

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, National Training and Simulation Association (NTSA)

SCHOLARSHIP AWARDS PRESENTATION

VADM Sean Buck, USN (Ret.)

President, National Training and Simulation Association (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

Dr. 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 Alicia Sanchez MPF Federal, LLC	Will Sokolowski 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: Brad Philipbar Philipbar Analytics LLC on behalf of Sabel LLC Dolores Lowe Sabel LLC	Robert Epstein Sabel LLC Dr. Paul Wach University of Arizona
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	Unsupervised Testing of Autonomy Software 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: Dr. 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: Gary Quasebarth Mechdyne Corporation	Dr. Alan Liu Uniformed Services University SimCenter
	Jeffrey Brum Mechdyne Corporation	
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 Tribalogix	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	

Agenda

1400 – 1415 **NETWORKING BREAK & DEDICATED EXHIBIT TIME**
LOWER FOYER

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

General Manager, Advanced Capabilities Engineering, LLC

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 – 1540 **Datastore Centric Interoperability Framework for Scalable Simulation and AI Driven Warfighter Readiness**

Presenter: Jason Echols

Lockheed Martin, RMS, TLS

Dr. Robert Fitkin

Lockheed Martin, RMS, TLS

1540 – 1605 **A Data-Centric Simulation Ecosystem for Accelerated Operational Outcomes**

Presenter: Wayne Stilwell

Cole Engineering Services, Inc.

Ken Seedarnee

Cole Engineering Services, Inc.

1605 – 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: Dr. Andrew Naber

Cognitive Performance Group

Tarah Daly

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.

Hsien-Te Kao

Aptima, Inc.

Laura Cassani

Aptima, Inc.

William Dupree

Aptima, Inc.

Kyle Shervington

Aptima, Inc.

Peter Bautista

Aptima, Inc.

1605 – 1630 **Pluralistic Human Evaluation as a Mission-Readiness Signal for Deployed AI**

Presenter: Arthur Cho

HumanJudge

Presenter: Manvee Bansal

HumanJudge



Agenda

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: Brendon Hales
Dignitas Technologies

Dr. Marjaneh Safaei
Dignitas Technologies

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

Presenter: Jonathan Jessen
Sterling Computers

Eric Freer
Sterling Computers

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

Presenter: Vanessa Barth
George Mason University

Dr. 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 – 2200 **MODSIM AFTER DARK** TERRACE

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

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Agenda

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

1015 – 1035 **GOVERNMENT KEYNOTE**
PLAZA BALLROOM

Elmer Roman, SES

Deputy Assistant Secretary of War for Acquisition Integration and Interoperability, US Department of War

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

Mustapha Mouloua
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.

1035 – 1150 **PRESENTATION SESSION IV: Operational Readiness for Complex Missions**
MISSION READINESS | PLAZA BALLROOM II

1035 – 1100 **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.

Elizabeth Overman
Lifescale Analytics, Inc.

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

Agenda

1035 – 1150 PRESENTATION SESSION IV: Autonomous Agents for Wargaming and Decision Advantage
AUTONOMY | PLAZA BALLROOM III

1035 – 1100 **Society of Agents: A Constitutional Governance Architecture for LLM-Spawnd Multi-Agent Simulation**

Presenter: Dr. Charles Day
Charles F. Day & Associates

1100 – 1125 **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.

Dr. Summer Rebensky
Aptima, Inc.

1125 – 1150 **Wargaming, AI, and the Missing Middle: Building the M&S Ecosystem for Decision Advantage**

Presenter: Jenna Tuck
BAE Systems OneArc

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 O'Brien 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: Dr. Andrew Naber Cognitive Performance	Morgan Borders Cognitive Performance
	Emily Haynes Cognitive Performance	Michael Williams Cognitive Performance
	Randy Weatherspoon Cognitive Performance	Angela Karrasch Cognitive Performance
	Tarah Daly Cognitive Performance	
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: Xhulia Sina SIM4Future	Kirill Sinelshchikov SIM4Future
	Marina Massei SIM4Future	
1315 – 1340	Between Physical and Virtual: The Landscape of Immersive Medical Simulation	
	Presenter: Mohammad Obeid Shenandoah University	
1340 – 1405	GenAI-Enabled Courseware Modernization: Transforming ISD Processes to Strengthen Force Readiness	
	Presenter: Dr. Erica Haglund Dignitas Technologies	

Agenda

- 1405 – 1420 NETWORKING BREAK & DEDICATED EXHIBIT TIME**
LOWER FOYER
- 1420 – 1520 SPECIAL EVENT: WARMATRIX & GEMSTONE BRIEFINGS**
PLAZA BALLROOM
Sean Litton
Strategic Engineering Lead, DAF Modeling and Simulation Execution Office
- 1520 – 1525 CLOSING REMARKS & ADJOURN**
PLAZA BALLROOM
Vance Souders
2026 Conference Chair, Thermo Fisher

Speakers

For a full list of speaker biographies please scan the QR Code.



THE SIMULATION CENTURY

TUESDAY, 18 AUGUST | 0930 – 1030



Richard Boyd
CEO, Ultisim
Moderator



Dr. Christa Peters-Lidard
Deputy Director for Hydrosphere,
Biosphere, and Geophysics in the Earth
Sciences Division, NASA Goddard
Space Flight Center



Dr. Jeffrey Arnold
Executive Vice President, Science and
Technology, ENTARIAN

THE DIGITAL ENGINEERING- SIMULATION FLYWHEEL:

TUESDAY, 18 AUGUST | 1415 – 1515



Dr. Benjamin Bell
Vice President of Advanced
Capabilities Engineering,
Potawatomi Ventures
Moderator



Richard Boyd
CEO, UltiSim



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



Dale Ormond
Senior Advisor, Kompozition

ONE-MINUTE SPOTLIGHT

TUESDAY, 18 AUGUST | 1630 – 1700



Luke DeVore
Managing Partner, Voltron Group
Moderator

BRIDGING INNOVATION TO CAPABILITY:

WEDNESDAY, 19 AUGUST | 0900 – 1000



Amber Reep
Director, University of Central Florida
Tech Grove
Moderator



Brian Shipley
Director, DON SBIR/STTR Programs



Richard Tarr
Southern Maryland Tech Bridge /
TechPort

WARMATRIX & GEMSTONE

WEDNESDAY, 19 AUGUST | 1420 – 1520



Sean Litton
Strategic Engineering Lead, DAF
Modeling and Simulation Execution
Office

TRACK CHAIRS

AUTONOMY



Radhakishan "Kishan" Shetty | Chair
Principal Software Developer, Janus
Research



JoAnn Archer | Deputy Chair
Deputy Director RDT&E, Design
Interactive, LLC

EMERGING CAPABILITIES



Matthew "Matt" Pittard | Chair
Systems Engineer, BAE Systems, Inc.



Andrew Hollis | Deputy Chair
Special Projects Lead, Emerging
Technology Support, LLC

MISSION READINESS



Madison Quinn | Chair
Research Lead, Engineering &
Computer Simulations, Inc.



Jodie Mangor | Deputy Chair
Director of Grants and Research,
SimX, Inc.

