

AeroTech Congress & Exhibition

Technical Session Schedule

As of 10/09/2005 07:40 pm

Tuesday October, 4

Key-note Panel - VSTOL: A New Era

Session Code: IPLC30

Room Technology Theater

Session Time: 8:00 a.m.

Moderators - Michael Hirschberg, CENTRA Technology Inc.

Panelists - Thomas W. Bennett, Future Mobility Concepts; Andrew W. Kerr, Director, Army Aeroflightdynamics Directorate, US Army; Herb Schlickemaier, NASA Headquarters; John C. McKeown, JSF Program Office

Tuesday October, 4

ESTOL1 - Overview

Session Code: IPLC05

Room Dallas 1

Session Time: 1:30 p.m.

This session will provide an overview of the NASA activities and Air Force needs for an extreme short take-off and landing (ESTOL) transport. Additionally, the business case for a civil ESTOL transport will be discussed.

Organizers - Craig Hange, NASA Ames Research Center

Time	Paper No.	Title
1:30 p.m.	2005-01-3145	Summary of NASA's ESTOL Activities <i>John Zuk, Douglas A. Wardwell, NASA Ames Research Center</i>
2:00 p.m.	ORAL ONLY	AMC-X Concept Overview <i>Thomas W. Bennett, Nancy Bozzer, Scott Air Force Base</i>
2:30 p.m.	2005-01-3200	Exploratory Business Case Study for an Extreme Short Take-Off and Landing Transport <i>Matt Peperak, Jacob Burns, CENTRA Technology</i>
3:00 p.m.	ORAL ONLY	The Economic Value of Extreme Short Take Off and Landing Performance <i>Doug Howarth, Lockheed Martin Advanced Development Co</i>

Tuesday October, 4

ESTOL2 - Technology Needs

Session Code: IPLC06

Room Dallas 1

Session Time: 3:30 p.m.

This session will explore the potential technologies that will facilitate civil / military transports to achieve the ESTOL vision. Specifically, this session will focus on the impact of underpinning technologies on the aircraft's ability to land and take-off in a considerably shortened field length while achieving efficient cruise at Mach = 0.8.

Organizers - John Zuk, NASA Ames Research Center

Time	Paper No.	Title
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3:30 p.m.	ORAL ONLY	AMC-X Technology Developments <i>Barth Shenk, US Air Force</i>
4:00 p.m.	ORAL ONLY	ESTOL Aircraft Opportunities and Technology Needs- Boeing Perspective <i>David J. Manley, Boeing Co.</i>
4:30 p.m.	ORAL ONLY	ESTOL Aircraft Opportunities and Technology Needs:Lockheed Martin Perspective <i>Paul M. Bevilaqua, Lockheed Martin Aeronautics Co.</i>
5:00 p.m.	ORAL ONLY	ESTOL Aircraft Opportunities and Technology Needs:Northrop Grumman Perspective <i>Scott W. Collins, Roxanne Sato, Bryan Westra, Northrop Grumman Corp.</i>

Tuesday October, 4

F-35 JSF Program / STOVL Overview

Session Code: IPLC13

Room Dallas 2

Session Time: 1:30 p.m.

The multi-national Joint Strike Fighter (JSF) Program is developing next generation strike aircraft for the Navy, Air Force, Marines, and allied armed forces. The Short Take-Off and Vertical Landing (STOVL) version of the JSF is known as the F-35B. This session will focus on the JSF program with an emphasis on the STOVL variant of the aircraft.

Organizers - Cmdr David Klaasse, US Navy; Ian A. Maddock, JSF Program Office

Time	Paper No.	Title
1:30 p.m.	ORAL ONLY	F-35 Program Overview <i>Cmdr David Klaasse, US Navy</i>
2:00 p.m.	ORAL ONLY	F-35 STOVL Propulsion Overview <i>Cecil Buchanan, UK Ministry of Defense</i>
2:30 p.m.	ORAL ONLY	F-35 Sustainment Overview <i>Lieutenant Commander Jim Mockford, UK Royal Navy</i>

Tuesday October, 4

F-35 JSF Warfighters' Perspective

Session Code: IPLC26

Room Dallas 2

Session Time: 3:30 p.m.

Organizers - Ian A. Maddock, F-35 JSF Program Office

Moderators - John C. McKeown, F-35 JSF Program Office

Panelists - Colonel Aurelio Colagrande, Italian Air Force; Lieutenant Colonel Art Tomassetti, US Marine Corps; Commander Phillip Hayde, UK Royal Navy

Tuesday October, 4

Comanche Technology Transfer

Session Code: IPLC04

Room Dallas 3**Session Time: 1:30 p.m.**

Papers will be presented on the Comanche developed technologies that, following the demise of this program, have applicability, residual value and may otherwise find their way into new and alternative program employment.

Organizers - Charles C. Crawford, Georgia Tech. Research Institute

Time	Paper No.	Title
1:30 p.m.	ORAL ONLY	Comanche Technology Transition During a Period without New Development Programs <i>Maj William D. Lewis, Michael Richey, US Army</i>
2:00 p.m.	ORAL ONLY	Army Technology Integration Center (ATIC) <i>Charles E. Schmidt, Lockheed Martin Missiles & Fire Control</i>
2:30 p.m.	ORAL ONLY	Radar Electronics Unit (REU) <i>Benny Smith, Lockheed Martin Corp</i>
3:00 p.m.	ORAL ONLY	Logistical Technology Transformation: A Comanche Fallout <i>Robert P Birmingham, Computer Sciences Corp</i>

Tuesday October, 4**Super Heavy Lift****Session Code: IPLC22****Room Dallas 3****Session Time: 3:30 p.m.**

Papers for this session will address technology related to the following scenario. Army and Marine Corps documents looking at future military needs for expeditionary warfare forecast a requirement for a Super Heavy Lift VTOL class of aircraft of at least twice the heavy lift capability of present CH-47 and CH-53E helicopters. The aircraft must be shipboard compatible and capable of meeting seabasing requirements in support of a full spectrum of combat operations. Mission requirements show payloads ranging from 18 to 24 tons are needed with range capability of 600 nautical miles. Airspeeds above 200 knots are desired.

Organizers - E. Roberts Wood, Naval Postgraduate School

Time	Paper No.	Title
3:30 p.m.	2005-01-3149	NASA Heavy Lift Rotorcraft Systems Investigation <i>Wayne Johnson, Gloria Yamauchi, NASA Ames Research Center; Michael E. Watts, Langley Research Center</i>
4:00 p.m.	2005-01-3150 ORAL ONLY	Carter Heliplane-150; an S/VTOL Slowed-Rotor/Compound (SR/C) Super Heavy Lifter for the Air Maneuver & Transport (AMT) <i>Jay Carter, Jr., Rod Anderson, Carter Aviation Technologies</i>
4:30 p.m.	2005-01-3151 ORAL ONLY	A Super Heavy Lift Rotorcraft To Meet Future Seabasing Requirements <i>E. Roberts Wood, Naval Postgraduate School</i>

Tuesday October, 4**Advanced Rotorcraft Concepts****Session Code: IPLC01A****Room Dallas 4****Session Time: 1:30 p.m.**

This session will cover numerous aspects of advanced rotorcraft concepts. These include papers from academia and industry on conceptual development, design, modeling, airframe components, and entire air vehicles. The session will include topics leading to advancing technologies in rotorcraft, innovative approaches and technologies, and increased performance and mission capabilities.

Organizers - Andrew Keith, Sikorsky Aircraft Corp.

Time	Paper No.	Title
1:30 p.m.	2005-01-3146 ORAL ONLY	Parametric Investigation of Mono Tiltrotor (MTR) Wing & Tail Actuation <i>Doug Baldwin, Baldwin Technology Company</i>
2:00 p.m.	ORAL ONLY	V/STOL Aircraft with Ducted Fans of Optimum Bypass Ratio <i>S. Paul Dev, D-Star Engineering</i>
2:30 p.m.	2005-01-3148	Aircraft Airfoil Assembly and Method <i>Russell G. Solheim, Solheim Engineering</i>

Tuesday October, 4

Enabling Technologies for Future Concepts - Part 1

Session Code: IPLC09A

Room Dallas 4

Session Time: 3:30 p.m.

This session will present innovative new ideas in vertical flight. Papers from industry and academia will discuss the possibilities of future V/STOL aircraft and the underpinning technologies. Breakthrough capabilities as presented here could transform the future of vertical flight, while other capabilities may be within our grasp for implementation on current vehicles.

Organizers - Brian Mishoe, US Army

Time	Paper No.	Title
3:30 p.m.	2005-01-3153	Unsteady Fuselage Loads on Rotorcraft in Ground Effect <i>Balakrishnan Ganesh, Narayanan M. Komerath, Georgia Institute of Technology</i>
4:00 p.m.	ORAL ONLY	Turbine Engine Performance Tracking for Diagnostics / Prognostics <i>Kiyoung Chung, GE Company</i>
4:30 p.m.	ORAL ONLY	The Evolution and Future of Composite Airframes <i>Bruce Kay, Sikorsky Aircraft Corporation</i>

Wednesday October, 5

ESTOL3 - Integrated High- Lift Systems

Session Code: IPLC07

Room Dallas 1

Session Time: 8:00 a.m.

This session will provide an overview of the NASA research into integrated high-lift systems that could be applied to either a civil or military ESTOL transport.

Organizers - John Zuk, NASA Ames Research Center

Time	Paper No.	Title
8:00 a.m.	2005-01-3154 ORAL ONLY	Active Flow Control on a Powered-Lift Configuration <i>Susan Gorton, NASA Langley Research Center</i>
8:30 a.m.	2005-01-3155 ORAL ONLY	Recent Accomplishments in Flow Control at NASA Langley Research Center <i>Anthony Washburn, NASA Langley Research Center</i>

9:00 a.m.	2005-01-3157	Benefits and Limitations of Pulsed Circulation Control ORAL ONLY	<i>Gregory S Jones, NASA Langley Research Center</i>
9:30 a.m.	2005-01-3156	Optimized High-Lift Research for Flight Reynolds Numbers ORAL ONLY	<i>Richard A Wahls, NASA Langley Research Center</i>

Wednesday October, 5

ESTOL4 - Operations

Session Code: IPLC21

Room Dallas 1

Session Time: 1:30 p.m.

This session will address issues concerning the operation of ESTOL aircraft in the terminal area of major airport hubs coincidentally with existing traffic using the primary runways. Using the low speed maneuverability of an ESTOL vehicle, operations can be developed that will reduce the ground acoustic footprint while enabling simultaneous non-interfering operations with conventional traffic, thus increasing through-put and/or reducing delays.

Organizers - Douglas A. Wardwell, NASA Ames Research Center

Time	Paper No.	Title	
1:30 p.m.	ORAL ONLY	The C-17 Flight Test Demonstration of Noise Mitigating Smart Terminal Area	<i>Craig Hange, Douglas A. Wardwell, Tim Naumowicz, NASA Ames Research Center</i>
2:00 p.m.	2005-01-3169	Simultaneous Non Interfering (SNI) Operations, FAA Research, Development, and Implementation Efforts	<i>Michael Hilbert, Advanced Management Technology Inc.</i>
2:30 p.m.	2005-01-3170	CATS: A Graphical Tool for SNI Trajectory Design ORAL ONLY	<i>Jason Tardy, Centra Technology Inc.</i>

Wednesday October, 5

ESTOL5 - Concept Studies

Session Code: IPLC28

Room Dallas 1

Session Time: 3:30 p.m.

This session will explore some ESTOL concept studies within NASA and Universities for both civil and military applications. The results of recent and historical test and experimentation will also be discussed.

Organizers - Douglas A. Wardwell, NASA Ames Research Center

Time	Paper No.	Title	
3:30 p.m.	2005-01-3176	Practical Applications of an Innovative Aeronautical Engineering Design Course Sequence at California Polytechnic State University/San Luis Obispo ORAL ONLY	<i>David W. Hall, California Polytechnic State Univ.</i>
4:00 p.m.	2005-01-3177	Executive Summary of Cal Poly/NASA Extreme Short Takeoff and Landing (ESTOL) Work	<i>James Richard Young; David W. Hall, California Polytechnic State Univ.</i>

- 4:30 p.m. **2005-01-3178** — **A Comparison of Flight Test Results from the QSRA and ASKA Demonstrator Programs**
ORAL ONLY
David W. Hall, California Polytechnic State Univ.
- 5:00 p.m. **2005-01-3179** — **Conceptual Design of a Next-Generation ESTOL Battlefield Tactical Transport**
ORAL ONLY
David W. Hall, California Polytechnic State Univ.

Wednesday October, 5

Powered-Lift Testing

Session Code: IPLC20

Room Dallas 2

Session Time: 8:00 a.m.

Papers recent accomplishments in all areas of Powered Lift Testing.

Organizers - Pete Palmer, BAE Systems

Time	Paper No.	Title
8:00 a.m.	2005-01-3158	State of the Art in Sub-scale STOVL Hot Gas Ingestion Wind Tunnel Test Techniques <i>Richard Cook, Peter Curtis, Peter Fenton, BAE Systems</i>
8:30 a.m.	2005-01-3159	The Design, Development and Testing of a Turbine Powered Simulator for Hot Gas Ingestion Testing <i>Peter Curtis, BAE Systems; Liping Xu, Cambridge University</i>
9:00 a.m.	2005-01-3160 — ORAL ONLY	A Comparison of Small-Scale Test and Flight Test Measured Hot Gas Ingestion Characteristics for the X-32B and X-35B Aircraft <i>Kevin M. McCarthy, JSF Program Office</i>
9:30 a.m.	2005-01-3161 — ORAL ONLY	Development and Testing of the JSF Inlet Effects Model <i>Kimball Bradbrook, BAE Systems; Stephen J. Rickman, Bae Systems (Operations) Pete Palmer, BAE SYSTEMS</i>

Wednesday October, 5

Jet-Induced Effects

Session Code: IPLC12

Room Dallas 2

Session Time: 1:30 p.m.

Papers that report and discuss jet effects and their consequent impact on the design, performance, controllability, etc. of powered lift aircraft.

Organizers - Peter Curtis, BAE Systems

Time	Paper No.	Title
1:30 p.m.	2005-01-3171	Experimental and Computational Studies of Unsteady Flow Features of Upwash Fountains from Twin Impinging Jets <i>Russell James Bowdrey, Kevin Knowles, Alistair Saddington, Cranfield University</i>
2:00 p.m.	2005-01-3172 — ORAL ONLY	Highlights of the Lockheed Martin F-35 STOVL Jet Effects Program <i>Richard Hoggarth, BAE Systems; Richard Mange, Lockheed Martin Corp.</i>

2:30 p.m. 2005-01-3173 **The Development and Implementation of a New Surface Erosion Measurement Technique**
Michael P. Efford, Phil Liston-Smith, Bob Tognarelli, BAE Systems

Wednesday October, 5

Modeling & Simulation/IFPC

Session Code: IPLC17

Room Dallas 2

Session Time: 3:30 p.m.

Papers will be presented from Industry, Government, and operators that discuss current VTOL/STOVL Modeling and Simulation efforts as well as past lessons learned. Papers will cover 3-DOF/6-DOF flight simulation, Aerodynamic and Propulsion databasing, on-board modeling, as well as Modeling and Simulation technologies associated with the design, fabrication and maintenance.

Organizers - Richard Mange, Lockheed Martin Corp.

Time	Paper No.	Title
3:30 p.m.	2005-01-3180	Motion-Based Flight Simulator Usage for F-35 Control Law Development <i>Sibille U. Tallant, Lockheed Martin Aeronautics Co.</i>
4:00 p.m.	ORAL ONLY	Unified Control Strategy for the F-35 STOVL Aircraft <i>Paul Dobberstein, Ricky Stanford, Lockheed Martin Aeronautics Co</i>
4:30 p.m.	2005-01-3181 ORAL ONLY	Rotorcraft Trim by a Neural Model-Predictive Auto-Pilot <i>Carlo L. Bottasso, Luca Riviello, Politecnico di Milano</i>
5:00 p.m.	2005-01-3182	Empirical Wake Turbulence Model of Tiltrotor Aircraft <i>Samuel W. Ferguson, Mark Dreier, Bell Helicopter Textron Inc.</i>

Wednesday October, 5

Unmanned Systems

Session Code: IPLC23

Room Dallas 3

Session Time: 8:00 a.m.

This session will explore powered lift Unmanned Aerial Vehicles (UAV) efforts currently underway, with a status update of flight testing and a discussion of potential derivatives.

Organizers - Iris W. Curtis, Centra Technology Inc.

Time	Paper No.	Title
8:00 a.m.	2005-01-3162 ORAL ONLY	X-50A Canard Rotor Wing (CRW) UAV <i>Clark A. Mitchell, Boeing Co</i>
8:30 a.m.	2005-01-3163 ORAL ONLY	CRW Simulation Sensitivity Study <i>Lloyd D. Corliss, NASA Ames Research Center</i>
9:00 a.m.	2005-01-3164 ORAL ONLY	Bell Eagle Eye Tiltrotor UAV <i>Peter D. Klein, Bell Helicopter Textron Inc.</i>
9:30 a.m.	2005-01-3165 ORAL ONLY	Eagle Eye User's Perspective <i>Troy Beshears, Evergreen International Aviation</i>

Wednesday October, 5

History & Lessons Learned

Session Code: IPLC10

Room Dallas 3

Session Time: 1:30 p.m.

Papers will be presented that help enhance the understanding of the technical, programmatic and/or operational history of vertical flight.

Organizers - Tim Naumowicz, NASA Ames Research Center

Time	Paper No.	Title
1:30 p.m.	2005-01-3194 ORAL ONLY	UK STOVL Operations - Experience from the Past, Lessons for the Future <i>Steve George, BAE Systems</i>
2:00 p.m.	2005-01-3195	Improving the Harrier: Projected Developments of the Pioneering V/Stol Combat Aircraft 1957-1990 <i>Michael J. Pryce, Univ. of Sussex; Chris Farara, Brooklands Museum; Michael J. Hill, CENTRA Technology Inc.</i>
2:30 p.m.	2005-01-3196 ORAL ONLY	Yo-Yo Airplanes: A Retrospective on the Ups and Downs of Navy V/STOL <i>Harold Andrews</i>

Wednesday October, 5

Tiltrotors

Session Code: IPLC02

Room Dallas 3

Session Time: 3:30 p.m.

Presentations address recent accomplishments in all areas of the Bell 609 and civil tiltrotorcraft air vehicles, their aerodynamics, propulsion, operational utility, missions/usage/capabilities, dynamics, systems, lessons learned, performance and challenges.

Organizers - Ross Menger, Bell Helicopter Textron Inc.

Time	Paper No.	Title
3:30 p.m.	ORAL ONLY	Managing Dual Site Flight Testing of the Bell Agusta BA609 Tiltrotor <i>Peter Scheidler, Bell Helicopter Textron Inc.</i>
4:00 p.m.	ORAL ONLY	BA609 Certification Program Overview <i>Paul Fochesato, Bell Helicopter Textron Inc.</i>
4:30 p.m.	ORAL ONLY	PreFlight Built in Testing Logic for the BA609 Fly-By-Wire Civil Tiltrotor Aircraft <i>Carlos A. Fenny, Bell Helicopter Textron, Inc.</i>
5:00 p.m.	ORAL ONLY	Small-Scale Investigation of V-22 Aircraft Formation Flight <i>Mark D. Betzina, Ethan A. Romander, NASA Ames Research Center; Mark J. Silva,</i>

Wednesday October, 5

Enabling Technologies for Future Concepts - Part 2

Session Code: IPLC09B

Room Dallas 4

Session Time: 8:00 a.m.

This session will present innovative new ideas in vertical flight. Papers from industry and academia will discuss the possibilities of future V/STOL aircraft and the underpinning technologies. Breakthrough capabilities as presented here could transform the future of vertical flight, while other capabilities may be within our grasp for implementation on current vehicles.

Organizers - Andrew Keith, Sikorsky Aircraft Corp.

Time	Paper No.	Title
8:00 a.m.	2005-01-3166	Development of a Radio-Controlled Ornicopter: A Single Rotor Helicopter without Reaction Torque <i>Monique Heiligers, Rolf Kuiper, Theo van Holten, Stijn van den Bulcke, Delft Univ. of Technology</i>
9:00 a.m.	2005-01-3167 ORAL ONLY	Shrouded Propeller Aerodynamic Performance Modeling <i>Robert Bulaga, Trek Aerospace, Inc.</i>
9:30 a.m.	2005-01-3168	Inclusion of the Rotor Speed Degree of Freedom for Substantial Increases In Advanced Rotorcraft Performance and Safety <i>Daniel P. Schrage, Georgia Institute of Technology</i>

Wednesday October, 5

High Speed Rotorcraft Concepts

Session Code: IPLC01B

Room Dallas 4

Session Time: 1:30 p.m.

This session will cover numerous aspects of advanced rotorcraft concepts. These include papers from academia and industry on conceptual development, design, modeling, airframe components, and entire air vehicles. The session will include topics leading to advancing technologies in rotorcraft, innovative approaches and technologies, and increased performance and mission capabilities.

Organizers - Daniel I. Newman, Boeing Integrated Defense Systems

Time	Paper No.	Title
1:30 p.m.	2005-01-3174 ORAL ONLY	The Tilt Wing is the Thing for the Small Transportation System <i>William F. Chana</i>
2:00 p.m.	ORAL ONLY	V-22 Osprey Tiltrotor Vortex Ring State Boundary Exploration: A Test <i>Cmdr Thomas L. Macdonald, Boeing</i>
2:30 p.m.	ORAL ONLY	The Sikorsky X2 Technology Demonstrator <i>Chris Van Buiten, Sikorsky Aircraft Corp</i>

Wednesday October, 5

Flow Control

Session Code: IPLC08

Room Dallas 4

Session Time: 3:30 p.m.

Papers in this session will focus on performance enhancements for fixed wing and rotary high lift aircraft enabled through the application of various flow control techniques.

Organizers - Matthew Tallent, CENTRA Technology

Chairpersons - Matthew Tallent, CENTRA Technology

Time	Paper No.	Title
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3:30 p.m.	2005-01-3187	Continued Computational Investigation into Circulation Control for the V-22 Osprey Download Reduction <i>Brian O'Hara, Gerald M. Angle, Wade W. Huebsch, West Virginia Univ.; James Sm...</i> <i>Virginia Univ</i>
4:00 p.m.	2005-01-3188	Download Alleviation on a V-22 Model Having a Simple Flap Used In Conjunction With Periodic Excitation, Suction And Blowing <i>M. Schmalzel, I. Wygnanski, The University Of Arizona</i>
4:30 p.m.	2005-01-3189 ORAL ONLY	ADVINT Micro Adaptive Flow Control Enabled High Lift System <i>Hassan Nagib, Illinois Institute of Technology</i>
5:00 p.m.	2005-01-3190 ORAL ONLY	Flow Control to Reduce Tail Size for ESTOL Transports <i>Samuel B. Wilson, AVID LLC</i>

Thursday October, 6

ESTOL6 - Circulation Control and Powered-Lift Concepts and Technologies

Session Code: IPLC27

Room Dallas 1

Session Time: 8:00 a.m.

This session will explore several technologies and concept applications for circulation control and powered-lift related to ESTOL applications.

Organizers - Iris W. Curtis, Centra Technology Inc.

Time	Paper No.	Title
8:00 a.m.	2005-01-3191	Pneumatic Solutions for Extreme STOL Aircraft Critical Technologies <i>Robert J. Englar, Georgia Tech. Research Institute</i>
8:30 a.m.	2005-01-3192	A Propulsion Concept for Circulation Control Wing Technology <i>Trajaen J. Troia, Mark H. Waters, California Polytechnic State University</i>
9:00 a.m.	2005-01-3193	Engineering Solutions for Circulation Control Applications <i>John L. Loth, West Virginia University; Pat Browning, Alejandro Posada, West Virg...</i>
9:30 a.m.	ORAL ONLY	Computational Study of a Fluidic Thrust Vectoring Nozzle Concept Applicable to Supersonic Vehicles <i>Jeffrey Flamm, NASA Langley Research Center</i>

Thursday October, 6

Powered Lift Test Pilot Panel

Session Code: IPLC31

Room Dallas 1

Session Time: 1:30 p.m.

Organizers - Ian A. Maddock, JSF Program Office

Moderators - Jay N. Miller, Niessen Aviation Consulting Services

Panelists - Jon Beesley, Lockheed Martin; LCol Jeff Karnes, Maj Frederick Schenk, US Marine Corps; Graham Tomlinson, British Aerospace

Thursday October, 6

JSF STOVL Technologies

Session Code: IPLC15

Room Dallas 2

Session Time: 8:00 a.m.

This session will examine the specific hardware required to adapt conventional powerplants for the Joint Strike Fighter STOVL lift system.

Organizers - Paul M. Bevilaqua, Lockheed Martin Aeronautics Co.

Time	Paper No.	Title
8:00 a.m.	ORAL ONLY	Overview of JSF Lift System Technologies <i>David Palfreyman, Rolls-Royce Indianapolis</i>
8:30 a.m.	ORAL ONLY	An Innovative Approach to High Power Aircraft Propulsion System Gearbox Design <i>Douglas M Roever, Rolls-Royce Corp</i>
9:00 a.m.	ORAL ONLY	Clutch Development for the Joint Strike Fighter <i>Andrew D Copeland, Rolls-Royce Corp</i>
9:30 a.m.	ORAL ONLY	Demonstrating Automatic Landings with the VAAC (Vectored-Thrust Aircraft Advanced Control) Harrier <i>Jeremy Howitt, QinetiQ</i>

Thursday October, 6

Personal V/STOL Aircraft

Session Code: IPLC29

Room Dallas 3

Session Time: 8:00 a.m.

This session will present the latest innovative concepts from industry on the possibilities for vertical flight aircraft for personal use. Design concepts, and development progress will be presented, as well as future challenges.

Organizers - Mark D. Moore, NASA Langley Research Center

Time	Paper No.	Title
8:00 a.m.	2005-01-3183	Volantor-A Powered Lift Aircraft for Personal Use <i>Paul S. Moller, Moller International</i>
8:30 a.m.	2005-01-3184	The Operational Potential of Manned, Ducted-Fan VTOL Vehicles <i>Rafi Yoeli, Urban Aeronautics, Ltd.</i>
9:00 a.m.	2005-01-3185	Springtail EFV / Dragonfly UMR <i>Robert Bulaga, Trek Aerospace, Inc.</i>
9:30 a.m.	2005-01-3186	Ducted Fan Efficiency and Noise <i>Robert Bulaga, Trek Aerospace, Inc.</i>

Thursday October, 6

Micro UAVs

Session Code: IPLC16

Room Dallas 4

Session Time: 8:00 a.m.

Papers from research groups on all aspects of potential V/STOL micro UAVs.

Organizers - Kevin Knowles, Alistair Saddington, Cranfield Univ.

Time	Paper No.	Title
8:00 a.m.	2005-01-3199	Some Non-linear Aerodynamics Relevant to Flapping-wing MAVs <i>Peter Wilkins, Kevin Knowles, Rafal Zbikowski, Cranfield University</i>
8:30 a.m.	2005-01-3198	Wake Structure Diagnostics of a Flapping Wing MAV <i>Manikandan Ramasamy, J. Gordon Leishman, Beerinder Singh, University of Maryl</i>
9:00 a.m.	2005-01-3197	Design Guidelines for Flapping-Wing-Micro UAVs <i>Salman A. Ansari, Kevin Knowles, Rafal Zbikowski, Cranfield University</i>
9:30 a.m.	ORAL ONLY	Lightweight Flight Control, Morphing, Visual Stealth: New Adaptive Technologies Enhancing Micro Aerial Vehicles <i>Ronald M. Barrett, The University of Kansas</i>