

C-UAS Symposium Oklahoma State University



**Symposium Theme:
C-UAS: Getting Our Arms around the Problem**

DRAFT AGENDA

Tuesday, 15 August 2017

0800 Introduction

- Welcome [OSU]
- Defining the threat: **[John Coglianese¹]**
 - Understanding the problem; Evolution of the Threat
 - Abroad and Homeland;
 - Speed of Change
 - Layout of Symposium Content

0900 Homeland Defense Perspective

- Unique Issues facing the defense of US Capitol **[Robert Campbell², DC Capitol Police]**
- Federal Law Enforcement [tentative]

1015 Break

1030 DoD Perspective

- Army FCOE, MFIX experience [tentative, Video]
- Air Force Operational T&E **[Lt. Col Ben Tabor³, Test Director C-sUAS AFOTEC]**
- JIDO **[Maj. Christopher Gundersen]**

1230 Lunch

1330 UAS Threat Technology [**Zach Barbeau**⁵]

- Current in-field technology
 - Aero platform
 - Comms
 - Payload/munitions
- Evolution of Threats
- Expected Future Threats

1415 C-UAS Technology [**Conrad Smith**⁶]

- Basic methods, currently being used and developed.
- Current research and testing of a comprehensive RF methodology technology suite and the possibilities that would bring.

1500 Break

1515 Panel Discussion

Discussion [Suggested]

How can DoD and Industry facilitate a more accelerated pace to development and T&E?

1700 End

1730-1900 **Reception – Freddy Paul’s Steakhouse and Bar**

Wednesday, 16 August 2017

0800 Meet at OSU’s Unmanned Aerial Flight Station [UAFS]

0830 Demonstration:

A brief hands-on **flight demonstration** will be conducted at OSU’s UAS facility. The goal is to demonstrate relevant small UAS asymmetric capability and emphasize threat resiliency with respect to common C-UAS capability.

- Simplicity and expeditionary effectiveness of procedures required to conduct fixed wing missions that can only be downed via GPS jamming or kinetic means
- Timeline for detection, (track), ID, defeat
- Potential future, high speed low cost threats

1000 Discussion

1100 Break up

Speaker Bio's

¹John Coglianesi, US Marines, LtCol Ret.

John Coglianesi is a retired Marine Intelligence Officer with 26 yrs of service. Some of those duties included Battalion and Regimental Intelligence Officer, Inter-agency Task Force J2 (Intelligence), Collections Officer- Special Operations Command, US Central Command, Combined Forces Special Operations Command, US Central Command, and Collections Officer for Combined Joint Task Force. He was also an instructor at the Marine Corps Intelligence School. He served in uniform as well as a government civilian for USSOCOM as Program Manager, Special Applications for Contingency and Director, Unmanned Aerial Systems.

John is presently performing strategic consulting to clients and portfolio companies in the commercial and DoD markets primarily focused on UAS, Intelligence and Communications related applications as well as advising with Private Equity / Venture Capital firms to provide subject matter expertise in specific concentration areas.

²Robert Campbell, DC Capitol Police

Sergeant Rob Campbell is the Airspace Security Coordinator for the United States Capitol Police in Washington, D.C.; he serves as the agencies direct airspace liaison to the U.S. Congress and Senior Law Enforcement officials in the Legislative Branch of Government. Sgt. Campbell manages all U.S. Capitol Police daily operations at the National Capital Region Coordination Center and serves on multiple Interagency Un-manned Aircraft System (UAS) Working Groups in the National Capital Region. Sgt. Campbell created the FAA adopted acronym "D.R.O.N.E" that is used as a reference guideline for Law Enforcement when interacting with UAS; he has also developed three (3) UAS specific Law Enforcement "Outreach" documents that have been shared with Law Enforcement agencies across the National Airspace System. Sgt. Campbell began his Law Enforcement career in 2005 after 12 years of Military Service in the Navy, Army, and Air Force and has been serving in his current position since 2012.

³Lt. Col Ben Tabor

Lieutenant Colonel Ben Tabor is the Test Director for Counter-Small Unmanned Aerial Systems (C-sUAS), Air Force Operational Test and Evaluation Center (AFOTEC), Eglin AFB, FL. Lt Col Tabor plans, executes and documents realistic and objective operational tests and evaluations and assessments. In doing so, he determines capabilities and limitations of Air Force and joint systems to meet warfighter mission needs. This allows him to provide Air Force, Department of Defense and other government agencies operational expertise and insight from system development through field deployment. Lt Col Tabor attended Air Force Reserve Officer Training Corps at the University of Central Florida, where he earned a Bachelor's degree in Computer Science in 1995. After completing navigator training in 1997, he flew on the RC-135

Rivet Joint and Combat Sent aircraft at Offutt AFB, NE. He performed several combat deployments supporting Operations Southern Watch and Allied Force and conducted sensitive reconnaissance operations in the Pacific and European theaters. As a navigator school instructor at Randolph AFB, TX, he attended Electronic Warfare Officer (EWO) training in 2004, where he received the Association of Old Crows Gilroy Award as the top graduate. Lt Col Tabor flew as an EWO on the EC-130H Compass Call aircraft at Davis-Monthan AFB, AZ with combat deployments in support of Operations Enduring Freedom and Iraqi Freedom and NATO's International Security Assistance Force and Operation Resolute Support. Since 2008, Lt Col Tabor has conducted and managed operational testing on numerous programs, including electronic warfare, foreign military sales, weapons, base defense security and counter-UAS systems with AFOTEC and Air Combat Command.

⁴Zach Barbeau

Zach Barbeau is a Research Engineer that has spent the last year and a half leading Oklahoma State's C-UAS analysis and red team support of several DoD C-UAS events including US Army Fires Center of Excellence Maneuver and Fires Integration Experiment (MFI), US Army Asymmetric Warfare Group Desert Chance, Joint Staff J6 Bold Quest, and US Army Counter, Rocket, Artillery, Mortar (C-RAM) engineering tests. He received his M.S. in Mechanical and Aerospace Engineering in July 2017 specializing in Unmanned Aircraft Systems. He is currently on Intergovernmental Personnel Act (IPA) assignment to United States Special Operations Command serving as a UAS SME within Airborne ISR.

⁵Conrad Smith

Conrad Smith is the CTO of SR Technologies based in Fort Lauderdale, FL. Primary focus is on commercial RF waveforms including Satcomms, Wi-Fi, Bluetooth and UAS C2 technologies. Conrad Smith joined SR Technologies, a forerunner of SRT Group, in 2004 and is responsible for developing and executing the groups technology roadmap and strategy. Conrad works closely with customers, technology partners and the engineering divisions to insure designs meet or exceed customer expectations and satisfy market requirements. His career has included executive management and senior engineering roles in the United Kingdom and United States for defense contractors, Silicon Valley start-ups and private commercial businesses. His career includes extensive experience in the development of proprietary software defined radios, Wi-Fi chipset development and implementations, satellite communications, cognitive "smart services" solutions, GPS-based products, telematics, and cellular and digital video executions. He holds a Bachelor of Engineering with Honors in Electronic Engineering from the University of Hertfordshire in England.