



Rotorcraft Structures & Survivability Technical Meeting Oct. 27-28, 2021 – Hampton Roads Convention Center

Wed., October, 27, 2021

Session 1: Structural Concepts

Session Chair: Mark Robeson, US Army DEVCOM AvMC

7:45 - 8:00 AM	Welcome/Meeting Announcements
8:00 - 8:30 AM	<i>Advanced Materials and Structures Methods for Weight Reduction and Damage Tolerance</i> Andrew Makeev, Guillaume Seon, Yuri Nikihskov, Sarvenaz Ghaffari, University of Texas Arlington
8:30 - 9:00 AM	<i>Stretch Broken Carbon Fiber for Primary Aircraft Structure</i> Chris Ridgard, Cambrie Monfort, Douglas Cairns, Montana State University
9:00 - 9:30 AM	<i>Mission-Adaptive Rotor Blade Part 1: Mission-Driven Biomimetic Design and Optimization</i> Allen Davis, Darren Hartl, Texas A&M University; David Lazzara, The Boeing Co.
9:30 - 10:00 AM	Coffee Break
10:00 - 10:30 AM	<i>Operationally Adaptive Rotor Blade Part II: Fabrication, Control, and Test of a Biomimetic Design</i> Michael Bass, Myrielle Allen-Prince, James Mabe, Boeing Research & Technology; Allen Davis, Texas A&M University
10:30 - 11:00 AM	<i>Development and Demonstration of An Intelligent Fastenerless Composite Structure</i> Andrew Brookhart, Sikorsky, A Lockheed Martin Co.
11:00 - 11:30 AM	<i>Flight Phase Adaptive Rotor Blade, Part III: Aeroelasticity and The Future</i> Francis Phillips, US Army DEVCOM ARL; Trent White, Allen Davis, Darren Hartl, Texas A&M University; David Lazzara, Myrielle Allen- Prince, The Boeing Co.
11:30 AM -1:30 PM	Lunch Break: On your Own

Session 2: Structural Concepts (Cont.)

Session Chair: Robert Haynes, US Army DEVCOM AvMC

1:30 - 2:00 PM	<i>Lightweight Low-Cost Multifunctional Composite for Structure (LLCMCS)</i> Harry R. Luzetsky, Ellen Phifer, SURVICE Engineering; Robert Haynes, US Army DEVCOM AvMC
2:00 - 2:30 PM	<i>Bolt Hole Corrosion and Fatigue Damage Repair in Hybrid Vertical Lift Structure</i> Jude Restis , John Hamil, Doug Glenn, Mike Dubberly, Dale Manning, Partworks
2:30 - 3:00 PM	<i>Multifunctional UAS Structurally Integrated Composite for Electro-Magnetic Shielding Project (MUSIC-EMS)</i> Harry R. Luzetsky, Ellen Phifer, SURVICE Engineering; Robert Haynes, Lawrence Zunski, US Army DEVCOM AvMC
3:00 - 3:30 PM	Coffee Break
3:30 - 4:00 PM	<i>Lightweight Composite Bonded Structures for Future Design</i> Ian Brown, John Busch, AVX Aircraft Co.; Delany Jourdan, US Army DEVCOM AvMC
4:00 - 4:30 PM	<i>An Overview: Surface Tolerant Adhesives for Bonded Airframe Structure</i> Majid Sharifi, Huntsman Advanced Materials; Ian Brown, AVX Aircraft Company; Gyaneshwar Tandon, University of Dayton Research Inc.
4:30 - 5:00 PM	<i>Structural Health Monitoring of Vertical Lift Structures Operating in an Urban Environment</i> Russell Wincheski, Eric Madaras, William Wilson, Jason Moore, Godfrey Sauti, Christopher Stelter, Emilie Siochi, NASA Langley Research Ctr.
5:00 PM	Discussion / Meeting Wrap-up
6:00 - 9:00 PM	Social 6:00 to 9:00 pm: The Vanguard Brewpub & Distillery 504 N. King. St., Hampton, VA 23669 – www.thevanguard757.com



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Thurs., Oct. 28, 2021	
Session 3: Crashworthiness	
Session Chair: Martin Annett, NASA Langley Research Center	
7:45 - 8:00 AM	Welcome/Meeting Announcements
8:00 - 8:30 AM	<i>Development of Energy Absorbing Subfloor Concepts to Improve Crashworthiness of eVTOL Aircraft</i> Jacob Putnam, Justin Littell, NASA Langley Research Center
8:30 - 9:00 AM	<i>Application of a Developmental Composite Material Model to Predict the Crush Response of Two Energy Absorbers</i> Karen Jackson, National Institute of Aerospace; Robert Goldberg, Trenton Ricks, NASA Glenn Research Center
9:00 - 9:30 AM	<i>The Development of the Crashworthy HH-60W Primary Aircrew Cabin Seat (PACS) System</i> Barton Hainsworth, Walter Mayo, Sikorsky, A Lockheed Martin Co.; Michael Vetter, East/West Industries
9:30 - 10:00 AM	Coffee Break
10:00 - 10:30 AM	<i>Sitting Position Contributions to Injury Distributions among Aviators Involved in Apache Mishaps between 1990 and 2018</i> Blake Johnson, Shelby Sous, Danielle Rhodes, Maria Bukowska, Gregory Ganz, Frederick Brozoski, B. Joseph McEntire, US Army Aeromedical Research Lab
10:30 - 11:00 AM	<i>Advanced Seat Belt System for Occupant Restraint</i> Marv Richards, Safe Inc.
11:00 - 11:30 AM	<i>Review of the Crashworthiness Index for Occupant Protection</i> Danielle Rhodes, Elizabeth Lafferty, B. Joseph McEntire, US Army Aeromedical Research Lab
11:30 AM - 1:30 PM	Lunch Break: On your Own
Session 4: Vulnerability	
Session Chair: Carrell McAlliser, Joint Aircraft Survivability Program Office	
1:30 - 2:00 PM	<i>Design of a Functionally Graded Fuel Tank Fitting for Rotorcraft Crashworthiness: Case Study</i> Zachary Satterfield, Allen Shirley, Aaron Ward, Corvid Technologies
2:00 - 2:30 PM	<i>The Littoral Environment's Impact on Crew Survivability:</i> Warren Aylworth, JHNA
2:30 - 3:00 PM	<i>Numerical Assessment on the Rotorcraft Impact under the Blade Collision</i> Seung-Hoon Kang, Seokmin Lee, Changbae Lee, Byeonguk Im, Sang Joon Shin, Seoul National University
3:00 - 3:30 PM	Coffee Break
3:30 - 4:00 PM	<i>The Future of Vertical Flight</i> Michael Hirschberg, Vertical Flight Society
4:00 - 4:30 PM	<i>Rapid Structural Vulnerability Toolkit</i> Stephen Rosencrantz, Neil Berg, Skyward, Ltd.
4:30 - 5:00 PM	<i>Characterization of Composite Spaced Spaced Armor</i> Sierra Semel, US Army DEVCOM AvMC
5:00 PM	Meeting Wrap-up



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