The Hampton Roads Chapter of AHS International would like to gratefully acknowledge the following exhibitors, who have participated in and supported this meeting.

LIST OF EXHIBITORS

Advanced Technologies, Inc.
The Boeing Company
East/West Industries, Inc.
GE Aviation
Lockheed Martin Thermal Protection Products
Materials Research & Design, Inc.
MECHSIM Engineering Solutions
Pratt & Whitney
Sikorsky Aircraft Corporation
Sikorsky-Boeing JMR Team
Triumph Aerospace Systems
Newport News
AHS International

PROGRAM AGENDA

The Hampton Roads Chapter (HRC) of the American Helicopter Society International Presents the

TECHNICAL SPECIALISTS’ MEETING ON ROTORCRAFT STRUCTURES AND SURVIVABILITY

Structures Solutions for Future Vertical Lift

General Chairman: Mr. Jon Schuck
US Army ADD

Technical Chairpersons: Mr. Nate Bordick
US Army ADD-AATD
Dr. Karen E. Jackson
NASA Langley Research Center

Exhibit Hours
Tues., 29 Oct 2013, 7:00 AM-5:00 PM, 6:00-8:00 PM
Wed., 30 Oct 2013, 7:00 AM-5:00 PM, 6:00-7:00 PM
Thursday, 31 Oct 2013, 7:00-9:00 AM
Exhibit Chairman: David Meyer, Boeing

October 29-31, 2013
Ft. Magruder Hotel and Conference Center
Williamsburg, Virginia
Quick Look Agenda

**Monday, October 28, 2013**
- Golf Tournament, The Pines Golf Course, Ft. Eustis, VA
- Meeting Registration 4:00-7:00 PM

**Tuesday, October 29, 2013**
- Continental Breakfast, 7:00-7:45 AM
- Welcoming Comments, 7:45-8:00 AM
- Session A: Structural Integrity and SHM
- Luncheon, 12:00 – 1:30 PM
  Guest speaker: TBD
  Topic: Joint Multi Role Tech Demo
- Session B: Durability & Damage Tolerance
- Exhibitor’s Reception, 6:00-8:00 PM
- Dinner - On Your Own

**Wednesday, October 30, 2013**
- Continental Breakfast, 7:00-7:45 AM
- Announcements, 7:45-8:00 AM
- Session C: Ongoing/Future Programs
- Lunch (on your own) 11:30–1:30 PM
- Session D: Crashworthiness
- Exhibitors Reception, 6:00-7:00 PM
- Banquet: 7:00 – 9:30 PM
  Guest Speaker: TBD

**Thursday, October 31, 2013**
- Continental Breakfast, 7:00-7:45 AM
- Exhibit Hall, 7:00-9:00 AM
- Announcements, 7:45-8:00 AM
- Session E: Crash/Vulnerability Reduction
- Closing Comments, 12:00 PM
- Adjourn, 12:15 PM

**TUESDAY, OCTOBER 29, 2013**

7:00 – 7:45 AM Continental Breakfast
7:45 – 8:00 AM Welcoming Comments

8:00 – 12:00 PM Session A: Structural Integrity and Structural Health Monitoring (SHM), Moderator – Bordick, US Army ADD-AATD

8:00 – 8:30 AM “Progress and Planning for US Army Rotorcraft Structural Integrity Program Standardization,” Robeson, US Army ADD-AATD
8:30 – 9:00 AM “SHM of Joints in Composite Laminate Structures,” Lissenden, Penn State University
9:30 – 10:00 AM “Development of an Airframe Structural Integrity Management System,” Brookhart, Sikorsky
10:00 – 10:30 AM Break
11:00 – 11:30 AM “SHM-embedded Design for High Performance, Sustainable, and CBM-Enabling Structures of Future Vertical Lift,” Chang, Stanford University
12:00 – 1:30 PM Luncheon, Guest Speaker: TBD, Topic: Joint Multi Role Technology Demonstration

1:30 – 5:00 PM Session B: Durability and Damage Tolerance, Moderator - Robeson, US Army ADD-AATD

1:30 – 2:00 PM “Probabilistic Investigation of Composite Damage Progression and Failure Predictions,” Haynes, US Army Research Laboratory
2:00 – 2:30 PM “Analysis of Hydrodynamic Ram Compliant Structure,” Gatley, Boeing
2:30 – 3:00 PM “Integrated Test/Modeling Analysis of Bonded Joints in Rotorcraft Composite Structures,” Gurvich, United Technologies Research Center
3:00 – 3:30 PM Break
3:30 – 4:00 PM “Assessing Rotorcraft Airframe Durability & Damage Tolerance,” Sarlashkar, Sikorsky
4:00 – 4:30 PM “Full-Field Strain Analysis of Compressively Loaded Flat Composite Laminates Containing Undulated Fiber Architecture,” Henry, Penn State
4:30 – 5:00 PM “Laser Peening for Improved Fatigue Lifetime of a Wing Attachment Shear-Tie – Application to Rotorcraft Structures,” Hackel, Metal Improvement Co.
6:00 – 8:00 PM Exhibitors’ Reception
**WEDNESDAY, October 30, 2013**

7:00 – 7:45 AM Continental Breakfast
7:45 – 8:00 AM Announcements

8:00 – 11:30 AM Session C: Ongoing/Future Programs and Structures Technology, Moderator – Jackson, NASA

8:00 – 8:30 AM “An Introduction to the Combat Tempered Platform Demonstration,” Cappelli, Sikorsky Aircraft
8:30 – 9:00 AM “NASA’s Advanced Composites Project,” Young, NASA Langley Research Center
9:00 – 9:30 AM “Composite Certification Initiative,” Schuck, US Army ADD

9:30 – 10:00 AM Break

9:00 – 9:30 AM "Micromechanical Model of X-Cor and K-Cor Reinforced Foams," Caputo, Materials Research and Design
10:00 – 11:00 AM “Damage Tolerance Stretched Broken Carbon Fiber,” Crocco, US Army ADD-AATD
11:00 – 11:30 AM “Advances in Prediction of Residual Stress and Part Distortion of Machined Components,” Erickson, Third Wave Systems

11:30 – 1:30 PM Lunch (on your own)

1:30–5:30 PM Session D: Crashworthiness
Moderator – Charles Clarke, Sikorsky

1:30 – 2:00 PM “Evaluation of the Transport Rotorcraft Airframe Crash Testbed (TRACT) Full Scale Crash Test,” Annett, NASA Langley
2:00 – 2:30 PM “Active Crash Protection System (ACPS),” Bolukbasi, The Boeing Company
2:30 – 3:00 PM “Investigation of Human Kinematics and Risk of Injury during a Vertical Crash using THOR Dummy and Human Finite Element Models,” Untaroiu, Virginia Tech
3:00 – 3:30 PM “Biodynamic Model Development for Intense Shocks,” Singh, University of Maryland

3:30 – 4:00 PM Break

3:30 – 4:30 PM “Impact Testing and Simulation of Composite Airframe Components,” Jackson, NASA Langley Research Center
5:00 – 5:30 PM “Impact Testing and Simulation of a Full-Scale Composite Fuselage Section,” Fasanella, National Institute of Aerospace

5:30 Break for the Day

6:00 – 7:00 PM Exhibitors’ Reception

7:00 – 9:30 PM Banquet, Guest speaker - TBD

**THURSDAY, October 31, 2013**

7:00 – 7:45 AM Continental Breakfast
7:45 – 8:00 AM Announcements

8:00 – 12:00 PM Session E: Crashworthiness and Vulnerability Reduction, Moderator – Bark, NAVAIR

8:00 – 8:30 AM “Predicted Performance of an Optimized Energy-Absorbing Crashworthy Seat During Idealized and Actual Crash Pulses,” Richards, BAE Systems
8:30 – 9:00 AM “Side-Facing Seat Injury Criteria and Testing Methodology Development,” Richards, BAE Systems
9:00 – 9:30 AM “Aircraft Seat Certification by Analysis from a Regulatory Perspective,” Pelletiere, FAA
9:30 – 10:00 AM “Appropriate Dynamic Testing of Seats Installed in Rotorcraft,” Miles, FAA
10:00 – 10:30 AM Break

10:30 – 11:00 AM “Variable Profile Energy Absorbers,” Labun, SAFE, Inc.
11:00 – 11:30 AM “Development of Ballistic Tolerant Aircraft Structure,” McCarthy, The Boeing Company
11:30 – 12:00 PM “Blast Analysis of Aircraft Structure,” Chiu, The Boeing Company

12:00 PM Closing Comments
12:15 PM Adjourn