Future Vertical Lift Aircraft
Design Conference

Organizing Committee

General Chair: John M. Davis
Technical Chair: Bruce Tenney
Deputy Technical Chair: Chris Silva
Arrangements Chair: Robert H. Stroub
Production Chair: Eduardo Solis
Production Assistant: Meridith Segall

AHS International: http://www.vtol.org
San Francisco Bay Area Chapter: http://www.vtol-sf.org/

Holiday Inn
Fisherman’s Wharf
San Francisco, CA
January 18 – 20, 2012

Sponsored by
Tuesday, January 17, 2012
5:00 PM – 7:00 PM Registration – Please register as early as you can!
Avoid long lines.

Wednesday, January 18, 2012
7:00 AM – 4:00 PM Registration – Please register as early as you can!
Avoid long lines.

8:00 AM – 12:00 PM Opening Session
Moderator: John M. Davis, Design Conference Chair
Welcome & Opening Remarks
8:00 AM – 8:15 AM
Engineering Resilient Systems – Scott Lucero, Deputy Director, Strategic Initiatives, ODASS/SE
9:00 AM – 9:30 AM
Eurocopter X3 – Joseph P. Mudd, Director of Army Aviation Business Development, EADS North America
10:00 AM – 10:30 AM Break
10:30 AM – 11:00 AM
AeroVironment Hummingbird Nano UAV – Matt Keennon, NAV Project Manager
11:00 AM – 11:45 AM
Future Vertical Lift – Jose M. Gonzalez, Director, Land Warfare and Munitions, OUSD(ATL)
11:45 AM – 12:00 PM Question & Answers and Closing Remarks

12:00 PM – 1:30 PM Lunch

1:30 PM – 5:00 PM Advanced Concepts Session
Session Chair: Kevin McCarthy, Chief, Advanced Aircraft Design, NAVAIR
1:30 PM – 2:00 PM Development of a 200 gram Twin-Rotor Micro Cyclicotoper Capable of Autonomous Hover--Moble Benedict, Elena Shrestha, Vikram Harishkeshan, Indrjot Chopra, University of Maryland Moormann, RWTH Aachen University, Germany
2:00 PM – 2:30 PM The Collette Cylindrical Rotor – John Collette, AlaskaWorks Engineering; Robert Clark, Acuity Technologies
2:30 PM – 3:00 PM An Applied and Theoretical Approach to the Development of a Twin Ducted Fan VTOL Aircraft --Michael Speck, Mathieu Sellier, University of Canterbury (New Zealand); Joerg Buchholz, Hochschule Bremen, Germany
3:00 PM – 3:30 PM Break
3:30 PM – 4:00 PM Thrust Augmentation & Control of Ducted-Fan VTOL Air-Vehicles – Mark De Roche, Aeroflex Corporation
4:00 PM – 4:30 PM Design and Development of Gamera: A Human Powered Helicopter from the University of Maryland – Joseph Schmaus, Benjamin Berry, Graham Bowen-Davies, Brandon Bush, Chen Friedman, Mor Gilad, Ananith Sridharan, William Staruk, Benjamin Woods, University of Maryland
6:00 PM – 7:00 PM No-Host Social Hour in the Hotel Bar

Thursday, January 19, 2012
7:00 AM – 12:00 PM Registration – Please register as early as you can!
Avoid long lines.

8:00 AM – 12:00 PM Joint Multi-role Rotorcraft (JMR) Session
Moderator: Dr. William Lewis, Director for Aviation Development, OUSD/ATL
8:00 AM – 8:15 AM Opening Remarks – Dr. William D. Lewis
8:15 AM – 8:30 AM Program Overview and Update – Ned Chase, US Army AATD/AMRDEC
9:30 AM – 10:00 AM Government Concept Designs
10:00 AM – 10:30 AM Break
10:30 AM – 10:45 AM Compund – Alex Moodie, US Army AFDD/AMRDEC
10:45 AM – 11:00 AM Tilt Rotor – Jeff Sinsay, US Army AFDD/AMRDEC
11:00 AM – 11:45 AM Operations Analysis Results to Date – Al Huber, AMBL, US Army ACE
11:45 AM – 12:00 PM Question and Answer Panel and Closing Remarks

12:00 PM – 1:30 PM Lunch

1:30 PM – 5:00 PM Aircraft Systems Session
Session Chair: Tom Wood, Senior Technical Fellow, Bell Helicopter Textron
1:30 PM – 2:00 PM Rotor Aerodynamic Characteristics at High Advance Ratio Relevant to Compound Rotorcraft – Robert A. Ormiston, US Army AFDD/AMRDEC
2:00 PM – 2:30 PM Design and Performance of Lift-Offset Rotorcraft for Short-Haul Missions – Wayne Johnson, NASA-Ames; Alex M. Moodie and Hyeresa Yeo, US Army AFDD/AMRDEC
2:30 PM – 3:00 PM Conceptual Design and Mission Selection for a Large Civil Compound Helicopter – Carl Russell, Wayne Johnson, NASA-Ames
3:00 PM – 3:30 PM Break
3:30 PM – 4:00 PM Influence of Alternative Engine Concepts on LCTR2 Sizing and Mission Profile-- C. A. Snyder, NASA-Glenn
4:00 PM – 4:30 PM Transient Analysis of Unpowered Vertical Takeoff and Landing Maneuvers – Matthew W. Floros, NASA-Ames; Alex M. Moodie and Hyeonsoo Yeo, US Army AFDD/AMRDEC
4:30 PM – 5:00 PM Flight Adaptive Blade For Optimum Rotor Response -- Matthew W. Floros, US Army AFDD/AMRDEC
5:00 PM – 6:00 PM Break
6:00 PM – 7:00 PM

Friday, January 20, 2012
6:00 AM – 10:00 AM Registration

8:30 AM – 12:00 PM Design Tools Session
Session Chair: Dr. Jimmy Tai, Georgia Tech
8:30 AM – 9:00 AM C.R.E.A.T.I.O.N. the Onera Multi-level Rotorcraft Concepts Evaluation Tool – Pierre-Marie Basset, et al. (CREATION Project Team), ONERA - The French Aerospace Lab
9:00 AM – 9:30 AM The Effect of Number of Blades on Optimum Rotor Design for Brownout Mitigation -- John Tachtishler, Monica Striffler, Prof. Roberto Celli, Prof. J. Gordon Leishman, University of Maryland
9:30 AM – 10:00 AM Physics Based Modeling of Maneuver Loads for Rotor and Hub Design -- Ritu P. Marpu, Lakshmi N. Sankar, Georgia Tech; James D. Baeder, University of Maryland; Steve Makinen , T. Alan Ego1, Sikorsky;Mark Waskowski, Bell Helicopter
10:00 AM – 10:30 AM Break
10:30 AM – 11:00 AM RotCFD a Tool for Aerodynamic Interference of Rotors: Validation and Capabilities -- Ganesh Rajagopalan, University of Iowa
11:00 AM – 11:30 AM Prop-Rotor Design for an Electric Tilt-Rotor Vehicle -- Ched Muri, Gali Lazer, Israel Aerospace Industries
11:30 AM – 12:00 PM IXGEN – A Modeling Tool for the Preliminary Design of Composite Rotor Blades -- Peter J. Rohl, Paul Dorman, Advatech Pacific; Carlos E.S. Cesnik, Devesh Kumar, University of Michigan

12:00 PM – 1:30 PM Lunch

1:30 PM – 5:00 PM Rotor Rotors Session
Session Chair: Dr. William G. Warmbrot, Chief, Aeromechanics Branch, NASA-Ames
1:30 PM – 2:00 PM Preliminary Design and Evaluation of an Airfoil with Active Continuous Trailling-Edge Flap – Jinwei Shen and Yi Liu, National Institute of Aerospace (Hampton, VA); Robert P. Thorburn, Andrew R. Kreshock and Matthew L. Wilbur, US Army/VTI/ARL
2:00 PM – 2:30 PM Effects of Torsion Frequencies on the Rotor Performance and Structural Loads with Trailing Edge Flap -- Rohl Jain, Science and Technology Corp., Hyeresa Yeo, US Army AFDD/AMRDEC
2:30 PM – 3:00 PM The Flight Adaptive Blade For Optimun Rotor Response (FABFORR) Concept -- Robert McElligot, Jr., Todd Quackenbush, Coninuum Dynamics, Inc.,
3:00 PM – 3:30 PM Break
3:30 PM – 4:00 PM Real-Time Extraction of Rotor Modal Information for Stability Monitoring and Correlation -- Joseph Andrews, Jonathan Wong, Sikorsky Aircraft
4:00 PM – 4:30 PM Rotating Hub Drag Prediction Methodology -- Matthew J. Hill
4:30 PM – 5:00 PM Performance and Loads Correlation of a UH-60A Slowed Rotor at High Advance Ratios -- Sesi Kottapalli, NASA-Ames