

# AFOSR Test Science for T&E Program Review, 6-10 March

The Doolittle Institute, 73 Eglin Parkway NE, Suite 112, JG Plaza, Ft. Walton Beach , FL

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Information and registration:

<https://community.apan.org/wg/afosr/w/researchareas/18854.2017-test-science-for-test-and-evaluation-annual-review/>

## Monday, 6 March

Time	Type		Name	Representing	Topic
7:30-8:00					<b>Check-in</b>
8:00-8:10	GOV only				<b>Welcome and Administrative</b>
8:20-9:00	GOV only				
9:10-9:50	GOV only	Prof.	Waleed Khalil	TallannQuest/ Ohio State University	High Resolution / Wide Bandwidth Arbitrary Waveform Generator for Telemetry Applications
10:00-10:40	GOV only	Dr.	Hang Ruan	NanoSonic	Precision High-Frequency Pressure Measurements in Ground and Flight Test
10:50-11:30	GOV only	Dr.	Jay Kudva	NextGen Aeronautics	Embedded Sensors for Flight Test - Every Aircraft a Test Aircraft
11:40-12:20	GOV only	Dr.	Giovanni Nino	Quest Integrated	Printed Skin (pSkin) for Aircraft Sensing and Testing
12:20-1:30	<b>Lunch</b>				
1:40-2:20	GOV only	Prof.	Foster Dai	Decisive Analytics/ Auburn University	High Resolution and Wide Bandwidth DDS MMIC for Arbitrary Waveform Generation
2:30-3:10	GOV only	Mr.	Alan Arslan	Creative Aero Engineering Solutions	Characterization of the aero-structure environment of a scaled fighter at transonic conditions
3:10-3:30	GOV only				<b>Discussion and Transition to Open</b>
3:30-4:10	Open	Prof.	Mark Rennie	University of Notre Dame	Mathematical Modeling and Control of Wind Tunnels for Investigation of Low Re, Unsteady Aerodynamic Effects
4:10-4:50	Open	Prof.	Adel Alaeddini	University of Texas at San Antonio	An Active Learning Methodology for Design and Optimization of Complex Expensive Tests

**Tuesday, 7 March**

<b>Time</b>	<b>Type</b>		<b>Name</b>	<b>Representing</b>	<b>Topic</b>
7:30-8:00					<b>Check-in</b>
8:00-8:05	Open				<b>Welcome and Admin</b>
8:05-8:45	Open	Mr.	Gordon Franken	Intelligent Automation	Multi-scale Interrogation, Location, and Characterization of Defects using Electro-Optic Techniques
8:45-9:25	Open	Mr.	PC Chen	ZONA Technology	Fast and Efficient Nonlinear Flutter Prediction Capability
9:25-10:05	Open	Prof.	Ken Yu	University of Maryland	Hypersonic Center of Testing Excellence for Fostering Future Test & Evaluation Workforce
10:05-11:10	Open		TBD		<b>Meet the Leaders</b> sign up for individual 10-15 minute meetings with AF technical leaders
11:10-11:50	Open	Dr.	Venke Sankaran	AFRL/RQ	Adaptive-Mesh and Adaptive-Physics Schemes for Turbulent Reacting Flow Simulations
11:50-12:00	Open				<b>Administrative</b>
12:00-1:20	<b>Lunch</b>				
1:20-1:30	Open				<b>Administrative and Introductions</b>
1:30-2:00	Open	Mr.	Ron Barrett / George Rumford	OSD Test Resource Management Center	<b>Invited Speaker</b> Funding Opportunities with the TRMC T&E/S&T Program
2:00-2:30	Open	Mr.	Tony Androsky	SBIR/STTR CRP	<b>Invited Speaker</b> Bridging the Valley of Death
2:30-3:00	Open	Capt . Ms.	Joseph Ausserer Kim McGee	AF Test Pilot School	<b>Invited Speaker</b> Research Partnering Opportunities with the AF Test Pilot School
3:00-3:30	Open				<b>Tech Transition Forum</b> Open discussion, Q&A
3:30-3:40	<b>Break</b>				
3:40-4:10	Open	Prof.	Don Kunz	Air Force Institute of Technology	<b>Special Speaker</b> Basic Research with Integrated Flight Test
4:10-4:50	Open	Prof.	Stavros Georgakopoulos	Florida International University	Highly Efficient Wireless Power Transfer and Data Transmission Methods
4:50-5:00	Open				<b>Administrative</b>

**Wednesday, 8 March**

<b>Time</b>	<b>Type</b>		<b>Name</b>	<b>Representing</b>	<b>Topic</b>
7:30-8:00					<b>Check-in</b>
8:00-8:40	Open	Prof.	Yang Wang	Georgia Institute of Technology	Multi-Physics Coupled Wireless Antenna Sensor for Structural Health Monitoring
8:40-9:20	Open	Prof.	Steve Schneider	Purdue University	Towards a Process for Calibrating 1-MHz Pressure-Fluctuation Sensors with Small Pressure Steps in a Shock Tube
9:20-10:30	Open		TBD		<b>Meet the Leaders</b> sign up for individual 10-15 minute meetings with AF technical leaders
10:30-11:10	Open	Dr.	Robert Bock	R-DEX Systems	Telemetry for Massive Data Transfer and Storage
11:10-11:50	Open	Mr.	Matthew Davis	Luna Innovations	Scaled Hypersonic Test Bed
11:50-12:00	Open				<b>Administrative</b>
12:00-1:20	<b>Lunch</b>				
1:20-1:30	Open		TBD	AFTC	<b>Welcome and Introduction</b>
1:30-2:00	Open	Mr.	Mallory Knight	Director of Engineering, Air Force Test Center (AFTC)	<b>Keynote Speaker</b> AFTC Overview and Perspective
2:00-2:30	Open	Drs.	Nate Orloff Chris Long	NIST	<b>Invited Speaker</b> NIST on a Chip
2:30-2:50	<b>Break</b>				
2:50-3:30	Open	Prof.	Ron Hanson	Stanford University	Fundamental Aspects of NO IR Spectroscopy in High T and P Air
3:30-4:10	Open	Prof.	Sukwon Choi	Pennsylvania State University	Thermal Mechanical Investigation of Ultra Wide Bandgap Materials and Devices
4:10-4:50	Open	Dr.	Justin Little	MSNW LLC	Neutral Particle Dynamics in Transient Plasma to Determine Ground Test Chamber Interactions
4:50-5:00	Open				<b>Administrative</b>

**Thursday, 9 March**

<b>Time</b>	<b>Type</b>		<b>Name</b>	<b>Representing</b>	<b>Topic</b>
7:30-8:00					<b>Check-in</b>
8:00-8:40	Open	Dr.	Stephen Horowitz	Interdisciplinary Consulting Corp	Highly-Resolved Wall-Shear-Stress Measurement in High Speed Flows
8:40-10:00	Open		TBD		<b>Meet the Leaders</b> sign up for individual 10-15 minute meetings with AF technical leaders
10:00-10:40	Open	Dr.	Saba Mudaliar	AFRL/RV	Impact of Hypersonic Flow Fields on Optical Sensors and Laser Telemetry
10:40-11:20	Open	Dr.	Paul Sotirelis	AFRL/RV	Frequency Dependent Target Reflectivity Feature Exploitation in Bistatic Radar Data
11:20-12:00	Open	Mr.	Nathan McDonald	AFRL/RI	Reservoir Computing for Process Perception, Prediction, and Control
12:00-1:20	<b>Lunch</b>				
1:20-2:00	Open	Prof.	HjalTI Sigmarsson	University of Oklahoma	Reconfigurable RF using Phased-Change Materials
2:00-2:40	Open	Mr.	Tony Quach	AFRL/RV	High Power / Waveform Agile Transmitter Technology for Multi-Function Apertures
2:40-3:20	Open	Dr.	Eric Heller	AFRL/RX	Tools for Test and Evaluation of Emerging Nanoelectronics
3:20-3:30	<b>Break</b>				
3:30-4:10	Open	Dr.	Michael Holmes	AFRL/RQ	Electric Propulsion Test and Evaluation Methodologies for Plasma in the Environments of Space and Testing
4:10-4:50	Open	Dr.	Crystal Pasillao	AFRL/RW	Multi-Fidelity Multi-Physics Modeling of Fluid-Structural Interactions
4:50-5:00	Open				<b>Administrative</b>

## **T&E Program Review**

1. Non-citizens may be in attendance. Since the nature of AFOSR 6.1 funding for basic research requires that all work be publishable in the open literature, contractors and their university partners may be non-citizens. All such attendees are DoD contractors, so clearance was not required for work presented at this review. New AFOSR guidelines to AFRL PIs are to clear their annual review presentation material.
2. The PM plans to stick with a strict schedule so that government participants (AFTC, 96 TW, 412 TW, AFRL, OSD, and NASA) can attend topics of their choosing. Please plan on 30 minutes for presentation and 10 minutes for questions and discussion. If a speaker wishes to defer questions to the end, please state this as you begin and allow sufficient time for questions and comments at the end.
3. Oral presentation slides should be loaded onto the government laptop before the start of the morning session. Presentation material can be loaded from CD or USB. Please use this convention for file names: agendasurname\_mmdyy\_hhmm\_nn where nn is your own tracking number in the case of multiple files. The summary slide that you prepared for me should be slide 2, immediately after the title slide. **E-mail submissions will not be accepted.**
4. Prior to the start of each closed session, the room will be cleared of all non-government personnel who are not directly supporting the STTR work presented.
5. For the closed sessions we have allowed 10 minutes for contractor transition. You should arrive 10 minutes before your scheduled time and remain in the waiting area until called. At the end of your allotted time your presentation material will be moved to a secure area and all non-government personnel will be asked to leave the room.
6. You are encouraged to submit questions for the “Technical Transition Forum” in advance at the registration desk. The PM will read all submitted questions at the beginning of each session.
7. Short biographies will be posted and distributed for the “Meet the (technical) Leaders” sessions to help you make good choices. You will need to sign up for open slots. The PM will accept sign-ups on a first come, first served basis when the names are announced.
8. Presentation material will not be distributed.
9. The facility closes at 5 PM. Visitors may be asked to vacate the building at this time.