

Agenda

TUESDAY, 18 AUGUST

0700 – 1700 **REGISTRATION & EXHIBITS OPEN**
LOWER FOYER

0730 – 1830 **CONTINENTAL BREAKFAST**
LOWER FOYER

0830 – 0845 **WELCOME & OPENING REMARKS**
PLAZA BALLROOM

Vance Souders

2026 Conference Chair, Thermo Fisher

VADM Sean Buck, USN (Ret.)

President, NTSA

SCHOLARSHIP AWARDS PRESENTATION

VADM Sean Buck, USN (Ret.)

President, NTSA

RADM JAMES ROBB SCHOLARSHIP AWARD @ MODSIM

The NTSA RADM James Robb scholarships are being offered to prepare individuals for leadership in the Modeling & Simulation, Training, and Education communities. RADM James Robb served as the NTSA President from 2012 – 2023, a keystone achievement during his presidency was the continued expansion of the NTSA Scholarship program. RADM Robb's continued commitment to growing the modeling and simulation technology workforce was evident through his unwavering support of these scholarships. These core programs continue to identify and credential a professional workforce and established educational programs to stimulate interest in M&S careers at all grade levels. RADM Robb believed that by investing in our future workforce, these scholarships will encourage expansion of the I/ITSEC community and promote innovation through direct investment in our community's future leaders.

Vanessa Barth

Ph.D. Information Technology with a
Concentration in Mechanical Engineering
George Mason University

Yevin Nikhel Goonatilake

Ph.D. Computer Science
George Mason University

0845 – 0915 **OPENING KEYNOTE**
PLAZA BALLROOM

Dr. Eric Davis

Program Manager, DARPA Strategic Technology Office

0915 – 0930 **NETWORKING BREAK & DEDICATED EXHIBIT TIME**
LOWER FOYER

0930 – 1030 **SPECIAL EVENT: The Simulation Century – Digital Twins and AI in Space**
PLAZA BALLROOM

This is our 15th annual session to address the growing issue of managing the human/machine interface as we hurtle towards the Singularity and the Metaverse. We will continue our discussion of how to achieve fluency with smarter balance between humans and machines to optimize outcomes. The Simulation Century Panel presentations this year will focus on the challenges and opportunities of implementing AI and simulation in the intelligence community.

MODERATOR

Richard Boyd

CEO, Ultisim Moderator

Jeffrey Arnold

Executive Vice President, Science and Technology, ENTARIAN

Dr. Christa Peters-Lidard

Deputy Director for Hydrosphere, Biosphere, and Geophysics
in the Earth Sciences Division, NASA Goddard Space Flight
Center

Agenda

1030 – 1145	PRESENTATION SESSION I: AI-Enabled Synthetic Environments and Wargaming	
	EMERGING CAPABILITIES PLAZA BALLROOM I	
1030 – 1055	The Joint Fires Rehearsal Center and the Future of SOF Mission Readiness Through AI-Enabled Synthetic Environments	
	Presenter: Joshua Ridley SOCOM JFRC	Hunter Miller SOCOM JFRC
1055 – 1120	Altreides: A Multi-Node AI Ecosystem for Traditional Wargaming	
	Presenter: Judy Chmelik MPF Federal, LLC	Will Sokolowski MPF Federal, LLC
	Alicia Sanchez MPF Federal, LLC	Seth Crofton MPF Federal, LLC
1120 – 1145	Synergizing Fidelity and Scale: Integrating VANE and OneSAF via an Unreal Engine Bifrost Client	
	Presenter: John Best Engineering and Computer Simulations, Inc.	
1030 – 1145	PRESENTATION SESSION I: Digital Threads, Executable Architectures, and Acquisition	
	MISSION READINESS PLAZA BALLROOM II	
1030 – 1055	Executable Architectures: Integrating Ontology, SysML v2, DEVS, and Agentic AI to Realize the Digital Thread	
	Presenter: Dolores Lowe Sabel Systems	
1055 – 1120	Advancing Mission Readiness Through Model-Based Acquisition and Digital Thread Integration	
	Presenter: Andrew Bonica MBXperts, LLC	Ricky Hernandez MBXperts, LLC
1120 – 1145	Forging the Future of Defense: The Department of War Modeling and Simulation Strategy for Engineering	
	Presenter: Keith Henry Support Contractor OUSW (R&E) DEM&S	Darryl Powell Support Contractor OUSW (R&E) DEM&S
1030 – 1145	PRESENTATION SESSION I: Autonomous Systems Testing, Trust, and Human Oversight	
	AUTONOMY PLAZA BALLROOM III	
1030 – 1055	Autonomous Systems Testing, Trust, and Human Oversight	
	Presenter: Nickolas Vlahopoulos University of Michigan	Sean Hickey University of Michigan
1055 – 1120	Personality Traits and Trust Recovery in Autonomous Recommendation Systems: A Computational Simulation Study	
	Presenter: Keian Finlay University of Central Florida	Ancuta Margondai University of Central Florida
1120 – 1145	Balancing Human and System Autonomy: Detecting and Preventing Overdependence in Decision-Making	
	Presenter: Gianna Southwick University of Central Florida	Ancuta Margondai University of Central Florida
1145 – 1245	LUNCH & DEDICATED EXHIBIT TIME	
	TERRACE	



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1245 – 1400	PRESENTATION SESSION II: Trusted and Governed AI for Mission Decisions	
	EMERGING CAPABILITIES PLAZA BALLROOM I	
1245 – 1310	A New Epoch of Modeling & Simulation: Constitutional Governance and MVC² for LLM-Spawnd Agent-Based Simulation	
	Presenter: Charles Day Charles F. Day & Associates	
1310 – 1335	Evidence-Based AI Assurance for Emerging Mission Decision Workflows	
	Presenter: Jason Kramer ObjectSecurity LLC	
1335 – 1400	Secure Automated Neural Intelligence Text Yielder – SANITY	
	Presenter: Matt Pittard BAE Systems OneArc	Tim Gaydos Parsons Co
	Trevor Pedersen BAE Systems OneArc	Jacob Brown USAF
1245 – 1400	PRESENTATION SESSION II: Synthetic Training Environments and Learning Transfer	
	MISSION READINESS PLAZA BALLROOM II	
1245 – 1310	Integrating Realism, Readiness, and Repeatability into Synthetic Training Environments	
	Presenter: Jeffrey Brum Mechdyne Corporation	Alan Liu Uniformed Services University SimCenter
1310 – 1335	Improving Training Transfer: Engineering Simulation-Based Experiential Learning into the Military Classroom	
	Presenter: Kevin Owens Applied Research Laboratory: The University of Texas at Austin	Lisa Townsend U.S. Army DEVCOM SC STTC
1335 – 1400	Accelerating the Transition of Wearable Display Technologies into Combat Medicine Training Systems	
	Presenter: Tiffany Zalewski SIMETRI, Inc.	Jeffrey Beaubien Aptima, Inc.
	Angela Alban SIMETRI, Inc.	Nick Walczak RTX BBN
	Juan Cruz SIMETRI, Inc.	Jack Norfleet U.S. Army DEVCOM SC STTC
	Edward Stadler SIMETRI, Inc.	
1245 – 1400	PRESENTATION SESSION II: Digital Twins, Reality Capture, and Simulation-Ready Models	
	AUTONOMY PLAZA BALLROOM III	
1245 – 1310	From Legacy PDFs to Simulation-Ready 3D Models: Accelerating Obsolescence Recovery and Manufacturing Throughput	
	Presenter: Billy Martin Triballogix.ai	Theresa Campobasso Aardwolf Global Solutions
	Clinton West Aardwolf Global Solutions	
1310 – 1335	Enhancing Mission Readiness Through Rapid 3D Reality Capture and Digital Twin Integration	
	Presenter: Robert Herman REscan, Inc.	Benjamin Raney REscan, Inc.
1335 – 1400	3DTiles via GDAL	
	Presenter: Ronald Moore Vantor	
1400 – 1415	NETWORKING BREAK & DEDICATED EXHIBIT TIME	
	LOWER FOYER	

Agenda

1415 – 1515

SPECIAL EVENT: The Digital Engineering–Simulation Flywheel: Turning Models Into Mission Advantage

PLAZA BALLROOM

Digital engineering is the use of authoritative, connected digital representations to inform system design, development, analysis, and decision-making across the lifecycle. Perfect fit for modeling and simulation tech, right? Nonetheless, digital engineering and modeling and simulation are too often treated as adjacent disciplines: the former focused on authoritative system representation, the latter on experimentation and analysis. This panel explores a more impactful view, where digital engineering and simulation form a reinforcing flywheel. Digital models and representations enable more mission-relevant, connected, and reusable simulations; those simulations, in turn, generate evidence that improves designs, validates concepts, and informs acquisition. Drawing on perspectives from defense digital engineering, digital twins, and model-based mission engineering, the panel will examine how this flywheel can move M&S from a supporting activity to front and center as an engine for speed, integration, and mission impact.

MODERATOR

Dr. Benjamin Bell

Vice President of Advanced Capabilities Engineering,
Potawatomi Ventures

Richard Boyd

CEO, UltiSim

Daniel Hettema

Director of Digital Engineering, Modeling & Simulation, OUSD
R&E

Dale Ormond

Senior Advisor, Kompozition

1515 – 1630

PRESENTATION SESSION III: Data Architectures and Mission Modeling

EMERGING CAPABILITIES | PLAZA BALLROOM I

1515 – 1535

Datastore Centric Interoperability Framework for Scalable Simulation and AI Driven Warfighter Readiness

Presenter: Jason Echols

Lockheed Martin, RMS

Robert Fitkin

Lockheed Martin, RMS

Elizabeth Overman

Lifescale Analytics, Inc.

1535 – 1555

From Operational Data to Simulation-Ready Environments: A Federated Architecture for Digital Engineering and M&S at the Edge

Presenter: Brian Carnell

Lifescale Analytics, Inc.

1555 – 1615

A Data-Centric Simulation Ecosystem for Accelerated Operational Outcomes

Presenter: Wayne Stilwell

Cole Engineering Services, Inc.

Ken Seedarnee

Cole Engineering Services, Inc.

1615 – 1630

Using the Behavior Modeling Language to Create a Mission Model

Presenter: Dale Ormond

Kompozition

Dan Powell

Kompozition

1515 – 1630

PRESENTATION SESSION III: Human Factors and Trust in AI-Enabled Readiness

MISSION READINESS | PLAZA BALLROOM II

1515 – 1540

Content Readiness for Mission Readiness: Human Factors Guidance for AI-Enabled Training Ecosystems

Presenter: Tarah Daly

Cognitive Performance Group

Andrew Naber

Cognitive Performance Group

1540 – 1605

Simulating Human–AI–Environment Interactions for Identifying AI Misalignment Risks and AI Mission Readiness in Autonomous UAS Operations

Presenter: Svitlana Volkova

Aptima, Inc.

Laura Cassani

Aptima, Inc.

Kyle Shervington

Aptima, Inc.

Hsien-Te Kao

Aptima, Inc.

William Dupree

Aptima, Inc.

Peter Bautista

Aptima, Inc.

1605 – 1630

Pluralistic Human Evaluation as a Mission-Readiness Signal for Deployed AI

Presenter: Arthur Cho

HumanJudge

Manvee Bansal

HumanJudge



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1515 – 1630 PRESENTATION SESSION III: Situational Awareness and Coordinated Autonomous Operations AUTONOMY | PLAZA BALLROOM III

1515 – 1540 **Multi-Modal Battlefield Anomaly Detection for AI-Enabled Situational Awareness**

Presenter: Marjaneh Safaei
Dignitas Technology

1540 – 1605 **Autonomous Vehicles & Unmanned Systems: Vision Clarity at Mission Speed**

Presenter: Eric Freer
Sterling Computers

1605 – 1630 **Multi-Vessel Coordinated Eye Gaze Control**

Presenter: Vanessa Barth
George Mason University

Leigh McCue-Weil
George Mason University

1630 – 1700 **SPECIAL EVENT: One-Minute Spotlight**

PLAZA BALLROOM

In this dynamic session, presenters distill their professional essence into a single slide and 60 seconds. Presenters will introduce themselves, outline their services or capabilities, and share their conference goals. Whether you're a researcher, entrepreneur, or industry professional, this rapid-fire spotlight ensures maximum impact in minimal time.

MODERATOR

Luke DeVore
Managing Partner, Voltron Group

1700 – 1830 **OPENING RECEPTION**

LOWER FOYER

Welcome Remarks

Vance Souders
2026 Conference Chair, Thermo Fisher

Reception Sponsor



2000 – 0200 **MODSIM AFTER DARK**

TBD VENUE

Join us for an immersive, after-dark vibe coding session where we dismantle traditional, passive team alignment meetings and replace them with a gamified, high-octane competitive sprint. Designed for developers, designers, product minds, and builders of all levels, this collaborative workshop challenges structured squads to work alongside specialized AI agent force multipliers to synthesize ideas, align designs, and deploy a fully functional, working MVP before the clock runs out. By transforming static consensus-building into an active, rolespecialized team sport, the event fosters an intense creative momentum fueled by both friendly rivalry and deep technical camaraderie. You will not just debate specifications; you will sketch layouts, synchronize architectures, resolve real-time conflicts, and walk out of the room with a tangible, working prototype that solves a real world problem randomly pulled from a hat filled by you and others preceeding the event. Bring you cellphone, thinking cap, and collaborative spirit and let's build something real together.

Agenda

WEDNESDAY, 19 AUGUST

0700 – 1425 **REGISTRATION & EXHIBITS OPEN**
LOWER FOYER

0730 – 0830 **CONTINENTAL BREAKFAST**
LOWER FOYER

0830 – 0840 **DAY TWO WELCOME & OPENING REMARKS**
PLAZA BALLROOM
Vance Souders
2026 Conference Chair, Thermo Fisher

0840 – 0900 **INDUSTRY KEYNOTE**
PLAZA BALLROOM
Rahul Thakker
President, BAE Systems OneArc

0900 – 1000 **SPECIAL EVENT: Bridging Innovation to Capability: Operationalizing the Defense Innovation Ecosystem**
PLAZA BALLROOM
Amber Reep
Director, University of Central Florida Tech Grove
Brian Shipley
Director, DON SBIR/STTR Programs
Richard Tarr
Southern Maryland Tech Bridge / TechPort (Invited)

1000 – 1015 **NETWORKING BREAK & DEDICATED EXHIBIT TIME**
LOWER FOYER

1015 – 1035 **GOVERNMENT KEYNOTE**
PLAZA BALLROOM
Elmer Roman
Deputy Assistant Secretary of War for Acquisition Integration and Interoperability

1035 – 1150 **PRESENTATION SESSION IV: Human-Centered Digital Twins and Extended Reality**
EMERGING CAPABILITIES | PLAZA BALLROOM I

1035 – 1100 **Human Digital-Twin-Style Models for Early Deterioration Prediction in Austere Trauma Care: A Validation-Readiness Simulation Study**

Presenter: Pierina Giovanna Parejo Carrizales
University of Central Florida

Ancuta Margondai
University of Central Florida

1100 – 1125 **An Extended Reality Assistant Improves Performance of an Austere Genomic Sequencing System for Novice Users**

Presenter: Nathan Fisher
Noblis, Inc.

Jenna Dundas
Noblis, Inc.

Nicholas Tolli
Noblis, Inc.

Stephanie Guertin
Noblis, Inc.

1125 – 1150 **Culturally Aligned Validated Population Simulation for Credible Deterrence in the Information Environment**

Presenter: Svitlana Volkova
Aptima, Inc.

Peter Bautista
Aptima, Inc.

Laura Cassani
Aptima, Inc.

William Dupree
Aptima, Inc.

Hsien-Te Kao
Aptima, Inc.

Patrick Gerard
Aptima, Inc.



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1035 – 1150	PRESENTATION SESSION IV: Operational Readiness for Complex Missions	
	MISSION READINESS PLAZA BALLROOM II	
1035 – 1100	Simulation-Enabled Risk Intelligence for Arctic Mission Readiness	
	Presenter: Jaimlyn Sypniewski Two Bears Environmental Consulting, LLC	Hailong Wang Pacific Northwest National Laboratory
1100 – 1125	Automated Coordination of Non-Kinetic Effects for Multi Domain Operations Training	
	Presenter: Omar Hasan Dignitas Technologies	Jason Strauss U.S. Army DEVCOM SC
	Jeffrey Welch Dignitas Technologies	Patrick Hart U.S. Army DEVCOM SC
	J. Allen Geddes U.S. Army DEVCOM SC	
1125 – 1150	LLMs Can Talk, but Can They Behave? Modeling Emotional Dynamics in AI-Driven Behavioral Training Simulations	
	Presenter: Rachel Benton Design Interactive, LLC	Jennifer Riley Design Interactive, LLC
	Gwen Campbell Design Interactive, LLC	
1035 – 1150	PRESENTATION SESSION IV: Autonomous Agents for Wargaming and Decision Advantage	
	AUTONOMY PLAZA BALLROOM III	
1035 – 1100	Wargaming, AI, and the Missing Middle: Building the M&S Ecosystem for Decision Advantage	
	Presenter: Jenna Tuck BAE Systems OneArc	
1100 – 1125	Society of Agents: A Constitutional Governance Architecture for LLM-Spawnd Multi-Agent Simulation	
	Presenter: Charles Day Charles F. Day & Associates	
1125 – 1150	Autonomous AI Agents for Strategic Wargaming Simulation: Evaluating Creativity, Adaptation, and Alignment Under Adversarial Pressure	
	Presenter: Svitlana Volkova Aptima, Inc.	Hsien-Te Kao Aptima, Inc.
	Laura Cassani Aptima, Inc.	William Dupree Aptima, Inc.
	Patrick Gerard Aptima, Inc.	Summer Rebensky Aptima, Inc.
1150 – 1250	LUNCH & DEDICATED EXHIBIT TIME	
	TERRACE	

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1250 – 1405 PRESENTATION SESSION V: Agent-Based Modeling for Complex Systems and Collaboration EMERGING CAPABILITIES | PLAZA BALLROOM I

1250 – 1315 **Beyond Mineral Oil: An Agent-Based Monte Carlo Simulation of Sucrose-Water Solutions as Next-Generation Immersion Coolants for Data Center Thermal Management**

Presenter: Yash Patel
Valencia College

Cindy Von Ahlefeldt
University of Central Florida

Ancuta Margondai
University of Central Florida

Mustapha Mouloua
University of Central Florida

1315 – 1340 **Ludic Force Multipliers: Mitigating Collaborative Overhead in Software Design Meetings Through Gamified Prototyping and Multi-Modal Agent Synthesis**

Presenter: Andrew Hollis
Emerging Technology Support, LLC

1340 – 1405 **State-Based 3D Browser-Native Simulation: Enabling Secure, Scalable M&S at the Edge via WebGPU**

Presenter: Royal Obrien
Expansia, LLC

1250 – 1405 PRESENTATION SESSION V: Performance Assessment, AAR, and Decision Speed MISSION READINESS | PLAZA BALLROOM II

1250 – 1315 **From Human Observation to Automated Assessment: A BPMN-Based Approach to Analyst Performance Assessment**

Presenter: Andrew Naber
Cognitive Performance

Emily Haynes
Randy Weatherspoon
Tarah Daly

Morgan Borders
Michael Williams
Angela Karrasch

1315 – 1340 **Reducing Manual Reconstruction in AAR: A Deterministic Post-Mission Evaluation Support Approach for Training, Test, and Experimentation**

Presenter: Kira Mamula
Field IQ Systems

1340 – 1405 **Racing Intelligence: How Adopting Elite Racing Data Analysis Philosophies Compresses Time-to-Decision**

Presenter: Scott Raymond
ORCA Engineering

1250 – 1405 PRESENTATION SESSION V: Training and Readiness in Human-Machine Environments AUTONOMY | PLAZA BALLROOM III

1250 – 1315 **Simulation-Based Training of Industrial Plant Operators: Steelmaking Case Study**

Presenter: Marina Massei
SIM4Future

Kirill Sinelshchikov
SIM4Future

Xhulia Sina
SIM4Future

1315 – 1340 **Between Physical and Virtual: The Landscape of Immersive Medical Simulation**

Presenter: Mohammad F. Obeid
Shenandoah University

1340 – 1405 **GenAI-Enabled Courseware Modernization: Transforming ISD Processes to Strengthen Force Readiness**

Presenter: Erica Haglund
Dignitas Technologies

1405 – 1420 NETWORKING BREAK & DEDICATED EXHIBIT TIME LOWER FOYER



Agenda

- 1420 – 1520 **SPECIAL EVENT: WARMATRIX & GEMSTONE BRIEFINGS**
PLAZA BALLROOM
DAF Modeling and Simulation Office
MODERATOR
Sean Litton
DAF Modeling and Simulation Office
- 1520 – 1525 **CLOSING REMARKS & ADJOURN**
PLAZA BALLROOM
Vance Souders
2026 Conference Chair, Thermo Fisher