



**PRECISION STRIKE ASSOCIATION**  
WELCOMES YOU TO THE

# **PRECISION STRIKE TECHNOLOGY SYMPOSIUM**

(PSTS-17)

Precision Effects and Technologies in the Current and  
Future Contested Environments

**October 24-26, 2017**

The Johns Hopkins University Applied Physics Laboratory  
Kossiakoff Conference Center

Laurel, MD

Symposium Will Be Conducted At **SECRET//NOFORN** Level  
This document is unclassified in its entirety



**NDIA**

## PSTS-17 LEADERSHIP SPEAKERS



General Seve Wilson, USAF



Lieutenant General  
John Dolan, USAF



Major General  
Bill Hix, USA



Rear Admiral  
Mark Darrah, USN

### Welcome to PSTS-17

The world has never been so divided and the terrorism threat continues to increase globally. Dangers from North Korea's nuclear pursuits, the war in Syria, and the overall fight against the Islamic state demand serious and immediate technological innovation. The theme **Precision Effects and Technologies in the Current & Future Contested Environments** allows the precision strike community the opportunity to pursue many of these challenges by showcasing focus areas related to critical threats and challenges, USPACFLT posture for countering China's competitive advantage, shaping the geo-strategic security environment, strategic capability development, nuclear deterrent modernization and strategic stability, advanced technologies and upcoming developments, special tactics, and unique challenges for innovative solutions and maximum impact.

In addition to the above focus areas, keynote and featured speakers from OSD, the Joint Staff, the Services, U.S. Pacific Fleet, Intelligence Community, SOCOM, AFSOC, PEOs, US FFC, DARPA, DTRA, AFRL, AMRDEC, ACC, NAWDC, MAWTS, FWC, FCoE, JHU/APL, National Labs, and Industry will address numerous riveting topics during this important and engaging three-day classified symposium including:

- Intelligence Assessment—Middle East, Russia, Iran, China & North Korea
- Hypersonic Weapon Threat
- Administration's Defense Rebuild Priorities—Future Force Development
- Targeting Support for Future Warfare Engagement
- Electronic Warfare—Future Direction/Programmatic Impacts
- Innovations for the Next Generation Strike Capability
- Navy's Future Anti-Ship Capability
- F-35 in the High End vs Permissive Fights
- Precision Engagement in the Current & Future Fights (2 Panels)
- Precision Strike Capabilities into the Future to Support the Warfighter
- SOF Precision Strike Effects & Digitally Aided CAS in the Battlefield
- Special Tactics Missions & A2/AD to Achieve Precision Strike Effects
- Conventional Prompt Strike
- Roadmap for Offensive & Defensive Hypersonic Capabilities (Session + Panel)
- Autonomy-Enabled Systems to Support Counter-WMD Mission
- Precision Engagement in the Asia-Pacific AOR
- Land Based Anti-Ship Capabilities from Long Range
- Lessons of America's Victory in the Cold War
- Radical Islamic Terrorism
- Maritime Strike Tomahawk (MTS)

### Special Award Ceremony

#### Presentation of 9th Richard H. Johnson Technical Achievement Award



Brigadier General  
William Holt, USAF



Dr. James Stevens  
SES



Daniel Bishop  
SES



Angie Knappenberger  
SES



Brigadier General (Sel)  
James Adams, USMC



Colonel  
Yi Se Gwon, USA

## TUESDAY, 24 OCTOBER

- 0700 CHECK-IN / CONTINENTAL BREAKFAST
- 0745 SYMPOSIUM WELCOME  
**Ken Masson**—Chairman of the Board
- 0750 JHU/APL WELCOME  
**Dr. David Van Wie**—Precision Strike Mission Area Executive, JHU/APL
- 0800 **INTELLIGENCE ASSESSMENT OF CRITICAL THREATS AND CHALLENGES—MIDDLE EAST, RUSSIA, IRAN, CHINA AND NORTH KOREA**  
**Joe Gigliotti (SES)**—Deputy Director, Current Analysis & Warning, DIA/JCS (J-2), The Joint Staff
- 0845 **HYPERSONIC WEAPON THREAT**  
**Dr. Giallimum Bussey**—IC
- 0915 **TARGETING SUPPORT FOR FUTURE WARFARE ENGAGEMENT**  
**Donald Perkins**—Director of Operations, 363<sup>rd</sup> Intelligence, Surveillance and Reconnaissance Group, Air Combat Command, Joint Base Langley-Eustis
- 0945 NETWORKING REFRESHMENT BREAK
- 1000 **KEYNOTE ADDRESS—SHAPING THE GEO-STRATEGIC SECURITY ENVIRONMENT**  
**Major General William Hix, USA**—Director of Strategy, Plans & Policy, Office of DCS, G-3/5/7, U.S. Army
- 1045 **COUNTER-UNMANNED AERIAL SYSTEMS (C-UAS)**  
**Dr. Jon Ward**—Senior Professional Staff Member, JHU/APL
- 1115 **ELECTRONIC WARFARE—FUTURE DIRECTION/PROGRAMMATIC IMPACTS**  
**Dr. William Conley (SES)**—Deputy Director for Electronic Warfare, OUSD(AT&L)
- 1200 INFORMAL LUNCHEON BUFFET—Kossiakoff Center Dining Room
- 1230 **LUNCHEON ADDRESS—LESSONS OF AMERICA'S VICTORY IN THE COLD WAR**  
**Dr. Peter Huessy**—President, GeoStrategic Analysis
- 1315 **STRATEGIC CAPABILITY DEVELOPMENT—CREATING THE FUTURE FORCE**  
**Vincent Sabio**—Program Manager, Strategic Capabilities Office (SCO)
- 1400 **KEYNOTE ADDRESS—NUCLEAR DETERRENT MODERNIZATION & STRATEGIC STABILITY**  
**General Stephen "Seve" Wilson, USAF**—Vice Chief of Staff of the U.S. Air Force
- 1445 NETWORKING REFRESHMENT BREAK
- 1500 **INNOVATIONS FOR THE NEXT GENERATION STRIKE CAPABILITY**  
**Rear Admiral Mark Darrah, USN**—PEO for Unmanned Aviation and Strike Weapons
- 1545 **NAVY'S FUTURE ANTI-SHIP CAPABILITY**  
**Captain John Dougherty, USN**—PM, Precision Strike Weapons Program Office, PMA-201
- 1615 **F-35 IN THE HIGH END VS PERMISSIVE FIGHTS**  
**Captain Craig Dorrans, USN**—F-35 Enterprise Planning Director, JSF
- 1700 EVENING RECEPTION WITH HEAVY HORS D'OEUVRES



Dr. David Van Wie



Dr. Peter Huessy



Dr. Bill Conley



Vincent Sabio

Captain  
Doc Dougherty, USN

Donald Perkins

Captain  
Craig Dorrans, USN

PSA Programs Chair: Ginny Sniegion

PSA Programs Vice Chair: CAPT David "Jumbo" Baird, USN

Official Kickoff Chair: Dr. John Walter

Tri-Chairs: David Uzzell (Day 1)  
Kerry Neace (Day 2)  
Mark Converse (Day 3)

## U.S. Military &amp; Civilian Advisors

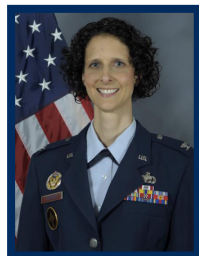
OSD: CAPT David "Jumbo" Baird, USN &  
Chuck "Tooba" Kelly

Air Force: Col Steve "Dallas" Horton, USAF

Navy: CDR Eric "Skip" Taylor, USN &  
MAJ Ryan "Puddles" Thompson, USMCArmy: LTC Terry Clark, USA &  
LTC Ken Britt, USA (Ret)

Marine Corps: MAJ Ryan "Spidey" Welborn, USMC

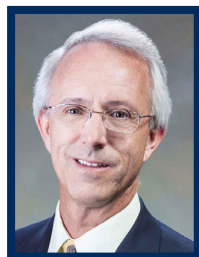
The Joint Staff: Major Dan "Otis" Harper, USAF



**Colonel  
Mojo Johnson, USAF**



**Captain  
Jumbo Baird, USN**



**Dr. Larry Jones**



**Master Sergeant  
Jared Pietras, USAF**



**Scott O'Neil**



**Griffin Airdrop**



**Griffin Launch**

## WEDNESDAY, 25 OCTOBER

0700 CHECK-IN / CONTINENTAL BREAKFAST

### 0800 **PANEL—PRECISION ENGAGEMENT IN THE CURRENT FIGHT**

Moderators: **Captain David "Jumbo" Baird, USN**—Office of Tactical Warfare Systems, OUSD(AT&L)

- **Commander Andrew "Grand" Mariner, USN**—TOPGUN CO, TOPGUN Air-to-Surface SME, Naval Air Warfare Development Center (NAWDC)
- **Lieutenant Darren "Twerk" Elder, USN**—TOPGUN Air-to-Surface SME
- **Major William "Rasheed" Wallace, USMC**—H-1 Requirements (APW-53), HQMC
- **Lieutenant Colonel Richard Carver, USAF**—Air Superiority Branch Chief, A8XC
- **Lieutenant Colonel Frank Leija, USA**—Deputy Division Chief for Precision Fires, G-8

0930 NETWORKING REFRESHMENT BREAK

### 0945 **PRECISION STRIKE CAPABILITIES INTO THE FUTURE TO SUPPORT THE WARFIGHTER**

**Colonel Melissa "Mojo" Johnson, USAF**—PEO for Fixed Wing Programs, USSOCOM

### 1030 **SOF PRECISION STRIKE EFFECTS**

**Brigadier General William "Bill" Holt, II, USAF**—Director of Operations, Headquarters Air Force Special Operations Command (AFSOC), Hurlburt Field

### 1100 **SPECIAL OPERATIONS AND TACTICS—DIGITALLY AIDED CAS IN THE BATTLEFIELD**

**Master Sergeant Jared "Peaches" Pietras, USAF**—Chief of Weapons & Tactics, 23<sup>rd</sup> Special Tactics Squadron, AFSOC, Hurlburt Field

### 1145 **DEFENSE AGAINST HYPERSONIC WEAPONS**

**Dr. Larry Jones**—Distinguished Member of Technical Staff, Sandia National Laboratories

1215 LUNCHEON—Kossiakoff Center Dining Room

### 1300 **RICHARD H. JOHNSON TECHNICAL ACHIEVEMENT AWARD CEREMONY**

- Presentation of Ninth Annual Richard H. Johnson Technical Achievement Award to **Scott O'Neil**—previous NAVAIR Executive Director, Research & Engineering, NAWC-WD
- **Special Remarks**
- **Remarks by Scott O'Neil**

### 1330 **DEFENSE LEADERSHIP PANEL—PRECISION ENGAGEMENT IN THE FUTURE FIGHT**

Moderator: **Dr. James Stevens (SES)**—Deputy Director for Studies and Analysis, Joint Staff Force Structure, Resources and Assessment Directorate (J-8)

- Air Force: **Daniel Bishop (SES)**—Deputy Director, Operational Capability Requirements, HQ USAF/A5R
- Army: **Colonel Yi Se Gwon, USA**—Director, AMTC—Army Multi-Domain Targeting Center, FCoE Fort Sill
- Navy: **Anjanette Knappenberger (SES)**—Deputy Director of Air Warfare (N98B) for the Deputy Chief of Naval Operations Warfare Systems (N9), OPNAV
- Marine Corps: **Brigadier General (Sel) James Adams, USMC**—Director, Capabilities Development Directorate, HQMC Combat Development and Integration

1515 NETWORKING REFRESHMENT BREAK

**1530 ROADMAP FOR OFFENSIVE & DEFENSIVE HYPERSONIC CAPABILITIES — JOINT INDUSTRY/GOVERNMENT SESSION**

Session Chair—Scene Setter Overview:

**Captain Jaime Engdahl, USN (Ret)**—Director, Hypersonic Weapons Development, Northrop Grumman Corporation

- **Tactical Boost Glide System & Hypersonic Air-Breathing Weapon Concept (HAWC)**  
**Major Amber Walker, USA, Ph.D.**—Program Manager, Tactical Technology Office, Defense Advanced Research Projects Agency (DARPA)  
**Mark Gustafson**—Program Manager, HAWC, DARPA
- **Air Force Research Laboratory Hypersonic Technologies Overview**  
**Dr. James Weber**—AFRL Program Manager, Munitions Directorate, Eglin AFB
- **Panel—Offensive Hypersonic Weapon Concepts & Counter Hypersonics**  
**Dr. Artie Mabbett**—Director, High Speed Weapons, Raytheon Missile Systems  
**Dr. Kevin Bowcutt**—Senior Technical Fellow & Chief Scientist of Hypersonics, The Boeing Company  
**Dr. Beach Wilcox**—VP, Advanced Programs and Technology, Orbital ATK  
**Stew Miller**—Director, Northrop Grumman Hypersonic Programs, Northrop Grumman Corporation



**Captain Jaime Engdahl,  
USN (Ret)**



**Mark Gustafson**



**Major  
Amber Walker, USA**



**Dr. Beach Wilcox**

**1800 MIXER WITH LIGHT HORS D'OEUVRES**

## **THURSDAY, 26 OCTOBER**

**0700 CHECK-IN / CONTINENTAL BREAKFAST**

**0730 ADVANCED TECHNOLOGIES & UPCOMING DEVELOPMENTS—NATIONAL LABS**

Session Chair—Scene Setter Overview:

**Jeff Braun**—Weapon Subsystems Electrical Engineer, Sandia National Laboratories

- **Dr. John Richards**—Sensor Exploitation Applications Department Distinguished Member, Sandia National Laboratories  
Topic: **Sensor Exploitation for Autonomy at Sandia**
- **Andy Erickson**—Deputy Principal Associate Director, Global Security Programs, Los Alamos National Laboratory  
Topic: **Advanced Concepts in Predictive Analytics for Precision Strike Applications**
- **Dr. Mike Carter**—Program Director for DoD Technology Programs, Lawrence Livermore National Laboratory  
Topic: **Directed Energy for Strategic Defense Applications**



**Dr. Artie Mabbett**



**Dr. Kevin Bowcutt**

**0830 CHALLENGES AND OPPORTUNITIES FOR MOBILE MISSILE DEFEAT TECHNOLOGY DEVELOPMENT**

**Dr. Bob Hastie**—Technical Director, Weapons & Capabilities Office, Defense Threat Reduction Agency (DTRA)



**Dr. Bob Hastie**



**Jeff Braun**

**0915 NETWORKING REFRESHMENT BREAK**

**0930 U.S. PACIFIC FLEET POSTURE—COUNTERING CHINA'S COMPETITIVE ADVANTAGE**

**Commander Kevin McHale, USN**—N22, Intelligence & Information Operations, U.S. Pacific Fleet



**Dr. John Richards**



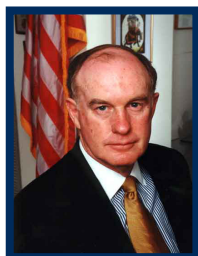
**Dr. Mike Carter**

**1100 LAND BASED ANTI-SHIP CAPABILITIES FROM LONG RANGE**

**Michael Turner**—Fires Capability Area Lead, RDMR-WDS-MT-T, Redstone Arsenal



**Colonel  
Garry Haase, USAF**



**Lieutenant General  
Tom McInerney, USAF  
(Ret)**



**Captain  
John Red, USN**

## THURSDAY, 26 OCTOBER – CONTINUED

- 1130 **UNIQUE CHALLENGES AND INNOVATIVE SOLUTIONS FOR MAXIMUM IMPACT**  
**Colonel Garry Haase, USAF**—Director, Munitions Directorate, Air Force Research Laboratory, Eglin AFB
- 1215 **INFORMAL LUNCHEON BUFFET**—Kossiakoff Center Dining Room
- 1245 **LUNCHEON ADDRESS—RADICAL ISLAMIC TERRORISM**  
**Lieutenant General Tom McInerney, USAF (Ret)**
- 1330 **MARITIME STRIKE TOMAHAWK (MST)**  
**Captain Vernon “John” Red, USN**—IPT Lead for Maritime Strike Tomahawk (PMA-280)
- 1415 **WRAP-UP KEYNOTE ADDRESS—PRECISION EFFECTS & TECHNOLOGIES FOR THE FUTURE FIGHT**  
**Lieutenant General John Dolan, USAF**—Director for Operations (DJ-3), Joint Staff
- 1500 **CLOSING REMARKS**  
**Ken Masson**—Chairman of the Board

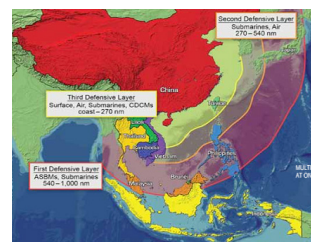
## Navigating Contested Sea Control



955 Borey Class Attack Sub



RUS Systems – Advanced Anti-Air  
Missile Systems S400



ONI Public Release PLA Map



DF-21D Anti-Ship Missile System



RUS Systems – Advanced Anti-Air  
Missile Systems S300



Luyang III Kunming-172