

# AFOSR T&E Program Review 2015

Dr. Michael Kendra | April 13-17, 2015 | Shalimar, FL

U Florida Research and Engineering Education Facility (REEF)  
1350 N Poquito Rd. |  
Shalimar, FL 32579

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Information and registration: <http://bit.ly/1JtCm4S> or

<https://community.apan.org/afosr/w/researchareas/14180.t-e-program-review-2015.aspx>

## Agenda Day 1- Monday, April 13, 2015

Time	Type	Speaker	Topic
7:45-8:00	Check-In		
8:00-8:10	Open		Welcome and Administrative
8:20-9:00	GOV only	Dr. Glen Whitehouse, Continuum Dynamics	Fast and Efficient Nonlinear Flutter Prediction Capability
9:10-9:50	GOV only	Dr. Mostofa Howlader Sensintel	Telemetry for Massive Data Transfer and Storage
10:00-10:40	GOV only	Dr. Giovanni Nino, QUEST Integrated	Embedded Sensors for Flight Test (every aircraft a test aircraft)
10:50-11:30	GOV only	Mr. Ping-Chih (PC) Chen, ZONA Technology	Stick-to-Stress Dynamic Flight Simulation for Virtual Flight Test
11:40-12:20	GOV only	Dr. Gerald Sabin, RNET Technologies	Highly-Scalable Computational-Based Engineering Algorithms for Emerging Parallel Machine Architectures
12:20-12:50	LUNCH		
12:50-1:30	GOV only	Dr. Hang Ruan, NanoSonic Inc.	Precision High-Frequency Pressure Measurements in Ground and Flight Test
1:40-2:20	GOV only	Dr. Jay Kudva, NextGen Aeronautics	Embedded Sensors for Flight Test (every aircraft a test aircraft)
2:30-3:10	GOV only	Dr. Robert Bock, R-DEX Systems	Telemetry for Massive Data Transfer and Storage
3:20-4:00	GOV only	Dr. Anagi Balachandra, Metna Co.	Ultra-High-Performance Concrete
4:10-4:50	GOV only	Mr. Ping-Chih (PC) Chen, ZONA Technology	Development of an Efficient Flutter and Limit Cycle Oscillation Predictive Tool
(MEETING ADJOURNED FOR THE DAY)			

## Agenda Day 2- Tuesday, April 14, 2015

Time	Type	Speaker	Topic
7:45-8:00	<b>Check-In</b>		
8:00-8:40	GOV only	Dr. Anagi Balachandra, Metna Co.	Nondestructive Evaluation Techniques for Composite Materials with Low Density Gradients
8:50-9:30	GOV only	Dr. David Handelman, Intelligent Automation	Multi-scale Interrogation, Location, and Characterization of Defects using Electro-Optic Techniques
9:30-9:40	GOV only		Administrative transition
9:40-9:50	Open		Welcome and Administrative
9:50-10:30	Open	Mr. Ron Barrett OSD TRMC T&E/S&T Program	<b>Invited Speaker</b> An Overview of the OSD TRMC T&E/S&T Program and Funding Process
10:30-11:20	Open		<b>Meet the Leaders</b> sign up for individual 10-15 minute meetings
11:20-12:00	Open	Prof. Waleed Khalil, TallannQuest	High Resolution / Wide Bandwidth Arbitrary Waveform Generator for Telemetry Applications
12:00-12:10	Open		Administrative
12:10-1:30	<b>LUNCH</b>		
1:30-1:50	Open		<b>Tech Transition Forum</b>
1:50-2:30	Open	Dr. Vladimir Kolobov, CFD Research Corporation	Computational Model for Electrode Erosion by High-Pressure Moving Arcs
2:30-3:10	Open	Mr. Alan Arslan, Creative Aero Engineering Solutions	Characterization of the Aero-structure Environment of a Scaled Fighter at Transonic Conditions
3:10-3:50	Open	Lt Col. Matt Schnoor Air Force Test Pilot School (TPS)	<b>Invited Speaker</b> Small business, university, and government small-scale flight test research project opportunities
3:50-4:10	GOV only		<b>transition to closed session</b>
4:10-4:50	GOV only	Mr. Scott Bland, NextGen Aeronautics	Tool for Blade Stress Estimation during Multiple Simultaneous Vibratory Mode Responses
	<b>(MEETING ADJOURNED FOR THE DAY)</b>		

### Agenda Day 3- Wednesday, April 15, 2015

Time	Type	Speaker	Topic
7:45-8:00	<b>Check-in</b>		
8:00-8:40	GOV only	Mr. Dan Crawford, Control Vision	Multi-scale Interrogation, Location, and Characterization of Defects using Electro-Optic Techniques
8:40-8:50	GOV only		transition to open session
8:50-9:00	Open		Welcome and Administrative
9:00-9:40	Open	Prof. Foster Dai, Decisive Analytics Corporation	High Resolution / Wide Bandwidth Arbitrary Waveform Generator for Telemetry Applications
9:40-10:30	Open		<b>Meet the Leaders</b> sign up for individual 10-15 minute meetings
10:30-11:10	Open	Dr. David Oakes, Physical Sciences Inc.	Cryodeposit Mitigation and Removal Techniques for Radiometric Calibration Chambers
11:10-11:50	Open	Dr. Yang Wang, Georgia Tech Research Corporation	Multi-Physics Coupled Wireless Antenna Sensor for Structural Health Monitoring
11:50-12:00	Open		Administrative
12:00-1:30	<b>LUNCH</b>		
1:30-1:50	Open		<b>Tech Transition Forum</b>
1:50-2:30	Open	Prof. Stavros Georgakopoulos, Florida International University	Highly Efficient Wireless Powering for Autonomous Structural Health Monitoring and Test/Evaluation Systems
2:30-3:10	Open	Prof. Ron Hanson, Stanford University	Fundamental Aspects of NO IR Spectroscopy in High T and P Air
3:10-3:30	<b>BREAK</b>		
3:30-4:10	Open	Prof. Ken Yu, University of Maryland	Revitalization of the Hypersonics Testing and Evaluation Workforce
4:10-4:50	Open	Dr. Venke Sankaran, AFRL	Adaptive-Mesh and Adaptive-Physics Schemes for Turbulent Reacting Flow Simulations
<b>(MEETING ADJOURNED FOR THE DAY)</b>			

### Agenda Day 4- Thursday, April 16, 2015

Time	Type	Speaker	Topic
7:45-8:00	<b>Check-in</b>		
8:00-8:10	Open	TBD AFTC	Welcome and Introduction
8:10-8:50	Open	Gen. Arnold Bunch, Commander, Air Force Test Center (AFTC)	<b>Keynote Speaker</b>
8:50-9:00	Open	TBD	Awards
9:00-9:30	Open	Dr. Elisabetta Jerome, Munitions Test	Invited Speaker
9:30-9:40	<b>BREAK</b>		
9:40-10:10	Open	Dr. Ed Kraft, Ground Test	Invited Speaker
10:10-10:40	Open	TBD Flight Test	Invited Speaker
10:40-10:45	Open	Mr. Tony Androsky, SBIR/STTR CRP	<b>Introduction to Special Session on Tech Transition</b>
10:45-11:00	Open	Prof. Fouad Kiamilev, University of Delaware	Infrared LED Scene Projector Test Facility
11:00-11:15	Open	Dr. Hal Carlson, Clear Science	Toward a Virtual Flight Test Capability
11:15-11:30	Open	Dr. Alan Cain, ITAC	Non-Intrusive Diagnostics for Off-Body Measurements in Flight Experiments
11:30-11:45	Open	Prof. Mark Rennie, Notre Dame	A Mathematical Model Based Control System for Wind Tunnels
12:00-1:30	<b>LUNCH</b>		
1:20-2:00	Open	Dr. Dan Brown, AFRL	Electric Propulsion Test and Evaluation Methodologies for Plasma in the Environments of Space and Testing (EP TEMPEST)
2:00-2:40	Open	Mr. Nathan McDonald, AFRL	Reservoir Computing for Process Perception, Prediction, and Control
2:40-3:20	Open	Dr. Don Dorsey, AFRL	Tools for Test and Evaluation of Emerging Nanoelectronics
3:20-3:30	<b>BREAK</b>		
3:30-4:10	Open	Mr. Tony Quach, AFRL	High Power / Waveform Agile Transmitter Technology for Multi- Function Apertures
4:10-4:50	Open	Dr. Saba Mudaliar, AFRL	Impact of Hypersonic Flow Fields on Optical Sensors and Laser Telemetry

	(MEETING ADJOURNED)
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## **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. 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\_mmddyy\_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 REEF closes at 5 PM. Visitors are asked to vacate the building at this time.