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

**Monday (Jan 30 - Day 1)**

**Tutorial Workshops**

0700 Registration Opens

**AM Tutorials** 0800-1200 PM

* **T&E of HEL Systems (Lim Dis C)** (Steiner)
* **T&E of HPM Systems (Lim Dis C)** (Schleher)
* **Intro to DoD T&E Process (Lim Dis D)** (Newton)

**PM Tutorials** 1300-1700 PM

* **Design of Tests for Transitioning DE Weapon Systems (Lim Dis D)** (Isbell)
* **HPM M&S Tools for T&E (Lim Dis D)** (TBD)
* **Test and Training Solutions with TENA, JMETC, and BDKM (Open)** (Hudgins)

**Tuesday (Jan 31 - Day 2)**

0700 **Registration Desk Opens**

**Continental Breakfast in the Exhibit Area**

0800 **Welcome**

Mr. Edward Trzcienski, 2023 Conference Program Co-Chair

Posting of the Colors and National Anthem

0815 Opening Remarks: Mr. Tim Morey, ITEA Chairman – (Confirmed)

Dr. Sandra Biedron, DEPS Executive Director (Confirmed)

0825 U.S. Senator Martin Heinrich (D-N.M.) (Video)– (Expected)

0830 LTG Robert Rasch, Commander, RCCTO (Confirmed)

0915 WSMR Joint Capabilities, Jerry Tyree, Steve Squires and Gus Sierra (Confirmed)

1015 **Break**

1045 BG William T Rawls, AFOTEC Commander (Confirmed)

1130 Mr. Quentin Saulter, ONR Program Officer, Directed Energy Weapons (Confirmed)

1200 Dr. James Horkovich – Conference Technical Program Co-Chair: Announcements and Introduction to Afternoon Technical Sessions, Introduction of Lunch Speaker

1200 **Lunch**

STEAM Speaker,Steve Woffinden

1300 **Technical Track Sessions**

**T&E Capabilities for Directed Energy Systems 1**

**Session Chair: Chris Valenta (GTRI)**

1300 **Simulation of Directed Energy (DE) through Digital Engineering (DE) (Unclassified/A)** Robert Oxendine, Integration Innovation, Inc. (i3)

1330 **Scientific Test and Analysis Techniques (STAT) in Prototyping & Experimentation (Unclassified/A)** Kyle Kolsti, STAT COE

1400 **Supporting P&E with an Agile, Scalable Evaluation Framework: Experiment Design, Prototype Evaluation and Decision Support (Unclassified/A)** Suzanne Beers, The MITRE Corporation

1430 **Leveraging Distributed Lab-Based Risk Reductions for Experimentation & Test (Unclassified/A)** Tilghman Turner, Redstone Test Center

1500 **Break in the Exhibit Area**

1530 **American Systems Mobile Advanced GPS Instrumentation and Collection System (MAGIC) (Unclassified/A)** Christopher Martin, American Systems

1600 **At UCF, the Center for Directed Energy and its TISTEF laser range (Unclassified/A)** Martin Richardson, CDE@UCF

1630 **Session ends for the day**

1730 **Tuesday evening Reception with Exhibitors**

**Atmospheric Characterization** **1**

**Session Chair: Dr. Steve Hammel (NIWC Pacific)**

1300 **Overview of an open-air laser and atmospheric experimental data collection event conducted at the Townes Institute Science and Technology Experimentation Facility (TISTEF) (CUI/D)** Evan Bates, Naval Surface Warfare Center Dahlgren Division

1325 **LIDS HEL Test Suite: Multi-Spectral Transmission and Extinction Initial Test results (CUI/C)** Steven Fiorino, AFIT/ENP

1350 **Integration of Numerical Weather Prediction (NWP) Parameters and Real-Time Data and their Contribution to Weather Integration Prototype (WIP) Performance (CUI/C)** Casey Reynolds, AFIT/ENP

1415 **Nexus: A DoD Web Tool for Environmental Site Surveys and DE Test Planning (CUI/D)** Yakov Diskin, MZA Associates Corporation

1440 **High Energy Laser Test and Evaluation Assessment with HEL-PETT Software (CUI/C)** Svetlana Lachinova, II-VI Aerospace & Defense

1505 **Break in the Exhibit Area**

1530 **Measurements and Modeling of Optical Turbulence in the Surface Layer (Unclassified/A)** Joseph Blau, Naval Postgraduate School

1555 **Nodal Atmospheric Characterization Sensor Use and Applications (Unclassified/A)** Alex Clark, BlueHalo

1620 **Aerial Transmissometer for EO Atmospheric Measurement (Unclassified/A)** Skylar Lilledahl, Naval Information Warfare Center Pacific

1645 **Assessing aerosol effects on the propagation of high power cw and pulsed laser beams (Unclassified/A)** Martin Richardson, CDE@UCF

1710 **Real time atmospheric monitoring capabilities at the TISTEF laser range** **(Unclassified/A)** Thomas Miletich, CDE@UCF

1735 **Session ends for the day**

1730 **Tuesday evening** **Reception with Exhibitors**

**HPM Sources**

**Session Chair: Mr. Jeff Schleher (American Systems)**

1300**Joint Agile Non-kinetic Upgradeable System (JANUS) Project - Status Update (CUI/C)** John Osowski, Verus Research

1330 **Verification of VIRCATOR and NLTL Sources for Effects Testing (CUI/D)** Leonardo Rossetti, Naval Research Laboratory

1400 **Free Field Test Source - Project Update (CUI/C)** John Osowski, Verus Research

1430 **High Average Power Pulsed (HAPP) Project (Unclassified/A)** Jonathon Heinrich, Verus Research

1500 **Break in the Exhibit Area**

1530 **S-Band Test and Evaluation Source (STES) Project (CUI/C)** Patrick Wong, Verus Research

1600 **Recoverable, Reusable Airborne Engagement (RRAE) (CUI/C)** William White, Verus Research

1630 **Status Update: Electromagnetic Interactive Tool for Test & Evaluation of Radio-frequency Systems (EMITTERS) (CUI/C)** Walter Clover, Verus Research

1700  **Session ends**

1730 **Tuesday evening Reception with Exhibitors**

**Wednesday (Feb 1 - Day 3)**

0700 **Registration Desk Opens**

**Continental Breakfast in the Exhibit Area**

0800 Welcome: Ms. Whitney Winchester, 2023 Joint Conference Program Co-Chair

Posting of the Colors and National Anthem

Introduction and Sendoff for the STEAM Competition Teams

0815 **STEAM Competition**

Participating schools include:

**Middle Schools**

Cien Aquas International School

Bosque School

Ernie Pyle Middle School

Nuclear Museum Home Schoolers

**High Schools**

Albuquerque High School

West Mesa High School

Technology Leadership High School

Albuquerque Institute for Mathematics and Science (AIMS)

0815 Mr. George Rumford, Deputy Director of Test Resource Management Center (Invited)

0900 Mr. Matt Fetrow, Director of Strategic Communications, Space Rapid Capabilities Office (Confirmed)

0945 **Break – Visit STEAM Competition**

1015 **Workforce Pipeline Panel: Meeting the Future Needs Today**

Lead by Dr. Sandra Biedron, DEPS

Panelists:

* Justin Martin, Chief Engineer, Raytheon High Energy Laser Product Line (Confirmed)
* Steve Squires, Director WSMR HELSTF (Confirmed)
* Laura McGill, Deputy Lab Director and Chief Technology Officer, Sandia National Labs (Confirmed)
* James Hadaway, UAH (Invited)
* Martin Richardson, UCF (Confirmed)

1130 Lessons Learned from SDPE DE Deployments - Mr. Peter Finlay, AFRL (Confirmed)

1200 Dr. Tim Andreadis – Conference Technical Program Co-Chair: Announcements and Introduction to Afternoon Technical Sessions

1200 **Lunch**

**STEAM Co-Chairs**, Announcement of STEAM Competition Awards

1300 **Technical Track Sessions**

**DoD Experimentation Campaigns & Programs**

**Session Chair: Zack George (Modern Technology Solutions, Inc.)**

1300 **Probability of Weapon Effectiveness Experiment (PWEX) Program Summary (CUI/D)** Zack George, Modern Technology Solutions, Inc. (MTSI)

1330 **Integrated DE Test and Evaluation Modernization - An Innovative Approach Integrated DE Architecture (IDEA) (CUI/D)** Keith Healey, Leidos

1400 **Aircraft and Beam Director Integrated Testing (CUI/D)** Matthew Whiteley, MZA Associates Corporation

1430 **PWEX Illumination of Aerial Targets (CUI/C**) Christopher Beairsto, US Army, WSMR (HELSTF)

1500 **Break in the exhibit area**

1530 **Directed Energy Separating from Radio Frequency Electronic Warfare - How Did We Get Here (CUI/C)** Jeffrey Schleher, American Systems

1600 **Advancements in RF-Telemetry for Hypersonic Projectiles in Highly Reflective Environments (CUI/C**) Sameer Hemmady, Verus Research

1630 **Innovative Assessment of DE Effects via Microelectronics RF Emission Analysis (CUI/C)** Ken Munson, Nokomis, Inc.

1700 **DE Effects to the Part Level on Ground Vehicle Engine Control Units using RF Emission Signature Analysis (CUI/C)** Walter Keller, Nokomis

1730 **Conference ends for the day**

**HEL Manufacturing Subsystem and Component Testing and Verification**

**Session Chair: Joseph Grobmyer (RCCTO)**

1300 **Results, Action Items, and Plan Forward from the 2022 HEL Optics Metrology Workshop (CUI/D)** James Hadaway, The University of Alabama in Huntsville

1330 **Best Practices for Specifying HEL Small Beam Space Optics (CUI/C)** Joseph Randi, Penn State Applied Research Laboratory

1400 **Updates to the Manufacturing and Acceptance Testing of kW-Class Fiber Amplifiers and Spectral Beam Combiners (CUI/D)** Benjamin Johnson, Coherent

1430 **Next Level Testing - Raytheon Technology’s Approach to Directed Energy Critical Qualification During Integration (Unclassified/A)** Jason Lavine and Anthony DiChiara, Raytheon Intelligence and Space

1500 **Break in the Exhibit Area**

1530 **Manufacturing and Testing of Coated Optical HEL Components (CUI/D)** Felix Radesi, Optimax SI

1600 **Automated System for Combinatorial Discovery of Coatings from Compound Semiconductors and High Entropy Alloys (Unclassified/A)** George Atanasoff, AccuStrata, Inc.

1630 **Development of Independent HEL Optic Metrology Labs at the University of Alabama in Huntsville (Unclassified/A)** Milan Buncick, Bluehalo

1700 **Session ends / Conference ends for the day**

**Atmospheric Characterization 2**

**Session Chair: Dr. Steve Hammel (NIWC Pacific)**

1300 **DELTA-PRO: Integrated Imaging and Wavefront Turbulence Profiling (CUI/D)** Matthew Whiteley, MZA Associates Corporation

1325 **Comprehensive approaches to measuring air-turbulence at TISTEF (Unclassified/A)** Matthew Salfer-Hobbs, CDE@UCF

1350 **Long-term monitoring at the Naval Research Laboratory’s Coastal Environmental Observation Station (NRL-CEOBS) for Cn2 observations and model validation from remote sensing (Unclassified/A)** Jerome Schmidt, Naval Research Laboratory

1415 **The Sea-based High Energy Laser Atmospheric Characterization (SHELAC) System (Unclassified/A)** Don Harris, Georgia Tech Research Institute (GTRI)

1440 **Numerical Weather Prediction Model Data Assimilation for Improved HEL Atmospheric Characterization (Unclassified/A)** Clark Amerault, Naval Research Laboratory

1505 **Break in the exhibit area**

1530 **SAEL lidar Recent Deployments and Outlook for Integrated HEL Atmospheric Characterization Suite (CUI/D)** David Sonnenfroh, Physical Sciences Inc.

1555 **On the Necessity to Standardize Optical Turbulence Measurements (CUI/C)** Christopher Valenta, Georgia Tech Research Institute (GTRI), Electro-Optical Systems Laboratory

1620 **A Temporal Covariance Method for Calculating Optical Turbulence (CUI/C)** Christopher Valenta, Georgia Tech Research Institute (GTRI), Electro-Optical Systems Laboratory

1645 **Airborne Measurement of Atmospheric-Induced Beam Jitter (Unclassified/A)** Eric Jumper, University of Notre Dame

1710 Session ends / **Conference ends for the day**

**Measurement and Calibration 1**

**Session Chair: Subrata Sanyal (NSWC Corona)**

1300 **Performance Measurement Trust = Operational Trust (CUI/C)** Subrata Sanyal, Naval Surface Warfare Center, Corona Division (NSWC Corona)

1330 **Calibrated Spectral Measurements of Supercontinuum in Bulk Dielectric Media(CUI/C)** Bryan Holtsberry, DEVCOM Analysis Center

1400 **Navy Low Energy Laser Test Equipment (CUI/C)** Clay Armstrong, Naval Surface Warfare Center, Crane Division (NSWC Crane)

1430 **Dynamic Target Tracking for Remote Data Acquisition (Unclassified/A)** Peter Wick, NSWCDD

1500 **Break in the Exhibit Area**

1530 **Field Measurements of HPM Systems using sUAS (Unclassified/A)** Zachary Levine, Epirus Inc.

1600 **Design of Experiments and Statistical Methods for Directed Energy Test and Validation (Unclassified/A)** Bill Thomas, Radiance Technology

1630 **Session Ends**

**Thursday (Feb 2 - Day 4)**

0700 **Registration Desk Opens**

**Continental Breakfast**

0800 **AM Technical Track Sessions**

**Measurement and Calibration 2**

**Session Chair: Dr. Subrata Sanyal (NSWC Corona)**

0800 **Advanced Ceramic Target Board (CUI/C)** Theron Henderson, Scientic Inc.

0830 **Calibration Techniques for Non-Planar High Energy Laser Target Boards (CUI/C)** Kristen Parker, SemQuest Inc.

0900 **sUAS HEL Target Boards for Gathering Outdoor HEL Data (CUI/C)** Caleb Hoover, SemQuest

0930 **Testing of HEL Targets on Flight Platforms (CUI/C)** Caleb Hoover, SemQuest

1000 **Break**

1030 **Ground Targets for Quantifying Laser System Tracking Capabilities (CUI/D)** David Hubble, Naval Surface Warfare Center, Dahlgren Division (NSWC Dahlgren)

1100 **Visibility Measurements Use Cases, Data Reproducibility, and Calibration Approach of a Novel Open-Path Optical Extinction Analyzer (Unclassified/A)** Nabil Saad, Nikira Labs Inc.

1130 **Session ends**

**Testing & Experimentation**

**Session Chair: Roger Russell (BlueHalo)**

0800 **Design and Delivery of Laser Instrumentation Diagnostic Suite (LIDS) Units (CUI/D)** Andrew Hall, BlueHalo

0830 **Dynamic Target Reflection Measurements for Range Safety Considerations (CUI/C)** Richard Preston, Sensing Strategies

0900 **Recoverable Surrogate MANPAD Capable of Emulating Multiple Missile Profiles in support of Live Fire Test & Evaluation Events (Unclassified/A)** Anthony Lanza, BlueHalo

0930 **Session ends / Clear room / Transition to next session in same room**

**T&E Capabilities for DE 2**

**Session Chair: Chris Valenta (GTRI)**

0940 **Directed Energy Studies and Experimentation at the Naval Postgraduate School (CUI/D)** Bonnie Johnson, Naval Postgraduate School

1010 **Electromagnetic Disruption Recovery and Battle Damage Assessment (CUI/C)** Vaughn Brantley, Vigilant Cyber Systems Inc.

1040 **Session ends**

**HPM Sensors**

**Session Chair: Mr. Jeff Schleher (American Systems)**

0800**HPM Beam Evaluation Tool Project (HBET) (CUI/C)** John Sanchez, Verus Research

0830 **Directed Energy Test Science and Technology Fast Acquisition Effects Testing System (FAETS) (CUI/C)** Christian Taylor, Verus Research

0900 **High-Frequency High-Power Microwave Diagnostic Suite (HF-HDS) Project (CUI/C)** John Sanchez, Verus Research

0930 **Airborne High-Power Microwave Instrumentation (AirHI) Project (CUI/C)** John Sanchez, Verus Research

1000 **Break**

1030 **HPRF and HPM Field tests of a non-intrusive single-axis and three-axis electro-optic field sensor (CUI/C)** Dong Wu, Naval Research Laboratory

1100 **Optically Based Sensing of RF Fields and Induced Currents for Directed-Energy Testing (CUI/C)** John Whitaker, Advanced Fiber Sensors, Inc.

1130 **Integration and Field Testing of a Tethered sUAS for HPM Field Characterization (Unclassified/A)** Michael Kranz, EngeniusMicro

1200 - **Session ends**

**Thursday PM**

**General Session at Offsite**

**Session Chair: Dr. Diana Loree (AFRL)**

1330**Classified intelligence Brief** Garrett Nokes, AFRL/RDOI

1430 **Merged Directed Energy and Electronic Warfare Testing** Tim Andreadis, Naval Research Laboratory

1500 **Predictive Performance Modeling and Simulation Baselining of the Directed Energy Weapons Mission Analysis Tool Set (DEWMATS) to Operational Test Results** Daniel Levy, Georgia Tech Research Institute

1530 **Break**

1545 **Multi-Physics Modeling Framework** Michael Sheyka, Air Force Research Laboratory

1610 **Derivation and Verification of HEL Lethality Requirements for Ground-Based Tactical Lasers (GBTL)** John Stewart, GTRI, EOSL

1635 **Characterization of a High Power Microwave Antenna System** Eric Berry, Raytheon Technologies

1700 **Session ends**

1700 **Conference Adjourns**

**Host Hotel**

Albuquerque Marriott Pyramid North  
5151 San Francisco Road NE   
Albuquerque, NM  87109  
[(505) 821-3333](https://www.google.com/search?q=marriott+pyramid&sxsrf=AOaemvIno1dwjkpG4DRStu1EOJmcuLfhzQ%3A1637701213740&ei=XVadYe7DLNfRtQatyKroAw&gs_ssp=eJzj4tZP1zcsScmrSDazMGC0UjWosDA3MjI3MUk2sLRItTBNsrQyqDBJNDBJSzFMskhLtjC3SEvxEshNLCrKzC8pUSioLErMzUwBALh4FUI&oq=marriott+py&gs_lcp=&sclient=gws-wiz)