



# Annual International Test & Evaluation Symposium

## DRAFT AGENDA

The Week of December 5-8, 2023

Hilton Sandestin Hotel

Miramar Beach, Florida

Subject to Change

November 3

### Monday, December 4

#### **Golf Tournament**

Links Golf Course at the Sandestin Golf and Resort

165 Sandestin Blvd N | Miramar Beach, FL 32550

12:00 PM Shotgun Start

Cost \$100

Donations are available for the Emerald Coast Chapter Scholarship Program

Registration is online

### Tuesday, December 5

#### **Education and Training Tutorial Day**

Separate registration and fees associated with these educational courses. The fee to attend a 4-hour tutorial is \$300 for one or \$500 for two. You can attend a tutorial without having to attend the symposium. Full descriptions can be found on the website.



If you take two courses, you are eligible to take the Certified T&E Professional (CTEP) exam for free – A \$250 value. Continuing Professional Education (CPE) credits will be awarded for completion of the tutorials.

#### **8:00AM – 12:00PM**

- End-to-End Automated AI/ML Test Case
- T&E in a Digital Engineering Environment
- RF Fundamentals
- DoD T&E Across the Acquisition Lifecycle
- T&E as a Part of Agile Development
- Introduction to Test and Evaluation

#### **1:00PM – 5:00PM**

- Overcoming Distributed T&E Challenges with TRMC Solutions
- Incorporating T&E into Acquisition Contracts “Shift All the Way to the Left”
- Verification, Validation, and Accreditation of Modeling and Simulation for T&E
- Lethal Autonomy is the New Reality: Are we ready to dominate the needed doctrine and testing imperatives?
- Laser System T&E Challenges
- Cognitive EW: An AI Approach



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### Wednesday, December 6

#### General Session – Day 1

- 8:00AM – 8:30AM      Opening Ceremony  
**South Walton High School Seahawk Sound**  
 ITEA Chairman, **Tim Morey**  
 Symposium Chairman, **M. John Rafferty**
- 8:30AM – 8:45AM      Welcome Guest Speaker  
**Col Tony Meeks**, Commander and Director for the Munitions Directorate,  
 Air Force Research Laboratory, Eglin Air Force Base
- 8:45AM – 9:30AM      Keynote Speaker  
**James S. Wells**, (SES) Director, Office of Test and Evaluation, Department of  
 Homeland Security
- 9:30 AM – 10:15AM    Keynote Speaker  
**George Rumford**, (SES) Director, Test Resource Management Center
- 10:15AM – 10:45AM    Break: Poster Papers and Networking Opportunity with our Exhibitors &  
 Sponsors
- 10:45AM – 12:00PM    Panel Discussion: **Digital Twin Overview and Industry Definition**  
 This is a follow up collaboration from the 2022 ITEA National Symposium  
 by OSD DOT&E and ITEA Industry Experts.  
 Moderator: **Erwin Sabile**, Booz Allen Hamilton
- 12:00PM                      Lunch and the State of ITEA presented to membership.
- 1:00PM – 3:00PM      **Technical Track Sessions**

#### Session 1: Cyberspace Test Technology

Moderator: **Min Kim**, Deputy Executing Agent, TRMC T&E/S&T Cyberspace Test Technology (CTT)

1:00 PM	<b>Dr. Mike Shields</b> , Chief Scientist, TRMC T&E/S&T CTT and <b>Min Kim</b> , TRMC T&E/S&T CTT	TRMC T&E/S&T Cyberspace Test Technology Overview
1:30 PM	<b>Arch Owen</b> , Program Manager for Weapon Security, Draper Laboratory	Vader Modular Fuzzer (VMF) – USG Fuzzing Capability



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2:00 PM	<b>Dr. Donald Pellegrino</b> , CEO, DeciSym, LLC	Measure and Share: TRMC T&E/S&T Cyberspace Test Technology's project to improve Cyber T&E impacts across DoD
2:30 PM	<b>Andrew Shaffer</b> , Research and Development Engineer and <b>Bruce Einfalt</b> , The Applied Research Laboratory, The Pennsylvania State University	Automated Attack Framework for Test & Evaluation (AAFT)

### Session 2: T&E in Support of Agile Development Process

Moderator: **Robin Poston**, Dean of the Moody School of Graduate and Advanced Studies, Southern Methodist University and Research Fellow with the Systems Testing Excellence Program FedEx Institute of Technology

1:00 PM	<b>Patrick Quilter</b> ALPI/Scientific Test and Analysis Techniques Center of Excellence (STAT COE)	DevSecOps Process Assessment Collaboration Tool (DSO-PACT)
1:30 PM	<b>Joe Murphy, Sr.</b> , Ansys Government Initiatives	Leveraging Flexible and Interactive Model Based T&E Tools to Improve Efficiency and Effectiveness of Execution Phase Test Programs
2:00 PM	<b>Amnon Pollak</b> , FAA Automation and Agency Support Branch, ANG-E582 and Matthew Thornton, Leidos	A Collaborative Approach to Verify and Validate a Complex Air Traffic Control System
2:30 PM	<b>To be Announced</b>	

### Session 3: Artificial Intelligence & Machine Learning

Moderator: **Teresa Dailey**, Technical Advisor, 780th Test Squadron

1:00 PM	<b>Neil Serebryany</b> , CalypsoAI	Large Language Models and Future Attack Surface
1:30 PM	<b>Jarrod Cornforth</b> and <b>Bex White</b> , DSTL	Transportable Modelling And Simulation System For Test & Evaluation
2:00 PM	<b>Andrew Rix</b> , QinetiQ	Model-Derived Evidence for Composite Energetic Material Mechanical Properties in Support of Qualification



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2:30 PM	<b>Lance Fiordella</b> , Associate Professor, University of Massachusetts Dartmouth	Predictive Resilience Modeling
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### Session 4: Data Analytics / Modeling & Simulation

Moderator: **Shelby Pierce, Jacobs Technology**

1:00 PM	<b>Tim Grabert, Peter Nikoloff, Jeet Shah, Jamie Smith</b> , Nova Systems Australia	T&E Strategy to Validate the Physics-based Modelling of an Uncrewed Aerial System Applied to a Mission Engineering Thread
1:30 PM	<b>Dr. Joshua Walker, Brian Schreiber, Justin Vuong</b> , Georgia Tech Research Institute	An Approach for the Evaluation of Open Systems Architecture Compliant Systems
2:00 PM	<b>Dr. Kyle Kolsti</b> , STAT COE	Demonstration of Bayesian Analysis using Light Aircraft Performance Testing
2:30 PM	<b>Jarrod Cornforth, DSTL and Kamran Memon</b> , Ansys	General Autonomous Platform T&E Test Bed Approach

3:00PM – 3:30PM     **Break:** Poster Papers | Networking with our Exhibitors & Sponsors

3:30PM – 4:15PM     **Amy J. Markowich** (SES), Executive Director, Digital Analytics Infrastructure & Technology, Advancement & Mission Systems Groups, Naval Air Warfare Center Aircraft Division

4:15PM – 5:15PM     Panel Discussion: **Artificial Intelligence and Machine Learning**  
Moderator: **Dr. Karen Haigh**, Consultant, Cognitive EW & Embedded AI/ML

The panel will provide a high-level discussion on the field of testing cognitive systems. We will discuss what major changes in the way we think need to happen when testing cognitive systems vs testing traditional (complex) systems; what the biggest challenges are and how we evaluate decision making in testing a cognitive system; and what sort of testing infrastructure changes do we need to evaluate cognitive systems.

Panelists include:

**Dr. John P Hogan**, Chief Engineer, Multimode Sensing and Effects, MORSE Corp

**Dr. Kristen Alexander**, Chief Learning & AI Officer, Office of Secretary of Defense, Director Operational Test and Evaluation

**Dr. Tim Scully**, T&E Fellow, Booz Allen Hamilton

**Dr. Laura Freeman**, Deputy Director, VATEch National Security Institute, Virginia Tech University

5:15 PM                     **Networking Reception with Exhibitors and Sponsors**



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Thursday, December 7

### General Session – Day 2

- 8:00AM – 8:15AM Convene
- 8:15AM – 9:00AM Featured Speaker  
**Brig. Gen. Michael T. Rawls**, Commander, Air Force Operational Test and Evaluation Center, Kirtland AFB
- 9:00AM – 9:45AM Keynote Speaker  
**Dr Raymond D. O'Toole, Jr.**, Principal Deputy Director, Operational T&E  
**Dr. John Haines**, Test & Evaluation Transformation – US Engagement, Ministry of Defense, United Kingdom  
Dr. Sandra Hobson (SES), Deputy Director, Operational Test and Evaluation for Strategic Initiatives, Policy and Emerging Technologies
- 9:45AM - 10:30AM Featured Speaker  
**Doreen Bingo**, Chief Engineer, Test and Evaluation, Boeing
- 10:30AM – 11:00AM **Break:** Poster Papers | Networking with our Exhibitors & Sponsors
- 11:00AM – 12:15PM Panel Discussion **Engaging the Next Generation T&E Workforce**  
Moderator: **Terry Murphy**, Deputy Director DOT&E, DHS

There is a critical need to engage with our next generation to educate, expose, and attract the best and brightest to the test and evaluation (T&E) career field. As our next generation workforce looks towards their future, it is essential that the current T&E workforce educates younger generations about the unique opportunities and impact of a meaningful, influential career in T&E. Additionally, the demand within our society to accelerate the transition of new technologies into operation places T&E in a critical role for the future, both as a feedback loop for technology development and an assurance process for rapidly deploying new technologies. T&E needs professionals who are creative, adaptable, and resilient. So how do we ensure the next generation has the requisite information to attract them into joining the unique and critical career field of T&E as they develop their plans for their own future? This panel will discuss and put forth ideas to engage with our next generation and the concept of partnering with academia where our younger workforce currently resides.

Panelists include:

**Dr. Laura Freeman**, Deputy Director, Virginia Tech National Security Institute (NSI), Hume Center for National Security and Technology

**Dr. Robin Poston**, Associate Provost and Dean of Moody School of Graduate and Advanced Studies, SMU



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**Dr. Mark Gillenson**, University Research Professor, Department of Management Information Systems, Fogelman College of Business and Economics, Director, Systems Testing Excellence Program (STEP), UM

**Gregory Simmons**, DHS S&T Office of University Programs, Science & Technology Directorate, U.S. Department of Homeland Security

**Dr. Kristen Alexander**, Chief Learning & AI Officer, Director Operational Test & Evaluation, DoD

12:15PM                    **The ITEA T&E Professional Awards Ceremony & Luncheon**

1:15PM – 2:15PM        **Mr. Christopher Collins**, Executive Director, Developmental Test, Evaluation, and Assessments and **Mr. Kenneth Senechal**, T&E Director in the Office of the Commander, Naval Air Systems Command

2:30PM – 4:30 PM        **Technical Track Sessions**

### Session 5: Digital Engineering

Moderator: **Pete Crump**, Georgia Tech Research Institute (GTRI)

2:30 PM	<b>Andrew Cunningham</b> , QinetiQ	Ensuring the Continued Relevance of UK T3E Services through Capability Development
3:00 PM	<b>Steve Summers</b> and <b>Ben Robinson</b> , NI (formerly National Instruments)	Building Confidence in Model Systems
3:30 PM	To Be Announced	
4:00 PM	<b>Vitor Lopes Pereira</b> , M.SC., Digital Twins, Ansys Inc.	Benefits/Challenges of Applying Digital Twins and Hybrid Analytics in T&E Programs

### Session 6: Electronic Warfare

Moderator: **Seth Kootsouradis** 16<sup>th</sup> EW Squadron, Eglin AFB

2:30 PM	<b>David Zurn</b> , and <b>Dr. Craig Arndt</b> , GTRI	Enabling T&E of Cognitive EW Systems through Hybrid Digital Twins
3:00 PM	<b>Jeremy Twaits</b> , NI (formerly National Instruments)	How to Test Cognitive EW Systems
3:30 PM	<b>Hajin Kim</b> , GaN Corporation	Modular EW Test and Evaluation System
4:00 PM	<b>Jeremy Twaits</b> , NI (formerly National Instruments)	Signal Classification using Deep Learning



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### Session 7: Software & Cyber Testing

Moderator: **Antwan Phan**, Communications and Global Positioning System (GPS) Navigation Program Office, Naval Information Warfare Center Pacific (NIWC Pacific)

2:30PM - 3:30PM	<b>Adam Beard</b> , National Cyber Range Complex-Unclassified (NCRC-U)	A Realistic Wireless Penetration Test of a VA-Representative Network as Performed by DoD Operators
3:30 PM	<b>Melissa Glazener</b> , BrainGu	Next Generation Test Dominance: DevSecOps Platforms to Delivery Capabilities at the Speed of Relevance
4:00 PM	<b>Jacob Slattery, John Lillard, Alex Bustos, Dr. Joshua Walker</b> , Georgia Tech Research Institute	Spider Prime: A Software Testbed Framework for the Evaluation of Open Systems Architecture Compliant Systems

### Session 8: Test Design

Moderator: **Chhem Young-Pen**, Naval Information Warfare Center, Pacific

2:30 PM	<b>Scott Busby</b> , QinetiQ	T&E Sovereign Skills Program
3:00 PM	<b>Austin Ruth</b> and <b>Grace Kaylor</b> , Georgia Tech Research Institute	Improving Flight Test Data Management for Advanced Defense Operations
3:30 PM	<b>Brittany Fischer</b> , STAT COE	DevSecOps Process Assessment Collaboration Tool (DSO-PACT): A Novel Method to Integrate Traditional T&E into Agile Development
4:00 PM	<b>Mark Kiemele</b> , Air Academy Associates	Test Design

4:30 PM – 5:00 PM – A Beer Garden Break with Exhibitors and Poster Paper Authors

### Friday, December 8

#### General Session – Day 3

8:00AM – 8:15AM Convene

8:15AM – 9:30AM Panel Discussion: **Digital Engineering in support of T&E**  
Moderator: **Jean Petty**, Cyber Resilience T&E Coordinator, Office of T&E, DHS



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Digital Engineering (DE) is an integrated digital approach that uses authoritative sources of systems' data and models as a continuum across disciplines to support lifecycle activities from concept through disposal. Implementing DE presents challenges in the areas of integrated models, shared authoritative data, supporting infrastructure, and developing the workforce. T&E tools, shared data, and verification, validation, and accreditation of models are not yet fully defined and understood as part of the DE ecosystem, presenting major challenges for T&E planning and performance. This panel will discuss T&E challenges, tools, and successes in a Digital Engineering environment.

Panelists:

**Christopher C. Collins**, Executive Director, Developmental Test, Evaluation, and Assessments Office of the Under Secretary of Defense, Research and Engineering (OUSD R&E)

**Dr. Amy Henninger**, Amy E. Henninger, Ph.D., CEH, CISSP, CMSP, CTFL, Senior Advisor and Branch Chief for Advanced Computing, TCD/OS&E-HSARPA/S&T/DHS

**Jeff Tolleson**, Director, PeopleTec, Inc.

**Andrew Cunningham**, QinetiQ

9:30AM – 11:00AM Panel Discussion: **Modernizing T&E to Keep Pace with Technology**  
**Dr. Laura Freeman**, Virginia Tech

This panel will discuss new methods and processes for T&E that leverage digital transformation and scale T&E capabilities to be adaptive to rapidly changing Joint environments. We will consider implications for T&E of technologies such as software reliant systems and systems enabled by artificial intelligence (AI). We will also consider how AI capabilities can be leveraged to improve T&E processes. Finally, we will discuss how policy and guidance can support transformation in T&E as technologies evolve.

Panelists

**Jeremy Werner**, DOT&E's Chief Scientist

**Lindsay Grissom**, Senior Solutions Architect, PeopleTec

**Jean Petty**, Cyber Resilience Test and Evaluation Coordinator, DHS T&E

**Christopher Smith**, Director Transportation Security Laboratory, FAA

11:00AM – 11:45AM Closing Keynote  
**Col. Michael Christensen**, U.S. Space Force, Director, Test and Evaluation

11:45AM Program Close

12:00PM Adjournment of the 2023 ITEA Annual International Symposium

2:00PM Bus Tour Only of Eglin AFB (Details coming soon)