The Aerospace Corporation
El Segundo, California
June 10-12, 2008

TUESDAY, JUNE 10, 2008

7:30 **Registration and Continental Breakfast**

8:30 **Welcome** – Aimee Lalime, The Aerospace Corporation

An Alternative Method of Specifying Shock Test Criteria
Robin Ferebee, NASA Marshall Space Flight Center; Joe Clayton and David Alldredge, bd Systems, Inc.; and Tom Irvine, Vibration Data, LLC

Comparison of Overtesting During Assembly-Level Shock and Vibration Testing
Jean-Philippe Deblois, Concordia University; Yvan Soucy, Canadian Space Agency; and Ramin Sedaghati, Concordia University

An Inverse Method for Predicting Shock Levels Induced by Pyrotechnic Separation
Bernard Troclet, Stephane Alestra, Vassili Srithammavanh, and Isabelle Terrasse, EADS IW Suresnes

10:00 **Break**

10:15 **Energy Methods for the Characterization and Simulation of Shock and Vibration**
David Smallwood and Timothy Edwards, Sandia National Laboratories

Implementation of a Whole Spacecraft Isolation System for the OSTM/Jason 2 Mission
Chris Gerace, NASA Kennedy Space Center; and Dennis Kern, Jet Propulsion Laboratory

Probabilistic Investigation of Sensitivities of Advanced Test-Analysis Model Correlation Methods
Elizabeth Bergman, Matthew Allen, and Daniel Kammer, University of Wisconsin; and Randall Mayes, Sandia National Laboratories (Presented by Chris Flanigan, Quartus Engineering)

11:45 **Complimentary Lunch in A3 Dining Room A/B**

1:00 **Model Uncertainty in Monte Carlo Analysis**
Isam Yunis, NASA Langley Research Center

Dynamics Analysis of Backshell Separation Event of the Mars Science Laboratory
Marco Bacaloni, The Aerospace Corporation; and Chia-Yen Peng, Jet Propulsion Laboratory

MSL Rover and RSM Traverse Loads Analysis and Simulation
Gary Ortiz, Jet Propulsion Laboratory

The Aerospace Corporation
El Segundo, California
June 10-12, 2008

TUESDAY, JUNE 10, 2008 (cont.)

2:30 **Break**

2:45 **Mars Science Laboratory Rover Chassis Loads Implementation**
Chris Landry, Jet Propulsion Laboratory

Design Loads Analysis and Structural Analyses of MSL Propulsion Lines
Darlene Lee, Jet Propulsion Laboratory

Mars Science Laboratory Parachute Opening Loads
Doug Adams, Jet Propulsion Laboratory

Satisfying Structural Integrity Requirements via an Integrated Analysis and Test Program
Eric Hall, The Aerospace Corporation

4:45 **Adjourn**

WEDNESDAY, JUNE 11, 2008

7:30 **Registration and Continental Breakfast**

8:30 **Overview of the Orion Vibroacoustic Test Capability at NASA Glenn Research Center**
William Hughes, Aron Hozman, Mark McNelis, and Kim Otten, NASA Glenn Research Center

A Discussion on the Potential Acoustic Chamber/Structure Modal Coupling During Qualification Testing of Flight Hardware
Ali Kolaini, Jet Propulsion Laboratory

Characterization of the Low Frequency Acoustic Field in Reverberant Chambers
Stephane Alestra, Vassili Srithammavanh, Guillaume Sylvand, and Isabelle Terrasse, EADS IW Suresnes; Slaheddine Frihka, ESI Group and Alexandre Gallet, ESI Group; Rocio Redondo; CNES Toulouse; and Bernard Troclet and M. Depuyd, EADS ASTRIUM

10:00 **Break**

10:15 **Acoustic Induced Vibration on Composite Reflector: Test Versus Prediction**
Ben Tsoi, Ali Kolaini, and Brian Childs, Jet Propulsion Laboratory

Prediction of Dynamic Stresses and Forces in Space Structures from Random Acoustic Excitation
Julio Cordioli and Bryce Gardner, ESI Group; George Pattison, NASA Goddard Space Flight Center

The Aerospace Corporation
El Segundo, California
June 10-12, 2008

WEDNESDAY, JUNE 11, 2008 (cont.)

Simulation of a Spacecraft Acoustic Test by the Hybrid FE-SEA Method: Application to the CALIPSO Spacecraft and Comparison with Experimental Data
Robert Knockaert, Thales Alenia Space; Slaheddine Frikha and Vincent Cotoni, ESI Group

11:45 **Lunch on your own**

1:00 **Qualification of Spacecraft Design: Comparative Acoustic Analysis Techniques**
Joe Hackel, Ball Aerospace & Technology Corp.

Vibroacoustic Hybrid Modeling and Analysis of the ARES IX Roll Control System
Brian Prock, ATA Engineering, Inc.

Beam Benchmarks for Dynamic Analysis Process Validation
Jim Olmstead, MDA Space Missions

2:30 **Break**

2:45 **Boosters Pressure Oscillations on ARIANE 5, a Development Challenge**
Luc-Olivier Gonidou, CNES Launchers Directorate

Design and Testing of a Large Composite Asymmetric Payload Fairing
Tomoya Ochinero and Thomas Deiters, ATA Engineering, Inc.; John Higgins, Air Force Research Laboratories; Eric Blades, Mississippi State University

Model Updating Using Model Knowledge to Improve Correlation
Michael Harris, Orbital Sciences Corporation; Alma Oliphant, Raytheon Missile Systems; Matt Whitney, ATA Engineering, Inc.

Efficient Modal Sensitivity Analysis of Complex Structural Assemblies
Robert Coppolino, Measurement Analysis Corporation

4:45 **Adjourn**

5:00 **Social Gathering**

THURSDAY, JUNE 12, 2008

7:30 **Registration and Continental Breakfast**

8:30 **Transducer Response Equalisation**
Birger Kriegbaum, Brüel & Kjaer Sound & Vibration Measurements A/S

THURSDAY, JUNE 12, 2008 (cont.)

Jason 2 / OSTM Mechanical Qualification
Jean-Noel Bricout and Joel Dejoie, CNES; Roger Viale, Thales Alenia Space; Guillaume Courgenay, GECI for Thales Alenia Space; Chris Gerace, NASA Kennedy Space Center; Dennis Kern, Jet Propulsion Laboratory

Particle Damping for Launch Vibration Mitigation: Design and Test Validation
Scott Pendleton, John Basile, and Jorge Guerra, CSA Engineering; Bac Tran, Howard Ogomori, and Sung Lee, Raytheon Company

10:00 **Break**

10:15 **Fatigue Margins Established by Unit and Spacecraft Protoqualification Tests**
Enold Pierre-Louis, The Aerospace Corporation

A Study of the Conservatism of Maxi-Max ASDs in the Analysis of Transient Random Environments Using Rainflow Fatigue Analysis
Jerome Cap, Sandia National Laboratories

MSL Spacecraft Impact Orientations for Near-Pad Ballistic Fallback
Huaidong (Don) Li, Larry Reinhart, and Pete Jaffe, Jet Propulsion Laboratory

11:45 **Adjourn**