

# 2019 Agile Science of Test and Evaluation Program Review

Dr. Brett Pokines | September 17-19, 2019 | Arlington, VA

Basic Research Innovation Collaboration Center  
4100 North Fairfax Drive, Suite 450 | Research A Room  
Arlington, VA 22203

## Review Summary

DAY 1 – Open Session, University and AFRL Programs

DAY 2 – Open Session, University and AFRL Programs

DAY 3 – Government Only / SBIR & STTR Contractor Programs

The review offers the opportunity to understand and interact with portfolio stakeholders and science; this is critical to funded program leaders who should take the opportunity to attend both days of the open meeting sessions.

## Agenda Day 1 | Tuesday, September 17, 2019

Time	Type	Name	Representing	Topic
08:00-08:30	<b>Registration</b> - Check-in – load slides for morning sessions			
08:30-09:00	Open	J.C. Lede	AFRL	<b>Keynote:</b> AFRL Autonomy Mission
09:00-09:30	Open	R. Murray	California Institute of Technology	Formal Methods for V&V and T&E of Autonomous Systems
09:30-10:00	Open	P. Duggirala	University of North Carolina at Chapel Hill	Enhanced Testing of Autonomous Systems using Formal Methods
10:00-10:30	<b>BREAK</b>			
10:30-11:00	Open	J. Allen	AFRL Munitions	Hardware Assurance Research for Verification Enabling Security Test and Evaluation for Cybersecurity
11:00-11:30	Open	E. Heller	AFRL Materials	Tools for Test and Evaluation of Emerging Nanoelectronics
11:30-12:00	Open	D. Huang	AFRL Space	Tools for Test and Evaluation of Emerging Nanoelectronics
12:00-13:00	<b>LUNCH</b> - load slides for afternoon sessions			
13:00-13:30	Open	M. Holmes	AFRL Propulsion	Electric Propulsion Test and Evaluation Methodologies for Plasma in the Environments of Space and Testing (EP TEMPEST)
13:30-14:00	Open	P. Sotirelis	AFRL Sensors	Exploring Fusion and Autonomous Applications of Radar Polarimetry

14:00-14:30	Open	S. Choi	Pennsylvania State University	Mechanical Investigation of Ultra Wide Bandgap Materials and Devices
14:30-15:00	<b>BREAK</b>			
15:00-15:30	Open	D. Kunz	AFIT	Basic Research with Integrated Flight Test
15:30-16:00	Open	T. Barton	University of Colorado	Reconfigurable Transmitters for Test & Evaluation with Integrated Thermal Monitoring and Control
16:00-16:30	Open	H. Helen	Wayne State University	Optimization-Based Materials Design and Manufacturing
16:30-17:00	Open	T. Quach	AFRL Sensors	Multi-Mode, Multi-Band Concepts with Reconfigurable Carrier Aggregation
	<b>MEETING ADJOURN FOR THE DAY</b>			

<b>Agenda Day 2   Wednesday, September 18, 2019</b>				
Time	Type	Name	Representing	Topic
08:00-08:30	<b>Registration</b> - Check-in – load slides for morning sessions			
08:30-09:00	Open	D. Marren	AEDC White Oak Site	<b>Keynote:</b> AFTC T9 Test science and Workforce Development
09:00-09:30	Open	K. Yu	University of Maryland	Hypersonic Center of Testing Excellence
09:30-10:00	Open	D. Gebre-Egziabher	University of Minnesota	HyCUBE: A Reconfigurable CubeSat-Like Platform for Hypersonic Flight Testing
10:00-10:30	<b>BREAK</b>			
10:30-11:00	Open	S. Schneider	Purdue University	Towards Experimental Measurements of Boundary-Layer Transition; Holloman Test Track
11:00-11:30	Open	S. Georgakopoulos	Florida International Univ.	Highly Efficient Wireless Power Transfer & Data Transmission
11:30-12:00	Open	V. Kumar	UT El Paso	CFD Modeling of Water Braking Phenomena at the Holloman High Speed Test Track
12:00-13:00	<b>LUNCH</b> – load slides for afternoon sessions			

13:00-13:30	Open	K. Kirk	AF Strategic Development Planning & Experimentation	<b>Keynote:</b> New methods and lessons learned accelerating acquisition and T&E
13:30-14:00	Open	A. Minnich	California Institute of Technology	Towards the quantum noise limit in microwave amplifiers: first-principles study hot electron noise
14:00-14:30	Open	C. Tan	Massachusetts Institute of Technology	Physics and Management of Aerothermal-Mechanical Interactions for Enabling Robust Operation of Thermal System
14:30-15:00	<b>BREAK</b>			
15:00-15:30	Open	C. Strand	Stanford University	Fundamental Aspects of NO IR Spectroscopy in High T and P Air
15:30-16:00	Open	M. Loncar	Harvard University	High-Performance Electro-Optic Frequency Combs for High-Precision Measurements
16:00-16:30	Open	A. Alaeddini	University of Texas at San Antonio	An Active Learning Methodology for Design and Optimization of Complex Expensive Tests
16:30-17:00	Open	V. Sankaran	AFRL Propulsion	Algorithmic Advancements Turbulent Combustion Simulations Aerospace Propulsion Applications
<b>MEETING ADJOURN FOR THE DAY</b>				

<b>Agenda Day 3   Thursday, September 19, 2019</b>				
Time	Type	Name	Representing	Topic
08:30-09:00	<b>Registration</b> – Check-in – load slides for morning sessions			
09:00-09:30	Gov't Only	J. George	METROLASER	Measurement of Neutral Xenon Using Two Photon Radar REMPI and Laser Induced Fluorescence
09:30-10:00	Gov't Only	M. Davis	LUNA INNOVATIONS INC	Additively Manufactured Hypersonic Models with Embedded Instrumentation
10:00-10:30	<b>BREAK</b>			
10:30-11:00	Gov't Only	C. Ostoich	ATA ENGINEERING, INC	Flexible Software Toolset for Accurate Prediction of High-Speed Wind Tunnel

				Transient Airloads
11:00-11:30	Gov't Only	H. Ruan	NANOSONIC INC	Self-Calibrating, Conformal Nanomembrane based Pressure Sensors for Embedded Sensing Applications
11:30-12:00	Open	B. Wasistho	KORD TECHNOLOGIES, INC	Multi-Physics Models for Parachute Deployment and Braking for Coupling with DoD CREATE-AV Kestrel
12:30-13:00	Load slides for afternoon sessions			
13:00-13:30	Gov't Only	D. Modroukas	INNOVEERING, LLC	Ultra Harsh Environment Yttria-Stabilized Zirconia (YSZ) Sensor for Hypersonic Test Facilities
13:30-14:00	Gov't Only	G. Papadopoulos	INNOVEERING, LLC	Improved Calibration of Sensors and Instruments used for Measurement of High Speed Flow
14:00-14:30	Gov't Only	J. Szabo	BUSEK CO INC	High Speed Plasma Probe and Electronics Suite
<b>MEETING ADJOURN</b>				