

AeroTech Congress & Exhibition

Technical Session Schedule

As of 10/09/2005 07:41 pm

Tuesday October, 4

Emerging New Commercial Transports

Session Code: WAC69

Room Dallas 6

Session Time: 1:30 p.m.

The industry is on the verge of introducing two new commercial transports into service - the Airbus A380 and the Boeing 787. These aircraft incorporate the latest in emerging operational technologies and promise improved performance, safety, passenger appeal and comfort. This session will provide an overview of the features of these two aircraft.

Organizers - H. Robert Welge, Boeing Integrated Defense Systems

Chairpersons - H. Robert Welge, Boeing Integrated Defense Systems

Time	Paper No.	Title
1:30 p.m.	ORAL ONLY	A380 & A350 Features <i>Philippe Jarry, Airbus</i>
2:00 p.m.	ORAL ONLY	Creating the Future of Flight with the 787 <i>Edward P. Petkus, The Boeing Co.</i>

Planned by Commercial Transport Aircraft Committee / Aerospace Vehicle Activity

Tuesday October, 4

Perspective Flight Guidance

Session Code: WAC22

Room Dallas 6

Session Time: 3:30 p.m.

Human behavioral engineering technology issues associated with development and implementation of two-dimensional and three-dimensional perspective guidance displays

Organizers - Robert Ryan Wilkins, Jr., Boeing Co.

Chairpersons - Robert Ryan Wilkins, Jr., Boeing Co.

Time	Paper No.	Title
3:30 p.m.	ORAL ONLY	Using Small Business Initiatives to Support Aircraft/Ship Visual Landing Aids Testing <i>Dean Carico, Charles Slade, Naval Air Systems Command</i>
4:00 p.m.	ORAL ONLY	787 Flight Deck Display Design <i>Jean M. Crane, John Wiedemann, Boeing Commercial Airplanes</i>

Planned by Human Behavioral Technology Committee / Aerospace Technologies Activity

Tuesday October, 4

Aerodynamics

Session Code: WAC08

Room Texas 1

Session Time: 1:30 p.m.

Presentations will focus on aerodynamics, including experimental methods and computational fluid dynamics.

Organizers - George Howell, Lockheed Martin Aeronautics Co.; Robert A. Stuever, Boeing Integrated Defense Systems

Time	Paper No.	Title
1:30 p.m.	2005-01-3358	Aerodynamics in the Future <i>David Nixon</i>
2:00 p.m.	2005-01-3360	Feasibility of Modeling Wake Vortices in Ground Effect in a Water Tunnel <i>Kamran Rokhsaz, Linda K. Kliment, Wichita State Univ.</i>
2:30 p.m.	2005-01-3359	Relationship of Wing Drag to Entropy Production <i>David Nixon</i>
3:00 p.m.	ORAL ONLY	How Flies the Albatross - The Flight Mechanics of Dynamic Soaring: 2005 update <i>Phil Barnes, Northrop Grumman Corp</i>

Planned by Aerodynamics Committee / Aerospace Technologies Activity

Tuesday October, 4

Aircraft Icing

Session Code: WAC05

Room Texas 1

Session Time: 3:30 p.m.

Presentations will focus on aircraft icing, ice protection systems and cloud instrumentation.

Organizers - Reuben M. Chandrasekharan, Bombardier Learjet; Michael Papadakis, Wichita State Univ.

Time	Paper No.	Title
3:30 p.m.	2005-01-3375	Mechanisms for Downstream Ice Growth <i>Egemen Ogretim, Wade W. Huebsch, West Virginia Univ.; Jim C. Narramore, Bob M. Helicopter Textron, Inc.</i>
4:00 p.m.	2005-01-3376 ORAL ONLY	Parametric Investigation of a Bleed-Air Ice Protection System <i>Michael Papadakis, See Ho Wong, Wichita State Univ.</i>
4:30 p.m.	2005-01-3377	A Prototype Probe for Direct Measurement of the LWC in SLD Clouds <i>Chiong S. Tan, Michael Papadakis, Wichita State Univ.</i>
5:00 p.m.	2005-01-3378 ORAL ONLY	Simulation of Ice Shedding from Aircraft Surfaces <i>Michael Papadakis, Hsiung-Wei Yeong, Ian G. Soares, Joel Jacob, Wichita State Univ.</i>

Planned by Aerodynamics Committee / Aerospace Technologies Activity

Tuesday October, 4

Control and Guidance Systems - Part 1 of 2

Session Code: WAC21A

Room Texas 2

Session Time: 1:30 p.m.

Control and Guidance Systems - Optimization, Estimation, and Sensors

Organizers - David S. Bodden, Lockheed Martin Aeronautics Co.

Time	Paper No.	Title
1:30 p.m.	ORAL ONLY	A Navigation System for Autonomous Aerial Refueling <i>John Valasek, John L. Junkins, Texas A&M Univ.</i>
2:00 p.m.	2005-01-3362	A Simple Analytical Redundancy Method for Pitch and Bank Angles Estimation <i>Grzegorz Kopecki, Andrzej Tomczyk, Rzeszow University of Technology</i>
2:30 p.m.	2005-01-3364	GPS-aided INS Solution with Photogrammetry Validation <i>Michael R. Molt, Dale E. Schinstock, Robert Caplinger, Kansas State Univ.</i>

Planned by Control and Guidance Systems Committee / Aerospace Systems Activity

Tuesday October, 4

Control and Guidance Systems - Part 2 of 2

Session Code: WAC21B

Room Texas 2

Session Time: 3:30 p.m.

Control and Guidance Systems - Air and Surface Vehicle Control

Organizers - David S. Bodden, Lockheed Martin Aeronautics Co.

Time	Paper No.	Title
3:30 p.m.	ORAL ONLY	Control Design for the MULE Extreme Terrain Vehicle <i>William Griffin, Lockheed Martin Missiles & Fire Control</i>
4:00 p.m.	2005-01-3379	Missile Control System Design and Specification for a Long-Range Supersonic Cruise Missile <i>Jeffrey K. Hostetler, Lockheed Martin Aeronautics Co.</i>
4:30 p.m.	ORAL ONLY	Station Keeping Control of the High Altitude Airship <i>Thomas T. Myers, Systems Technology Inc.</i>

Planned by Control and Guidance Systems Committee / Aerospace Systems Activity

Tuesday October, 4

Adaptive Control and Model-based Risk Assessment

Session Code: WAC42

Room Texas 4

Session Time: 8:00 a.m.

Adaptive control systems for aircraft, and aviation risk assessment modeling.

Organizers - Michael Hadjimichael, US Naval Research Laboratory; Luis Rabelo, Univ. of Central Florida

Time	Paper No.	Title
8:00 a.m.	2005-01-3355	Adaptive Autopilot System for Small Fixed Wing UAVs <i>Steve Rogers, Scott Davis, Steve Yokum, Lane Liabraaten, Institute for Scientific Research</i>
8:30 a.m.	ORAL ONLY	Adaptive Control Law Development for Failure Compensation Using Neural Networks on a NASA F-15 Aircraft <i>John Joseph Burken, NASA Dryden Flight Research Center</i>

9:00 a.m.	2005-01-3356	Model-Based Reasoning for Aviation Safety Risk Assessments <i>James T. Luxhoj, Rutgers University</i>
9:30 a.m.	2005-01-3357	Development of a Fuzzy Expert System for Aviation Risk Modelling <i>Michael Hadjimichael, US Naval Research Laboratory; John McCarthy, Aviation We Associates</i>

Planned by Information Sciences Committee / Aerospace Technologies Activity

Tuesday October, 4

Business Intelligence

Session Code: WAC27

Room Texas 4

Session Time: 1:30 p.m.

This session addresses business intelligence, real-time architectures, and knowledge acquisition in aerospace technologies.

Organizers - Jorge Bardina, Deepak Kulkarni, NASA Ames Research Center

Time	Paper No.	Title
1:30 p.m.	2005-01-3365 ORAL ONLY	Intelligent Real-Time Enterprise Architecture for Transformational Spaceport and Range <i>Jorge Bardina, NASA Ames Research Center; Rajkumar Thirumalainambi, SAIC</i>
2:00 p.m.	2005-01-3366 ORAL ONLY	International Intellectual Property Rights for Aerospace Technologies: A Global Roadmap <i>William N. Hulseley III, HULSEY Intellectual Property Lawyers, P.C.</i>
2:30 p.m.	2005-01-3367	Decision Facilitator for Launch Operations Using Intelligent Agents <i>Rajkumar Thirumalainambi, SAIC; Jorge Bardina, NASA Ames Research Center</i>
3:00 p.m.	2005-01-3368	On the Development of a Comprehensive Hazard Modeling Tool through Distributed Simulation: Learning from the Columbia Space Shuttle Accident <i>Serge N. Sala-Diakanda, Luis Rabelo, José A. Sepúlveda, Univ. of Central Florida</i>

Planned by Information Sciences Committee / Aerospace Technologies Activity

Tuesday October, 4

Neural Networks and Genetic Algorithms

Session Code: WAC45

Room Texas 4

Session Time: 3:30 p.m.

The papers in this session address data mining techniques, neural networks and genetic algorithm approach for optimization in aerospace domain.

Organizers - Rajkumar Thirumalainambi, SAIC NASA GRC; Upender Kaul, NASA Ames Research Center

Time	Paper No.	Title
3:30 p.m.	ORAL ONLY	Flight Test Implementation of a Second Generation Intelligent Flight Control System <i>Peggy S. Williams-Hayes, NASA Dryden Flight Research Center</i>

4:00 p.m.	2005-01-3381	Intentional Navigation and Phase Transition Analysis in Amygdala of KIV Model <i>Ming Chuen (Derek) Wong, Mark Myers, Robert Kozma, R. Murat Demirer, Univ. of</i>
4:30 p.m.	2005-01-3382	Limit Cycle Oscillations in Random Cellular Automata <i>Marko Puljic, Ming Chuen (Derek) Wong, Univ. of Memphis</i>
5:00 p.m.	2005-01-3383	Navigation in a Challenging Martian Environment Using Data Mining Techniques <i>Ming Chuen (Derek) Wong, King-IP (David) Lin, Univ. of Memphis; Rajkumar Thirumalainambi, SAIC NASA GRC</i>

Planned by Information Sciences Committee / Aerospace Technologies Activity

Tuesday October, 4

Machine Learning for Vehicle Health Monitoring

Session Code: WAC67

Room Texas 5

Session Time: 1:30 p.m.

Presentations in this session will focus on machine learning aspects of (1) structural health monitoring of gears such as those as used in control surface operation on air vehicles and of (2) propulsion health monitoring of rocket engines.

Organizers - Upender Kaul, Nikunj Oza, NASA Ames Research Center; Rajkumar Thirumalainambi, SAIC NASA GRC

Chairpersons - Nikunj Chandrakant Oza, NASA Ames Research Center

Time	Paper No.	Title
1:30 p.m.	2005-01-3369 ORAL ONLY	Machine Learning for Fault Detection in a Rotating Gear <i>Nikunj Chandrakant Oza, Upender K. Kaul, NASA Ames Research Center</i>
2:00 p.m.	2005-01-3370	Machine Learning for Rocket Propulsion Health Monitoring <i>Mark Schwabacher, NASA Ames Research Center</i>
2:30 p.m.	ORAL ONLY	Neural Network Analysis of Non-Destructive Inspections of Space Vehicles <i>Rajkumar Thirumalainambi, SAIC NASA GRC; Jorge Bardina, NASA Ames Research Center</i>
3:00 p.m.	2005-01-3371	Machine Learning for Detecting and Locating Damage in a Rotating Gear <i>Upender K. Kaul, Nikunj Chandrakant Oza, NASA Ames Research Center</i>

Planned by Information Sciences Committee / Aerospace Technologies Activity

Tuesday October, 4

Modeling and Simulation of Aerospace Operations

Session Code: WAC43

Room Texas 5

Session Time: 3:30 p.m.

This session addresses air traffic, systems, test bed architectures and human factors in aerospace operations.

Organizers - Jorge Bardina, NASA Ames Research Center

Time	Paper No.	Title
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3:30 p.m.	2005-01-3384	Air and Ground Simulation of Terminal-Area Traffic Management with Airborne Spacing <i>Todd J. Callantine, Paul U. Lee, Joey Mercer, Thomas Prevot, San Jose State Univ Ames Research Center; Everett Palmer, NASA Ames Research Center</i>
4:00 p.m.	2005-01-3385	Implementation of HIL Testing Systems for Aerospace ECUs <i>Jace L. Allen, dSPACE, Inc.</i>
4:30 p.m.	2005-01-3386	Spaceport Simulation Models Integration <i>Mario F. Marín, Luis Rabelo, José A. Sepúlveda, Univ. of Central Florida</i>
5:00 p.m.	2005-01-3387	Estimating the Effects of Crew Number and Crew Fatigue on the Control of Tactical Unmanned Aerial Vehicle (TUAWS) <i>Brett Walters, Micro Analysis & Design Inc.; Jon French, Embry Riddle Aeronautical</i>

Planned by Information Sciences Committee / Aerospace Technologies Activity

Tuesday October, 4

Aircraft Power Plant and Propulsion Technology - Part 1 of 3

Session Code: WAC63A

Room Texas 6

Session Time: 1:30 p.m.

Airline Passengers demand reliable timely service, in-flight comfort, speed and economy with choices for point-to-point service with minimum changeovers. Continued technological improvements in the design and performance of aircraft propulsion systems provide major contributions to accomplish this goal. This session will address the theoretical as well as practical technological advancements applicable to the aircraft engines as well as auxiliary power units.

Organizers - Jack W. Mauldin, Sanford C. Fleishman, Boeing Aerospace Co.

Chairpersons - Sham S. Hariram, Darsh Aggarwal, Peter C. Iyer, Boeing Co.; Jay M. Kim, Boeing Commercial Aircraft Div.; Jack W. Mauldin, Felix Mora, Boeing Aerospace Co.; Ram C. Madan, Northrop Grumman Corp.

Time	Paper No.	Title
1:30 p.m.	2005-01-3373 ORAL ONLY	Effects of Excessive Hot Exhaust Leakage on Auxiliary Power Unit Performance and Reliability <i>Sanford Fleishman, The Boeing Co.</i>
2:00 p.m.	2005-01-3374	A Propulsion Device for Spacecraft <i>Joseph Matthew Brady, Bradyne Co.</i>

Planned by Commercial Transport Aircraft Committee / Aerospace Vehicle Activity

Tuesday October, 4

Aircraft Power Plant and Propulsion Technology - Part 2 of 3

Session Code: WAC63B

Room Texas 6

Session Time: 3:30 p.m.

Airline Passengers demand reliable timely service, in-flight comfort, speed and economy with choices for point-to-point service with minimum changeovers. Continued technological improvements in the design and performance of aircraft propulsion systems provide major contributions to accomplish this goal. This session will address the theoretical as well as practical technological advancements applicable to the aircraft engines as well as auxiliary power units.

Organizers - Jack W. Mauldin, Sanford C. Fleishman, Boeing Aerospace Co.

Chairpersons - Sham S. Hariram, Darsh Aggarwal, Boeing Co.; Sanford C. Fleishman, Boeing Aerospace Co.; Peter C. Iyer, Boeing Co.; Jay M. Kim, Boeing Commercial Aircraft Div.; Jack W. Mauldin, Felix

Mora, Boeing Aerospace Co.; Ram C. Madan, Northrop Grumman Corp.

Time	Paper No.	Title
3:30 p.m.	2005-01-3388	Design of D-B Injectors for Increasing Propulsive Force in Jets <i>Fathollah Ommi, Mostafa Hossinalipour, Ehsan Movahednejad, Tarbiat Modarres U</i>
4:00 p.m.	2005-01-3389	Reliability of the Engine Electronic Controls and a Novel Approach to Improve Service Life <i>Sharanpal (Paul) S. Sikand, Sham S. Hariram, Jayant (Jay) Patel, Boeing Airplane</i>
4:30 p.m.	2005-01-3390	Systems Software Safety Assessment Process for Certification of Commercial and Military Aircraft <i>Rohit P. Sheth, Boeing Integrated Defense Systems</i>

Planned by Commercial Transport Aircraft Committee / Aerospace Vehicle Activity

Wednesday October, 5

Aerodynamics Design

Session Code: WAC03

Room Texas 1

Session Time: 8:00 a.m.

This session addresses aerodynamics-related challenges in the design of aircraft or aircraft components, including the structural and mechanical integration of variable geometry aerodynamic devices.

Organizers - Steven Xaver Sigolt Bauer, NASA Langley Research Center; Chester P. Nelson, Boeing Commercial Airplanes

Time	Paper No.	Title
8:00 a.m.	2005-01-3391	Development and Testing of a Wing Morphing Mechanism for the Control of a Swept Wing Tailless Aircraft <i>Richard William Guiler, Wade W. Huebsch, West Virginia Univ.</i>
8:30 a.m.	2005-01-3392	Design and Flight Testing of Inflatable Wings with Wing Warping <i>Jamey D. Jacob, Andrew Simpson, Suzanne Smith, Univ. of Kentucky</i>
9:00 a.m.	2005-01-3393	Technology Assessment of a Supersonic Business Jet <i>Jeffrey S. Schutte, Dimitri Mavris, Michelle Kirby, Georgia Institute of Technology</i>
9:30 a.m.	ORAL ONLY	Aerodynamic Design of the Boeing 787 <i>Chester P. Nelson, Boeing Commercial Airplanes</i>

Planned by Aerodynamics Committee / Aerospace Technologies Activity

Wednesday October, 5

Vibration and Noise Control - Part 1 of 2

Session Code: WAC01A

Room Texas 1

Session Time: 1:30 p.m.

Presentations will focus on noise & vibration analysis and control methods, covering both active and passive approaches.

Organizers - Thomas L. Lagö, Acticut International AB; Bill Flynn, LMS North America

Time	Paper No.	Title
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1:30 p.m.	2005-01-3402	Analog versus Digital Control of Boring Bar Vibration <i>Henrik Akesson, Tatiana Smirnova, Lars Hakansson, Ingvar Claesson, Blekinge Institute of Technology; Thomas Lagö, Acticut International AB</i>
2:00 p.m.	2005-01-3403 ORAL ONLY	Flutter Predictions from Ground Vibration Test Results - The Mission M212 Case <i>Bill Flynn, LMS North America; Bart Peeters, Herman D. Van der Auweraer, LMS International; Peter De Baets, Georgia Institute of Technology; Filip Lambert, Lambert Aircraft Engineering</i>
2:30 p.m.	2005-01-3404	Model-Based Synthesis of Noise in Aircrafts <i>Bill Flynn, LMS North America; Koenraad G. F. Janssens, Patrick Van de Ponsele, Vecchio, Herman D. Van der Auweraer, LMS International</i>

Planned by Acoustics, Dynamics, and Vibration Committee / Aerospace Technologies Activity

Wednesday October, 5

Vibration and Noise Control - Part 2 of 2

Session Code: WAC01B

Room Texas 1

Session Time: 3:30 p.m.

Presentations will focus on noise & vibration analysis and control methods, covering both active and passive approaches.

Organizers - Thomas L. Lagö, Acticut International AB; Bill Flynn, LMS North America

Time	Paper No.	Title
3:30 p.m.	2005-01-3414	Disturbance Accommodation Combined with Moving Average Filter for Aero-Elastic Filter Design <i>Steve Rogers, Institute for Scientific Research Inc.</i>
4:00 p.m.	2005-01-3415	Actual Accuracy in Flight Data Collection and Analysis <i>Anders H. Brandt, Axiom Edu Tech Inc.; Thomas L. Lagö, Acticut International AB</i>
4:30 p.m.	2005-01-3416	Smoothing Runway Travel to Improve Safety and Lower Maintenance Costs: A New Type of Aircraft Landing Gear Promises Safer and More Comfortable Travel <i>Koji Yoshioka, Sus21 America Inc.; Akira Sone, Arata Masuda, Hiroya Yamashita, Institute of Technology</i>

Planned by Acoustics, Dynamics, and Vibration Committee / Aerospace Technologies Activity

Wednesday October, 5

Realistic Training

Session Code: WAC65

Room Texas 3

Session Time: 8:00 a.m.

Organizers - James Ward, Air Line Pilots Association / Comair

Time	Paper No.	Title
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8:00 a.m.	ORAL ONLY	Runway Incursion: Training Pilots to Use, Evaluate and Benefit from Innovative Technology to Reduce Runway Incursions <i>Ron Nichol, Federal Aviation Administration; Maria Picardi Kuffner, James Eggert, M Lab; Peter V Hwoschinsky, Federal Aviation Administration</i>
8:30 a.m.	ORAL ONLY	Crew Fitness: training pilots to use, evaluate and benefit from fatigue data, breathing data, and related physiology concepts and analyses <i>Maria Karavidas, Paul Lehrer, UMDNJ - RW Johnson Medical School; Archie E. Dillon, Federal Aviation Administration</i>
9:00 a.m.	ORAL ONLY	Air Traffic Awareness and Collision Avoidance: training pilots to use, evaluate and benefit from TCAS II/ACAS <i>James Ward, Air Line Pilots Association</i>
9:30 a.m.	ORAL ONLY	PANEL - Training Issues and Solutions: past, current and future <i>Ron Nichol, Federal Aviation Administration; Maria Karavidas, UMDNJ; James Ward, Air Line Pilots Association</i>

Planned by G-10 Aerospace Behavioral Engrg Technology / Aerospace General Projects Division

Wednesday October, 5

Unmanned Aircraft

Session Code: WAC66

Room Texas 3

Session Time: 1:30 p.m.

Human behavioral engineering technology issues associated with development and implementation of two-dimensional and three-dimensional perspective guidance displays.

Organizers - Robert Ryan Wilkins, Boeing Co.

Time	Paper No.	Title
1:30 p.m.	2005-01-3417	Human Factors Issues with UA Operations: A USAF Perspective <i>James M. Hitt, Booz Allen Hamilton Inc.; Jennifer Uptmor, USAF Flight Standards Agency</i>
2:00 p.m.	ORAL ONLY	Work/Rest Considerations for Maintaining UAV Operator Performance <i>Stephen M. Popkin, Heidi D. Howarth, Tara DiDomenico, Jennie Holtorf, Volpe National Transportation Systems Center</i>
2:30 p.m.	ORAL ONLY	Validation of Lift and Thrust Characteristics of Flapping Wing for Micro-Air Vehicle <i>A. Muniappan, R. Saravanan, S. Elangovan, R. Dhanaraj, MIT Anna University, Chennai</i>

Planned by Human Behavioral Technology Committee / Aerospace Technologies Activity

Wednesday October, 5

Autonomy for Aerospace Systems

Session Code: WAC26

Room Texas 4

Session Time: 8:00 a.m.

This session will present aerospace control system concepts that use autonomous technology to provide increased performance, reliability, survivability and safety of air vehicles.

Organizers - James M. Urnes, Boeing Aircraft Co.

Time	Paper No.	Title
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8:00 a.m.	ORAL ONLY	A Loss-of-control Prevention System (LPS) for F/A-18 Aircraft <i>Jovan D. Boskovic, Raman K. Mehra, Scientific Systems Inc.; James M. Urnes, Boeing Co.</i>
8:30 a.m.	ORAL ONLY	Automatic Ground and Obstacle Collision Avoidance <i>Larry A. Moody, David Halaas, Boeing Phantom Works; Eddie Norris, NASA</i>
9:00 a.m.	ORAL ONLY	Flight Testing of the Active Aeroelastic Wing Aircraft <i>Ronald K. Hess, The Boeing Co.</i>
9:30 a.m.	ORAL ONLY	F/A-18 Flight Testing of Retrofit Reconfigurable Flight Controls for In-Service Aircraft <i>Jeffrey F. Monaco, Barron Associates; Anthony B. Page, Naval Air Warfare Center; Hood, Boeing Co.</i>

Planned by Information Sciences Committee / Aerospace Technologies Activity

Wednesday October, 5

Robotics/Planning/Scheduling

Session Code: WAC47

Room Texas 4

Session Time: 1:30 p.m.

This session presents the robotic and microsatellite technologies available for space missions.

Organizers - Jorge Bardina, NASA Ames Research Center; Luis Rabelo, Univ. of Central Florida

Time	Paper No.	Title
1:30 p.m.	2005-01-3405	Micro-Flying Robotics in Space Missions <i>Jorge Bardina, NASA Ames Research Center; Rajkumar Thirumalainambi, SAIC NASA</i>
2:00 p.m.	ORAL ONLY	New Trends in DSP & Microcontrollers Applied to Avionics / Spacecraft Robotics <i>Kiriti Rambhatla, Univ. of Ottawa</i>
2:30 p.m.	2005-01-3406	Engineering a Space Based Construction Robot <i>Ravi Vanmali, Brandon M. Tomlinson, Brian Li, Sam S. Wanis, Georgia Institute of Technology</i>
3:00 p.m.	2005-01-3407	Preliminary Design and Vibration Study of Micro-Satellite Structure <i>K. Suresh, K. Jayaraman, MIT, Anna Univ.</i>

Planned by Information Sciences Committee / Aerospace Technologies Activity

Wednesday October, 5

Vehicle Components Analysis and Applications

Session Code: WAC36

Room Texas 4

Session Time: 3:30 p.m.

This session will focus on various aspects of vehicle sub-systems and equipment reliability, design, and operations for current and future applications.

Organizers - Michelle Kirby, Georgia Institute of Technology

Time	Paper No.	Title
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3:30 p.m.	2005-01-3394	Electromagnetic Compliance Issues of Project Oculus <i>Franz A. Pertl, Jay P. Wilhelm, Roy S. Nutter, Andrew Lowery, James E. Smith, West Virginia Univ.</i>
4:00 p.m.	2005-01-3395	Development of a Remote Sensor Deployment System for Expanded C4ISR Use of the C-130 Aircraft <i>Emily D. Pertl, Jeffrey R. X. Auld, James Smith, West Virginia Univ.</i>
4:30 p.m.	2005-01-3396	Low Weight, Highly Reliable Anti-Jamming Device for Electromechanical Actuators <i>Lennart Stridsberg, Stridsberg Powertrain</i>
5:00 p.m.	2005-01-3397	New Topology for Redundant Motor Control Processors Eliminates the Large Overhead Normally Required to Handle Potential Conflicts Between Processors <i>Lennart Stridsberg, Stridsberg Powertrain</i>

Planned by Information Sciences Committee / Aerospace Technologies Activity

Wednesday October, 5

Shared Situation Awareness

Session Code: WAC37

Room Texas 5

Session Time: 1:30 p.m.

Papers will address development of globally compatible information sharing capabilities to provide on-demand, real-time knowledge for the users of the air transportation system.

Organizers - Deepak Kulkarni, Jorge Bardina, NASA Ames Research Center

Time	Paper No.	Title
1:30 p.m.	ORAL ONLY	Aviation Security Information Sharing and Integration <i>Yao Wang, NASA Ames Research Center</i>
2:00 p.m.	2005-01-3408 ORAL ONLY	Aviation Data Integration System: Lessons Learned <i>Deepak Kulkarni, NASA Ames Research Center</i>
3:00 p.m.	2005-01-3410 ORAL ONLY	Automate HIL Calibration to Reduce Integration Cost and Improve Repeatability <i>Ajit R. Shenoy, Scott C. James, Applied Dynamics International</i>

Planned by Information Sciences Committee / Aerospace Technologies Activity

Wednesday October, 5

Handling Qualities/Stability and Control

Session Code: WAC12

Room Texas 5

Session Time: 3:30 p.m.

Papers presented in this session will discuss various handling qualities/stability and control topics. The discussion will include material on how some form of simulation/mathematical modeling was used evaluate the behavior of an aircraft/system.

Organizers - Jack Terpstra, Cessna Aircraft Co.; Kahtan A. Awni, WPAFB

Time	Paper No.	Title
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3:30 p.m.	2005-01-3418	Phase Compensated Rate Limiters for Alleviation of Pilot-Induced Oscillations Caused by Control Surface Rate Limiting <i>Eric Raymond Kendall, The Boeing Co.</i>
4:00 p.m.	2005-01-3419	Fundamentals of FBW Augmented Manual Control <i>Anthony A. Lambregts, Federal Aviation Administration</i>
4:30 p.m.	2005-01-3420	Response of an Advanced Flight Control System to Microburst Encounters <i>Kamran Rokhsaz, James Edward Steck, B. Singh, Rajeev Chandramohan, Wichita</i>
5:00 p.m.	2005-01-3421	Analysis of Active Flutter Suppression with Leading- and Trailing-Edge Control Surfaces via u-Method <i>Ying Teng, The Boeing Company; Hsin-Piao Chen, California State University at Los Angeles</i>

Planned by Aerodynamics Committee / Aerospace Technologies Activity

Wednesday October, 5

Supersonic Business Jets and Airliners

Session Code: WAC19

Room Texas 6

Session Time: 8:00 a.m.

This session will focus on advanced techniques to design and explore supersonic airframe and engine concepts including an interactive genetic algorithm, the design of a variable cycle engine, and advanced structural concepts.

Organizers - Michelle Kirby, Georgia Institute of Technology

Time	Paper No.	Title
8:00 a.m.	2005-01-3398	Supersonic Business Jet Design and Requirements Exploration Using Multiobjective Interactive Genetic Algorithms <i>Michael Alexander Buonanno, Georgia Institute of Technology</i>
8:30 a.m.	2005-01-3399	Conceptual Design of Current Technology and Advanced Concepts for an Efficient Multi-Mach Aircraft <i>Hernando Jimenez, Dimitri N. Mavris, Georgia Institute of Technology</i>
9:00 a.m.	2005-01-3400	Variable Cycle Optimization for Supersonic Commercial Applications <i>Russell Denney, Jimmy Tai, Brian Kestner, Dimitri N. Mavris, Georgia Institute of Technology</i>

Planned by Aerodynamics Committee / Aerospace Technologies Activity

Wednesday October, 5

Aircraft Power Plant and Propulsion Technology - Part 3 of 3

Session Code: WAC63C

Room Texas 6

Session Time: 1:30 p.m.

Airline Passengers demand reliable timely service, in-flight comfort, speed and economy with choices for point-to-point service with minimum changeovers. Continued technological improvements in the design and performance of aircraft propulsion systems provide major contributions to accomplish this goal. This session will address the theoretical as well as practical technological advancements applicable to the aircraft engines as well as auxiliary power units.

Organizers - David Zornes, HexaBlock Inc.; Brent Theodore, Sharanpal Singh Sikand, Boeing Co.

Chairpersons - Rohit P. Sheth, Boeing Integrated Defense Systems; David Zornes, HexaBlock Inc.; Brent Theodore, Masood Zaidi, Sharanpal Singh Sikand, Boeing Co.

Time	Paper No.	Title
1:30 p.m.	2005-01-3412	Silicon Based Fuels for Space Flight <i>David Padanyi-gulyas, Andre D. Bodo, Nitronics Aerospace Technologies LLC</i>
2:00 p.m.	2005-01-3413	A New Approach for Single Stage Ascent to Orbit Silane Fuel in a New Vehicle Design <i>David Padanyi-gulyas, Andre D. Bodo, Nitronics Aerospace Technologies LLC</i>

Planned by Commercial Transport Aircraft Committee / Aerospace Vehicle Activity

Wednesday October, 5

Personal Transportation

Session Code: WAC59

Room Texas 6

Session Time: 3:30 p.m.

This session will address the future of personal transportation, focusing on innovative CTOL and VTOL roadable airplanes and flying automobiles. Market analysis, required technologies, alternative system configurations, designs under development, prototype hardware, and flight-testing of full size prototypes will be presented.

Organizers - Bruce Harman, Boeing Integrated Defense Systems; Branko Sarh, Boeing Co.

Time	Paper No.	Title
3:30 p.m.	ORAL ONLY	NASA Personal Air Vehicle Sector System Studies <i>Mark D. Moore, NASA Langley Research Center</i>
4:00 p.m.	ORAL ONLY	Magic Dragon Air Car Project <i>Richard A. Strong, Safety Analysis Systems Co.</i>
4:30 p.m.	2005-01-3422	Investigations on Inflatable Ring Wing of a Compact Type Roadable Aircraft <i>Madoka Nakajima, Atsushi Yanagisawa, Hiroshige Kikukawa, Toichi Fukasawa, Karlsruhe Institute of Technology</i>
5:00 p.m.	ORAL ONLY	Skycars on Skyways: A Viable Alternative to Cars on Highways <i>Paul S. Moller, Moller Intl.</i>

Planned by Commercial Transport Aircraft Committee / Aerospace Vehicle Activity

Thursday October, 6

Aircraft Brake and Tire Research - Written Papers (No Presentations)

Session Code: WAC68

Room TBD

Session Time:

Organizers - John A. Tanner, Boeing Commercial Airplanes; Thomas E. Nemcheck, Aircraft Braking Systems Corp.

Time	Paper No.	Title
	2005-01-3436	Adsorption and Desorption Effects on Carbon Brake Material Friction and Wear Characteristics (Written Only -- No Oral Presentation) <i>John A. Tanner, Boeing Commercial Airplanes; Matt Travis, The Boeing Co.</i>

2005-01-3437 Predicting Landing Gear Carbon Brake Vibration and Performance via Subscale Test and Analysis (Written Only -- No Oral Presentation)

Matt Travis, The Boeing Co.

2005-01-3438 Mechanical Properties of Radial-Ply Aircraft Tires (Written Only -- No Oral Presentation)

John A. Tanner, Boeing Commercial Airplanes; Robert Daugherty, Naval Surface Warfare Center; Henry D. Smith, Univ. of Idaho

Planned by A-5 Aerospace Landing Gear Systems Committee / Aircraft Division; Commercial Transport Aircraft Committee / Aerospace Vehicle Activity

Thursday October, 6

Innovative Methods in Design

Session Code: WAC14

Room Texas 1

Session Time: 8:00 a.m.

This session will highlight recent advances in conceptual design methodologies and decision making techniques including probabilistic decision making and market drivers, R&D portfolio planning, and an overview of a collaborative design environment.

Organizers - Michelle Kirby, Georgia Institute of Technology; Paul T. Glessner, XCOR Aerospace

Time	Paper No.	Title
8:00 a.m.	2005-01-3432 ORAL ONLY	An Approach for the Strategic Planning of Future Technology Portfolios <i>Michelle Kirby, Georgia Institute of Technology</i>
8:30 a.m.	2005-01-3433	Program and Design Decisions in an Uncertain and Dynamic Market: Making Engineering Choices Matter <i>Peter Hollingsworth, Holger Pfaender, Dimitri Mavris, Georgia Institute of Technology</i>
9:00 a.m.	2005-01-3434	A Concept Selection Method Developed from a Probabilistic Multi-Criteria Decision Making Technique Using Utility Theory <i>Yongchang Li, Peter Hollingsworth, Dimitri N. Mavris, Georgia Institute of Technology</i>
9:30 a.m.	2005-01-3435	A Collaborative Design Environment to Support Multidisciplinary Conceptual Systems Design <i>Jan Osburg, Dimitri N. Mavris, Georgia Institute of Technology</i>

Planned by Aerodynamics Committee / Aerospace Technologies Activity

Thursday October, 6

Airborne Sensor Platforms

Session Code: WAC52

Room Texas 2

Session Time: 8:00 a.m.

This session will cover technical aspects in the design, testing and implementation of airborne sensor platforms primarily for military aircraft.

Organizers - Wade W. Huebsch, Gregory J. Thompson, West Virginia Univ.

Time	Paper No.	Title
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8:00 a.m.	2005-01-3424	Crash Analysis of a Command and Control System Deployed on the Rear Ramp of a C-130 Aircraft <i>Zenovy S. Wowczuk, Gerald M. Angle, Emily D. Pertl, James E. Smith, West Virginia Univ.</i>
8:30 a.m.	2005-01-3425	Hub Connection Simulation of a Sensor Platform System <i>Kenneth A. Williams, Zenovy S. Wowczuk, Seth D. Lucey, Kenneth H. Means, James E. Smith, West Virginia Univ.</i>
9:00 a.m.	2005-01-3426	Experimental Stress/Strain Analysis of a Standardized Sensor Platform for a C-130 Aircraft <i>Seth D. Lucey, Zenovy S. Wowczuk, Kenneth A. Williams, Eric J. Thompson, Kenneth H. Means, Bruce Kang, James E. Smith, West Virginia Univ.</i>
9:30 a.m.	2005-01-3427	Maintenance Issues and Fail Safes of the Oculus Sensor Platform System <i>John Wesley Hardin, Zenovy S. Wowczuk, Andrew D. Lowery, Jay P. Wilhelm, Frank J. Means, James E. Smith, West Virginia Univ.</i>

Planned by Military Aircraft and Propulsion Committee / Aerospace Vehicle Propulsion Activity

Thursday October, 6

Fire Safety/Material Technology

Session Code: WAC61

Room Texas 6

Session Time: 8:00 a.m.

Recent airplane accidents have brought a lot of attention due to lost lives attributable to uncontrolled fuel tank explosions and aircraft fires. Significant focus has been provided towards technological improvements and systematic methodological approach to audit existing aircraft designs and to enhance safety. This session addresses a variety of related subjects including advancements in fire prevention and containment.

Organizers - Darsh Aggarwal, Boeing Co.; Jay M. Kim, Boeing Commercial Aircraft Div.

Chairpersons - Masood Zaidi, Boeing Co.; Jay M. Kim, Boeing Commercial Aircraft Div.; Ram C. Madan, Boeing Co.; Felix Mora, Boeing Aerospace Co.; Amitabh Vyas, Boeing Commercial Airplanes

Time	Paper No.	Title
8:00 a.m.	2005-01-3428	Fuel Tank Safety on Airplanes <i>Paul Sikand, Sham S. Hariram, Darsh Aggarwal, The Boeing Co.</i>
8:30 a.m.	2005-01-3429	Fire Protection on Airplanes <i>Sham Hariram, The Boeing Co.</i>
9:00 a.m.	2005-01-3430	Integrated Ceramic Composite Firewall <i>David T. Misciagna, The Boeing Co.; Dennis J. Landi, Boeing Helicopters</i>
9:30 a.m.	2005-01-3411 ORAL ONLY	Fire and Explosion in Aircraft Fuel Tanks <i>N. Albert Moussa, Venkat Devarakonda, Darrel Robertson, BlazeTech Corp.</i>

Planned by Commercial Transport Aircraft Committee / Aerospace Vehicle Activity