



Hilton Norfolk the Main, Norfolk, VA | 9 – 11 May 2022
MODSIMWorld.org



MODSIM WORLD

Building a Better Tomorrow | May 9 – 11, Norfolk, VA

2022



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A Proud Affiliate of
NDIA

MONDAY, 9 MAY

1000 – 1700

REGISTRATION OPEN

MAIN SALON FOYER

1230 – 1730

EXHIBITS OPEN

MAIN SALON FOYER

1300 – 1315

MODSIM WORLD 2022 WELCOME & OPENING REMARKS

MAIN SALONS DE

Welcome & Opening Remarks

Nick Drucker
Huntington Ingalls Industries, 2022 Conference Chair

Introduction of Congressional Keynote Speaker

RADM James Robb, USN (Ret.)
President, NTSA

1315 – 1330

CONGRESSIONAL KEYNOTE ADDRESS

MAIN SALONS DE

Congressman Bobby Scott
VA-03

1330 – 1400

INDUSTRY KEYNOTE ADDRESS

MAIN SALONS DE

Terry Walley
CTO, HII Ingalls Shipbuilding

1400 – 1530

SPECIAL EVENT: INDUSTRY KEYNOTE PANEL

MAIN SALONS DE

Join a panel of industry experts as they share the ways modeling and simulation (M&S) technologies are helping them transform their businesses. This industry keynote panel provides broad ranging perspectives on the impact of M&S technologies in emerging markets (drone and unmanned systems), heavy manufacturing and construction with the nation's largest shipbuilder, and on the international supply chain with North America's largest value added distributor. Based on the theme of "Building a Better Tomorrow" the panelists will provide perspective on how M&S tools are helping them deploy solutions for a more resilient future.

Nick Drucker
Manager, Enterprise Centers of Excellence,
Huntington Ingalls Industries, 2022 Conference Chair
Moderator

Kenyth Campbell
Sr. Supply Chain Analyst, Ferguson Enterprise

Rese Cleaver
Director of Product Management, DroneUp

Mary Claire McLaughlin
Digital Capabilities Lab Manager,
Newport News Shipbuilding (NNS)

1530 – 1600

NETWORKING BREAK & DEDICATED EXHIBIT TIME

MAIN SALON FOYER

1600 – 1730

SPECIAL EVENT: “THE SIMULATION CENTURY” – DIGITAL TWINS & THE METAVERSE

MAIN SALONS DE

This is our tenth annual session to address the growing issue of managing the human/machine interface as we hurtle towards the singularity and the metaverse. We will discuss how to achieve fluency with smarter balance between humans and machines to optimize outcomes. The Simulation Century Panel presentations this year focus on technologies that build towards the metaverse.

“AI Digital Twins and the Metaverse”

Richard Boyd
CEO, Tanjo, Inc.
Moderator

“In the Footsteps of Marco Polo using XR”

Dennis Belliveau
Explorer in Residence and Author,
In The Footsteps of Marco Polo

“Digital Twins to Manage Community Wellness”

Anil Menon, Ph.D.
Executive Vice President, Community & Urban Services,
Sharecare, Inc.

“Empowerment”

Marc Prensky
Renowned author and creator of the term “Digital
Natives”

TUESDAY, 10 MAY

0700 – 1700

REGISTRATION OPEN

MAIN SALON FOYER

0745 – 0845

CONTINENTAL BREAKFAST

MAIN SALON FOYER

0845 – 0900

DAY TWO WELCOME & OPENING REMARKS

MAIN SALONS DE

Opening Remarks

Nick Drucker
Huntington Ingalls Industries, 2022 Conference Chair

Introduction of Government Keynote Speaker

RADM James Robb, USN (Ret.)
President, NTSA

0900 – 1000

GOVERNMENT KEYNOTE ADDRESS

MAIN SALONS DE

BG William R. Glaser

Director, Synthetic Training Environment Cross Functional Team (STE CFT)

0930 – 1730

EXHIBITS OPEN

MAIN SALON FOYER

1000 – 1030

NETWORKING BREAK & DEDICATED EXHIBIT TIME

MAIN SALON FOYER

PAPER SESSION I – INDUSTRY TRACK: DATA AUTHENTICITY & TRAINING SUPPORT MAIN SALON A

- 1030 – 1050 **Implementing Zero Trust Principles to Data in Motion for Improved Security and Performance over Physical and Virtual Networks**
- Joseph Warren
Thales Cloud Protection and Licensing
- 1050 – 1110 **Fake Data – Real Operations**
- Lt Col Matt Martin, USAF (Ret.)
CAE USA, Inc.
- 1110 – 1130 **The Need for Cyber-Physical Digital Twins for Multi-Domain Operational Studies & Analysis**
- Steven Huang
ManTech International Corporation
- Douglas Orellana
ManTech International Corporation
- 1130 – 1150 **Development and Testing of a Virtual Reality Aviation Illusion Trainer**
- Robert Thomas, Ph.D.
Embry-Riddle Aeronautical University
- Gary Garter
Embry-Riddle Aeronautical University
- Nicholas Nieves
Embry-Riddle Aeronautical University
- Trevor Goodwin
Embry-Riddle Aeronautical University
- Thomas Barcza
Embry-Riddle Aeronautical University

PAPER SESSION I – SECURITY TRACK: TRAINING WITH SYNTHETIC AGENTS & AI MAIN SALON B

- 1030 – 1050 **Red Rover, Red Rover, Send an F-35 Right Over: Assessing Synthetic Agent Trust in Humans to Optimize Mission Outcomes in Mosaic Warfare**
- Sandro Scielzo, Ph.D.
CAE USA, Inc.
- Brian Hall
CAE USA, Inc.
- 1050 – 1110 **Real-Time Situation Awareness Assessment for Pilots via Machine Learning: Constructing an Automated Classification System**
- Sandro Scielzo, Ph.D.
CAE USA, Inc.
- Nicholas Crothers
Southern Methodist University
- Eric Larson, Ph.D.
Southern Methodist University
- Yash Sinha
Southern Methodist University

1110 – 1130 **The STRATEGIC Project: Innovative Automated Analysis Tools for After Action Review (AAR) Using AI and Modeling & Simulation**

Ariane Bitoun
MASA Group

Anne-Gwenn Bosser
ENIB / Lab-STICC

Hans ten Bergen
MASA Group

François Legras
Independent Researcher

James Appleby
MASA Group

1130 – 1150 **A Neuro-Symbolic Approach to AI Agents within Simulation**

Samuel Griffith
Discovery Machine, Inc.

Hudson Pepper
Discovery Machine, Inc.

Todd Griffith, Ph.D.
Discovery Machine, Inc.

Isaiah Mallery
Discovery Machine, Inc.

Brady Kirkmpatrick
Discovery Machine, Inc.

**PAPER SESSION I – COMMUNITY TRACK: EDUCATIONAL APPROACHES UTILIZING M&S
MAIN SALON C**

1030 – 1050 **Analog vs. Digital: Amplifying Feedback for Learning**

Nicholas Armendariz
University of Central Florida

JJ Walcutt, Ph.D.
Clay Strategic Designs

1050 – 1110 **Boosting Cognitive Capabilities through Enhanced States during Gaming**

Maria Kozhevnikov, Ph.D.
Harvard Medical School

1110 – 1130 **Augmented & Mixed Reality-based Modules for Scientific Instrumentation Training**

Michael Kozhevnikov, Ph.D.
Norfolk State University

1130 – 1150 **Transitioning M&S Courses from a M&S Engineering Degree to a Major Under a Computer Engineering Degree**

James Leathrum, Jr., Ph.D.
Old Dominion University

Masha Sosonkina, Ph.D.
Old Dominion University

Yuzhong Shen, Ph.D.
Old Dominion University

Michel Audette, Ph.D.
Old Dominion University

1200 – 1300 **LUNCH & DEDICATED EXHIBIT TIME**
MAIN SALONS FGH & SALON FOYER

AGENDA | TUESDAY, 10 MAY

1300 – 1400

SPECIAL EVENT: SIMULATION FOR THE COMMON MAN: ACCESSIBILITY REVISITED

MAIN SALONS DE

Given the power of insight and learning that simulation provides, you might question why simulations are not more widely used. This facilitated, interactive brainstorming session intends to follow up on the discussion about the M&S accessibility problem that arose at the 2018 MODSIM conference. The purpose is to try and understand how our M&S community can reach new users and decision-makers. All attendees are welcome.

Andrew Collins, Ph.D.

Assistant Professor, Old Dominion University

1400 – 1430

NETWORKING BREAK & DEDICATED EXHIBIT TIME

MAIN SALON FOYER

1430 – 1600

SPECIAL EVENT: HAPPENINGS IN MEDICAL MODELING & SIMULATION

MAIN SALONS DE

Join a panel of industry and academic experts as they share the ways M&S technologies are innovating in the medical space. This panel will provide broad ranging perspectives on the impact of M&S technologies in DoD and civilian medical training. Based on the theme of “Building a Better Tomorrow,” the panelists will provide perspectives on how M&S tools are being deployed to help save lives.

Claire Hughes

Research Associate III, eXtended Reality Division,
Design Interactive, Inc., 2022 Deputy Program Chair

Bob Armstrong

Assistant Professor, School of Health Professions and
Executive Director, Sentara Center for Simulation and
Immersive Learning, Eastern Virginia Medical School

Frank Karluk

Account Executive, Medical Modeling and Simulation,
DLH Corporation

Philip LeDuc, Ph.D.

William J. Brown Professor, Mechanical Engineering
Department, Carnegie Mellon University

1600 – 1730

ATTENDEE ONSITE NETWORKING EVENT

MAIN SALON FOYER

MODSIM World reception is a networking event for industry, academia, and government attendees involved in the modeling and simulation community. This standing reception will have appetizers and beverages served at various stations throughout the lobby of the Hilton. Participants will have the chance to network and visit exhibitor tables to discover the latest in M&S technology.

Welcome Remarks

Nick Drucker

Huntington Ingalls Industries, 2022 Conference Chair

Networking Reception Sponsor

VMASC

WEDNESDAY, 11 MAY

0700 – 1400

REGISTRATION OPEN

MAIN SALON FOYER

0745 – 0845

CONTINENTAL BREAKFAST

MAIN SALON FOYER

0845 – 0900

DAY THREE WELCOME & OPENING REMARKS

MAIN SALONS DE

Opening Remarks

Nick Drucker

Huntington Ingalls Industries, 2022 Conference Chair

0900 – 1000

**SPECIAL EVENT: AR/VR PANEL –
TECHNOLOGIES CONTRIBUTING TO THE METAVERSE**

MAIN SALONS DE

This panel will define the metaverse, what it means for the government, and then dive into the technological advancements that are making it possible today. The panel will explore areas such as real-time 3D, scaling, geospatial, rendering, UI/UX, and how they come together to make a credible metaverse available for the government to realize significant value.

Bob Kleinhample, CMSP

Strategic Account Executive,
Improbable U.S. Defense & National Security
Moderator

Gastao De Figueiredo

SVP Strategic Partnerships, Blackshark.ai

Caitlin Dohrman

General Manager, Improbable U.S. Defense and National Security

John Burwell

Global Lead, Simulation and Training, Varjo

Luke DeVore

Senior Client Partner, Unity Technologies

Tim Woodard

Senior Solutions Architect, NVIDIA

0930 – 1400

EXHIBITS OPEN

MAIN SALON FOYER



Train Like You Maintain

*Light Weight Fully Immersive
Virtual Maintenance Trainers
Booth #1*



US Navy STAVE solutions provider

1000 – 1030

NETWORKING BREAK & DEDICATED EXHIBIT TIME MAIN SALON FOYER

PAPER SESSION II – INDUSTRY TRACK: INDUSTRY FOCUSED M&S MAIN SALON A

1030 – 1050

Data Science Team Topology: An Interdisciplinary Team Framework for AI

Ralitsa Maduro, Ph.D.
Sentara Healthcare

Jay Gendron
USAA

Phil Lacasse

1050 – 1110

Advancing Electrical Grid Operator Training Through eXtended Reality (XR) Technology

Diana Perera
Design Interactive, Inc.

Melynda Hoover, Ph.D.
Design Interactive, Inc.

Charis Horner
Design Interactive, Inc.

Stacey Sanchez
Design Interactive, Inc.

1110 – 1130

Optimal Electric Grid Black Start Restoration Subject to Threats

Kevin Stamber
Sandia National Laboratories

Walt Beyeler
Sandia National Laboratories

Bryan Arguello
Sandia National Laboratories

Casey Doyle
Sandia National Laboratories

Richard Garrett
Sandia National Laboratories

David Schoenwald
Sandia National Laboratories

1130 – 1150

Adaptive Camera Motion Generation for Procedural Guidance and Understanding in Virtual Environments

Shan Liu, Ph.D.
Old Dominion University

Yuzhong Shen, Ph.D.
Old Dominion University

PAPER SESSION II – SECURITY TRACK: TRAINING AFFORDED THROUGH GAMING MAIN SALON B

1030 – 1050

Training Beyond 2025: A Vision for Synergizing RRL and STE

George Stone, Ph.D., CMSP
Aptima, Inc.

Evan Oster
Aptima, Inc.

1050 – 1110 **Developing & Applying an Accelerated Learning Framework for Game-Based Training**

Julian Abich IV, Ph.D.
Quantum Improvements Consulting

Eric Sikorski, Ph.D.
Quantum Improvements Consulting

1110 – 1130 **Cyber Red Zone: Capture-the-Flag the DoD Way!**

Tashara Cooper
NAWCTSD

Jonathan Harris, Ph.D.
NAWCTSD

1130 – 1150 **Implementation of Live-Virtual-Constructive (LVC) Workplace Setting to Enhance Occupational Success among Young Adults with ADHD**

Rachel Su Ann Lim
University at Buffalo

Sandro Sodano, Ph.D.
University at Buffalo

Kevin Hulme, Ph.D., CMSP
University at Buffalo

Chanelle Gordon, Ph.D.
Child and Family Translational Research Center

Gregory Fabiano, Ph.D.
University at Buffalo

PAPER SESSION II – COMMUNITY TRACK: M&S IN HEALTHCARE MAIN SALON C

1030 – 1050 **Artificial Societies Enabling Multidisciplinary Policy Evaluation: A Health Policy Example**

Andreas Tolk, Ph.D., CMSP
The MITRE Corporation

Jon Cline, Ph.D.
The MITRE Corporation

Bianca Pires, Ph.D.
The MITRE Corporation

1050 – 1110 **Establishing and Maintaining a Research Agenda for Healthcare Modeling & Simulation**

Brian Goldiez, Ph.D., CMSP
VMASC, Old Dominion University

1110 – 1130 **Enhancing Nursing Student Efficiency and Efficacy in Patient Care through Virtual Patient Simulation**

Thomas Santarelli
Shadow Health® at Elsevier

Cheryl Wilson, DNP
Shadow Health® at Elsevier

Francisco Jimenez, Ph.D.
Shadow Health® at Elsevier

1130 – 1150 **Introduction of the Joint Emergency Trauma Simulation (JETS) System**

CSM David Litteral, USA (Ret.), Ph.D.
IVIR, Inc.

AGENDA | WEDNESDAY, 11 MAY

1030 – 1200

SPECIAL EVENT: STEM EVENT

MAIN SALON FOYER

The MODSIM STEM event provides a unique opportunity to contribute directly to the school experience of youth who are beginning to formulate their dreams for the future. During the MODSIM STEM event, approximately 100 area high-school students will get the opportunity to see firsthand the world of M&S. Students will rotate through hands-on M&S demonstrations provided in the exhibit hall to see STEM in action.

1200 – 1300

LUNCH & DEDICATED EXHIBIT TIME

MAIN SALONS FGH & SALON FOYER

PAPER SESSION III – SECURITY TRACK: DIGITALLY-CONNECTED TRAINING WORLDS

MAIN SALON B

1300 – 1320

Warfighter Digital Twin

Zhiqing Cheng, Ph.D.
Innovision, LLC

Reed Hoyt, Ph.D.
U.S. Army Research Institute of Environment Medicine

Gary Zientara, Ph.D.
U.S. Army Research Institute of Environment Medicine

1320 – 1340

Online Synchronous Matrix Wargaming as a Multi-Domain Government & Military Decision Support Training Capability

COL Wayne Stilwell, USA (Ret.), Ph.D.
Stilwell Technology and Robotics, LLC

MAJ Stephen Nelson, USA
NATO ACT

1340 – 1400

Simulating Changing Environments with Socio-Technical Modeling: An Air Combat Example

Benjamin Bell, Ph.D.
Eduworks Corporation

Kristin Wood
Eduworks Corporation

Winston “Wink” Bennett, Jr., Ph.D.
Air Force Research Laboratory

Fritz Ray
Eduworks Corporation

1400 – 1420

Replacing Paper: Simulation Assessment App in the Canadian Navy

Dave Boldt
Marine Learning Systems

Arvinder Aujla
Royal Canadian Navy

Murray Goldberg
Marine Learning Systems

PAPER SESSION III – COMMUNITY TRACK: RETHINKING COGNITIVE & PERFORMANCE MODELS
 MAIN SALON C

1300 – 1320

Comparison of Collective Day & Night Shooting and Lethality Performance

Gregory Goodwin, Ph.D.
 Combat Capabilities Development Command – Soldier Center

Jacquelyn Schreck
 Quantum Improvements Consulting

Grace Teo, Ph.D.
 Quantum Improvements Consulting

1320 – 1340

The Implementation of Virtual Humans: Rethinking Critical Thinking & Metacognition

CDR Dan Davis, USN (Ret.)
 Catholic Polytechnic University

John Tran, Ph.D.
 Catholic Polytechnic University

Jennifer Nolan, Ph.D.
 Catholic Polytechnic University

Mark Davis, Ph.D.
 Wood Duck Research, Inc.




16 – 18 August 2022 | Hilton Alexandria Mark Center | Alexandria, VA | ADLiFEST.org

REGISTER NOW

2022 Theme: New Paradigm of Learning: Partner and Prevail

In collaboration with NTSA, the Advanced Distributed Learning (ADL) Initiative is excited to announce iFEST 2022. The iFEST 2022 theme highlights the value of working together to build the DoD’s future learning ecosystem. In today’s connected world, projects that achieve enterprise-level interoperability and widespread adoption depend on building or attracting partnerships. Join us at iFEST 2022 to explore opportunities across agencies, and with academic, corporate, and international partners.

WHY iFEST?

iFEST is the premier conference on Distributed Learning, bringing together thought leaders, innovators, and senior officials from government, industry, and academia to share the latest challenges, innovations, and opportunities for collaboration. If you have a role or interest in education and training modernization, you’ll want to be part of iFEST 2022.

Who Attends?

500+ attendees from military, government, industry, and academia.

Why Attend?

Share the latest challenges and innovations in distributed learning innovation.



1340 – 1400

Applying Learning Experience Design to Real-time Simulator-Based Adaptive Training

Trish Mulligan-Renaud
TTD Learning Solutions, LLC

Ivar Oswalt, Ph.D., CMSP
The MIL Corporation

Tim Cooley, Ph.D.
DynamX Consulting

1430

SCHOLARSHIP PRESENTATIONS

MAIN SALONS DE

Scholarship Awardees from Old Dominion University

1430 – 1600

SPECIAL EVENT: MSVE CAPSTONE PRESENTATIONS

MAIN SALONS DE

The Modeling, Simulation & Visualization Engineering (MSVE) student capstone event will showcase presentations from the annual Old Dominion University Modeling, Simulation & Visualization Student Capstone Conference (MSVSCC) that was hosted at ODU-VMASC. Presenters are all best paper award winners in their domains and will provide perspective on how tomorrow's M&S practitioners are already shaping the future of MODSIM.

Infrastructure, Security & Military Track

“DeepSECURE Computational Training for Cybersecurity: Third Year Improvements and Impacts”

Bahador Dodge, Jacob Strother, and Dr. Wirawan Purwanto

Transportation, Business & Industry Track

“A Discussion on Supplier Selection Modeling Approaches”

Sheida Etemadidavan

Virtual Environments Track

“Engaging Human-in-the-Loop for Autonomous Vehicle Simulation”

John di Battista, Christian Johnston, and Valerie Randall

General Sciences & Engineering Track

“Is Explainability Always Necessary? Discussion on Explainable AI (XAI)”

Gayane Grigoryan

1600

CLOSING REMARKS & ADJOURN