Framework for Systems Engineering Communication and Personnel Development Ms. Courtney Wright, *INCOSE*	**16074 -** Mapping Systems Engineering Tools with Effective Leadership Behaviors Dr. Shamsnaz Virani, *Worcester Polytechnic Institute*	**16129 -** ARMY Systems Engineering Workforce Development is Evolving to Adapt to the Changing Environment Mr. Jerold Linn, *ASA(ALT) System of Systems Engineering & Integration*
TRACK 4: POTOMAC 4 AGILE & SYSTEMS ENGINEERING	**16009 -** Toward a More Agile Systems Engineering Technical Review Process Mr. Jason Morris, *The George Washington University*	**16027 -** Clearing the Agile Mist – Driving to Clear Communication as Agile Goes Program Wide Mr. Michael Coughenour, *Lockheed Martin Corporation*	**16257 -** Agile Systems Engineering Approach to Software Project Development Mr. Chris Ritter, *SPEC Innovations*
TRACK 5: POTOMAC 5 SSE	**16232 -** Industry Perspective - Program Protection Planning Ms. Holly Coulter Dunlap, *Raytheon Company*		
TRACK 6: POTOMAC 6 SOS/ARCHITECTURE	**16018 -** Identifying Architectural Challenges in System of Systems Architectures Mr. Michael Gagliardi, *Software Engineering Institute*	**16282 -** DANSE – An Effective, Tool-Supported Methodology for Systems of Systems Engineering in Europe Dr. Eric Honour, *Honourcode, Inc.*	**16025 -** Common Software Platforms in System-of-Systems Architectures: The State of the Practice Mr. John Klein, *Carnegie Mellon Software Engineering Institute*
TRACK 7: WASHINGTON A HSI	**16101 -** Differences in Cognitive Skills Required for Systems Engineering Versus Software Engineering Mr. Thomas McDermott, *Georgia Tech Research Institute*	**16124 -** Systems Engineering Use of Monitoring Tools and Metric Data in Driving Sustainment Work for the Department of Defense's Electronic Health Record Mr. Thomas Britten, *Deloitte Consulting*	
TRACK 8: WASHINGTON B M&S - "MODEL BASED SYSTEMS ENGINEERING"	**16262 -** Applying Systems Thinking to MBSE Dr. Steven Dam, *SPEC Innovations*	**16279 -** How to Fail at Model-Based Systems Engineering Mr. Matthew Hause, *Atego*	**16016 -** Using Model-Based Systems Engineering and Multi-Physics Simulations to Develop a Vertical Take-Off and Landing Unmanned Aerial Vehicle Mr. Ed Ladzinski, *Dassault Systems*

9:45 am - 10:15 am — NETWORKING MORNING BREAK

10:15 am - 12:00 pm — SESSION F

TRACK	10:15 am - 10:50 am	10:50 am - 11:25 am	11:25 am - 12:00 pm
TRACK 1: POTOMAC 1 EHM	**16250 -** LML – A Technique for Enhancing Reliability, Availability and Maintainability throughout the Lifecycle Dr. Steven Dam, *SPEC Innovations*	**16233 -** DASD(SE) Reliability and Maintainability Engineering Initiatives Mr. Andrew Monje, *ODASD(SE)*	**16099 -** Non-Operational Stockpile Reliability Prediction Methods Using Logisitc Regression Techniques Mr. Louis Gullo, *Raytheon Missile Systems*
TRACK 2: POTOMAC 2 SYSTEMS ENGINEERING EFFECTIVENESS	**16013 -** Writing Good Technical Requirements Using Kipling Method in Aviation Industry Mr. Engin Oncul, *Turkish Aerospace Industries*	**16010 -** The Problem with Problem Management: Validating the Systems Engineering Problem Management Process Mr. Dennis A. Perry, III, *Newport News Shipbuilding*	
TRACK 3: POTOMAC 3 EDUCATION	**16234 -** The Helix Project: A DoD-NDIA Sponsored Research Study to Investigate the "DNA" of the Defense Systems Engineering Workforce Dr. Art Pyster, *SERC, Stevens Insitute of Technology*	**16139 -** Role-Based Competency Framework for Systems Engineering Dr. Don Gelosh, *Worcester Polytechnic Institute*	
TRACK 4: POTOMAC 4 BENCHMARK	**16193 -** Systems Engineering Benchmarking Workshop Mr. Geoff Draper, *Harris Government Communications Systems*		
TRACK 5: POTOMAC 5 SSE	**16051 -** Engineering Your Software for Attacks Mr. Robert Martin, *MITRE Corporation*	**16290 -** Critical Program Information Test Vector Mr. Geoffrey Donatelli, *Raytheon Company*	**16185 -** NDAA 2013 and Software Assurance Mr. Vik Chauhan, *Deloitte Consulting, LLP*
TRACK 6: POTOMAC 6 DT&E/SOS	**16085 -** A Decision Framework for Systems of Systems Based on Operational Effectiveness Mrs. Bonnie W. Young, *Naval Postgraduate School*	**16137 -** System of System and Product Line Best Practices from the Modeling and Simulation Industry Mr. David Prochnow, *The MITRE Corporation*	**16040 -** Systems Geometry: A Dimensional Approach to T&E Systems of Systems Understanding Ms. Christina Bouwens, *SAIC*
TRACK 7: WASHINGTON A ESOH	**16321 -** Integrating System Safety into Forward Deployed Theater Operations Mr. Michael Demmick, *NOSSA*	**16239 -** Streamlining Systems Engineering ESOH Management & Documentation Mr. William Thacker, Jr., *Booz Allen Hamilton*	**16261 -** U.S. Air Force Perspective: On Rapid or Urgent Acquisition ESOH Management - MRAP Lessons Learned Mr. Sherman Forbes, *SAF/AQXA*
TRACK 8: WASHINGTON B M&S - "STANDARDS FOR M&S IN ACQUISITION"	**16216 -** Understanding and Delivering the System Model: A Keystone for Implementing Model-Based Systems Analysis Ms. Philomena Zimmerman, *ODASD(SE)*	**16268 -** A Case Study to Examine Technical Data Relationships to the System Model Concept Dr. Tracee Gilbert, *AAAS*	**15992 -** Enabling Planning for More Efficient & Effective Modeling & Simulation Support Across the Life Cycle – A Standards Profile for Use of Acquisition Modeling & Simulation Col Crash Konwin, USAF (Ret), *Booz Allen Hamilton*

12:00 pm - 1:30 pm — NETWORKING LUNCHEON

THURSDAY, OCTOBER 31

1:30 pm - 3:50 pm — SESSION G

TRACK	1:30 pm - 2:05 pm	2:05 pm - 2:40 pm	2:40 pm - 3:15 pm	3:15 pm - 3:50 pm
TRACK 1: **POTOMAC 1** **EHM**	**16314 -** DoD Needs Systems that are Effective when Needed, not Just Effective when Available Mr. Michael Berry, *ASA(ALT) System of System Engineering & Integration*			
TRACK 2: **POTOMAC 2** **SE EFFECTIVENESS**	**16226 -** Panel: Systems Engineering Standards Initiatives Mr. Stephen Lowell, *Defense Standardization Program Office (DSPO)* Mr. David Davis, *Space and Missile Systems Center, U.S. Air Force* Mr. Daniel Christensen, *Naval Air Systems Command, U.S. Navy*			
TRACK 3: **POTOMAC 3** **EDUCATION**	**16235 -** Industry Panel: Best Practices for Systems Engineering Workforce Development Dr. Stan Rifkin, *Master Systems, Inc.* Mr. Brian Gallagher, *CACI, Inc.* Mr. Craig Miller, *Harris Government Communications Systems* Mr. George Rebovich, *MITRE* COL Don Robbins, *ODASD (SE)*			
TRACK 4:				
TRACK 5:				
TRACK 6: **POTOMAC 6** **SOS**	**16038 -** A Framework for Establishing System of Systems Governance Dr. Warren Vaneman, *Naval Postgraduate School*	**16220 -** Family of Systems System Engineering Wave Model Dr. Eileen McConkie, *Naval Surface Warfare Center Dahlgren Division*		
TRACK 7:				
TRACK 8: **WASHINGTON B** **M&S -** **"APPLICATION OF M&S IN SYSTEM DEVELOPMENT"**	**16041 -** Global Variance Reduction in Monte Carlo Simulation of Systems Engineering and Reliability Analysis Mr. Jeffrey Hyde, *Newport News Shipbuilding*	**16030 -** Modeling and Simulation – More Critical than Ever for Success in a Challenging Environment Mr. Frank Russ, *Lockheed Martin Corporation*		

3:50 pm — ADJOURN

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	Mr. Robert Lutz	**16013**	Mrs. Bengu Yapar
	Mr. Roy Scrudder		Mrs. Dilek Karaca
	Dr. Amy Henninger	**16016**	Mr. Ed Ladzinsky
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15952	Mr. Ron Perella		Mr. Greg Patzner
15953	Mr. Ron Perella		Mr. Eric Bolognini
15954	Mr. Ron Perella	**16018**	Mr. William Wood
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	Mr. Andrew Moore		Dr. Timothy Eveleigh
	Mr. Mike Phillips		Dr. Shahryar Sarkani
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