



Basic Research Collaboration Center (BRICC)
900 North Glebe Road – Ballston Room 2nd Floor
Arlington, VA 22203

June 3-6, 2013

Agenda Day 1- Monday, June 3

Time	Topic	Speaker
0730 - 0815	Registration	
0815 - 0830	Opening Remarks	Ralph Anthenien, ARO Chiping Li, AFOSR
Turbulent Combustion Experiments and Diagnostics (Chair: Chiping Li)		
0830 - 0900	Premixed Flame Structure and Propagation Characteristics in Intense Turbulence and in Compressible Flows	Suresh Menon, Georgia Tech
0930 - 0930	Premixed Turbulent Combustion in High Reynolds Number Regimes	James Driscoll, U Michigan
0930 - 1000	Rate-Controlling Effects from High-Intensity Turbulence-Flame Interactions Using 4D Measurements	Adam, Steinberg, U Toronto
1000 - 1100	Highly Turbulent Combustion: Scientific Challenges, Measurement Requirements, and Diagnostic Needs	Jeffrey Sutton, Ohio State University
1100 – 1300	LUNCH	
Turbulent Flame Structure and Property (Chair: James Driscoll)		
1300 - 1330	Turbulent Jet Flame	Fokion Egolfopoulos, USC
1330 - 1400	Turbulent Flame Propagation and Chemistry	Yiguang Ju, Princeton
1400 - 1430	Turbulent Flame Speed Scaling	C. K. Law, Princeton
1430 - 1530	Turbulent Flame Fundamentals	Timothy Lieuwen, Georgia Tech
1530 - 1630	BREAK	
1630 - 1700	Turbulent Distributed Combustion	Peter Lindstedt, Impe4rial College
1700 - 1730	Critical Scale, Fundamental Structure and Inherent Instabilities of Turbulent Flames	Forman William, UCSD
1730 - 1830	Turbulent Flame: Structure, Fractal Dimension and Intermittency” – special presentation	Elaine Oran and Alexei Poludnenko, NRL
1830	MEETING AJOURNED FOR THE DAY	

Agenda Day 2- Tuesday, June 4		
Time	Topic	Speaker
0730 - 0815	Registration	
0815 - 0830	Daily Announcements	Ralph Anthenien, ARO Chiping Li, AFOSR
Combustion Chemistry (Chair: Ralph Anthenien)		
0830 - 1100	Pathway Centric Combustion Chemistry Approach for Endothermic Jet Fuels - BRI effort	Hai Wang, Guillaume Blanquart, Ronald Hanson, William Hase, and Keiji Morokuma
1100 - 1300	LUNCH	
Combustion Chemistry (Chair: Hai Wnag)		
1300 - 1330	Automated Discovery of Complex Reaction Networks: Reaction Topology, Thermo-Chemistry and Kinetics	Jim Pfaendtner, University of Washington
1330 - 1400	A New Paradigm to Identify Reaction Pathways	Angela Violi, U Michigan
1400 - 1430	Automated Discovery of New Chemical Reactions	William Green, MIT
1430 - 1500	Combustion Chemistry and Dynamics in Nanoscale Confined Environments	Li Qiao, Purdue
Plasma-Combustion Chemistry (Chair: Hai Wang)		
1500 - 1530	Plasma-Combustion Chemistry	Walter Lempert, OSU
1530 - 1600	BREAK	
Non-Equilibrium Chemistry (Chair: Forman Williams)		
1630 - 1730	Energy Transfer in Nonequilibrium Air - BRI effort	Iain Boyd, Ronald K. Hanson, Rigoberto Hernandez, and John F. Stanton
1730 – 1830	The Multiscale Interaction of Vibrational Energy Transfer and Turbulent Combustion in Supersonic Flows” - BRI effort	Phil Varghese, Venkat Raman, Noel Clemens, and Wesley Allen
1830	MEETING AJOURNED FOR THE DAY	

Agenda Day 3- Wednesday, June 5

Time	Topic	Speaker
0730 - 0815	Registration	
0815 - 0830	Daily Announcements	Ralph Anthenien, ARO Chiping Li, AFOSR
Flame and Combustion Control (Chair: Julian Tishkoff)		
0830 – 0900	Experimental Studies of Hydrocarbon Flame Phenomena: Enabling Combustion Control	Kevin Lyons, NCSU
Combustion in High-Speed Flows (Chair: Julian Tishkoff)		
0900 - 0930	Turbulent Flames in Hypersonic Flows	Do, Hyungrok, Notre Dame
0930 - 1000	Studies of Ignition and Flameholding by Nonequilibrium Plasmas	Sergey Leonov, OSU
1000 - 1100	Energy Transformation, Transfer, and Release Dynamics in High-Speed Turbulent Flows – BRI effort	Paul Dimotakis and Graham V. Candler
1100 - 1300	LUNCH	
Flame and Combustion Control (Chair: Jeff Sutton)		
1300 - 1330	Volumetric Combustion Diagnostics - specially invited presentation	Ma Lin, Virginia Tech
1330 – 1400	Diagnostics for Multiphase High-Speed Combustions	Campbell Carter and Steve Lin, AFRL/RZ
1400 - 1430	Optical Measurement and Computational Characterization of Fundamental Combustion Phenomena	James Gord and Sukesh Roy, AFRL/RZ,
1430 - 1500	BREAK	
1500 - 1545	Supercritical Catalytic Cracking of Hydrocarbon Feeds – Insight into Selectivity and Stability Utilizing a Combined Kinetic and Ope4rando non-linear Spectroscopy Approach – BRI effort	Robert Rioux, PSU and Sukesh Roy, Spectrum Energy
1545 - 1630	Hybrid fs/ps CARS and Quasi-Continuous Burst-Mode Imaging for Investigating Turbulent Combustion Dynamics – special presentation	Terry Meyer, Iowa State
1630 – 1645	BREAK	
1645 – 1830	Business Meeting	
1830	MEETING AJOURNED FOR THE DAY	

Agenda Day 4- Thursday, June 6

Time	Topic	Speaker
0730 - 0815	Registration	
0815 - 0830	Daily Announcements	Ralph Anthenien, ARO Chiping Li, AFOSR
Reactive Flow Simulations (Chair: Suresh Menon)		
0830 - 0900	Quantum Computing and its Potentials for Turbulence Simulations - - specially invit4ed presentation	Peyman Givi, U Pittsburg
0900 - 0930	Assessing Model Assumptions for Turbulent Premixed Combustion at High Karlovitz Number	Guillaume Blanquart, Caltech
0930 – 1000	Detailed Characterization of Non-Ideal Effects on Shock Tube Ignition Dynamics Using Large-Eddy Simulation	Ihme Matthias, University of Michigan
1000 - 1030	BREAK	
1030 - 1100	Local Limit Phenomena, Flow Compression, and Fuel Cracking Effects	Tianfeng Lu, U Conn
1100 – 1145	Numerical Simulation of Chemically Reacting Flows	Mitchell Smooke, Yale
1145 – 1230	Multi-physics Simulation of Supercritical Fuels	Jack Edwards and Tarek Echehki, NC State
1230 - 1400	Closing Remarks and Further Discussion	
1400	MEETING AJOURN	