



Basic Research Innovation and Collaboration Center (BRICC)
4075 Wilson Blvd., Suite 350 | Liberty Room
Arlington, VA 22203

Agenda Day 1 | June 7, 2017

Time	Title	Speaker
0730-0745	Registration	
0745-0800	Opening Remarks	Ralph Anthenien, ARO, Song-Charng Kong, NSF and Chiping Li, AFOSR
Turbulent Combustion (Chair, Chiping Li)		
0800 - 0945	Summary on Turbulent Flame Structure and Dynamics Workshop followed by Q&A and discussion	Jackie Chen, Jim Driscoll, Peter Hamlington, Alan Kerstein, Tianfen Lu, Alexei Poludnenko, Venke Sankaran, Adam, Sternberg, Jeff Sutton, Hai Wang, Forman Williams, and Xinyu, Zhao
0945 - 1000	BREAK	
1000 - 1025	Basic Turbulent Combustion Research at AFRL	Venke Sankaran, AFRL/RQ
1025 - 1050	Spatial-Temporal Behavior of Turbulent Non-Premixed Jet Flames and Auto-Igniting Fuel Jets	James Driscoll, Michigan
1050 - 1115	Interaction of Flow Turbulence with Preheat and Reaction Zones	Jeff Sutton, OSU
1115 - 1140	Premixed Flame Structure and Propagation Characteristics in Intense Turbulence and in Compressible Flows	Suresh Menon, Georgia Tech and Robert Pitz, Vanderbilt
1140 - 1205	Structure and Dynamics of Highly Turbulent, Interacting Flames	Jacqueline O'Connor, PennState
1205 - 1300	LUNCH	
Turbulent Combustion (Chair, Jim Driscoll)		
1300 - 1325	Dynamics of Turbulent, Aerodynamically Stabilized Flames	Timothy Lieuwen, GaTech
1325 - 1350	High-Speed Compressible Turbulent Combustion	Kareem Ahmed, UCF
1350 - 1415	Energy and Momentum Exchanges in Turbulent Combustion	Carlos Pantano, UIUC

1415 - 1440	Energy Backscatter and Small/Large-Scale Interactions in Turbulent Reacting Flows	Javier Urzay and Matthias Ihme, Stanford
1440 - 1500	BREAK	
AFOSR/NSF Joint Turbulent Combustion Initiative (Chairs: Song-Charng Kong)		
1500 - 1540	Spectral Energy Transfer in Turbulent Flames	Jennifer Smolke, USC, Guillaume Blanquart, Caltech and Fokion Egolfopoulos, USC
1540 - 1620	Turbulent Flame Structure of Cavity Stabilized Reacting Shear Layers	Hasha Chelliah UVa, Chris Goyne, UVa, Andrew Cuttler, GWU, and Jack Edward, NCSU
1620 - 1700	Experiments and Theory of Non-Equilibrium Processes in Turbulent Combustion	Venkat Raman, Michigan and Noel Clemens, UT Austin
1700	MEETING ADJOURN FOR THE DAY	

Agenda Day 2 June 8, 2017		
Time	Title	Speaker
	Registration	
0755-0800	Daily Announcements	Ralph Anthenien/ARO, Song-Charng Kong, NSF and Chipping Li, AFOSR
Combustion Diagnostics (Chair, Ron Hanson)		
0800 - 0825	Ultra-Fast Optical Approaches for Fundamental Exploration of Combustion Chemistry Pathways	James Gord, AFRL/RQT and Sukesh Roy, Spectral Energy
0825 - 0850	Applications of Frequency Combining in Combustion Diagnostics	Greg Rieker, University of Colorado, Boulder
0850 - 0915	Particle-Free Spatially-Resolved Two-Component Velocimetry	Mirko Gamba, Michigan
0915 - 0940	Composition-Pressure Measurements Using Line-Shape Information	Venkateswaran Narayanaswamy, NC State
0940 - 1005	Spatially and Temporally Resolved Imaging of Primary Breakup in High-Pressure Fuel Sprays	Caroline Genzale, GaTech
1005 - 1020	BREAK	

Combustion Chemistry (Chair: Peter Llindstedt)		
1020 - 1045	Next Generation Chemical Kinetics Transport, and Reacting---Flow Software Tools for Chemical-Thermal and Chemical-Electric Energy Systems	Bob Kee, CSM
1045 - 1110	HyChem, a Pathway Centric Combustion Chemistry Model: Its Foundation and Recent Development for Low-Temperature Combustion Chemistry, NOx and Soot	Hai Wang, Stanford
1110 - 1135	HyChem Model Details for Air Force Real Fuels: JPx and RPx	Rui Xu, Stanford
1135 - 1200	Importance of Temperature and Pressure Quantifications in Speciation Measurements, Spectroscopic Details Simultaneously C2H4/CH4/C3H8 measurements and Diagnostic Road to Total Carbon Accounting	Ron Hanson, Stanford
1200 - 1225	Effects of Explosive Ozonolysis Reactions on Jet Flame Stabilization	Wenting Sun, GaTech
1225 - 1330	LUNCH	
Detonation (Chair: Mallisa Lightfoot)		
1330 - 1355	Recent development in RDE Research	Fred Schauer, AFRL/RQT
1355 - 1420	AFOSR-RQR Rotational Detonation Rocket Engine (RDRE) Initiative	Alex Schumaker, AFRL/RQR
1420 - 1445	Rotational Rocket Detonation Engine Demonstration Experiments	Steve Heister, Purdue
1445 - 1510	Supersonic Combustion and Detonation	Ken Yu, Maryland
1510 - 1535	Warsar, Influence of Sizing on Rotating Detonation Combustor Performance	Piotr Wolanski, Institute of Aviation
1535 - 1540	BREAK	
1540 - 1700	Q&A on AFOSR/ARO/NSF Combustion Research Portfolios	
1700	MEETING ADJOURN FOR THE DAY	

Agenda Day 3 June 9, 2017		
Time	Title	Speaker
	Registration	
0755-0800	Daily Announcements	Ralph Anthenien/ARO, Song-Charng Kong, NSF and Chiping Li, AFOSR
High-Pressure and Multiphase Combustion (Chair; Ralph Anthenien)		
0800 - 0825	Liquid fuel Atomization, Evaporation and Ignition at Highly Turbulent and Critical Pressure and Temperature Conditions	Yannis Hardalupas, Imperial College
0825 - 0850	Ballistic Holography under Realistic Spray Conditions	Derek Dunn-Rankin, UC Irvine
0850 - 0915	AFRL/RQR, High-Pressure Non-Equilibrium Energy Conversion	Mallisa Lightfoot
0915 - 0940	High Pressure Ring Contraction of Cyclic Hydrocarbons Ring Contraction of Cyclic Hydrocarbons	Ken Brezinsky, UIC
0940 - 1005	Plasma-Enhanced Flames at Elevated Pressure	Sally Bane, Purdue
1005 - 1020	BREAK	
Combustion in High-Speed Flows (Chair, Jim Miller)		
1020 - 1045	Scramjet Combustion Research	Michael Smart, Vince Wheatley and Anand Veeraragavan, University of Queensland
1045 - 1110	Flow/Shock Structure and Dynamics in High-Speed Asymmetric Duct Flow	Tonghun Lee, UIUC and Venkateswaran Narayanaswamy, NC State
1110 - 1135	Ignition in High-Speed Reacting Flows - Key Physics	Tim Ombrello, AFRL/RQH
Combustion Numerics (Chair, Jim Miller)		
1135 - 1200	Mesh-Sequenced Realizations for Evaluation of Subgrid-Scale Models for Turbulent Combustion (Short Term Innovative Research program)	Jack Edwards, NCSU
1200 - 1225	Multiscale and Correlated Dynamic Adaptive Chemistry and Transport Modeling of Ignition and Flame Regimes of Stratified Fuel Mixtures	Yiguang Ju, Princeton
1225 - 1230	Discussion and Concluding Remark	
1230	MEETING ADJOURN	