

**2010 AFOSR-NASA
Joint Aerothermodynamics Review**

AFOSR-NASA Joint Aerothermodynamics Review						Draft 7/2/12		
Tuesday, July 17			Wednesday, July 18			Thursday, July 19		
800	Jet Noise	Welcome: J. Schmisser, AFOSR and D. Bose, NASA	800	SBLIs	Research Priorities of the AFRL Munitions Directorate	800	Laminar-Turbulent Transition	I. Boyd, U. Michigan - Computational Modeling of Hypersonic Nonequilibrium Gas and Surface Interactions
825		M. Samimy and D. Gaitonde, Ohio State - (New Start) Joint Experimental and Computational Investigation of Jet Acoustics and SBLI	825		M. Brown, AFR:/RZA- Diagnostics for Hypersonic Engine Control	825		D. Donzis, R. Bowersox and S. North, Texas A&M - Thermal and Mechanical Non-equilibrium Effects on Turbulent Flows: Fundamental Studies of Energy Exchanges -
850		N Murray, Mississippi State U. - Toward active control of noise from hot supersonic jets	850		M. Hagenmaier, AFR:/RZA- Computations of High-Speed Inlets	850		G. Candler, U. Minnesota - Mechanisms of Energy Transport in Gaseous Media
915		K. Lowe, Va. Tech - TRVDV development and expts for volumetric flow-field aeroacoustics correlations in square supersonic jets	915		M. Holden, CUBRC - Studies to Obtain Detailed Heat Transfer and Pressure Measurements and Computations in Regions of Turbulent Shock Interaction	915		T. Schwartzentruber, U. Minnesota - Direct Molecular Simulation of Nonequilibrium Flows
940		Break	940	Break	940	Break		
1005		simulations and experiments on a novel approach to noise reduction of hot supersonic jets	1005	P. Martin, U. Maryland - Understanding and Predicting Shockwave and Turbulent Boundary Layer Interactions	1005	R. Miles, Princeton U. - Diagnostics of Unseeded Air and Nitrogen Flows by Molecular Tagging		
1030		T. Colonius, CalTech - Towards active control of noise from hot supersonic jets	1030	D. Knight, Rutgers U. - Electromagnetic Local Flow Control	1030	V. Theofilis - PSE-3D instability analysis and application to flow over an elliptic cone		
1055		J. Freund, U. Illinois - Adjoint-based optimization to harness LES for jet noise control	1055	K. Vanden, AFRL/RW - Hypersonic Flow Around EFPs	1055	S. Schneider, Purdue U. - Measurements of the Mechanisms of Laminar-Turbulent Transition in the Mach-6 Quiet Tunnel		
1120		G. Bres, Cascade Technologies - Prediction and control of noise from hot supersonic jets using unstructured LES	1120	R. Kimmel, AFRL/RQ - Aerothermodynamic Research in the HIFIRE program	1120	I. Leyva, AFRL/RZ and J. Shepherd, CalTech - Transition Delay Using Nonequilibrium CO2		
1145		Lunch	1145	Lunch	1145	Lunch		
1315	Jet Noise	J. Freund, U. Illinois - Jet Crackle	1315	Nonequilibrium Flows	J. Austin, U. Illinois - Shock Interactions in Nonequilibrium Hypersonic Flow	1315	K. Christensen, U. Illinois - Studies of Real Roughness Effects for Improved Modeling and Control of Partial Wall-Bounded Turbulent Flows	
1340		K. Gee, Brigham Young U. - Detailed characterization of the near-field noise environment from a full-scale heated, supersonic jet	1340		D. Levin, Penn State - Physics of Coupled, Multi-Scale Ablating Flows	1340	D. Goldstein, U. Texas - Boundary Layer Transition Over Textured Surfaces	
1405		C. Nelson, ITAC - Improving phased array measurement techniques and jet noise understanding	1405		W. Rich, Ohio State U. - Nonequilibrium Gas Dynamics of Supersonic Flows	1405	B. McKeon, Cal Tech - (PECASE) Multi-Scale Experiments and Modeling in Wall Turbulence	
1430		C. Tinney, U. Texas - (New Start) Low-dimensional Dynamical Characteristics of Shock Wave/Turbulent Boundary Layer Interaction in Conical Flows	1430		M. Wright, NASA - The NASA EDL Program	1430	U. Piomelli, Queen's Univ- Large-Eddy Simulation of Jets with Embedded Vortices Impinging on a Flat Surface	
1455		Break	1455		Break	1455	Break	
1520	SBLIs	R. Gosse, AFRL/RBA - Panel-Level Fluid-Structure Interaction of Reusable Hot Structures in Hypersonic Flow	1520	Break-Out Discussions: New Research Initiatives in Aerothermodynamics and Turbulence	1520	J.Schmisser, AFOSR - Community Discussion: Adapting to new business practices and research trends		
1545		J. McNamara, Ohio State - (2011 YIP) Response Prediction of Compliant Structures in Hypersonic Flow	1545		1545			
1610		J. Poggie, AFRL/RBA - Computational Aerothermodynamics Efforts in AFRL	1610		1610			
1635	Adjourn	1635	Adjourn	1635	Adjourn			

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