



Doubletree Hotel Albuquerque
201 Marquette Avenue NW | Albuquerque, NM 87102-2248

Agenda Day 1 - March 1, 2011

TIME	TOPIC	SPEAKER
0800-0830	Registration	John Schmisseur, AFOSR Michael Wright, NASA ARC
Introduction/Overview Chairs: John Schmisseur and Michael Wright		
0830-0840	Introduction	Ioana Cozmuta ERC
0840-0900	ITAR Regulations in AFOSR	Jonathan Griffin AFOSR
0900-0920	Ablator Modeling: Why Not Much has Changed Over the Past 45+ Years?	Bernie Laub NASA ARC
0920-0940	NASA Uncertainties Management in the TPS Design Process	Michael Wright NASA ARC
0940-1000	Phenomena and Material Property Requirements for a Combined Structural and Thermal Ablation Model	Mark Ewing ATK Aerospace Systems
1000-1015	BREAK	
1015-1045	Current Activities for Evaluation and Prediction of Ablator TPS Performance at JAXA ARD	Kazuhisa Fujita JAXA
1045-1115	Astrium R&D Approach for TPS Development and Modeling	Jean-Marc Bouilly Astrium
1115-1140	Sandia Perspective on Ablative Material Testing	Justin Smith Sandia
1140-1205	NASA TPS Development for Future EDL Missions	Robin Beck NASA ARC
1205-1330	LUNCH/POSTER SESSION [See listing at the end of the agenda]	
In-Depth Physics and Chemistry of Ablation Chairs: Jean Lachaud and Ioana Cozmuta		
1330-1355	Experimental Data Needed for High-Fidelity Material Response Models	Jean Lachaud University of California-Santa Cruz
1355-1420	Experimental Characterization Methods for Three-Dimensional Microstructure Analysis	Elizabeth Dickey North Carolina State University
1420-1445	Internal Reactions in Porous Carbon Chars – A Flow-Tube Reactor Approach	Jochen Marschall SRI
1445-1510	Challenges Characterizing Ablators Properties: Experimental Techniques and Associated Uncertainties	Jay Feldman ERC
1510-1525	BREAK	
1525-1550	Mass Spectrometry of Pyrolysis Products During Thermal Decomposition of Ablator Materials	Jason White SRI
1550-1615	Using FT-IR Spectroscopy to Elucidate the Structures of Ablative Polymers	Wendy Fan ERC

1615-1640	Measurement of Mass Transport Properties of Carbon Phenolic Ablator Materials and Their Relationship to a Material's Behavior in use Environments	Eric Stokes Southern Research Institute
1640-1705	Nitric Oxide PLIF Measurements in the Hypersonic Materials Environmental Test System (HYMETS)	Paul Danehy NASA LaRC
1650-1730	Group Discussion	All
1730	MEETING ADJOURNED FOR THE DAY	

Agenda Day 2 - March 2, 2011		
TIME	TOPIC	SPEAKER
0745-0800	Registration	
Gas Surface Interaction and Catalysis Chairs: Matthew MacLean and Jochen Marschall		
0800-0825	Return of Hyabusa Sample Return Capsule and Japanese Ablator Technologies	Tetsuya Yamada JAXA
0825-0850	Investigation of Gas-Surface Interactions of Innovative Carbon Composite Ablators in the 1.2MW VKI Plasmatron	Olivier Chazot VKI
0850-0915	Recent Gas-Surface Interaction Measurements in the 30kW ICP Torch Facility	Douglas Fletcher University of Vermont
0915-0940	High Enthalpy Ablation Testing at DLR	Bunkard Esser German Aerospace
0940-0950	BREAK	
0950-1015	GSI Modeling Overview: Requirements for Macroscopic Gas/Surface Interaction Coupling in CFD Codes	Matthew MacLean CUBRC
1015-1040	Surface Catalysis Measurements Using a Diffusion-Tube Side-Arm Reactor	Jochen Marschall SRI
1040-1105	Oxidation Behavior of Ultra-High Temperature Ceramics Using Different High Temperature Test facilities	Erica Corral University of Arizona
1105-1130	Characterizing TPS Microstructure – Review of Some Techniques to Capture and Quantify Scale of Microstructure	Mathew Gasch NASA Ames
1130-1155	In Situ Techniques to Understand Changes in Surface Chemistry During Ablation	Samir Aouadi Southern Illinois University
1155-1220	Atomistic to Macroscopic Modeling and Validation for Gas-Surface Interactions	Tom Schwartzentruber University of Minnesota
1220-1330	LUNCH/POSTER SESSION [See listing at the end of the agenda]	
Roughness Modeling with Gas Blowing Effects Chairs: Adam Amar and Charles Powars		
1330-1355	Overview of Roughness and Blowing Effects in Flows Over Ablating Surfaces	Charles Powars St. Croix Research
1355-1420	Fundamental Studies of Surface Roughness and Ablating Flows	Rodney Bowersox Texas A&M University
1420-1445	Experimental Investigations of Surface Roughness and Blowing Effects on Heat Transfer in Hypersonic Shock Tunnels	Michael Holden CUBRC
1445-1510	Surface Roughness Characterization and Modeling	Yvan Aspa Astrium
1510-1520	BREAK	

1520-1545	A Combined Numerical and Experimental Investigation of the Coupling Mechanisms Between an Ablative Wall and Turbulence	Christopher White University of New Hampshire
1545-1610	Prospects for DNS and LES of Ablating Surfaces	Graham Candler University of Minnesota
1610-1635	Spatially and Temporally Resolved Data of High Enthalpy Turbulent Boundary Layers	Pino Martin University of Maryland
1635-1700	Simulation of Surface Roughness Effects on Hypersonic Blunt Body Reentry Heating	Yehia Rizk NASA ARC
1700-1730	Group Discussion for Gas Surface Interactions and Roughness Modeling Sessions	All
1730	MEETING ADJOURNED FOR THE DAY	

Agenda Day 3 - March 3, 2011		
TIME	TOPIC	SPEAKER
0800-0810	Registration	
0810-0830	Introduction to the NASA Thermal Performance Database	Richard French NASA JPL
Ablation Model Code Intercalibration Exercise Jean Lachaud- Moderator		
0830-0845	Presentation of the Ablation Modeling Intercalibration Test Case	Jean Lachaud UCSC
0845-0855	Presentation of FIAT Baseline Results	Bernie Laub NASA ARC
0855-1005	Intercalibration Results (5 minutes/participant)	
	0855-0900 MOPAR	Alexandre Martin (University of Kentucky), Jon Wiebenga, Iain D. Boyd (University of Michigan)
	0900-0905 NEQAP	James B. Scoggins and Hassan A. Hassan (NC State University)
	0905-0910 PATO	Jean Lachaud (UARC - UCSC) and Nagi N. Mansour (NASA - ARC)
	0910-0915 NIDA	Gary C. Cheng and Balaji Shankar Venkatachari (University of Alabama, Birmingham)
	0915-0920 US3D Module	Graham Candler (University of Minnesota)
	0920-0925 Amaryllis	A.J. van Eekelen (SAMTECH), G. Pinaud, and J.-M. Bouilly (Astrium SAS)
	0925-0930 libAblation	Rochan Upadhyay (University of Texas at Austin)
	0930-0935 Chaleur	Ben Blackwell, Micah Howard and Dave Kuntz (Sandia)
	0935-0940 MIG	Ankush Bhatia and Subrata Roy (University of Florida)
	0940-0945 KCMA	Phillipe Reynier (ISA)
	0945-0950 CAT	Nagi N. Mansour (NASA ARC), J. Lachaud (UARC - UCSC), T. Magin and J. de Muelenaere (VKI)
	0950-0955 CMA	Micah Howard, Dave Kuntz and Ben Blackwell (Sandia)
	0955-1000 CHAP	Pete Keller (Boeing)
	1000-1005 HERO	Mark E. Ewing and David E. Richardson (ATK)
1005-1015	Imponderable and Webex call-ins	
1015-1030	Overview of Results	TPDB
1030-1100	BREAK (Around the Posters)	

1100-1120	Discussion of Next Round of Intercalibration Test Conditions	Alexandre Martin University of Kentucky
1120-1200	Future Validation Experiments (round table discussion)	Moderator: Jean Marc Bouilly Astrium
1200-1230	Outcome of the Workshop and Future Directions	Ioana Cozmuta ERC Inc
1230	MEETING ADJOURNED	

Poster Session Listing Next Pages

POSTER SESSION PRESENTATIONS

(Posters will be displayed both days with some left for Thursday)

	Presenter Name	Poster Title
1	Milad Mahzari Georgia Tech	An Inverse Parameter Estimation Methodology for the Analysis of Aeroheating and Thermal Protection System Experimental Data
2	Alexandre Martin University of Kentucky	Carbon-phenolic-in-air Chemistry model for Atmospheric Re-entry
3	Erin D. Farbar University of Michigan	Modeling of Ablation using the DSMC Method
4	Ofodike Ezekoye University of Texas - Austin	Extension of the PECOS Quasi-steady Ablation Toolkit for Uncertainty Propagation
5	Alina Alexeenko Purdue	Feasibility of Ablation Measurements in Small Particle Hypervelocity Impact Range Facility
6	Paul Norman University of Minnesota	Modeling Air-SiO ₂ Surface Catalysis under Hypersonic Conditions with ReaxFF Molecular Dynamics
7	David R. Payne Defense Science and Technology Lab	Experimental Support for Ablation Model Parameter Development
8	Jose Santos Sierra Lobo	Catalysis and Oxidation of Copper Calorimeters-Are We Over Testing Material Samples?
9	Maria Gritsevich University of Helsinki/ Moscow State University	Ablation and Drag Modeling for Reentry of a Blunt Body with Complex Geometry
10	E Titov Penn State	Modeling of Crack Propagation in AVCOAT, a Charring Ablator
11	Paul M Danehy NASA Langley	Nitric Oxide PLIF Measurements in the Hypersonic Materials Environmental Test System (HyMETS)
12	Jean Marc Bouilly Astrium	Astrium R&D Approach for TPS Development and Modelling
13	Alexandre Martin University of Kentucky	MOPAR: Inter-code Calibration of Charring Material Response
14	Ben Blackwell SANDIA	Prediction of Density Degradation of Low Density Material Using the CHALEUR Code
15	Ankush Bhatia University of Florida	MIG: Results for the Inter-code Calibration Exercise
16	A.J. van Eekelen Astrium	AEROFAST: Thermal/Ablation Analysis of the Front Heat Shield for a Martian Aerocapture Mission
17	Gary Cheng UAB	NIDA – A Non-Equilibrium based In-Depth Ablation Code
18	Graham Candler University of Minnesota	A Conservation Law Form of the CMA In-depth Ablation Model
19	Mark Ewing ATK	HERO: Heat Transfer and Erosion Analysis Program
20	JB Scoggins NCSU	NEQAP: Nonequilibrium Ablation and Pyrolysis-a Fundamental Approach
21	Micah Howard SANDIA	Prediction of Material Decomposition of a Low Density Material Using the CMA Code
22	Peter Keller The Boeing Co	CHAP (Convective Heating and Ablation Program)
23	Jean Lachaud UARC	PATO Results for the 2011 Ablation Test Case
24	Nagi N Mansour NASA ARC	Charring Ablator Thermal Response Model (CAT) -a High-Fidelity Material Response Model

25	Philippe Reynier ISA	Numerical Rebuilding of Ablative Test Cases Using KCMA
26	Rochan R Upadhyay University of Texas - Austin	Description and Results of a Predictive Model for Pyrolysis: libAblation
27	Jim Merrifield Fluid Gravity Engineering Ltd	Computation of the TACOT Intercalibration Test Case for the 4th AFOSR/SNL/NASA Ablation Workshop using FABL
28	Ryan Gosse AFRL	Title TBD
29	Brian Remark NASA JSC	STAB