NDIA

Celebrating 20 Years of Systems Engineering Excellence

20th Annual Systems Engineering Conference

Conference Program

October 23-26, 2017 | Waterford at Springfield | Springfield, VA
NDIA.org/systemsengineering

Welcome to the NDIA Systems Engineering Conference

On behalf of the National Defense Industrial Association's Systems Engineering Division, I would like to extend a very warm welcome to the 20th Annual Systems Engineering Conference. Yes, the 20th Annual – who knew when we started this conference 2 decades ago that we would continue to have important systems engineering issues to address? Well, perhaps most of you - because after all, technology keeps moving, our military capability continues to increase, the complexity of our systems continues to grow, and the threats we have to address continue to grow at an alarming rate.

For example, 20 years ago the term "Cybersecurity" wasn't addressed in DoD circles. Interoperability wasn't considered. Systems-of-systems weren't mentioned. And today, these are some of our hottest issues that the entire defense-industrial complex seeks to successfully address, not to mention affordability, sustainability and a host of other issues that continue to need attention.

This conference is the primary one in the US that brings together the engineering arms of the Office of the Secretary of Defense, the Services, many of the Federal Agencies, and the defense industrial complex to address and seek solutions to the issues we all face. Executives, managers and engineers from all of the major US defense contractors, as well as the principal engineering executives, managers and engineers from the Department of Defense and the Services and Federal Agencies are here, and dialog among us is critical to achieving a mutual understanding of the issues we collectively face and desperately need to solve. This conference provides an outstanding opportunity to have that dialog and exchange ideas, so please take maximum advantage of this opportunity.

And if there is anything that the conference committee, whose names are listed in the program, or I, or the outstanding NDIA staff can do to assist you, please let us know.

Bob Rassa
Manager, Engineering Programs
Raytheon Space & Airborne Systems

Dear Attendees, Speakers and Sponsors,

I would like to add my warm welcome to those attending the annual Systems Engineering Division conference. This year's conference marks the 20th anniversary of this prestigious event. I congratulate the NDIA Systems Engineering Division for their sustained, superior performance in producing a highly consequential event and applaud the many ways the division supports the Defense Department and defense community.

This conference is the premier event addressing the application of systems engineering principles to defense acquisition. As such, it is the main forum to exchange information and ideas among the Defense Department, the services, defense agencies, industry and academia.

I wish the best of experiences here at the conference, and look forward to many more years of division engagement with the community to promote and refine the systems engineering practice.

Sincerely

Herbert J. Carlisle
General, USAF (Ret)
President and CEO

20TH ANNUAL SYSTEMS ENGINEERING CONFERENCE

OCTOBER 23-26, 2017 | SPRINGFIELD, VA

INTRODUCTION

Considered the major annual systems engineering event focusing on the performance of DoD programs and systems, the National Defense Industrial Association's Annual Systems Engineering Conference offers content tailored to all levels of systems engineering (SE) professionals:

- Keynote Presentation
- Systems Engineering Executive Panels
  - DoD Executive Panel: Service Systems Engineering Leads discuss SE issues
  - DoD Executive Panel: Interagency Systems Engineering Activity
  - Industry Executive Panel: Industry Leaders discuss Systems Engineering issues
  - DoD Executive Panel: Service and Agency Program Managers discuss systems engineering issues
- Technical Breakout Sessions (2+ days)

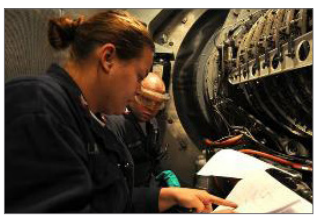
Demonstrating broad systems engineering community support, the conference is once again this year enjoying technical co-sponsorship by IEEE AES, IEEE Systems Council and the International Council on Systems Engineering.

Further attesting to its value and relevance to Systems Engineering professionals within the defense industry, the conference continues to receive the support of the Office of the Deputy Assistant Secretary of Defense for Systems Engineering.

Major themes running through the three plus day agenda will include net-centric operations, data/information interoperability, system-of-systems engineering, cyber security and all aspects of system sustainment.

CONFERENCE OBJECTIVE

This conference seeks to create an interactive forum for Program Managers, Systems Engineers, Chief Scientists, Engineers, and Managers from the Requirements, Design, Verification, Support, Logistics and Test communities from both government and industry. The conference and the professional exchanges it will prompt will create opportunities to shape future policy and procedures.



BACKGROUND

The Department of Defense continues to seek ways to improve the acquisition of military equipment and capability to assist the warfighter in protecting the U.S. and its Allies around the world in a complex environment of ever-changing threats and conditions.

The Weapon Systems Acquisition Reform Act (WSARA) of 2009 defines Systems Engineering as a key enabler to effect improvements in defense acquisition and program execution that will produce more effective and affordable military systems. Previous DoD Better Buying Power initiatives, with their focus on achieving dominant capabilities through technical excellence and innovation, continued to emphasize the importance of engineering to the Department. The new administration seeks to increase military spending which will put additional onus on the defense industrial complex to achieve acquisition excellence, and systems engineering performance on the part of government and industry as partners is a key ingredient to success.

Systems Engineering is the "umbrella" engineering function that drives successful program execution and ensures an appropriate balance between requirements, performance, cost, schedule, and overall effectiveness and affordability. Systems Engineering principles embody strong technical and risk/opportunity management aspects for the acquiring Program Office as well as the prime and subcontractors. Strong emphasis on systems engineering throughout a program, especially in early development planning, is a key enabler of successfully fielding complex defense systems.

NDIA's Annual Systems Engineering Conference explores the various roles of systems engineering from all aspects and perspectives—pragmatic, practical and academic—and brings key practitioners together to work on effective solutions to achieve a successful and affordable warfighting force.

CONFERENCE CHAIR

Mr. Robert Rassa
Director, Engineering Programs
Raytheon Company

DIVISION CHAIR

Mr. Frank Serna
Principal Director, Strategic Initiatives
Draper Laboratory

DIVISION VICE-CHAIR

Mr. Joseph Elm
Director of Engineering
L-3 Communications

NDIA PLANNING TEAM

Ms. Tammy Kicker, CMP
Director, Meetings & Events

Ms. Tina Fletcher
Meeting Planner, Meetings & Events

SCHEDULE AT A GLANCE

MONDAY, OCTOBER 23

8:00 am - 12:00 pm	Display Move In
12:00 pm - 5:30 pm	Registration
1:00 pm - 3:00 pm	Tutorials
3:00 pm - 3:30 pm	Networking Break
3:30 pm - 5:30 pm	Tutorials continue

TUESDAY, OCTOBER 24

7:00 am - 5:00 pm	Registration
7:00 am - 8:15 am	Networking Breakfast
8:15 am - 8:30 am	Opening Remarks: Bob Rassa, Raytheon; Frank Serna, Draper Labs
8:30 am - 9:30 am	Plenary Session Keynote: Vice Admiral Paul Grosklags, USN, Commander, Naval Air Systems Command
9:30 am - 10:00 am	Networking Break
10:00 am - 11:15 am	Executive Panel: DoD Systems Engineering
11:15 am - 12:30 pm	Executive Panel: Interagency Systems Engineering
12:30 pm -1:30 pm	Networking Luncheon
1:30 pm - 2:45 pm	Plenary Session Continues: Industry Executive Panel
2:45 pm - 3:00 pm	Presentation of Lt Gen Thomas R. Ferguson Systems Engineering Excellence Awards
3:00 pm - 3:30 pm	Networking Break
3:30 pm - 5:00 pm	Executive Panel: Program Managers
5:00 pm - 6:30 pm	Networking Reception

WEDNESDAY OCTOBER 25

7:00 am - 5:15 pm	Registration
7:00 am - 8:00 am	Networking Breakfast
8:00 am - 9:40 am	Concurrent Breakout Focus Sessions A
9:40 am - 10:15 am	Networking Break
10:15 am - 11:55 am	Concurrent Breakout Focus Sessions B
11:55 am - 1:00 pm	Networking Luncheon
1:00pm - 2:40 pm	Concurrent Breakout Focus Sessions C
2:40 pm- 3:15 pm	Networking Break
3:15 pm - 5:20 pm	Concurrent Breakout Focus Sessions D

THURSDAY OCTOBER 26

7:00 am - 5:15 pm	Registration
7:00 am - 8:00 am	Networking Breakfast
8:00 am - 9:40 am	Concurrent Breakout Focus Sessions A
9:40 am - 10:15 am	Networking Break
10:15 am - 11:55 am	Concurrent Breakout Focus Sessions B
11:55 am - 1:00 pm	Networking Luncheon
1:00 pm - 2:40 pm	Concurrent Breakout Focus Sessions C
2:40 pm- 3:15 pm	Networking Break
3:15 pm - 5:20 pm	Concurrent Breakout Focus Sessions D

TRACK OBJECTIVES

AGILE IN SYSTEMS ENGINEERING

Track Chairs: John Norton, *Raytheon Company*
Linda Maness, *Northrop Grumman Corporation*
Eileen Wrubel, *Software Engineering Institute*

Agile usage is becoming more prevalent within the government space. Lessons learned and ideas for implementation can be shared with those who are experienced in using Agile concepts. This track brings together practitioners with experience applying agile methods in a variety of disciplines and domains, with the goal of collaboration to expand their effective use in systems engineering and on defense programs

ARCHITECTURE

Track Chairs: Bob Scheuer, *The Boeing*
Ed Moshinsky, *Lockheed Martin Corporation*

Architecture is a key element in systems engineering. This track addresses architecture frameworks, strategies, and applications to improve system design, test, operations, and support.

COMPUTATIONAL RESEARCH & ENGINEERING ACQUISITION TOOLS AND ENVIRONMENTS (CREATE)

Track Chair: Douglass Post, *DoD High Performance Computing Modernization Program (HPCMP)*

The DoD HPCMP CREATE Program is a Tri-Service Program launched in 2006 by OSD and the HPCMP to develop and deploy eleven physics-based high performance computing software applications specifically to enable the DoD acquisition engineering community to design and analyze military ships, aircraft, ground vehicles, and radio frequency antennas. These tools enable engineers to generate an arbitrarily large number of design options (virtual prototypes expressed as digital product models) for design-space exploration, rapidly assess the feasibility and performance characteristics of each design option, and accurately predict the performance of each weapon platform with high-fidelity tools. With these tools, DoD engineers can identify design defects and performance shortfalls and fix them before metal has been cut, thus reducing costly rework and improving system performance. This reduces the cost, schedule, and risk of acquisition programs. The tools and computer time are available to DoD engineers (government and industry). The tools are being used by more than 180 DoD engineering organizations (government 40%, industry 50%, and other 10%--including academia) with over 1,400 users.

DEVELOPMENTAL TEST & EVALUATION (DT&E)

Track Chairs: Joe Manas, *Raytheon Company*

Developmental Test and Evaluation is a key aspect of successful systems engineering. This track addresses the entire continuum of test and evaluation from early planning to operational testing.

DIGITAL ENGINEERING/MODEL-BASED SYSTEMS ENGINEERING

Track Chair: Philomena Zimmerman, *DASD/SE*

Digital Engineering is an emerging set of practices for Systems Engineering and other engineering disciplines which has, at its core, the use of models (data, algorithms and/or processes) as a technical means of communication. When used properly, models can provide a cohesion across engineering activities, and cohesion with acquisition activities. When coupled with computational capabilities, resultant data from simulations can be used in decision-making at all echelons, and an increased level of insight and risk reduction in the end item can be achieved.

ENGINEERED RESILIENT SYSTEMS (ERS)

Track Chairs: Lois Hollan, *Potomac Institute*

Engineered Resilient Systems (ERS) is a Department of Defense priority initiative that seeks to transform engineering environments so that warfighting systems are more resilient and affordable across the acquisition lifecycle. The track will present new results across the ERS initiative including anchor technologies and computational representation.

EDUCATION & TRAINING

Track Chair: Don Gelosh, *Worcester Polytechnic Institute*

The Education and Training track for 2017 is an excellent collection of thirteen presentations from government, industry, and academia. The presentations describe a wide range of systems engineering workforce development activities from competency frameworks, cybersecurity skills, MBE and MBSE best practices, System of Systems guide and capstone marketplace to development of technical leaders.

ENTERPRISE HEALTH MANAGEMENT/PROGNOSTICS/ DIAGNOSTICS/RELIABILTY

Track Chairs: Chris Resig, *The Boeing Company*

The health of the system as a whole – the enterprise – is a critical function of systems engineering. This session will touch on some issues relating to the system health, including prognostics, diagnostics and reliability.

ENVIRONMENT, SAFETY, AND OCCUPATIONAL HEALTH (ESOH)

Track Chairs: Sherman Forbes, *USAF*
Dave Schulte, *SAIC*
Lucy Rodriguez, *Booz Allen Hamilton*

The ESOH track provides a cross section of topics that reflect the many different Systems Engineering design considerations included under the DoDI 5000.02 acronym ESOH, as defined in MIL-STD-882E, the DoD Standard Practice for System Safety. This year, Mr. James Thompson, Director, Major Program Support (MPS), within the Office of the Deputy Assistant Secretary of Defense for Systems Engineering will be the ESOH track's keynote speaker. Mr. Thompson will share his perspectives on Risk, Issue, and Opportunity (RIO) Management and Independent Technical Risk Assessments (ITRAs). Mr. David Asiello, the Acquisition, Sustainability & Technology Programs lead in the Office of the Assistant Secretary of Defense for Energy, Installations, and Environment will follow Mr. Thompson's presentation with a presentation focusing on how ESOH Risk Management is an integral part of the RIO Management Process and offering suggestions for improving the rigor, accountability, and visibility of ESOH risk management. There will be an extended question and answer period following Mr. Thompson's and Mr. Asiello's presentations to allow the audience to further explore the Acquisition and Sustainment Risk Management. The remainder of the ESOH track presentations will address specific acquisition ESOH issues, to include using Digital Engineering to manage ESOH risks and requirements, how to manage ESOH in Rapid Acquisitions, software system safety, hazardous materials regulations and management impacts on programs, environmental liabilities, environmental sustainability, and lessons learned about program

office successes and failures in implementing the DoDI 5000.02 acquisition ESOH policy.

HUMAN SYSTEMS INTEGRATION (HSI)

Track Chair: Matthew Risser, *Pacific Science*
Patrick Fly, *The Boeing Company*

The HSI sessions include technical papers aligned with DoD HSI policy, standards and guidance. The goal is to address HSI implications in the design of complex systems in support of systems engineering and include HSI methods, metrics, and best practices, process improvements, applications and approaches to program integration.

INTEROPERABILITY/NET - CENTRIC OPERATIONS

Track Chairs: Jack Zavin, *OUSD/ATL*
John Daly, *Booz-Allen-Hamilton*

Interoperability is ability to operate in synergy in the execution of assigned tasks both within the DoD and its external mission partners. 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. 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.

MISSION ENGINEERING

Track Chair: Judith Dahmann, *MITRE*

Mission engineering (ME) is the deliberate planning, analyzing, organizing, and integrating of current and emerging operational and system capabilities to achieve desired warfighting mission effects. This track focuses on current directions in Defense ME and approaches to applying SoS and SE approach to ME.

MODELING AND SIMULATION (M&S)

Track Chairs: David Allsop, *The Boeing Company*
Chris Schreiber, *Lockheed Martin Corpration*

The M&S Track highlights the use of models and simulations in the systems engineering process. Included are presentations on integrated environments, tools & technologies, and M&S applications in several SE process phases. Topics focused specifically on Digital Engineering/Model-based Systems Engineering are contained in a separate track on this topic.

PROGRAM MANAGEMENT

Track Chairs: Ken Nidiffer, *Software Engineering Institute*

Program Managers and chief Systems Engineers should be the "joined-at-the-hip" leads on all programs that wish to be successful. This session will address some of the issues that our program managers face in the execution of programs.

SOFTWARE ENGINEERING

Track Chairs: Ken Nidiffer, *Software Engineering Institute*

Software is often overlooked when talking systems engineering yet software is a key element of most designs today and must always be part of the systems engineer's portfolio of responsibility. This session will highlight a few significant software development issues.

SYSTEMS ENGINEERING EFFECTIVENESS

Track Chairs: Tim White, *Raytheon Company*
Joe Elm, *L3 Technologies*

Systems Engineering Effectiveness is obvious to some and quite esoteric to others. The goal though, improving the value obtained for each SE dollar spent, is shared by each who joins the discussion. Please attend the SE Effectiveness track to learn how your peers are implementing practical measures to better quantify the benefits of Systems Engineering and its value to Product Users and Developers alike. Early and effective Systems Engineering has been shown to return excellent value to all project stakeholders. This Track will highlight the latest DoD policy and guidance, define new approaches, and provide some practical experiences to assist the DoD and defense industry SE community in achieving a quantifiable and persistent improvement in program outcomes through appropriate application of systems engineering principles and best practices.

SYSTEMS OF SYSTEMS (SOS)

Track Chairs: Judith Dahmann, *MITRE*
Rick Poel, *The Boeing Company*
Jennie Horn, *Raytheon Company*

The System of Systems track will feature papers highlighting development SoS engineering approaches, particular SoS SE application areas, and SoS tools and modeling, including SoS SE applied to defense missions in mission engineering. See directly related track in Mission Engineering, above.

SYSTEM SECURITY ENGINEERING (SSE)

Track Chairs: Holly Dunlap, *Raytheon Company*
Melinda Reed, *DASD/SE*

System Security Engineering has become one of the most important aspects in the design of DoD systems. This track will focus on system security engineering and a holistic approach to program protection.

Monday, October 23

8:00AM - 12:00PM **Display Move In**

12:00PM - 5:30PM **Registration Open**

1:00 PM - 5:30 PM **Tutorials**

			1:00PM - 1:30PM	1:30PM - 2:00PM	2:00PM - 2:30PM	2:30PM - 3:00PM
Track 4	Gibson	**Tutorial: Modeling and Simulation (M&S)** 1C4	**19696** Half-Day Tutorial: Modeling and Simulation in the Systems Engineering Process ▶ Dr. Jim Coolahan, Coolahan Consultants, LLC			
Track 5	Sellier	**Tutorial: Applying MIL-STD** 1C5	**19702** Tutorial: Tutorial: Applying Focused MIL-STD-882E Software Safety Level of Rigor ▶ Mr. Stuart Whitford, *Booz Allen Hamilton*			
Track 6	Korman	**Tutorial: Communication and Analysis** 1C6	**19713** Effective Communication and Analysis in the Age of MBSE ▶ Mr. Ronald Kratzke, *Vitech Corporation*			

3:00PM - 3:30PM **Networking Break**

			3:30PM - 4:00PM	4:00PM - 4:30PM	4:30PM - 5:00PM	5:00PM - 5:30PM
Track 4	Gibson	**Tutorial: Modeling and Simulation (M&S) Cont'd** 1D4	**19696** Half-Day Tutorial: Modeling and Simulation in the Systems Engineering Process ▶ Dr. Jim Coolahan, Coolahan Consultants, LLC			
Track 5	Sellier	**Tutorial: Applying MIL-STD Cont'd** 1D5	**19702** Tutorial: Applying Focused MIL-STD-882E Software Safety Level of Rigor ▶ Mr. Stuart Whitford, *Booz Allen Hamilton*			
Track 6	Korman	**Tutorial: Communication and Analysis Cont'd** 1D6	**19713** Effective Communication and Analysis in the Age of MBSE ▶ Mr. Ronald Kratzke, *Vitech Corporation*			

5:30PM **Adjourn**

Tuesday, October 24

7:00AM - 5:00PM **Registration Open**

7:00AM - 8:15AM **Networking Breakfast**

8:15AM - 8:30AM **Opening Remarks**
Mr. Robert Rassa, *Director, Engineering Programs, Raytheon Company; NDIA Systems Engineering Conference Chair*

Mr. Frank Serna, *Principal Director, Strategic Initiatives, Draper Laboratory; Chair, NDIA Systems Engineering Division*

8:30AM - 9:30AM **Keynote Presentation**

VADM Paul Grosklags, *NAVAIR, Commander, Naval Air Systems Command*

9:30AM - 10:00AM **Networking Break**

10:00AM - 11:15AM **DoD Executive Panel: DoD Systems Engineering**
Moderator: Mrs Kristen Baldwin, *Deputy Assistant Secretary of Defense, Systems Engineering (Acting)*

Panelists:

- Col Laird Abbott, *USAF, Chief, Engineering and Force Management Division, Deputy Assistant Secretary for Science, Technology, and Engineering, SAF-AQR*
- Mr. William Bray, *USN, DASN RDT&E and Chief Systems Engineer*
- Mr. Douglas Wiltsie, *USA, Executive Director, SoSE&I, ASA ALT (invited)*

11:15AM - 12:30PM **Executive Panel: Interagency Systems Engineering**
Moderator: Ms. Kristen Baldwin, *Deputy Assistant Secretary of Defense, Systems Engineering (Acting)*

Panelists:

- Mr. Albert “Benjie” Spencer, *National Oceanic and Atmospheric Administration*
- Mr. Jon Holladay, *Technical Fellow for Systems Engineering, National Aeronautics and Space Admnistration*
- Mr. Kent Jones, Assistant Deputy Administrator for Systems Engineering and Integration, Defense Programs, DOE *National Nuclear Security Administration*
- Mr. Joseph Post, *Deputy Director, NAS Systems Engineering & Integration Federal Aviation Administration*
- Mr. James Tuttle, Deputy Director, CDS and Chief Systems Engineering, *Department of Homeland Security*

12:30PM - 1:30PM **Networking Luncheon**

1:30PM - 2:45PM **Industry Executive Panel: Model-Based Systems Engineering: How is it Helping?**

Mr. Frank Serna, *Principal Director, Strategic Initiatives, Draper Laboratory; Chair, NDIA Systems Engineering Division*

Panelists:

- Ms. Christi Gau Pagnanelli, *Director, BDS Systems Enginnering and Engineering Multi-Skilled Leadership, Boeing Defense, Space & Security*
- Mr. Randall Lum, *Corporate Director, Engineering, Northrop Grumman Corporation*
- Mr. Tim Walden, *Chief Engineer and Fellow, Lockheed Martin Corporate Engineering and Production Operations*
- Mr. Scott Welles, *Vice President, Booz Allen Hamilton*

2:45PM - 3:00PM **Presentation of Lt Gen Thomas R. Ferguson Systems Engineering Excellence Awards**

3:00PM - 3:30PM **Networking Break**

3:30PM - 5:00PM **Executive Panel: Program Managers**
Moderator: Col. David McIllece, USAF

Panelists:

- Col Edward Hospodar, USAF, *GPS User Equipment Senior Materiel Leader*
- COL Mike Milner, USA, *Armored Multi-Purpose Vehicle (AMPV) Program Manager*
- Col Amanda Myers, USAF, *Deputy Director, Global Reach Programs, Former C-17 System Program Manager*
- CAPT Seiko Okano, USN, *PEO Integrated Wardare Systems (IWS) 2.0 Program Manager*

5:00pm - 6:30pm **Networking Reception**

WEDNESDAY, OCTOBER 25

7:00AM-5:15PM **Registration**

7:00AM-8:00AM **Networking Breakfast**

			8:00AM - 8:25AM	8:25AM - 8:50AM	8:50AM - 9:15AM	9:15AM - 9:40AM
TRACK 1	SINGLETON	**Human Systems Integration** 3A1	19516 Enhancing Future Soldier Systems through the use of the Systems Modeling Language to Incorporate Human Aspects into the Soldier as a System Definition ▶ Mr. Sean Pham, *U.S. Army ARDEC*	19641 HSI Best Practice Standard ▶ Dr. Patrick Fly, *The Boeing Company*	19739 The Human Systems Integration Partnership:: Delivering the HSI Capability to the Air Force Systems Engineering Process ▶ Mr. Derek Johnston, *United States Air Force*	19919 Adaptive Automation for UAV Pilot Vehicle Interfaces ▶ Mr. Jeff O'Hara, *Georgia Tech Research Institute*
TRACK 2	MILLER	**Net Centric Operations & Interoperability** 3A2	19752 Kick Off/Context for NCO/I Track ▶ Mr. Jack Zavin, *DoD/OUSD(AT&L)*	19815 ISO/IEC/IEEE8 15288 System Interoperability Considerations ▶ Mr. John Daly, *Booz Allen Hamilton*	19759 JITC Executes DoD Mobility Field Assessments ▶ Mr. Khoa Hoang, *Joint Interoperability Test Command*	19764 Interface Management for Interoperability– from Theory to Modeling ▶ Mr. Matthew Hause, *PTC*
TRACK 3	VON STERNBERG	**Engineering & Model-based Systems Engineering** 3A3	19819 DoD Digital Engineering Strategy ▶ Ms. Philomena Zimmerman, *Department of Defense*	19879 Model Centric Engineering Enabling a New Operational Paradigm for Acquisition ▶ Dr. Mark Blackburn, *Stevens Institute of Technology*	19853 Joint NDIA SSE & SwA Committee and Joint Federated Assurance Center, Government SwA Gap Analysis Workshop Summary ▶ Ms. Holly Dunlap, *Raytheon Company*	19855 MBSE and Systems Engineering Transformation ▶ Mr. Troy Peterson, *INCOSE*
TRACK 4	GIBSON	**Modeling & Simulation** 3A4	19691 An Autonomous Sensor Tasking System ▶ Ms. Quintina Jones, *Raytheon Missile Systems*	19711 Best Practices for the Architecture, Design, and Modernization of Defense Models and Simulations ▶ Mr. Michael Heaphy, *AT&L/DMSCO*	19725 VV&A of Models and Simulations: The Power of Independent Cumulative Analyses ▶ Ms. Natalie Plotkin, *Raytheon Company*	19916 Formalized Execution of Model Integrated Descriptive Architecture Languages ▶ Mr. Gregory Haun, *Analytical Graphics, Inc.*
TRACK 5	SELLIER	**Agile** 3A5	19877 Research Gone "Agile" A Case Study on Using an Enterprise Transformation Process to Enable Agile Methods in a Research Program ▶ Dr. Rosa Heckle, *The MITRE Corporation*	19726 Issues anOpportunities in Accelerated Software Development for Next Generation DoD Applications ▶ Dr. Craig Arndt, *Defense Acquisition University*	19755 A System Dynamics Model of the Scaled Agile Framework (SAFe) to Quantify the Effects of Management Decisions on Capability Development and Acquisition Outcomes ▶ Mr. Sean Ricks, *The MITRE Corporation*	19777 "Elicitation of Robust and Quality Agile User Stories Using QFD" ▶ Ms. Sabrina Ussery, *The George Washington University*
TRACK 6	KORMAN	**Software** 3A6	19745 Software Complexity Modeling ▶ Mr. Thuc Tran, *Capital One*	19749 Harnessing the Beast: Using Model Based Systems Engineering (MBSE) to Manage Complex Research Software Environments ▶ Ms. Jennifer Turgeon, *Sandia National Laboratories*	19758 Software Systems Maturity Analysis ▶ Mr. Christopher Dieckmann, *Idaho National Laboratory*	19816 Free and Open Source Tools to Assess Software Reliability and Security ▶ Mr. Lance Fiondella, *University of Massachusetts*

WEDNESDAY, OCTOBER 25 - CONTINUED

9:40AM-10:15AM **Networking Break**

			10:15AM - 10:40AM	10:40AM - 11:05AM	11:05AM - 11:30AM	11:30AM - 11:55AM
TRACK 1	SINGLETON	**Human Systems Integration** **Systems Security Engineering** 3B1	19784 A Wearable Vision+Inertial Navigation System for Assessing Volumetric Utilization and Task Geometry Efficiency ▶ Mr. Kevin Duda, *Draper Laboratory*	19740 Fisher vs. Taguchi Experimental Design Methods in Human Factors ▶ Ms. Sarah Ewing, *Idaho National Laboratory*	19854 NDIA Welcome and Review of Accomplishments ▶ Ms. Holly Dunlap, *Raytheon Company*	19881 DoD Cyber Resilient Weapon Systems ▶ Ms. Melinda Reed, *Department of Defense*
TRACK 2	MILLER	**Net Centric Operations & Interoperability** **Mission Engineering** 3B2	19923 Joint and Mission Partner Interoperability ▶ Mr. Mike Richards, *Joint Staff J6*	19499 Real Life Cloud Acquisition and Adoption Across Agencies and Cloud Providers ▶ Mr. Mun-Wai Hon, *Noblis*	19849 Mission Integration Management, NDAA 2017 Section 855 ▶ Mr. Robert Gold, *Department of Defense*	19838 Systems of Systems Engineering Technical Approaches as Applied to Mission Engineering ▶ Dr. Judith Dahmann, *MITRE*
TRACK 3	VON STERNBERG	**Digital Engineering & Model-based Systems Engineering** 3B3	19793 Model-Centric Decision Making: Insights from an Expert Interview Study ▶ Dr. Donna Rhodes, *Massachusetts Institute of Technology*	19890 Using MBSE to Communicate and Gain Acceptance of your Analysis ▶ Mr. Frank Salvatore, *Engility*	19795 New Innovations in Digital Systems Engineering ▶ Dr. Edward Kraft, *University of Tennessee Space Institute*	19920 Key MBSE Enablers with Examples ▶ Mr. Nicholas Driscoll, III, *Raytheon Company*
TRACK 4	GIBSON	**CREATE Computational Research & Engineering Acquisition Tools and Environments** 3B4	20010 Digital Engineering (DE) and Computational Research and Engineering Acquisition Tools and Environments (CREATE) ▶ Ms. Philomena Zimmerman, *Department of Defense*	19721 CREATE: Accelerating Defense Innovation with Computational Prototypes and High Performance Computers ▶ Dr. Douglass Post, *DoD HPCMP*	19730 Physics-Based Simulation in Support of Acquisition program and Fleet Operations ▶ Mr. Steven Donaldson, *Naval Air Systems Command*	19728 Capstone: A Patform for Geometry, Meshing and Attribution Modeling for Physics-based Analysis and Design ▶ Dr. Saikat Dey, *US NRL Code 7131*
TRACK 5	SELLIER	**Agile** **Environment Safety & Occupational Health** 3B5	19902 Software Development Challenges in AFMC (Agile Software Development and Data Rights) ▶ Mr. Andrew Jeselson, *Air Force Materiel Command*		19701 Leveraging Cybersecurity Tools for Software Safety: Focusing (Some) Static Analysis on Safety-Critical Software ▶ Mr. Stuart Whitford, *Booz Allen Hamilton*	20028 Joint Software System Safety Implementation Guide ▶ Mr. Bob Smith, *Booz Allen Hamilton*
TRACK 6	KORMAN	**Systems Engineering Effectiveness** 3B6	19850 Engineering Autonomy ▶ Mr. Robert Gold, *Department of Defense*	19882 The Drive for Innovation in Systems Engineering ▶ Mr. Scott Lusero, *Department of Defense*	19814 DoD Systems Engineering Policy, Guidance and Standardization ▶ Ms. Aileen Sedmak, *Department of Defense*	19835 Helix: Understanding Systems Engineering Effectiveness through Modeling ▶ Ms. Nicole Hutchison, *Stevens Institute of Technology*

11:55AM - 1:00PM **Networking Luncheon**

WEDNESDAY, OCTOBER 25 - CONTINUED

			1:00PM - 1:25PM	1:25PM - 1:50PM	1:50PM - 2:15PM	2:15PM - 2:40PM
TRACK 1	SINGLETON	**System Security Engineering** 3C1	**19852** NDIA Cyber Resilient & Secure Systems Summit Summary ▶ Ms. Holly Dunlap, *Raytheon Company*	**19839** Unified Architecture Framework (UAF) Profile for Risk Assessment Methodology ▶ Ms. Tamara Hambrick, *Northrop Grumman Corporation*	**19913** Considerations to Address Dependably Secure System Function in System Capability, Requirements, and Performance Artifacts ▶ Mr. Michael McEvilley, *The MITRE Corporation*	**19866** AF Cyber Campaign Plan - Weapon Systems Focus ▶ Mr. Daniel Holtzman, *U.S. Air Force*
TRACK 2	MILLER	**Mission Engineering** / **System of Systems** 3C2	**19706** Model Based Systems of Systems Engineering ▶ Mr. Francis McCafferty, *Vitech Corporation*	**19868** Mission Threads: Linking Mission Engineering and Systems Engineering ▶ Dr. Greg Butler, *Engility Corp*	**19718** Developing Standards for Systems of Systems (SoS) Engineering ▶ Dr. Judith Dahmann, *The MITRE Corporation*	**19804** Scaling Model-Based System Engineering Practices for System of Systems Applications: Software Tools ▶ Ms. Janna Kamenetsky, The *MITRE Corporation*
TRACK 3	VON STERNBERG	**Digital Engineering & Model-based Systems Engineering** 3C3	**19545** Pulling the Digital Thread with Model Based Engineering ▶ Mr. Christopher Finlay, *Raytheon Company*	**19906** Modeling the Digital System Model Data Taxonomy ▶ Ms. Philomena Zimmerman, *Department of Defense*	**19746** Developing and Distributing a CubeSat Model-Based Systems Engineering (MBSE) Reference Model – Interim Status #2 ▶ Dr. David Kaslow, *S.E.L.F*	**19872** Enabling Design of Agile Security with MBSE ▶ Mr. Barry Papke, *No Magic*
TRACK 4	GIBSON	**CREATE: Computational Research & Engineering Acquisition Tools and Environments Engineering** 3C4	**19779** High-Fidelity Electromagnetic Modeling with CREATE-RF Tools ▶ Dr. Daniel Dault, *Air Force Research Lab*	**19809** Physics Based Modeling & Simulation For Shock and Vulnerability Assessments - Navy Enhanced Sierra Mechanics ▶ Mr. Jonathan Stergiou, *Naval Surface Warfare Center, Carderock Division*	**19823** The Role of CREATE-AV in Realization of the Digital Thread "Authoritative Truth Source" ▶ Dr. Edward Kraft, *University of Tennessee Space Institute*	**19753** A Networked Frigate Concept Design Space Exploration Using the Rapid Ship Design Environment ▶ Dr. Douglas Rigterink, *Navel Surface Warfare Center, Carderock Division*
TRACK 5	SELLIER	**Environment Safety & Occupational Health** 3C5	**19912** DASD (SE) Risk, Issue, and Opportunity (RIO) Management and Independent Technical Risk Assessments (ITRAs) ▶ Mr. James Thompson, *Department of Defense*	**19697** ESOH Risk Management ▶ Mr. David Asiello, *OASD(EI&E)*	**19908** DoD Acquisition ESOH IPT Q&A Panel ▶ Mr. David Asiello, *OASD(EI&E)*	
TRACK 6	KORMAN	**Systems Engineering Effectiveness** 3C6	**19790** Systems Engineering Research Needs and Workforce Development Study ▶ Dr. Dinesh Verma, *Systems Engineering Research Center (SERC)*	**19744** Technical Performance Risk Management for Large Scale Programs ▶ Mr. Brian Davenport, *Raytheon Company*	**19742** The Design of a Cone Penetrometer System ▶ Dr. Doris Turnage, *U. S. Army Engineer Research & Development Center*	**19781** Additive Manufacturing – Challenges for the Systems Engineer and Program Manager ▶ Mr. William Decker, *Defense Acquisition University*

WEDNESDAY, OCTOBER 25 - CONTINUED

2:40PM - 3:15PM **Networking Break**

			3:15PM - 3:40PM	3:40PM - 4:05PM	4:05PM - 4:30PM
TRACK 1	SINGLETON	**System Security Engineering** 3D1	**19861** Cyber Resilient and Secure Weapon Systems Acquisition/Proposal Discussion & Summary ▶ Ms. Holly Dunlap, *Raytheon Company*	**19771** When the Right Answer is Not What NAVSEA Normally Does ▶ Mr. Peter Chu, *NAVSEA 05*	**19870** Can't We Just Get Along: Engineering Trade Decisions VS RMF at the System Level ▶ Mr. Don Davidson, *DoD CIO*
TRACK 2	MILLER	**System of Systems** 3D2	**19802** Scaling Model-Based System Engineering Practices for System of Systems Applications: Analytic Methods ▶ Dr. Aleksandra Markina-Khusid, The *MITRE Corporation*	**19757** Defense System of Systems Gap Analysis ▶ Mr. Christopher Dieckmann, *Idaho National Laboratory*	**19878** Enterprise Implications of Family of Systems (FoS) Acquisition ▶ Dr. Garrett Thurston, *Dassault Systemes*
TRACK 3	VON STERNBERG	**Digital Engineering & Model-based Systems Engineering** 3D3	**19775** Digital System Model Ice ▶ Dr. David Hench, *Eagle Ray R&D*	**19871** Enabling Repeatable SE Cost Estimation with COSYSMO and MBSE ▶ Mr. Barry Papke, *No Magic*	**19888** MBSE to Address Logical Text-Based Requirements Issues ▶ Dr. Saulius Pavalkis, *No Magic*
TRACK 4	GIBSON	**CREATE: Computational Research & Engineering Acquisition Tools and Environments Engineering** 3D4	**19693** Program Management in CREATE for the Development of Large-scale Physics-based Software Development Projects for Engineering Design and Analysis ▶ Dr. Richard Kendall, *DoD HPCMP*	**19704** Computational Research and Engineering Acquisition Tools and Environments – Ground Vehicles (CREATE-GV) ▶ Dr. Christopher Goodin, *U.S. Army ERDC*	**19715** Physics-based, Multidisciplinary Analysis of Fixed-Wing Aircraft with HPCMP CREATE(TM)-AV/Kestrel ▶ Dr. David McDaniel, *DoD HPCMP/CREATE*
TRACK 5	SELLIER	**Environment Safety & Occupational Health** 3D5	**19770** Assessing the impacts of Amended Toxic Substances Control Act to the DoD Mission and the Defense Industrial Base Panel ▶ Ms. Amy Borman, *U.S. Army* ▶ COL Joseph Constantino *(SAF/IEE)* ▶ Mr. Shane Esola, *DCMA* ▶ Mr. Jim Rudroff, (ODASN(E)) ▶ Dr. Patricia Underwood, *OASD(EI&E)*		
TRACK 6	KORMAN	**Systems Engineering Effectiveness** 3D6	**19738** Improving Effectiveness with respect to Time-To-Market and the Impacts of Late-stage Design Changes in Rapid Development Life Cycles ▶ Mr. Parth Shah, *George Washington University*	**19716** Integrity System Security Engineering into System Engineering ▶ Mr. Ken Barker, *USAF*	**19824** Implementation of the R&M Engineering Body of Knowledge ▶ Mr. Andrew Monje, *Department of Defense*

WEDNESDAY, OCTOBER 25 - CONTINUED

			4:30PM - 4:55PM	4:55PM - 5:20PM	
TRACK 1	SINGLETON	**System Security Engineering** 3D1	**19880** Engaging the DoD Enterprise to Protect U.S. Military Technical Advantage: Joint Acquisition Protection and Exploitation Cell Update ▶ Mr. Brian Hughes, *Department of Defense*	**19798** Using Real Options Analysis to develop Resiliency in System Security Architectures ▶ Mr. Chris D'Ascenzo, *Defense Acquisition University*	
TRACK 2	MILLER	**System of Systems** 3D2	**19736** "Defense Acquisition System" System of Systems Engineering ▶ Mr. Larry Harding, *Idaho National Laboratory*		
TRACK 3	VON STERNBERG	**Digital Engineering & Model-based Systems Engoneering** 3D3	**19763** The Digital Engineering Journey ▶ Mr. Mathew Hause, *PTC*	**19833** Digitalization of Systems Engineering –Examples and Benefits for the Enterprise ▶ Mr. Sanjay Khurana, *Dassault Systemes*	
TRACK 4	GIBSON	**CREATE: Computational Research & Engineering Acquisition Tools and Environments Engineering** 3D4	**19776** Weapons System Innovation through Workflow-based Computational Prototyping ▶ Mr. Loren Miller, *DataMetric Innovations, LLC*	**19786** Rotorcraft Acquisition: Development of Modeling and Simulation Procedures ▶ Dr. Marvin Moulton, *U.S. Army*	
TRACK 5	SELLIER	**Environment Safety & Occupational Health** 3D5	**19770** Assessing the impacts of Amended Toxic Substances Control Act to the DoD Mission and the Defense Industrial Base Panel ▶ Ms. Amy Borman, *U.S. Army* ▶ COL Joseph Constantino *(SAF/IEE)* ▶ Mr. Shane Esola, *DCMA* ▶ Mr. Jim Rudroff, (ODASN(E)) ▶ Dr. Patricia Underwood, *OASD(EI&E)*		
TRACK 6	KORMAN	**Systems Engineering Effectiveness** 3D6	**19762** Decision-Driven Product Development ▶ Mr. Matthew Hause, *PTC*	**19830** Are We Doing Enough in Requirements Management? ▶ Dr. Steven Dam, *SPEC Innovations*	

5:20PM **Adjourn**

THURSDAY, OCTOBER 26

7:00AM-5:15PM **Registration**

7:00AM-8:00AM **Networking Breakfast**

			8:00AM - 8:25AM	8:25AM - 8:50AM	8:50AM - 9:15AM	9:15AM - 9:40AM
TRACK 1	SINGLETON	**System Security Engineering** 4A1	**19796** Cyber Systems Risk – an Opportunity for Model Based Engineering & Design ▶ Dr. Jerry Couretas, *Booz Allen Hamilton*	**19785** Cybersecurity As An Integral Part of Systems Engineering ▶ Mr. William Decker, *Defense Acquisition University*	**19741** Security at Design Time: Addressing Resilience in Mission Critical Cyber-Physical Systems ▶ Mr. Thomas McDermott, Jr., *Georgia Tech Research Institute*	**19911** Achieving DoD Software Assurance (SwA) ▶ Mr. Thomas Hurt, *Department of Defense*
TRACK 2	MILLER	**Developmental Test & Evaluation** 4A2	**19792** An Approach to Verification of Complex Systems ▶ Dr. Wilson Felder, *Stevens Institute of Technology*	**19925** Improving Distributed Testing with TENA and JMETC ▶ Mr. Ryan Norman, *TENA / JMETC*	**19774** Identifying Requirements and Vulnerabilities for Cybersecurity; Or How I Learned to Stop Worrying and Love the Six-Phase Cybersecurity T&E Process ▶ Mr. David Brown, *Electronic Warfare Associates (EWA)*	**19831** How Can We Use V&V Techniques in Early Systems Engineering? ▶ Dr. Steven Dam, *SPEC Innovations*
TRACK 3	VON STERNBERG	**Engineered Resilient Systems** 4A3	**20009** Digital Engineering and ERS ▶ Mr. Robert Gold, *Department of Defense*		**19845** ERS: Influencing Acquisition Innovation ▶ Dr. Owen Eslinger, *U.S. Army Engineer Research and Development Center*	**19907** Scaling Data Analytics for ERS ▶ Mr. David Stuart, *U.S. Army Engineer Research and Development Center*
TRACK 4	GIBSON	**Create: Computational Research & Engineering Acquisition Tools and Environments Engineering** 4A4	**19887** Multi-Disciplinary Integration of ModSim for Navy Applications ▶ Dr. Greg Bunting, *Sandia National Laboratories*	**19729** Academic Deployment of the HPCMP CREATE Genesis Software Package ▶ Dr. Robert Meakin, *U.S. DoD HPCMP*	**19875** Secure Web-Based Access for Productive Supercomputing ▶ Ms. Laura Ulibarri, *Air Force Research Laboratory*	**19800** CREATE-SH IHDE: Workflow Process Improvements for Hydrodynamics Characterization of Ship Designs ▶ Mr. Wesley Wilson, *Naval Surface Warfare Center, Carderock Division*
TRACK 5	SELLIER	**Environment, Safety & Occupational Health** 4A5	**19773** Model Based Systems Engineering (MBSE) Considerations for Environment Safety and Occupational Health (ESOH) ▶ Mr. Leo Kilfoy, *MSC Software*	**19772** A Pragmatic Approach to System Modeling for Hazard Identification and Risk Management ▶ Mr. Michael Vinarcik, *Booz Allen Hamilton*	**19708** Unmanned System (UxS) Safety Engineering Precepts - an OSD Guide - update of the 2007 OSD UxS Safety Guide ▶ Mr. Michael Demmick, *NOSSA*	**19754** Divergent Oscillating Refueling Probe on the HH-60G Pavehawk ▶ Mr. Joseph Jones, *SAF/AQRE*
TRACK 6	KORMAN	**Architecture** 4A6	**19820** MOSA Considerations in Systems Engineering Through the Lifecycle ▶ Ms. Philomena Zimmerman, *Department of Defense*	**19821** Implementing a MOSA to Achieve Acquisition Agility in Defense Acquisition Programs ▶ Ms. Philomena Zimmerman, *Department of Defense*	**19837** Challenges to Implementing MOSA for Major DoD Acqusition Programs ▶ Mr. Edward Moshinsky, *Lockheed Martin Corporation*	**19778** Investigating Approaches to Achieve Modularity Benefits in the Defense Acquisition Ecosystems ▶ Dr. Navindran Davendralingam, *Purdue University*

THURSDAY, OCTOBER 26- CONTINUED

9:40AM-10:15AM **Networking Break**

			10:15AM - 10:40AM	10:40AM - 11:05AM	11:05AM - 11:30AM	11:30AM - 11:55AM
TRACK 1	SINGLETON	**System Security Engineering** 4B1	**19853** Joint NDIA SSE & SwA Committee and Joint Federated Assurance Center, Government SwA Gap Analysis Workshop Summary ▶ Ms. Holly Dunlap, *Raytheon Company*	**19698** Program Manager's Guidebook for Integrating Software Assurance into Defense Systems During the System Acquisition Lifecycle ▶ Dr. Kenneth Nidiffer, *Software Engineering Institute*	**19735** Reducing Software Vulnerabilities – The "Vital Few" Process and Product Metrics ▶ Mr. Girish Seshagiri, *Ishpi Information Technologies, Inc.*	**19910** DoD Joint Federated Assurance Center (JFAC) 2017 Update ▶ Mr. Thomas Hurt, *Department of Defense*
TRACK 2	MILLER	**Education & Training** 4B2	**19813** Shaping the Department of Defense Engineering Workforce ▶ Ms. Aileen Sedmak, *Department of Defense*	**19794** Review of Best Practices for Technical Leadership Development ▶ Dr. Wilson Felder, *Stevens Institute of Technology*	**19805** Development of a Defense Mission Engineering Competency Model ▶ Dr. Nicole Hutchison, *Stevens Institute of Technology*	**19789** The Capstone Marketplace: Growing our Technical Workforce through Systems Oriented Senior Design Projects ▶ Ms. Megan Clifford, *Systems Engineering Research Center*
TRACK 3	VON STERNBERG	**Engineered Resilient Systems** 4B3	**19844** Tradespace: Informed Decision making for Acquisition ▶ Mr. Timothy Garton, *Engineer Research and Development Center*	**19834** Building an Agile Framework for the Analysis of Environmental Impacts on Military Systems ▶ Dr. Dharhas Pothina, *Engineer Research and Development Center*	**19859** Introducing Lifecycle Cost to Early Conceptual Tradespace Exploration ▶ Mr. Erwin Baylot, *Engineer Research and Development Center*	**19806** Overcoming the Government - Industry Collaboration Hurdle ▶ Dr. Patrick Martin, *BAE Systems*
TRACK 4	GIBSON	**Create: Computational Research & Engineering Acquisition Tools and Environments Engineering** 4B3	**19694** Software Engineering for Physics-based HPC Applications for Engineering Design and Analysis in CREATE ▶ Dr. Richard Kendall, *DoD HPCMP*	**19703** Verification and Validation in CREATE Multi-Physics HPC Software Applications ▶ Dr. Lawrence Votta, *Brincos Inc.*	**19709** DoD Risk Management Deficiencies...And How to Fix Them ▶ Mr. Richard Sugarman, *U.S. Air Force*	**19724** Tools for Acquiring Highly Maintainable Software-Intensive Systems ▶ Dr. Barry Boehm, *USC*
TRACK 5	SELLIER	**Environment, Safety & Occupational Health** 4B5	**19767** Rapid Equipping – Immediate Need to Equip and Protect Soldiers ▶ Mr. George Evans, *Prospective Technology Inc. (SAAL-PE/PTI ctr)*	**19769** ESOH Risk Management and Applying MIL-STD-882E Principles to Programs that Deviate from Standard Acquisition Models ▶ Mr. Jefferson Walker, *Booz Allen Hamilton*	**19732** Hazardous Materials Risk Management Using MIL-STD-882E ▶ Ms. Lori Hales, *Booz Allen Hamilton*	**19836** Leveraging the International Aerospace Environmental Group (IAEG) Defense Acquisition Materials Declaration Process ▶ Ms. Karen Gill, *Booz Allen Hamilton*
TRACK 6	KORMAN	**Architecture** 4B6	**19780** Cybersecurity and a Modular Open Systems Approach ▶ Mr. William Decker, *Defense Acquisition University*	**19743** If System Architectures are So Useful, Why Don't We Use Them More? ▶ Mr. Robert Scheurer, *NDIA SE Architecture Committee*	**19873** A Reverse Chronology of Evolutionary Architecture and Agile Development ▶ Mr. Thomas Mielke, *CACI International Inc.*	**19903** Efficient Use of Enterprise and System Architecting in Combined Environment ▶ Dr. Howard Gans, *Harris Corporation*

THURSDAY, OCTOBER 26 - CONTINUED

11:55AM - 1:00PM **Networking Luncheon**

			1:00PM - 1:25PM	1:25PM - 1:50PM	1:50PM - 2:15PM	2:15PM - 2:40PM
TRACK 1	SINGLETON	**System Security Engineering** 4C1	**19862** Long-Term Strategy for DoD Trusted and Assured Microelectronics Needs ▶ Dr. Jeremy Muldavin, *Department of Defense*	**19747** SSE Abstract: Developing Trust For a Secure Microelectronics Supply Chain ▶ Dr. Michael Fritze, *Potomac Institute for Policy Studies*	**19731** SSE: Trusted Microelectronics Joint Working Group ▶ Dr. Brian Cohen, *Institute for Defense Analyses*	**19700** Managing Risk with Trusted ASICs: Introducing to the SSE Community a Guidebook to Using Trusted Suppliers ▶ Mr. Jim Gobes, *Intrinsix Corp.*
TRACK 2	MILLER	**Education & Training** 4C2	**19811** Version 1.0 of the New INCOSE Competency Framework ▶ Mr. Don Gelosh	**19515** A Proposed Engineering Training Framework and Competency Methodology ▶ Dr. Eric Dano, *BAE Systems*	**19695** Educating Engineers or Training Technicians ▶ Mr. Zane Scott, *Vitech Corporation*	**19734** Solving Cybersecurity Skills Shortage With Apprenticeships & Certifications – A Case Study ▶ Mr. Girish Seshagiri, *Ishpi Information Technologies, Inc.*
TRACK 3	VON STERNBERG	**Engineered Resilient Systems** 4C3	**19783** The Language of Complexity: Ontology in Systems Design and Engineering ▶ Mr. Abe Wu, *Raytheon Missiles*	**19846** Physics and Model Based Aerodynamic Design and Analysis at GA ▶ Mr. Pritesh Mody, *General Atomics Aeronautical Systems, Inc.*	**20050** Automation and Integration for Complex System Design ▶ Mr. Scott Radon, *Phoenix Integration*	**19825** Application of CREATE Tools for High Fidelity Design Space Exploration ▶ Mr. Antonio De La Garza, *Lockheed Martin Aeronautics Company*
TRACK 4	GIBSON	**Program Management** 4C4	**19751** A Capability Value Frontier in Support of Acquisition Approaches to Enable Military Effectiveness ▶ Dr. Marilyn Gaska, *Lockheed Martin Corporation*	**19782** Technical Data Package and Intellectual Property Rights ▶ Mr. William Decker, *Defense Acquisition University*		**19827** Policy Engineering: Applying Systems Engineering to Develop Better Policies ▶ Dr. Steven Dam, *SPEC Innovations*
TRACK 5	SELLIER	**Environment, Safety & Occupational Health** 4C5	**19714** DoD's REACH Strategy and its Impact to Acquisition and Sustainment ▶ Dr. Patricia Underwood, *OASD(EI&E)*	**19705** Environmental Liabilities for DoD Weapons Systems ▶ Ms. Patricia Huheey, *OASD(EI&E)*	**19810** *Environmental Life Cycle Assessment of Commercial Transportation Activities* ▶ Ms. Sheila Neumann, *University of Texas at Arlington*	**19699** LIfe Cycle Assessment: A Tool for Protecting Defense Assets ▶ Dr. Kelly Scanlon, *OASD(EI&E)*
TRACK 6	KORMAN	**Architecture** 4C6	**19748** Advancing U.S. Marine Corps Warehouse Management Operations Through System Architecture and Analysis ▶ Mr. Christopher Melkonian, *Marine Corps Systems Command*	**19828** From Architecture to Operations – Using Your Architecture Work in Operations ▶ Dr. Steven Dam, *SPEC Innovations*		

Thursday, October 26 - Continued

2:40PM - 3:15PM **Networking Break**

			3:15PM - 3:40PM	3:40PM - 4:05PM	4:05PM - 4:30PM
Track 1	Singleton	**System Security Engineering** 4D1	**19864** Field Programmable Gate Array (FPGA) Assurance ▶ Mr. Ray Shanahan, *Department of Defense*	**19891** Using Cyber Resiliency Frameworks to Engineer and Manage IT Services ▶ Dr. Subash Kafle, *The MITRE Corporation*	**19863** Survey of Cyber Security Framework across Industries ▶ Mr. Ambrose Kam, *Lockheed Martin Corporation*
Track 2	Miller	**Education & Training** 4D2	**19756** Teaching Executable Model-Based Engineering (MBE): Best Practices ▶ Mr. Matthew Cotter, *The MITRE Corporation*	**19760** The Systems of Systems (SoS) Primer: A Guide to SoS for all Expertise Levels ▶ Ms. Laura Antul, *The MITRE Corporation*	**19865** Breaking Out: Systems Engineering To Go ▶ Mr. Zane Scott, *Vitech Corporation*
Track 3	Von Sternberg	**Engineered Resilient Systems** 4D3	**19712** Implementation of Clustering Analysis in Engineered Resilient Systems Tools for Enhanced Trade Space Exploration of Military Ground Vehicles ▶ Mr. Andrew Pokoyoway, *TARDEC*	**19818** Tradespace Analysis and Exploration incorporating Reliability, Availability, Maintainability, and Cost ▶ Dr. Lance Fiondella, *University of Massachusetts*	**19741** Security at Design Time: Addressing Resilience in Mission Critical Cyber-Physical Systems ▶ Mr. Thomas McDermott, *Georgia Tech Research Institute*
Track 4	Gibson	**Program Management** 4D4	**19847** Proactively Managing Supplier Relationships for an Integrated Product Development Program ▶ Ms. Beth Layman, *Layman & Layman*	**19932** Improving Efficiency in Assembly, Integration and Test (AI&T) ▶ Mr. Jeff Juranek, *The Aerospace Corporation*	**19842** "Other Transactions" - An Alternative to Business as Usual ▶ Mr. Richard Dunn, *Strategic Inst for Innovation in Govt Contracting*
Track 5	Sellier	**Environment, Safety & Occupational Health** 4D5	**19766** ESOH Management in Agile and Rapid Acquisitions Using Digital Engineering ▶ Mr. Sherman Forbes, *SAF/AQRE*		
Track 6	Korman	**Enterprise Health Management** 4D6	**19523** Mission-Based Forecasting for the Sustainment Enterprise ▶ Col Greg Parlier, USA (Ret.), *GH Parlier Consulting*		

Thursday, October 26 - Continued

			4:30PM - 4:55PM	4:55PM - 5:20PM	
Track 1	Singleton	**System Security Engineering** 4D1	**19722** The Systems Challenges of Cybersecurity ▶ Mr. Jeffery Zili, *Vitech*	**19895** Modeling Cyber Security ▶ Mr. Ambrose Kam, *Lockheed Martin Corporation*	
Track 2	Miller	**Education & Training** 4D2	**19914** Bridging the Gap to MBSE ▶ Mr. James Baker, *Sparx Systems*	**19719** Introducing Cyber Resiliency Concerns Into Engineering Education ▶ Mr. Thomas McDermott, *Georgia Tech Research Institute*	
Track 3	Von Sternberg	**Engineered Resilient Systems** 4D3	**19781** Additive Manufacturing – Challenges... Program Manager ▶ Mr. William Decker, *DAU Huntsville*	**20051** Model-Based Engineering: Opportunities, Risks, and Best Practices ▶ Dr. Marc Halpern, *Gartner, Inc.*	

5:20PM **Adjourn Conference**

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