NTSA Modeling & Simulation Awards

Each year, NTSA presents awards for outstanding achievement in the development or application of models and simulations. Awards are given for outstanding achievement in the following categories: Education and Human Performance, Training and Simulation and Training Systems Acquisition. Award nominees may come from government, industry or academia. In addition, NTSA awards a Lifetime Achievement in Modeling and Simulation Award.

NTSA 2025 Lifetime Achievement Award

Dr. Margaret L. Loper

Georgia Tech Research Institute

Dr. Margaret Loper's extraordinary career is marked by 40 years of significant and substantial contributions in the field of modeling and simulation (M&S). Dr. Loper is currently a Regent's Researcher and Associate Director at the Information and Communications Laboratory (ICL) at the Georgia Tech Research Institute (GTRI). Dr. Loper's appointment to this esteemed rank is a result of her dedication and impact to the M&S community as indicated by technical contributions, professional leadership, service and educational impact.

Dr. Loper's impact on M&S is profound, particularly in her groundbreaking work on parallel and distributed systems. An early notable achievement came in 1992 when she led the first live demonstration of the IEEE 1278.1 Distributed Interactive Simulation (DIS) standard at the Interservice/Industry Training Simulation and Education Conference (I/ITSEC). This event offered unprecedented insight into the practical applications of distributed simulation, setting a foundation for future advancements in this domain.

Overall, Dr. Loper has led over 44 programs worth more than $39M for a variety of Federal government and industry sponsors and has overseen $18.4M of internal investments while serving as Chief Scientist of ICL. A cornerstone of Dr. Loper's contributions to the M&S industry is her involvement in international standards development.

Throughout her career, Dr. Loper has displayed exceptional dedication to M&S education. She played a fundamental role in developing and teaching the core M&S course for Georgia Tech's Professional Masters in Applied Systems Engineering Program, serving as the lead instructor from 2010 to 2022.

Dr. Loper's substantial contributions across academia, industry and government; her leadership in standards development and educational innovations; and ongoing commitment to advancing the M&S field underscore her worthiness for the NTSA Lifetime Achievement Award. Her career is a paradigm of lasting impact, marked by repeated, outstanding achievements that have indelibly shaped the M&S profession.

Education and Human Performance

Ms. Moza Juma Ahli

Dubai Police

Despite considerable investments in training, many organizations in the GCC [Gulf Cooperation Council] – including ours – struggled to measure the real-world impact of learning initiatives. To address these gaps, we introduced a behavior-focused, KPI-aligned evaluation model, led by Ms. Moza, the first woman in the GCC and Middle East to become a Gold-Level Kirkpatrick Certified Assessor.

Our solution focused on applying the Kirkpatrick Evaluation Model, tailored to our organizational and regional context. Ms. Moza, the primary stakeholder in our department, designed and implemented all forms, processes and strategies. Her work facilitated the generation of real-time, structured data that empowered our management team to make data-driven decisions about the impact of training – both within and beyond the organization.

A key innovation was the integration of behavioral assessment tools that moved beyond traditional metrics to evaluate how learning translated into workplace performance. This enabled accurate measurement of ROE and ROI, providing stakeholders with clear evidence of training effectiveness.

Over five years, our training program for traffic officers delivered measurable, transformative improvements in emergency response performance. This initiative not only enhanced the operational effectiveness of traffic officers but also established a new regional benchmark for how training can directly contribute to life-saving outcomes, cost efficiency and alignment with the Dubai Police's strategy for reducing vehicular accidents.

Simulation and Training

ASSET Team

Center for Technical Intelligence Studies & Research,
Air Force Institute of Technology

In the evolving domain of space-based surveillance, the ability to develop and test next-generation capabilities for the Department of Defense and Intelligence Community is paramount. A critical challenge is the need for volumes of labeled data to accelerate R&D and validate algorithms, especially for future threats.

ASSET Team, a collaborative group from the Air Force Institute of Technology (AFIT), has developed a national M&S capability that directly addresses this need. ASSET is a government-developed, variable-fidelity, physics-based image-chain model designed to generate high-fidelity, synthetic electro-optical and infrared sensor data with realistic artifacts. What began as an AFIT student research project has matured into a cornerstone technology for the Overhead Persistent Infrared community.

The ASSET team's achievement lies in creating a simulation tool that bridges the gap between overly simplistic models and computationally expensive ray-tracing tools. ASSET balances physical realism with the speed needed to generate large data volumes, allowing users to configure the model's speed vs. fidelity to suit their needs.

The ASSET team has delivered an essential, enterprise-wide M&S capability indispensable to the success of the nation's most advanced space surveillance programs. Their work provides a verifiable, government-owned solution that reduces cost, accelerates schedules and enhances system performance.

Training Systems Acquisition

Future Long-Range Assault Aircraft (FLRAA) Virtual Prototype Team

PM FLRAA, Bell Helicopter,
TRU Simulation, CAE

The Future Long-Range Assault Aircraft (FLRAA) program is a cornerstone of the Army's modernization efforts, aiming to replace the aging Black Hawk fleet with a revolutionary capability flying "twice as far, twice as fast." Recognizing the challenges of traditional acquisition timelines and the need for early operational insight, the PM FLRAA adopted a groundbreaking approach by prioritizing the development and deployment of Virtual Prototypes (VPs). The FLRAA VPs consist of a self-contained, transportable container, immersive crew station – a fully functional cockpit replica – coupled with a sophisticated flight model operating within a visually rich virtual world projected onto a large field of view dome.

While these components will mature alongside the actual aircraft design, the current VPs provide an invaluable learning tool, allowing Soldiers to begin familiarizing themselves with the unique characteristics and challenges of tilt-rotor flight today.

The FLRAA VP program is a collaborative effort that brings together engineers, pilots, maintainers and operational experts. PM FLRAA's strategic investment in Virtual Prototypes represents a paradigm shift in military acquisition. By embracing this innovative approach, the program is mitigating risk, accelerating development and ensuring that the FLRAA

will be a truly transformative capability for the US Army. The lessons learned from this program will inform future acquisition efforts, paving the way for a more agile, efficient and user-centric approach to delivering cutting-edge technology to the warfighter.

NTSA Top Under 40

Congratulations to the following NTSA Top Under 40 for 2025

NTSA is very pleased to announce our NTSA Top Under 40 awardees for this year. These awardees are being recognized for significant impact to the modeling, simulation and training (MS&T) community via their leadership, professionalism and volunteerism. Our MS&T community is in great shape for the future as indicated by what these individuals have and continue to achieve. These individuals reflect the organizations that they represent, and we thank them for enabling their contributions to our community.

- **Dr. Shannon Bailey,** *Center for Advanced Medical Learning and Simulation, USF Health*
- **Dr. Alexxa Bessey,** *Aptima, Inc.*
- **Steffan Camarato,** *NAWCTSD*
- **Candace Croughwell,** *Engineering & Computer Simulations, Inc.*
- **Daniel Hettema, OUSD (R&E),** *Digital Engineering, Modeling & Simulation*
- **Dr. Victoria Lew,** *Florida Southern College*
- **Jacob Miracle,** *AFSC/SWX*
- **Dr. Ada Mishler,** *NAWCTSD*
- **Dr. Samantha Perry,** *Aptima, Inc.*
- **Eleanor Ross,** *ExpertTheory (formerly Valens Games)*