ITEA 18th Engineering Workshop 
and 
DEPS DE Test and Evaluation Conference

Hosted by 
International Test and Evaluation Association 
and 
Directed Energy Professional Society 

16 - 18 January 2018 
Albuquerque, New Mexico
0700  Registration at Sheraton
0800  Morning Tutorials Begin

ITEA TUTORIAL I:
TENA and JMETC for Distributed Systems Engineering
Wurlitzer Room

ITEA TUTORIAL II:
Critical Thinking in Test Design and Analysis
Sonata Room

ITEA TUTORIAL VI:
T&E in Support of Prototyping & Experimentation
Ivory Room

DEPS TUTORIAL I:
Introduction to DE T&E
Serenade Room

1200  Lunch on Own

1300  Afternoon Tutorials Begin

ITEA TUTORIAL III:
Cybersecurity T&E
Wurlitzer Room

ITEA TUTORIAL IV:
Cyber Operational Vulnerability Assessments;
Or How I Learned to Stop Worrying and Love the Six-Phase Cybersecurity T&E Process
Sonata Room

DEPS TUTORIAL III:
T&E of HEL Systems
Ivory Room

DEPS TUTORIAL IV:
T&E of HPM Systems
Serenade Room
**Wednesday Morning**

**Plenary Session**

0700  Registration Desk Opens  
Continental Breakfast in the Exhibit Area

0800  Welcome: Posting of Colors and  
National Anthem  
Mr. Ralph Galetti, ITEA RoadRunner  
Chapter President

0815  Opening Remarks  
Mr. Patrick Cannon, 2018 ITEA Engineering  
Workshop Program Chair

0830  Major General Matthew Molloy,  
Commander, Air Force Operational Test and Evaluation Center

0915  Mr. Paul Mann, Technical Director, Naval Surface Warfare Center, Port Hueneme Division

1000  Break

1030  Mr. George Rumford, Deputy Director,  
Test Resource Management Center

1115  Mr. Chris Beairsto, Lead for Operations and Beam Control, High Energy Laser System Test Facility

1200  Announcements and Introduction to  
Afternoon Technical Sessions, Introduction of Lunch Speaker  
Mr. John Cao, DEPS DE T&E Technical Program Chair

1200  Lunch - STEAM Focused Speaker and Introduction of Thursday’s STEAM Competition  
Mr. Jay Fernandez, STEAM Labs™ Center for K-12 Research and Engagement, Ira A. Fulton Schools of Engineering, Arizona State University

**Wednesday Afternoon**

**ITEA SESSIONS:**

Next-Generation Experimentation & Test Techniques for Cyber Resilience  
Chair: Dave “Maggie” Brown, EWA  
Registry Room

1300  Cyber Operational Vulnerability Assessment (COVA); Or How I Learned to Stop Worrying and Love the Six-Phase Cybersecurity T&E Process  
Dr. Mike Lilienthal, EWA

1330  Self Cleansing Intrusion Tolerance  
Dr. Arun Sood, SCIT Labs

1400  Vulnerability and Capability with Respect to Cyber Dependent Weapon Systems  
LtCol Michael “Thumper” Christensen, 47th Test Squadron Commander, San Antonio, TX

1430  Cybersecurity Test and Methodologies for Improving Mission Cyber Resiliency  
Ralph Galetti, Boeing

1500  Break

**Measurement & Test Results**

Chair: Kevin Knudsen, Boeing  
Registry Room

1530  Light Attack Experiment Methodology Major  
Major John Tekel, 586 FLTS

1600  The Challenges and Successes of Prototyping & Experimentation of Laser Systems on Civilian & Military Aircraft  
Ed Rinke, Camo LLC

1730  Exhibitors Reception
DEPS SESSION: Experimentation & Prototyping
Chair: John Cao, 704TG/OL-AA
Ambassador Room
1300 United States Air Force’s Directed Energy Weapons Experimentation Campaign (D)
John Cao, 704 TG/OL-AA
1330 Exploring the Kill Chain: Concepts of Directed Energy Testing in the Context of Experimental Campaigns (D)
Andy Keipert, 46 TS
1400 US Army SMDC Laser Test Plans and Needs (D)
Bo Henderson, Scientic
1430 Test and Evaluation Summary of HADES (D)
Dan Marker, AFRL/RDLT
1500 Break
1530 Flight Test Evaluation of the Aero-Optical Fixed Wing Demonstrator (AeroFWD) (D)
Matt Whiteley, MZA
1600 Turbulence Measurement Systems for Directed Energy Field Testing (D)
Matt Whiteley, MZA
1730 Exhibitors Reception

DEPS SESSION: Measurement & Calibration
Chair: James Bowers, Air Force Institute of Technology
Ivory Room
1300 Observing Currents Inside a Computer Under Attack Using the Differential-Mode Optically-Based Current Sensor (DOCS) (D)
Jeff Schleher, American Systems
1330 Laser Power and Irradiance Meters Calibration (D)
James Luke, AEgis
1400 METCAL Support to DoD Directed Energy T&E Efforts (D)
Subrata Sanyal, NSWC-Corona
1430 Challenges in Compact Diagnostics for Vibration Testing for HADES (C)
Jeff Barchers, Nutronics
1500 Break
1530 Air Force High Energy Laser Calibrations (A)
Sam Capra, AFMETCAL
1600 Smart Mirror Laser Radiometer: High-Accuracy Laser Power Measurements at the Point of Use (A)
Alexandra Artusio-Glimpse, NIST
1730 Exhibitors Reception
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Plenary Session

0700 Registration Desk Opens
Continental Breakfast in the Exhibit Area

0800 STEAM Competition begins in the Baldwin Ballroom

Middle Schools:
- Cien Aguas International School
- Bosque School
- Van Buren Middle School

High Schools:
- Albuquerque High
- West Mesa High
- International School at Mesa del Sol

0800 Welcome: Posting of the Colors and National Anthem
Mr. Edward Trzcienski, 2018 DEPS DE T&E Conference Program Chair

0810 Opening Remarks
Mr. Peter Crump, ITEA Vice President and Mr. Mark Neice, DEPS Executive Director

0830 Recorded Remarks
U.S. Senator Martin Heinrich (D-N.M.)

0835 Dr. Kelly Hammett, Director, Air Force Research Laboratory Directed Energy Directorate

0915 Mr. Glenn Fogg, Deputy Director for Prototyping & Experimentation, Office of the Deputy Assistant Secretary of Defense for Emerging Capability & Prototyping

1000 Break

Panel: Testing Lessons Learned and Suggested Improvements for Rapid Prototyping / Rapid Acquisition

Moderator: Denise De La Cruz, Deputy Director, Test Range Oversight, OSD-Test Resource Management Center (TRMC)

1030 Panel Begins

Panelists:

Dr. Thomas Clutz, Chief, Acquisition and Evaluation Division Joint Improvised-Threat Defeat Organization (JIDO)

Mr. Jerry Tyree, Deputy Commander / Tech Director, White Sands Test Center

Mr. Tom Lockhart, Director, Air Force Strategic Development Planning & Experimentation Office

1200 Announcements and Introduction to Afternoon Technical Sessions
Mr. Ralph Galetti, ITEA Engineering Workshop Technical Program

1200 Lunch and STEAM Competition Awards
Mr. Steve Traver, NM Legislative Fellow
ITEA SESSION:
Experimentation & Prototyping
Chair: Scott Marshall, National Test Pilot School
Ambassador Room
1300 Big Data Analytics and Design of Experiments: A Powerful Combination for T&E
Dr. Mark Kiemele, Air Academy Associates
1330 A Systems Approach to Battle Management Aids
Bonnie Johnson, Naval Post Graduate School
1400 Information Technology Experiences Using a Simulated Tele-science Exploration of Mars
Nader Vadiiee, Southwest Indian Polytechnical Institute
1700 Conference Adjourns

DEPS SESSION:
Special Topics Within DE
Chair: Joseph Paranto, Applied Research Associates
Ivory Room
1300 Moving Directed Energy from the Lab to the Warfighter: Experiment and Experimentation (D)
Sean Ross, AFRL/RDLA
1330 Development of Aero-Optical Test Equipment and Methodology for Transonic Wind Tunnels at AEDC (D)
Edward Mickle, AEDC/TSS
1400 TACoSHELS Research Updates and Experimentation Support (D)
James Bowers, AFIT
1430 Thermal Management for the Navy GBAD System (C)
Joel Crawmer, ACT
1500 Break
1530 Thermal Management Technologies for Directed Energy Weapons (A)
Joel Crawmer, ACT
1600 Directed Energy Systems Integration Lab (DESIL) MILCON Project (A)
Terry Robinson, NSWC Pt. Hueneme
1700 Conference Adjourns
**THURSDAY AFTERNOON**

**DEPS SESSION:**

**Test Results**

Chair: Whitney Winchester, US Army PEO-STRI
Registry Room

1300  An Overview of the CABLE/TRAX Field Experiment (D)
   Steve Hammel, SPAWAR

1330  LBADS Calibration Against Radiation Pressure Power Meter at HELSTF (D)
   Bo Henderson, Scientic

1400  Characterizing the Atmosphere With LIDAR: IACS and MACS Results from CABLE/TRAX (C)
   Chris Valenta, GTRI

1430  Point Mugu Sea Range IACS (C)
   Mike Saadati, NSWC-Point Mugu

1500  Break

1530  Evaluation of BITS Calibration (C)
   David Ward, SemQuest

1600  Calibrating High-Power Laser Power and Energy Meters Using Radiation Pressure (A)
   Paul Williams, NIST

1700  Conference Adjourns

**DEPS SESSION:**

**Range Infrastructure & Safety**

Chair: Steve Yan, AFRL/RDMT
Sonata Room

1300  Implementation of DoDI 3100.11, The Continuing Evolution of Laser-Satellite Deconfliction (D)
   Steve Yan, AFRL/RDMT

1330  The Joint Laser Deconfliction Safety System (JLDSS) (D)
   Steven Alderete, DE-JTO

1440  DLWS Test Summary (D)
   Mark Kramer, AFRL/RDLA

1430  HEL vs. Blue Aircraft Survivability Test Site Capabilities (D)
   Alex Kurtz, 704 TG/OL-AC

1500  Break

1530  Modeling, Simulation & Analysis for High Energy Laser (HEL) Collateral Hazards (D)
   Semih Kumru, AFRL/RHDO

1600  RF Spectrum Management and High-Power Microwave Weapons: A Review of Current Practices and the Path Forward (D)
   Steve Yan, AFRL/RDMT

1700  Conference Adjourns

**FRIDAY MORNING**

**ITEA EXAM:**

Ivory Room

0800  CTEP Exam
Conference Organizers
Conference Co-Chairs
Pat Cannon, Edward Trzcienski
Conference Technical Co-Chairs
John Cao, Ralph Galetti, Scott Marshall
Conference Committee
James Bowers, Wilson Felder, Kevin Knudsen, Joseph Paranto
Whitney Winchester, Stephen Yan
Conference Coordinator
Cynnamon Spain
Security, Registration and Receipts
Tiffany Bjelke
Short Courses / Tutorials
Cristina Crowson, Doug Messer
Exhibits and Sponsorships
Lena Moran
STEAM Co-Chairs
Kathi Swagerty, Steve Woffinden

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