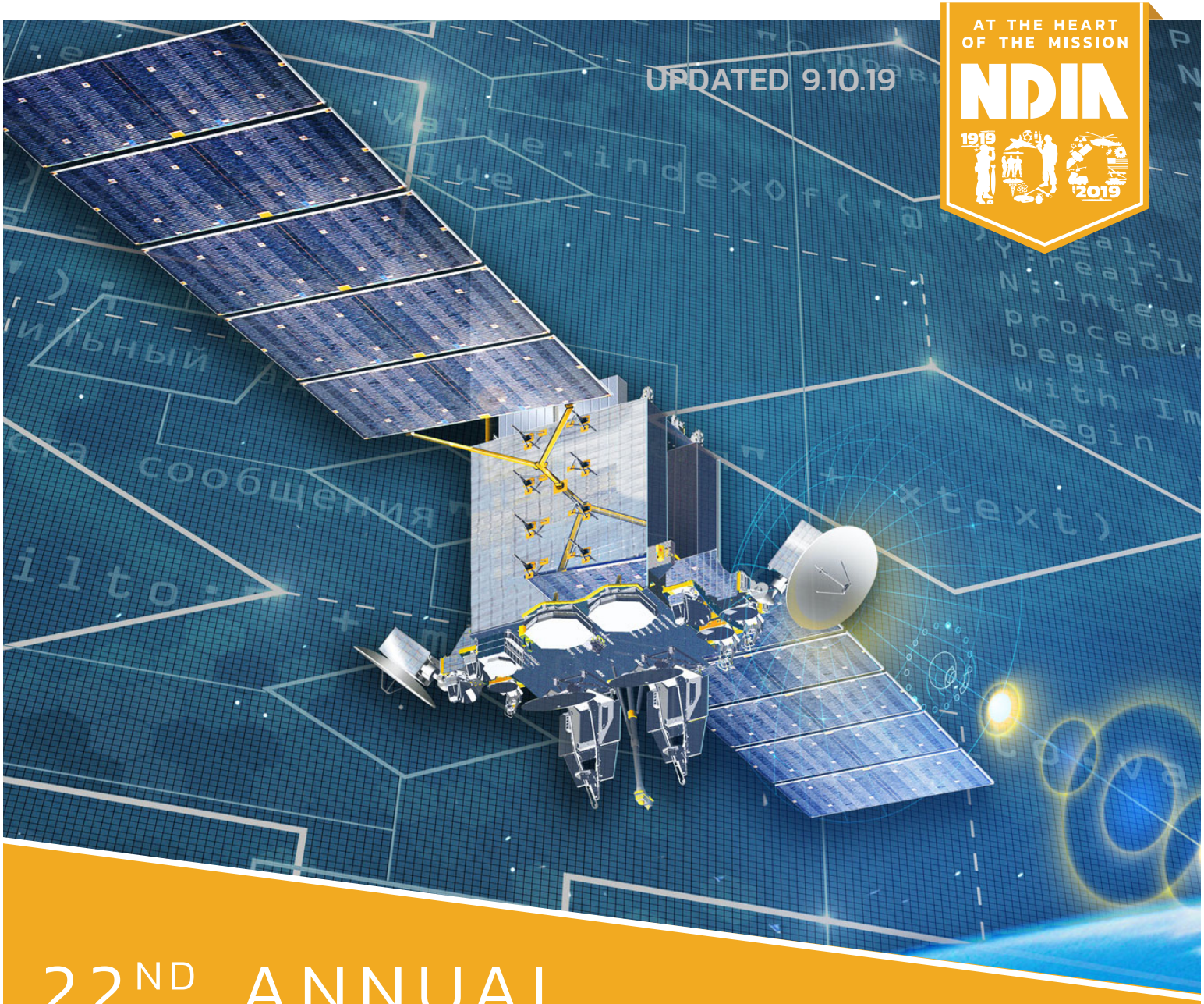

22ND ANNUAL

SYSTEMS & MISSION ENGINEERING CONFERENCE

October 21 – 24, 2019 | Tampa, FL | NDIA.org/SME

AGENDA

MONDAY, OCTOBER 21

12:00 – 5:30 pm **REGISTRATION**

1:00 – 3:00 pm **TUTORIAL SESSIONS**

3:00 – 3:30 pm **NETWORKING BREAK**

3:30 – 5:30 pm **TUTORIAL SESSIONS CONTINUED**

TUESDAY, OCTOBER 22

7:00 am – 6:30 pm **REGISTRATION**

7:00 – 8:00 am **NETWORKING BREAKFAST**

8:00 – 8:15 am **OPENING REMARKS**
Joseph Elm
Division Chair, Systems Engineering Division

Bob Rassa
Director, Engineering Programs, Raytheon Space & Airborne Systems
Conference Chair, Systems Engineering Division, NDIA

8:15 – 9:15 am **KEYNOTE ADDRESS**
Vice Adm. Jon A. Hill, USN, Director, Missile Defense Agency
Invited

9:15 – 9:45 am **NETWORKING BREAK**

9:45– 11:00 am **EXECUTIVE PANEL: PROTOTYPING WITH A MISSION ENGINEERING FOCUS**
Tim Dare
Deputy Director, Developmental Test, Evaluation & Prototyping

11:00 am – 12:15 pm

EXECUTIVE PANEL: R&E MODERNIZATION ROADMAPS

Derek Tournear
AD, Space
Invited

Mr. Mike White
AD, Hypersonics
Invited

Col Jonathan Luminati, USAF
FNC3

Mr. Wayne Nickols
AD, Autonomy
Invited

Dr. Thomas Karr
AD, Directed Energy
Invited

Dr. Daniel Ragsdale
AD, Cyber

Dr. Matt Daniels
Technical Director, Machine Learning/AI
Invited

12:15 – 1:15 pm

NETWORKING LUNCH

1:15 – 2:30 pm

INDUSTRY EXECUTIVE PANEL

2:30 – 2:45 pm

PRESENTATION OF THE FERGUSON AWARD

2:45 – 3:15 pm

NETWORKING BREAK

3:15 – 5:00 pm

DOD PROGRAM MANAGERS PANEL: PLATFORM PMS AND SYSTEM ENGINEERS CHALLENGES

5:00 – 6:30 pm

NETWORKING RECEPTION

WEDNESDAY, OCTOBER 23

7:00 am – 6:00 pm

REGISTRATION

7:00 – 8:00 am

NETWORKING BREAKFAST

9:30 am – 10:00	**NETWORKING BREAK**
10:00 am – 12:00 pm	**CONCURRENT TECHNICAL BREAKOUT SESSIONS**
12:00 – 1:00 pm	**NETWORKING LUNCH**
1:00 pm – 2:30 pm	**CONCURRENT TECHNICAL BREAKOUT SESSIONS**
2:30 – 3:00 pm	**NETWORKING BREAK**
3:00 – 5:00 pm	**CONCURRENT TECHNICAL BREAKOUT SESSIONS**
5:00 – 6:00 pm	**NETWORKING RECEPTION**

THURSDAY, OCTOBER 24

7:00 am – 5:00 pm	**REGISTRATION**
7:00 – 8:00 am	**NETWORKING BREAKFAST**
8:00 – 9:30 am	**CONCURRENT TECHNICAL BREAKOUT SESSIONS**
9:30 – 10:00 am	**NETWORKING BREAK**
10:00 am – 12:00 pm	**CONCURRENT TECHNICAL BREAKOUT SESSIONS**
12:00 – 1:00 pm	**NETWORKING LUNCH (ON OWN)**
1:00 – 2:30 pm	**CONCURRENT TECHNICAL BREAKOUT SESSIONS**
2:30 – 3:00 pm	**NETWORKING BREAK**

3:00 – 5:00 pm **CONCURRENT TECHNICAL BREAKOUT SESSIONS**

5:00 pm **CONFERENCE ADJOURNS**

The NDIA has a policy of strict compliance with federal and state antitrust laws. The antitrust laws prohibit competitors from engaging in actions that could result in an unreasonable restraint of trade. Consequently, NDIA members must avoid discussing certain topics when they are together at formal association membership, board, committee, and other meetings and in informal contacts with other industry members: prices, fees, rates, profit margins, or other terms or conditions of sale (including allowances, credit terms, and warranties); allocation of markets or customers or division of territories; or refusals to deal with or boycotts of suppliers, customers or other third parties, or topics that may lead participants not to deal with a particular supplier, customer or third party.

WEDNESDAY, OCTOBER 23

	Digital Engineering	CMMI	Engineered Resilient Systems	Model-based Systems Engineering	Education & Training	Human Systems Integration	System of Systems	Architecture & Modular Open Systems Approach	Model-based Systems Engineering 2
8:00 am	22286 New Digital Engineering Enabled Systems and Mission Engineering Performance Measures **Dr. Ed Kraft** University of Tennessee Space Institute	22292 CMMI Higher Maturity: The Implications of Getting it Wrong **Tara Lemieux** Daijo Consulting	21527 **Optimizing Engineering for DoD Acquisition & Sustainment** **HON Alan Shaffer** DUSD(A&S)	22448 Rapid Model Building with Patterns **Dr. Bjorn Cole** Georgia Tech Research Institute	22271 Exploring the core of Systems Engineering **Dr. Fred Robinson** MITRE Corporation	22326 System Architecture of a Human Biosensing and Monitoring Suite with Adaptive Task Allocation **Brandon Cuffie** Florida Institute of Technology	22520 Mission Engineering, Systems Engineering and Systems of Systems Engineering **Dr. Judith Dahmann** MITRE Corporation	22319 Operationalizing the Architecture: Turning the Enterprise Architecture into an Active Mission Asset **Dr. John McDowall** BAE Systems	22361 Defining a Model-Based Systems Engineering Approach for Technical Reviews **Warren Vaneman** Naval Postgraduate School
8:30 am	22380 Implementing a Semantic Integration Strategy for an Interoperable Systems Engineering Ecosystem **Dr. Douglas Orellana** SAIC	22480 How the CMMI Maturity Level 2 Practices Benefit the 367 TRSS **Parker Bauer** Air Force STSC	22455 Computational Engineering Ecosystem **Dr. Robert Wallace** U.S. Army Engineer Research and Development Center	22502 The Use of MBSE and a Reference Architecture in a Rapid Prototyping Environment **Dr. David Jacques** Air Force Institute of Technology	22484 An Agile Approach to Training **Virginia Aguilar** Raytheon Missile Systems	22373 A System of Systems Approach to U.S. Army Talent Management **Dr. Michael Do** U.S. Army	22470 A Digital Toolchain for Architecture-Centric Decision Making **Christopher Garrett** Air Force Lifecycle Management Center	22425 Re-architecting the Systems Engineering Enterprise at Lockheed Martin Space to Meet the Challenges of DoD's Mission Needs **Calvin Craig** Lockheed Martin Space	22285 Autonomous Sensor Tasking for Space Situational Awareness Using Deep Reinforcement Learning **Quintina Jones** Raytheon Missile Systems
9:00 am	22404 Intellectual Property Challenges within the Model Based Enterprise **Seam Dykes** LMI	21438 Affordable Resilient Architectural Trades in Next Generation Defense Systems **Ronald Lear** CMMI Institute **Kevin Schaff** CMMI Institute **Kileen Harrison** CMMI Institute **Parker Bauer** Air Force STSC **Brian Gallagher** Organization	22398 EXPEDITE: Meeting the Engineering Challenges of Hypersonics Design **Dr. Justin Foster** U.S. Army Engineer Research and Development Center	22522 Application of Probabilistic Graph Models to Warfighting Capability and Capacity Assessments **Jason Baker** Georgia Tech Research Institute	22516 Creating an Enhanced MBSE Learning Environment Using Lego Mindstorms **Mike Shearin** Georgia Tech Research Institute	22456 Standard Practice for Human Systems Integration (SAE6906) (and HSI-related projects) **Steve Merriman** SCMerriman Consulting LLC	22549 Challenges for Systems of Systems/Mission Engineering in a Space Acquisition Environment **Maj Benjamin M Bennett, USAF** USAF Space and Missile Systems Center	22421 The Role of Advanced Data Architectures in the MBSE Universe: Single Source of Truth Now and in the Future **Sonya Hand** Skayl, LLC	22517 Machine Learning in the Modeling and Simulation world **Joseph Keum** Riverside Research
9:30 am	22159 INCOSE Model Based Enterprise Capabliities Matrix **Al Hoheb** The Aerospace Corporation		22488 Machine Assisted Trade Space Analysis (MATSA) **Randy Ramsey** Raytheon	22543 Lightweight MBSE for Conceptual Design of Satellite Constellations **Bill Doncaster** SpaceWorks Enterprises	22396 Future of Systems Engineering Continued **Dr. Steven Dam** SPEC Innovations	22482 Using Machine Learning as an Operator Decision Aid on the Aegis Tactical Edge **Edward Beck** ASRC Federal Mission Solutions	22461 Cybernetics, Complexity, and the Challenges to the Realization of Systems-of-Systems **Dr. Tod M Schuck** Lockheed Martin RMS	22506 A Reference Architecture for Autonomy: Design, Development and Evaluation **Jeremy Gray** Air Force Institute of Technology	22540 The UFOS Framework: Enabling Ontology-driven Simulation of Physics-infused Descriptive Architecture Models **Gregory Haun** Relatech
10:00 am	NETWORKING BREAK					NETWORKING BREAK			

	Digital Engineering	Systems Security Engineering	Engineered Resilient Systems	Model-based Systems Engineering	Education & Training	Human Systems Integration	System of Systems	Architecture & Modular Open Systems Approach	Model-based Systems Engineering 2
10:30 am	22362 SysML-based, Collaborative Research Project Management	22471 Welcome and NDIA System Security Engineering Committee Highlights,	22395 Current and Future ERS Projects **Dr. Owen Eslinger**	22343 Exploration of Semantic Web Technologies as an Enabler of Model-based Systems Engineering	22525 Modular Online Open SE Education (MOOSE) **Kyle Hastings** MITRE Corporation	22490 Human Systems Integration (HSI) as a Routine and Common aspect of Acquisition and Systems Engineering	22498 STITCHES: DARPA Technology Enabler for Rapid Composition of Systems of Systems **Dr. Judith Dahmann**	22354 Modular Open Systems Approach (MOSA) Standardization Across the Department of Defense **Nathaniel Barley** OUSD(R&E)	22355 Transitioning from Document-Centric to Model-Centric System Integration – Challenges and Opportunities

	Dr. Benjamin Kruse Stevens Institute of Technology	Accomplishments, and Plans **Holly Dunlap** Raytheon	U.S. Army Engineer Research and Development Center	(MBSE) and Digital Engineering (DE) **Mr. Hyun June Ferrabolli** Department of Defense		**Mike Pietryga** 711th Human Performance Wing	MITRE Corporation **LtCol Jimmy (Rev) Jones** DARPA PM **Dr. Evan Fortunato** Apogee Research – STITCHES Technology **Michael Solari** Lockheed Martin – STITCHES Application Experience		for Legacy System Stakeholders **Michael Hanlon**
11:00 am	222375 Modeling Languages: What makes a good language and why? **Dr. Ronald Giachetti** Naval Postgraduate School	22378 Secure Cyber Resilient Engineering (SCRE) Standardization **Melinda Reed** OUSD(R&E)	22450 Techniques in Large-scale Data Analytics for Engineers Framework **Dr. Maria Seale** U.S. Army Engineer Research and Development Center	22474 Approaches to Marking and Validating Sensitive MBSE Models **Veejay Gorospe** Johns Hopkins Applied Physics Laboratory	22309 Designing Systems that are Chemical, Bioloigical, Radiological, and Nuclear (CBRN) Survivable **Brendan Powers** Joint CBRN Defense Program Analysis and Integration Office	22544 Informing Early Systems Engineering through an Improved HSI Approach to User Needs Analysis **Dr. Matthew Risser** Pacific Science & Engineering		22358 DoD Digital Technical Data and MOSA Challenges with Intellectual Property **Philomena Zimmerman** US Department of Defense	
11:30 am	22393 The Ontology of Systems Engineering: Towards a Computational Digital Engineering Semantic Framework **Melinda Huelar** Science Applications International Corporation	22580 Cyber Resiliency for AF Weapon Systems Architecture-Drive Assurance for Avionic Systems **Daniel Holtzman** U.S. Air Force	22414 High-Fidelity Rotorcraft Modeling to Support Future Vertical Lift **Dr. Andrew Wissink** U.S. Army Aviation Development Directorate	22481 A New Approach to Modeling, Viewing, and Managing Engineering Processes **Teresa McCarthy** Lockheed Martin		22345 PTSD and a new way to fight it **Apurva Lanman** University of Central Florida		22366 Recent Activities and Updates to the DoD Approach and Strategy to Implementing Modularity and Openness in Weapon Systems **J. Kyle Hurst** U.S. Air Force	22419 Transitioning Legacy Systems to Model-Based Systems Engineering **Timothy Coda** BAE Systems
12:00 pm	**NETWORKING LUNCH**					**NETWORKING LUNCH**			
	Digital Engineering	**Systems Security Engineering**	**Mission Engineering**	**Model-based Systems Engineering**	**Enterprise Health Management**	**Environment Safety & Occupational Health**	**Development Test & Evaluation**	**Architecture & Modular Open Systems Approach**	**Program Management & Life Cycle support**
1:00 pm	22447 Digital Engineering Implementation across the Department of Defense **Philomena Zimmerman** Department of Defense	22310 Mission Driven Security: Baseline Assurance and Threat/Vulnerability **David Olmstead** Lockheed Martin	22333 Mission Integration – Mission-Informed Engineering **Dean Ridgely** OUSD(R&E)	22407 The Value of Pragmatism: The ROI of Efficient Modeling **Michael Vinarcik** SAIC	22242 Key Metrics for Performance Based Logistics Sustainment Program **Dr. Camille Lewis** Lockheed Martin	22364 Environment, Safety, and Occupational Health (ESOH) – Design Considerations to Strengthen Readiness & Sustainability **David Asiello** ODASD(ENV)	22323 Managing Complexity in the Test and Evaluation of Integrated Systems **Edward Repetski** George Washington University	22565 NDIA MOSA White Paper Overview and Recommendations **Steve Thelin** Raytheon Company	22551 Agile Framework Overview **Andrea Nibert** Leidos
1:30 pm	22452 US Navy and Marine Corps Digital Engineering Strategy **Michael Doctor** U.S. Navy	22379 Joint Federated Assurance Center (JFAC) Update 2019 **Thomas Hurt** OUSD(R&E)	22363 Implementing mission capability portfolio management **David Crim** Department of Defense	22505 Hazardous Materials Model Library & Digital Engineering Resource **Mike LaPierre** Booz Allen Hamilton	22262 Unique Wake State Management and Extended Power Enablers for Effective Power Management within US Military Ground Vehicle Electronics and Architecture Solutions **Lawrence Osentoski** GC Associates USA LLC	22274 Systems Engineering Lessons Applied in NNSA Weapons Programs **Robert Bell** NNSA/DOE Defense Programs	22527 Systems Engineers should be the Test Engineers! **Paul Newell** Raytheon Company	22365 A Graph and Model-Based Analysis of the Openness of Functional Reference Architectures for Modular Open Systems **Erika Brimhall** Georgia Tech Research Institute	22563 Managing Irreducible Schedule Risk **Rick Price** ClearPlan Consulting
2:00 pm	22536 Outbrief from the Digital Engineering Information Exchange Working Group (DEIXWG) Digital Viewpoint Model (DVM) Sub-Team **Sean McGervey**	22529 Cyber Survivability Endorsement - New DoD Direction and Cyber Architecture **James Halbert** Raytheon	22445 Extending the DoD Digital Engineering Strategy to Missions, Systems of Systems and Portfolios **Phil Zimmerman** Department of Defense	22546 Benchmarking the Business Benefits of MBSE **Geoff Draper** Harris Corporation	22388 Reform – Improving Forecasting to Increase Speed and Reliability **Lynn Kohl** NAVSUP Weapon Systems Support	22370 DON System Safety in (Middle Tier) Accelerated Acquisition Process **Jennifer Glenn** ODASN(RDT&E)		22483 Modular Open Systems and Models **Virginia Aguilar** Raytheon Company	22515 Effective Risk and Opportunity Escalation **Vaughn Schlegel** Lockheed Martin

	Johns Hopkins University Applied Physics Laboratory								
2:30 pm	NETWORKING BREAK					NETWORKING BREAK			
	Digital Engineering	**Systems Security Engineering**	**Mission Engineering**	**Model-based Systems Engineering**	**Enterprise Health Management**	**Environment Safety & Occupational Health**	**System of Systems**	**Architecture & Modular Open Systems Approach**	**Program Management & Life Cycle Support**
3:00 pm	22382 Breaking the dependency of MBSE tools **Robin Mikola** Sodius-Willert **Chris Finlay** Raytheon	22250 Systems Engineering Challenges for Integrating Software Assurance into Systems **Dr. Kenneth Nidiffer** SEI	22558 Implementing Mission Engineering **Dr. Judith Dahmann** MITRE Corporation	22478 Model-Centric Source Selection Workshop **Al Hoheb** The Aerospace Corporation **Nathaniel Norwood** NAVAIR	22435 In-Situ Monitoring/Lifetime Prognostication of Critical System Components Using Unintended Emission Analysis Techniques **David Flowers** **Defense Microelectronics Agency**	22501 Improvements to current standards as a solution to the militaries On Board Oxygen Generation System (OBOGS) problems **J. Kyle Hurst** U.S. Air Force	22512 **Risk-Based V&A: A Systematic Approach** **David Hall** SURVOCE Engineering Company	22438 Implementing Modular Open Systems Approach (MOSA) Architectures with MBSE **Matthew Hause** PTC	22457 Leveraging DCMA EVMS Data Driven Metrics to Support Your Contract Lifecycle **David Scott** BDO Industry Specialty Services
3:30 pm	22312 Digital Transformation using AI, IoT, and Blockchain **Niten Malik** Microsoft	22403 Enhanced Software Assurance through DevSecOps **Bradley Lanford** SAIC	22423 The Effectiveness-Based Capability Model (EBCM), A methodology for Mission Engineering **John Green** Naval Postgraduate School		22437 The MBSE Digital Thread for Systems Failure Prediction **Matthew Hause** PTC	22510 Defining, Developing & Enhancing the Next Generation in Digital Engineering; A-10 Tactical Advantages, Lessons Learned and Future Plans **Hazen Sedgwick** U.S. Air Force	22461 Cybernetics, Complexity, and the Challenges to the Realization of Systems-of-Systems **Dr. Tod Schuck** Lockheed Martin RMS	22485 Getting the MOSA out of Composable Common Products: Raytheon's Approach to MOSA **Randy Ramsey** Raytheon Company	22177 Systems Engineering Concepts and Their Relationship to First Time Quality **April King** Northrop Grumman Corporation
4:00 pm	22294 AI based engineering assistant – Leveraging AI technologies in the digital engineering domain **Gavin Arthurs** IBM	22381 Identification and Application of Software Assurance Countermeasures **Thomas Hurt** OUSD(R&E)	22426 Scenario, Visualization, and Simulation Approaches for Addressing Integration Challenges in Mission Engineering **Dr. Alejandro Hernandez** Naval Postgraduate School		22439 Enterprise integrated Health Management Systems for Reliable Sustainment, Maintenance and Lifecycle Management **David Segal** PTC	22298 Digital Engineering for DoD ESOH **Dr. Dirk Zwemer** Intercax LLC	22541 How can Six Sigma and Model-Based Systems Engineering (MBSE) Improve Communication Within System-of-Systems (SoS) **LaTasha Starr** Lockheed Martin Aeronautics	22468 Open System Architecture as Applied to Air-Launched Weapons **Leo Rose** Odyssey Consulting	22304 Product Supportability Through Lifecycle Modeling and Simulation **Justin Woulfe** Systecon
4:30 pm	22247 Pushing the State of the Art: A Web-enabled MBSE Analysis Integration Framework **Dr. Andy Ko** Phoenix Integration	22581 Visibility & Control: Addressing Supply Chain Challenges to Trustworthy Software-Enabled Things **Robert Martin** MITRE Corporation	22376 Analysis of Interoperability to Support Mission Engineering **Dr. Ronald Giachetti** Naval Postgraduate School		22508 Using Unstructured Logbook Narratives to Correct Work Unit Codes **Josh Kalin** PeopleTec	22336 Safe from the Start: Using MBSE for Safety Engineering **Daisy Bower** Army Futures Command CCDC Armaments Center	22519 When to do System to System Testing **Paul Newell** Raytheon Company	22550 How Open and Modular Is Your System? **Mark Gibson** Organization	22316 A System of Systems approach to evaluate the emergence of technology on International Regulations for Preventing Collisions at Sea (COLREG) **LCDR Matthew Press** The George Washington University

THURSDAY, OCTOBER 24

	Digital Engineering	**Systems Security Engineering**	**Mission Engineering**	**Model-based Systems Engineering**	**Systems Engineering Effectiveness**	**Environment Safety & Occupational Health**	**Agile**	**Architecture & Modular Open Systems Approach**	**Program Management & Life Cycle Support**

8:00 am	22251 The Role of Analytics in the Digital Twin **Gavin Jones** SmartUQ	22432 Integrating Security into Enterprise Architecture with UAF **Matthew Hause** PTC	22491 Set-Based Design Is a Sensible By-Product of Mission Engineering **Dr. Dennis Buede** Innovative Decisions, Inc.	22261 INCOSE Model-Based Enterprise Capabilities Matrix - for Organizational Assessments **Al Hoheb** The Aerospace Corporation **Joe Hale** NASA/MFSC	22469 DoD Engineering Policy and Systems Initiatives **Scott Lucero** OUSD(R&E)	22387 System-Theoretic Process Analysis (STPA) Guided Model-Based Safety Analysis **Jing (Janet) Liu** Collins Aerospace	22547 Industry Recommendations (NDIA, INCOSE, PSM) for Implementing Continuous Iterative Software Development in the Defense Industry **Geoff Draper** L3 Harris Technologies	0000 The Problem with DoDAF Models **Mark Gibson** Organization	22334 Independent Technical Risk Assessments: Informing Decisions **Scott Menser** OUSD(R&E)
8:30 am	22313 Implementing the digital thread across the lifecycle with Global Configurations (GCs) **Dr. Graham Bleakley** IBM UK	22377 Systems Analysis of the Aspects of Cyberspace Enabled or Induced Loss **Melinda Reed** OUSD(R&E)	22526 Strategic Analytics: Operations Research for Mission Engineering **Dr. Greg Parlier** NC State University GH Parlier Consulting		22272 Increasing SE performance through quantifiable measurement of required program documentation **James Miller** Air Force Nuclear Weapons Center	22433 Semi automated model-based safety and security analysis of embedded systems using System Theoretic Process Analysis (STPA) **Rand Whillock** Adventium Labs	22548 Industry Best Practices for Iterative Software Development, Agile, and DevOps **Geoff Draper** L3 Harris Technologies **Robin Yeman** Organization **Larri Rosser** Organization **Suzette Johnson** Organization	22497 Requirements Architecting: Object-Oriented To M&S-Driven **Sachin Mehta** L3 Harris Technologies	22453 Dynamic Innovation Portfolio Risk & Opportunity Management: Keeping ahead of the Pace of Change **Thomas Brazil** Integrated Computer Solutions, Inc.
9:00 am	22397 Do we always want to integrate tools to create the Digital Thread? **Steven Dam** SPEC Innovations	22306 Application of Explainable Machine Learning Systems for Improving Network Intrusion Detection **Ying Zhou** George Washington University	22525 Modular Online Open SE Education (MOOSE) **Kyle Hastings** MITRE Corporation		22269 2018 Nuclear Posture Review – Implementation using Systems Approach **Marc Boucher** National Nuclear Security Administration	22442 Adapting ESOH Risk and Requirements Management in a Rapid, Model-bases Engineering Environment **Karen Gill** Booz Allen Hamilton		22492 Innovation Opportunities Within Product Breakdown Structures **Mike Franco** The Boeing Company	22495 Solutions for Resolving Requirements vs. Operational Needs **Paul Newell** Raytheon Company
9:30 am	22494 Using the digital thread for change analysis during operation of an asset represented by its digital twin **Craig Miller, PhD** ANSYS	22371 Systemic Security and the Role of Design for Cyber Physical Systems: Methods for Dynamic Analysis and Implications for MBSE Practice **Dr. Valerie Sitterle** Georgia Tech Research Institute	22568 Deploying the Source of Truth for Model Based System Development – from Acquisition to Sustainment **David Ewing** Aras Corporation		22537 A Scalable Mbse Architectural Framework for A Rapid RDT&E Environment **Robert Iannuzzi** NSWC Dahlgren Division	22503 Hazardous Materials Model Library & Digital Engineering Resource **Lori Hales** Booz Allen Hamilton		22454 Custodianship Model for Distributed Fusion Environments **I-Ju Nelson** BAE Systems	22487 Whole System Life Cycle Management with Digital Twins and Distributed Ledgers **Jason A Martin** DESE Research
10:00 am	**NETWORKING BREAK**							**NETWORKING BREAK**	
	Digital Engineering	**Systems Security Engineering**	**Mission Engineering**	**Model-based Systems Engineering**	**Systems Engineering Effectiveness**	**Environment Safety & Occupational Health**	**Agile**	**Architecture & Modular Open Systems Approach**	**Program Management & Life Cycle Support**
10:30 am	22391 Digital Engineering Ecosystem for Innovative Nuclear Technologies **Christopher Ritter** Idaho Natinal Laboratory	22371 Systemic Security and the Role of Design for Cyber Physical Systems: Methods for Dynamic Analysis and Implications for MBSE Practice **Dr. Valerie Sitterle** Georgia Tech Research Institute	22352 Mission Engineering - Competencies **Dr. Dinesh Verma** Stevens Institute of Technology	22542 The Growing Importance of Models for Defense Acquisition **Dr. John Colombi** Air Force Institute of Technology	22301 Systems Engineering Transformation Surrogate Pilot Experiments: Doing Everything in Models to Demonstrate the Art-of-the-Possible **Dr. Mark Blackburn** Stevens Institute of Technology	22441 Defense Acquisition Materials Declaration **Col Tim J Sheehan, USAF (Ret)** Raytheon	22559 A Path Toward Consensus Measures for Iterative Software Development **Geoff Draper** L3 Harris Technologies	22557 Leveraging architecture in a complex system development for quickest launch of agile development **Michael Coughenour** Lockheed Martin Space	22405 Digital Engineering throughout the DOD Lifecycle **Sean Dykes** LMI

11:00 am	22429 Digital Engineering Toolchain: Requirements and Implementation **Dr. Aleksandra Markina-Khusid** MITRE Corporation	22347 Utilizing a Maximin Approach to Explore System Design Trade-Space to Optimize Mission Resiliency **Presenter** Organization	22367 Addressing Mission Engineering from a Lead Systems Integration Perspective **Dr. Warren Vaneman** Naval Postgraduate School	22554 Lessons Learned and Recommended Best Practices from MBSE Pilot Programs **Ryan Noguchi** The Aerospace Corporation	22475 Efficient Modeling & Simulation Using Sequential Design of Experiments Methods **Dr. Tom Donnelly** SAS Institute	22459 Naval Sea Systems Command's (NAVSEA) Approach for Managing the Risk of Hazardous Material Usage in New Acquisition **Jessica Klotz** Naval Surface Warfare Center Carderock Division	22476 Decreasing U.S. Navy Procurement Administrative Lead Times with Agile Acquisition **Dr. R. LeWayne Johnson, ESQ** Department of Navy	22411 Continuing Madness: Methods Behind System Architecting Challenged **Robert Scheurer** The Boeing Company	22521 Force Level Integration: Application of Set-Based Design to POM Trade **David Fullmer** Georgia Tech Research Institute
11:30 am	22534 The Role of Engineering Practictioners in the ideal Digital Engineering Ecosystem of the near future **Dr. John Coleman III** SAIC	22368 Answering the Cyber-Physical System Security Workforce Challenge **Tom McDermott** Stevens Institute of Technology	22360 Curation of the Digital Mission Engineering Enterprise **Brian Haan** SAIC	22560 Model Based Acquistions: How Do We Get There? **Dr. Peter Pan** Northrop Grumman Corporation	22507 9 Key Enablers for Knowledge-Based Defense Acquisition **Brian Kennedy** Targeted Convergence Corporation	22493 Air Force Coating System Specification Approach to Non-Chromium Coating Qualification for the Outer Moldline on Aircraft **Diane Buhrmaster** Air Force Research Laboratory	22499 Addressing Agile Threat Considerations in the Defense Capability Lifecycle **John Daly** Booz Allen Hamilton		22523 Lead Systems Integration: An Engineering and Management Strategy for System of Systems **Warren Vaneman** Naval Postgraduate School
12:00 pm	**LUNCH (ON OWN)**					**LUNCH (ON OWN)**			
	Digital Engineering	**Systems Security Engineering**	**Mission Engineering**	**Model-based Systems Engineering**	**Systems Engineering Effectiveness**	**Environment Safety & Occupational Health**	**Agile**	**Software**	**Program Management & Life Cycle Support**
1:30 pm	22103 Blockchain for Defense: AFCEA Technology Perspectives **Nikhil Shenoy** Colvin Run Networks LLC	22422 Body of Knowledge and Competency Model for Cybersecurity Engineering – the CRWS Project **Dr. Chris Powell** SAIC Corporation	22532 A Rapid Prototyping Simulation Capability in Armor Active Protection Systems **Cody Fernandez** Georgia Tech Research Institute	22460 Using the MBSE and Architecture Keys to Decrypt the Innovation Process and Corporate Memory **Bob Sherman** Procter & Gamble	22290 MBSE 2.0: The Future is Now! **Zane Scott** Vitech Corporation	22463 Systems Analysis of Cd-free Electroplating at Fleet Readiness Center Southeast **Andrew Rak** Noblis	22324 Strategies for Streamlining Enterprise Architecture in the Age of Agile **John Mallinger** Raytheon Company	22372 Software Experts Panel: DoD Software Engineering **Dr. Bernard Reger** OUSD(R&E) **Jeff Boleng** Organization **Nicholas Chaillan** Organization **Sean Brady** Organization	22522 Application of Probabilistic Graph Models to Warfighting Capability and Capacity Assessments **Jason Baker** Georgia Tech Research Institute
2:00 pm	22424 Proof of Concept of a Packable, Multiprocessor-based Modeling and Simulation High-Performance-Computer Eco-system **Dr. David Hench** Eagle Point International Corporation	22320 National Nuclear Security Administration's approach to Systems Security Engineering **Matthew Lee** Honeywell FM&T	22462 Information Maneuverability and the Transformation of the Warfighting Environment **Tod Schuck** Lockheed Martin RMS	22464 The Migration Crisis: Solving the Transition from DOORS to DNG to Unlock the Digital Thread **Julie DeMeester** Raytheon Company	22348 Feature-based Produt Line Engineering: A Transformative Approach for Aerospace and Defense **Dr. Paul Clements** BigLever Software, Inc.	22511 DoD's Evolving Risks from European Union Chemical and Classification Regulations **Dr. Patricia Underwood** ODASD(ENV)	22513 DevOps Development - Dynamics of Engineering Concurrent Multi-Product Efforts **Brian Davenport** Raytheon Company		22530 Environment and Simulator Availability and Adequacy During Sustainment **Paul Newell** Raytheon Company
2:30 pm	22479 A Framework to Guide AI/ML and Autonomy Research in Systems Engineering **Tom McDermott** Stevens Institute of Technology	22283 DoD Industrial Base impacts of Recent System Security Engineering and Software Assurance Guidance via Use Case Assessment **Cory Ocker** Raytheon Company	22486 Model Based Mission Engineering- How we implemented MBME for Cyber COE, Intel COE, PEO IEWs and PEO C3T **Matthew Maher** Processus Group	22518 Model-Based Roadmapping: Time-Dependent Tradespace Analysis **Daniel Browne** Georgia Tech Research Institute	22465 Cloud Decision Framework **Sunny Anand** MITRE Corporation	22514 Assessing Supply Chain Risks of Critical Chemicals and Materials for National Defense **Dr. Shane Esola** DCMA	22496 Tailoring Systems Engineering for Adaptive Acquisition **Dr. Peter Korfiatis** MITRE Corporation		22531 Digital Engineering Transformation on Legacy Weapon Systems **Lt John McCrea, USAF** ICBM Systems Directorate
3:00 pm	**NETWORKING BREAK**					**NETWORKING BREAK**			

	Digital Engineering	Systems Security Engineering	Mission Engineering	Model-based Systems Engineering	Systems Engineering Effectiveness	Environment Safety & Occupational Health	Model-based Systems Engineering	Software	Program Management & Life Cycle Support
3:30 pm	22446 A Technology Road-map for Emerging Technologies to support the future End-to-End Digital Engineering Enterprise **Dr. John H. Coleman III** SAIC	22509 Loss-Driven Systems Engineering as the Complement to Capability-Driven Systems Engineering **Michael McEvilley** MITRE Corporation	22322 An Information Model for Mission Engineering **Mark Simons** Vitech Corporation	22518 Model-Based Roadmapping: Time-Dependent Tradespace Analysis **Daniel Browne** Georgia Tech Research Institute		22299 ESOH Risk Management in Middle Tier Acquisition **Sherman Forbes** SAF/AQRE	22314 The role of Simulation in the implementation of a Digital Twin **Dr. Graham Bleakley** IBM UK	22428 An MBSE Approach to Software Intensive Systems **Matthew Hause** PTC	22524 Building Connections Between Community Noise Requirements and the Acquisition Process **Catherine Stewart** Army Public Health Center
4:00 pm	22555 Using MBSE to Architect the MBSE System **Ryan Noguchi** The Aerospace Corporation	22547 Industry Recommendations (NDIA, INCOSE, PSM) for Implementing Continuous Iterative Software Development in the Defense Industry **Geoff Draper** L3 Harris Technologies		22413 The Risks of Classical Systems Engineering in a Model Based Systems Engineering World **Curtis Sisson** The Boeing Company			22392 Optimizing Cost, Schedule and Performance with MBSE **Dr. Steven Dam** SPEC Innovations		22436 From Electrons to Physical Systems: Integrating MBSE and Product Lifecycle Management **Matthew Hause** PTC
4:30 pm	22449 Architecture Centric Virtual Integration Process (ACVIP): A Key Component of the DoD Digital Engineering Strategy **Alex Boydston** U.S. Army	22344 Cybersecurity: Verification and Validation, And Developmental and Operational Test & Evaluation **David Olmstead** Lockheed Martin Corporation		22408 Shipshape and Bristol Fashion: Model Documentation and Curation to Facilitate Reuse **Michael Vinarcik** SAIC			22427 SysML Based co-simulation and Integration of Physical System Models Using a Standard Interface **Dr. Behnam Afsharpoya** Dassault Systemes		22532 A Rapid Prototyping Simulation Capability in Armor Active Protection Systems **Cody Fernandez** Georgia Tech Research Institute
5:00 pm	**CONFERENCE ADJOURNS**				**CONFERENCE ADJOURNS**				