

2021 Joint Conference on T&E Support to Prototyping and Experimentation

2/1/21 – Revision 31

Monday (Feb 1- Day 1)

*****All times are listed in MST*****

Virtual Tutorial Workshops

- 0800 Tutorial Workshop I- **T&E of HEL Systems** (Dr. Larry McKee) *(DETE Room 1)*
Tutorial Workshop II- **T&E of HPM Systems** (Jeff Schleher) *(DETE Room 2)*
Tutorial Workshop III- **Intro to DoD T&E Process** (Harry Sinsheimer) *(DETE Room 3)*
Tutorial Workshop IV- **Introduction to Cybersecurity T&E** (Pete Christensen) *(DETE Room 4)*
Tutorial Workshop V- **TENA and JMETC for Distributed Systems Engineering** **CANCELLED**

1200 Lunch on Own

- 1300 Tutorial Workshop VI – **Design of Tests for Transitioning DE Weapon Systems to Acquisition Programs for Warfighter Fielding** (Robert Newton/ Dan Isbell) *(DETE Room 1)*
Tutorial Workshop VII – **Combat Systems Engineering of Directed Energy Weapons** (Doug Nelson) *(DETE Room 2)*
Tutorial Workshop VIII- **HPM M&S Tools for T&E** (Walter Clover) *(DETE Room 3)*
Tutorial Workshop IX- **T&E in Support of Prototyping & Experimentation** (Al Sciarretta) *(DETE Room 4)*
Tutorial Workshop X- **Predicting & Validating Prototyping Performance** (Mark Kiemele) *(DETE Room 5)*

Tuesday (Feb 2- Day 2)

AM Virtual Plenary Session *(DETE Room 1)* *(Open/Limited Distribution)*

- 0800 **Welcome:** Mr. Edward Trzcienski, 2021 Conference Program Co-Chair
Posting of the Colors and National Anthem
Remote Video Remarks by *U.S. Senator Martin Heinrich (D-NM)*
- 0815 **Opening Remarks:** ITEA President, Pete Crump
DEPS Executive Director, Mr. Mark Neice
- 0830 **(Open/Distr. A) Major General James R. Sears Jr. - Commander, Air Force Operational Test and Evaluation Center (AFOTEC) Kirtland Air Force Base, New Mexico**
- 0915 **(Distr. D) AFLCMC/XA C-UAS Prototype Testing Approach** *John M. (Jack) Hedenberg, Lead PM for DE, USAF (AFLCMC/XA- Architecture & Integration Directorate)*

2021 Joint Conference on T&E Support to Prototyping and Experimentation

2/1/21 – Revision 31

- 1000 Break
- 1015 **(Open/ Distr. A) Metrology and Calibration (METCAL) Program: Measuring the Measurer - Dr. Subrata Sanyal, METCAL Chief Scientist; Navy Lead for ATWG, Navy METCAL Program, Naval Surface Warfare Center (NSWC) Corona Division**
- 1100 **(Open/ Distr. A) NIST on a Chip: Technology Overview, Cross-Agency Community of Support - Ms. Barbara Goldstein – Program Manager, NIST on a Chip (NoaC); Associate Director, Physical Measurement Laboratory, National Institute of Standards and Technology (NIST)**
- 1130 **(Distr. C) Army Directed Energy T&E Paradigm Shift Dr. Michael Zmuda- Director, Research & Technology, U.S. Army Space and Missile Defense Command Technical Center**
- 1200 Kathi Swaggerty brief intro to STEAM event- visit Acelevents page for pictures and videos
Sponsored by BlueHalo
- Mr. Mark Henderson– Conference Technical Program Chair: Announcements and Introduction to Afternoon Technical Sessions, Security, General Log-in Procedures
- 1200 **Lunch**
- Exhibit Hall hours begin (1200-1700 MST)
- 1300 Technical Track Sessions

T&E Capabilities for Directed Energy Systems (DETE Room 1)

Session Chair: Dr. Diana Loree

(Export Controlled/ Limited Distribution)

1300- Aero-Optical Isolation Measurements for Aircraft Laser Wind Tunnel Tests (D/Export Controlled) Dr. Matthew R. Whiteley, MZA Associates Corporation

1330- Development and Test of a Tethered Flying Atmospheric Monitoring System (D/Export Controlled) Dr. Mike Kranz, Kratos Defense, Engenious Micro

1400- Advanced Beam Control Technologies Anchored with Live Test Data (D/Export Controlled) Deborah Heicklen, Lockheed Martin

1430- Directed Energy Systems Integration Laboratory - MILCON P777 (D/Export Controlled) Marcos Gonzalez, NSWC Port Hueneme, CA

1500- Break

2021 Joint Conference on T&E Support to Prototyping and Experimentation

2/1/21 – Revision 31

1530- BlueHalo High Energy Laser UAS Target Board Program Update (D/Export Controlled) *Andrew Hall, AEgis Technologies, A BlueHalo Company*

1600- Enhanced Sensor Network Array (ESNA) Project (C/Export Controlled) *Dustin Jones, Verus Research*

1630- Vertical Sensor Network Array (VSNA) Project (C/Export Controlled) *Laury Decker, Verus Research*

1700- Conference ends for the day

Atmospheric Effects (DETE Room 2)

Session Chair: Dr. Steve Hammel

(Export Controlled/Limited Distribution)

1300- Navy's Path Characterization System for HEL Systems (D/Export Controlled) *Kyle Drexler, Naval Information Warfare Center Pacific*

1330- HELCAP Path Characterization System- Field Test and Sensors (D) *Galen Cauble, NIWC Pacific*

1400- Previous presentation by *Galen Cauble, NIWC Pacific* continues.

1420- Development and Testing of Airborne and Ground Based Nodal Atmospheric Characterization Tools (C/Export Controlled) *Alex Clark, AEgis Technologies, A BlueHalo Company*

1500- Break

1530- Optical Turbulence Measurement Technique Derived from LIDAR-measured Meteorological Profiles (C/Export Controlled) *Dr. Leda Sox, Georgia Tech Research Institute*

1610- Maritime aerosol extinction and absorption for Test and Evaluation (C) *John Stephen DeGrassie, NIWC Pacific*

1700- Conference ends for the day

Sensors (DETE Room 3)

Session Chair: Jeff Schleher

(Limited Distribution/ Export Controlled)

1300- PEO STRI High Power Radio Frequency Sensors Projects Successes and Failures (C/Export Controlled) *Jeffrey Schleher, American Systems*

2021 Joint Conference on T&E Support to Prototyping and Experimentation

2/1/21 – Revision 31

1330- Frequency and temperature dependence of a non-intrusive three-axis electro-optic field sensor for HPM, HPRF, and EMP applications (D/Export Controlled) *Dr. Dong Ho Wu, Naval Research Laboratory*

1400- Indirect Magneto-Optic Current Sensors for HEMP-Induced-Effects Testing (C/Export Controlled) *John Whitaker, Advanced Fiber Sensors, Inc.*

1430- Airborne High-Power Microwave Instrumentation (AirHI) Project (C/Export Controlled) *John Sanchez, Verus Research*

1500- Break

1530- Joint Agile Non-kinetic Upgradeable System (JANUS) Project (C/Export Controlled) *John Osowski, Verus Research*

1700- Conference ends for the day

Wednesday (Feb 3- Day 3)

AM Virtual Plenary Session (DETE Room 1) (Open/Lim. Dis)

0800 **Welcome:** Whitney Winchester, 2021 Joint Conference Program Co-Chair
Posting of the Colors and National Anthem
Introduction for the STEAM event approach for this year

0815 **(Open/ Distr. A) Mr. George Rumford - Principal Deputy Director, Test Resource Management Center- Confirmed**

0900 **(Distr. D) Dr. Tom Karr - Former Director for Directed Energy, OSD R&E - Principle Owner at Alamo Scientific, LLC – Confirmed**

0945 Break

1015 **(Distr. D) Mr. Eric Buechele - AFRL/RD Chief Engineer- Confirmed**

1100 **(Open/Distr. A) Virgin Galactic Test Pilot- Not confirmed**

1130 **STEAM Competition Presentation/Recognition – Steve Woffinden and Kathi Swaggerty
Sponsored by BlueHalo**

1200 Mr. Mark Henderson– Conference Technical Program Chair: Announcements and Introduction to Afternoon Technical Sessions, Security, Log-in Process, any Program Changes

2021 Joint Conference on T&E Support to Prototyping and Experimentation

2/1/21 – Revision 31

1200 **Lunch**

Exhibit Hall hours begin (1200-1700 MST) STEAM Videos will be posted

1300 Technical Track Sessions

Measurement and Calibration (*DETE Room 1*)

Session Chair: Dr. Subrata Sanyal

(Limited Distribution/ Open)

1300- Initiating METCAL support of DoD HPM and HPRF Weapons (C) *Ignacio Espinosa, NSWC Corona, CA*

1330- Atmospheric characterization for DE propagation: METCAL support (C) *Kevin Janosky, NSWC Corona, CA*

1400- On instrumentation SI traceability and M&S development, verification, and validation for DE applications (C) *Dr. Joseph Fiordilino, NSWC Corona, CA*

1430- NASA Langley's LiDAR Capabilities for Atmospheres and Ocean (C) *Dr. Chris Alan Hostetler, NASA Langley Research Center, Hampton, VA*

1500- Break

1530- Establishing an SI traceable standard for optical atmospheric scintillation measurements (A) *Dr. Brian G. Alberding, NIST, Gaithersburg, MD*

1600- High energy laser metrology at the National Institute of Standards and Technology (A) *Dr. Paul A. Williams, NIST, Boulder, CO*

1630- Rydberg Atom-Based Sensors for Weak-Field/ High-Power Detection and Waveform Characterization (A) *Dr. Christopher Holloway, NIST, Boulder, CO*

1700- NOAA's Application of Doppler LiDARs: Airborne and Ship Based Systems (A) *Dr. Alan Brewer, NOAA Chemical Sciences Laboratory, Boulder, CO*

1730- Conference ends for the day

2021 Joint Conference on T&E Support to Prototyping and Experimentation

2/1/21 – Revision 31

Designing Experimentation with Modeling & Simulation (DETE Room 2)

Session Chair: Pat Bartlett

(Limited Distribution/ Export Controlled)

1300- Anchoring Modeling and Simulation Techniques to Developmental and Operational Testing (D/Export Controlled) *Matthew Selleck, GTRI*

1330- Scaling HEL Beam Diagnostics with the Small Measurement and Analysis System (D/Export Controlled) *John Mason, Radiance Technologies*

1400- Turbulence Forecasting for DE Test Planning (D/Export Controlled) *Dr. Yakov Diskin, MZA Associates Corporation*

1430- Demonstrating the Full Kill Chain Utilizing the ATHENA Laser Weapon System (D/Export Controlled) *Paul Shattuck, Lockheed Martin*

1500- Break

1530- Modeling and Simulation of Blue Aircraft Survivability to HEL Irradiation (MSAS)- Testing Update and Preliminary Results (C/Export Controlled) *Kyle Brady, SURVICE Engineering*

1600- sUAS DEW Profiler for DE Mission Planning: Field Test and Operations (C/Export Controlled) *Alex Clark, AEgis Technologies, A BlueHalo Company*

1630- A Reflected Irradiance Measurement System (RIMS) to support predictive modeling of ocular hazards (C/Export Controlled) *Dr. Michael Zintl, SARA*

1730- Conference ends for the day

Thursday (Feb 4- Day 4)

HEL Sensors & Sources (DETE Room 1)

Session Chair: Roger Russell

(Limited Distribution/ Export Controlled/ Open)

0830- Laser Integrated Diagnostic Suite (LIDS) Program Update (C/Export Controlled) *Isaiah Marquez, AEgis Technologies, A BlueHalo Company*

2021 Joint Conference on T&E Support to Prototyping and Experimentation

2/1/21 – Revision 31

0900- Design and development of a beam profiling system for range testing of 150 kW class laser systems (C/Export Controlled) *Dr. Jim Luke, AEGIS Technologies, A BlueHalo Company*

0930- Design and development of a ball calorimeter for range testing of 150 kW class laser systems (C/Export Controlled) *Dr. Jim Luke, AEGIS Technologies, A BlueHalo Company*

1000- Break

1030- Measuring HEL System Wavefront with a Big Aperture Shack-Hartman Wavefront Sensor (D/Export Controlled) *Dr. Elijah Dale, Radiance Technologies*

1100- Mesoscale Weather Support for Directed Energy (A) *Marcela Ulate Medrano, University Corporation for Atmospheric Research*

Implications of Using Conceptual, Developmental, and Operational Prototypes (DETE Room 1)

Session Chair: Dr. Chris Valenta

(Export Controlled/ Limited Distribution)

1130- GDS-like Far Field Power-in-Bucket Measurements with the Field Diagnostic System (D/Export Controlled) *Brett Hokr, Radiance*

1200- Measurements and Analysis of Optical Turbulence Onboard Naval Vessels (D) *Dr. Joseph Blau, Naval Postgraduate School*

1230- Conference adjourns

HPM/HPRF Sources (DETE Room 2)

Session Chair: Jeff Schleher

(Limited Distribution/ Export Controlled)

0830- Development and Testing of an Advanced Wide Band Test System for Supporting Test and Evaluation (C/Export Controlled) *Matthew Lara, Applied Physical Electronics, L.C.*

0900- Development and Test of a Tethered sUAS for HPM Field Characterization (D/Export Controlled) *Dr. Mike Kranz, Kratos Defense, Engenius Micro*

0930- New Ku-Band Test Capabilities at WSMR's SVAD (C/Export Controlled) *Isaac Blesener, Sem-Sol*

1000- Break

2021 Joint Conference on T&E Support to Prototyping and Experimentation

2/1/21 – Revision 31

1030- High Average Power Pulsed S-Band Surrogate Source (HAPP SBSS) (C/Export Controlled) *Jonathon Heinrich, Verus Research*

1100- In Chamber S-Band Test Source for HPM Effects Testing (C/Exp. Controlled) *Dr. Peter Duselis, Sem-Sol*

1130- HPM Sensor on Instrumented sUAS Update (C/Export Controlled) *Mark Henderson, AEgis Technologies, A BlueHalo Company*

1230- Conference Adjourns

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