

Wichita Aviation Technology Congress & Exhibition

Technical Session Schedule

As of 08/25/2008 07:41 pm

Wednesday, August 20

Propulsion

Session Code: WATC2

Room Conference Room 205

Session Time: 8:00 a.m.

New information will be presented pertaining to the primary propulsion system design and performance, the operating environment and related supporting equipment.

Organizers - Joshua David Ebenkamp, Hawker Beechcraft Corporation; H. Robert (Bob) Welge, Robert's Engineering Development

Time	Paper No.	Title
8:00 a.m.	2008-01-2226	Determination of the Operational Environment of the Propeller Blades on Beech 1900D Aircraft <i>Johann Dorfling; Linda Kliment; Kamran Rokhsaz, Wichita State Univ.; Thomas DeFiore, FAA; Cu Nguyen, FAA Technical Center; Jay Turnberg, Federal Aviation Administration</i>
8:30 a.m.	ORAL ONLY	The PhostrEx Fire Suppression System: A Halon Replacement Fire Extinguishing Agent - Qualification and Certification on the Eclipse 500 <i>David Snowdon, Eclipse Aviation</i>
9:00 a.m.	2008-01-2225	Going Green: What's In It For General Aviation? <i>William H. Wentz, Wichita State University; Ahmed Mohamed, Cessna Aircraft Co</i>
9:30 a.m.		BREAK

Wednesday, August 20

Very Light Jets and Light Jets (VLJ, LJ)

Session Code: WATC13

Room Conference Room 205

Session Time: 1:30 p.m.

The Very Light Jets (VLJ) and Light Jets (LJ) session deals with any topic related to this new class of personal jets weighing less than 10,000lbs. This session contains papers on design, manufacturing, flight testing, training and operating VLJ's and LJ's.

Organizers - Willem Anemaat, DARCorporation; Robert B. Barnes, Robert B Barnes Associates

Time	Paper No.	Title
1:30 p.m.	2008-01-2239	Ensuring VLJ Operational Safety: Learning to Ask the Right Questions <i>Robert B. Barnes, Robert B. Barnes Associates</i>
2:00 p.m.	ORAL ONLY	Very Light Jets- The Need for New Training Approaches <i>Robert Alan Wright, Wright Aviation Solutions LLC</i>
2:30 p.m.	ORAL ONLY	Demonstrating and Implementing Next Generation Air Transportation System Technologies <i>Bruce J. Holmes, D.E., DayJet Corporation</i>

3:00 p.m. **ORAL ONLY** **Manufacturers' Training Programs for the Very Light Jet Product Market Segment**
Jens C. Hennig, GAMA

3:30 p.m. **BREAK**

Wednesday, August 20

Aerodynamic Design (Part 1 of 2)

Session Code: **WATC26**

Room Conference Room 206

Session Time: **8:00 a.m.**

This session will feature topics related to design from an aerodynamics point of view.

Organizers - *Willem Anemaat, DARCorporation*

Time	Paper No.	Title
8:00 a.m.	2008-01-2234	Active Vortex Generators Using Thrust Vectoring Plasma Actuators <i>Jamey D. Jacob, Michael Bolitho, Oklahoma State Univ.</i>
8:30 a.m.	ORAL ONLY	Certification of the Cessna Citation Mustang <i>David W. Levy, Cessna Aircraft Co.</i>
9:00 a.m.	2008-01-2235	CFD Analysis of the Tigerfish Retractable Float System on a DHC- Twin Otter <i>Matthew R. Tetlow, Tigerfish Aviation; Artur Medon, Bassam Dally, The University of Adelaide</i>
9:30 a.m.		BREAK

Wednesday, August 20

Aerodynamic Design (Part 2 of 2)

Session Code: **WATC26**

Room Conference Room 206

Session Time: **10:00 a.m.**

This session will feature topics related to design from an aerodynamics point of view.

Organizers - *Willem Anemaat, DARCorporation*

Time	Paper No.	Title
9:30 a.m.		BREAK
10:00 a.m.	ORAL ONLY	A Method to Predict Deep Stall for Preliminary Design <i>Willem Anemaat, Ken Po, Balaji Kaushik, DARcorporation</i>
10:30 a.m.	2008-01-2233	Correlation of Hand Book Method Results with Wind Tunnel Data for a Subsonic UAV Design <i>Stefan von Bergen, Juerg Mueller, RUAG Aerospace</i>
11:00 a.m.	ORAL ONLY	Recent Civil Supersonic Aircraft Research At Boeing <i>Chester P. Nelson, Boeing Commercial Airplanes</i>

Wednesday, August 20

Design

Session Code: WATC5

Room Conference Room 206

Session Time: 1:30 p.m.

The session will feature presentations on the design of aircraft.

Organizers - Michelle R. Kirby, Peter Hollingsworth, Georgia Institute of Technology

Time	Paper No.	Title
1:30 p.m.	2008-01-2265	Having 5000 Destinations in the Modern U.S. Airways System Harry Clements
2:00 p.m.	ORAL ONLY	Lessons Learned in Aircraft Design Jan Roskam, DARcorporation
2:30 p.m.	2008-01-2240	Dolphin Amphibious Seaplane William L. Hodges, PHE Inc. DBA GenTune LLC
3:00 p.m.	ORAL ONLY	Introduction of a New Approach to Integrate Seats and Restraints as a System into the Design of Small GA Aircraft Gerhard C. Paasche, Oregon Aero Inc.
3:30 p.m.		BREAK

Wednesday, August 20

Rotorcraft

Session Code: WATC14

Room Conference Room 208

Session Time: 8:00 a.m.

This is the first year that helicopters have been included in WATC. Papers submitted for the Rotorcraft technical session will focus on helicopter-specific issues.

Organizers - Vern Van Fleet, Sikorsky Aircraft Corp.

Time	Paper No.	Title
8:00 a.m.	ORAL ONLY	Blackhawk Fly-By-Wire Upgrade Michael Skaggs, Sikorsky Aircraft Corp.
8:30 a.m.	ORAL ONLY	Sikorsky X2 High Speed Demonstrator Aircraft Kevin Bredenbeck, Sikorsky Aircraft Corp.
9:00 a.m.	ORAL ONLY	DARPA Sandblaster Program Gary Howland, Sikorsky Aircraft Corp.; John Judge
9:30 a.m.		BREAK

Wednesday, August 20

Manufacturing (Part 1 of 2)

Session Code: WATC8

Room Conference Room 208

Session Time: 10:00 a.m.

New and emerging technologies that are impacting aerospace manufacturing today and will significantly change it in the future are covered in this session. Topics covered include application of RFID, emerging paint application technologies, and friction stir welding.

Organizers - Ronald Weddle, Cessna Aircraft Co.

Time	Paper No.	Title
9:30 a.m.		BREAK
10:00 a.m.	ORAL ONLY	Radio Frequency IDentification (RFID): Technology Overview, Benefits, and Business Cases
		Daryl Remily, Boeing Co.
10:30 a.m.	2008-01-2236	High Performance Robotics for Aerospace Paint Finishing Operations
		Dragoslav Mllojevic, ABB Inc
11:00 a.m.	ORAL ONLY	Development of an End Effector for Friction Stir Spot Welding
		Dwight Burford, Bryan Tweedy, Wichita State Univ.
11:30 a.m.	ORAL ONLY	Improving Manufacturing Workflow with Ultra Wideband (UWB) Precision Location
		Greg Clawson, Time Domaine Corp.

Wednesday, August 20

Manufacturing (Part 2 of 2)

Session Code: WATC8

Room Conference Room 208

Session Time: 1:30 p.m.

Friction Stir Processing in aerospace applications is the focus of this session. Topics covered include the impact of FSW on weld performance corrosion and fatigue, force reduction, end-effector development for FSW.

Organizers - Ronald Weddle, Cessna Aircraft Co.

Time	Paper No.	Title
1:30 p.m.	ORAL ONLY	Corrosion and Fatigue Evaluation of Swept Friction Stir Spot Welding Through Sealants and Surface Treatments
		Jeremy Brown, Wichita State Univ.
2:00 p.m.	ORAL ONLY	Low Z-force Friction Stir Spot Welding
		T.J. Lam, Wichita State Univ.
2:30 p.m.	ORAL ONLY	Performance Evaluation of Discontinuous Friction Stir Welds
		Josh Merry, Wichita State Univ.
3:00 p.m.	ORAL ONLY	Stress Corrosion Cracking in Butt Welded Aluminum Alloy 2024-T3
		Pedro Giménez Britos, Wichita State Univ.
3:30 p.m.		BREAK

Wednesday, August 20

Unmanned Aerial Vehicles (Part 1 of 3)

Session Code: WATC25

Room Conference Room 210A

Session Time: 8:00 a.m.

Papers on Unmanned Aerial Vehicles (UAV): design, modeling, flight testing and applications will be presented.

Organizers - Piergiovanni Marzocca, Clarkson Univ.

Time	Paper No.	Title
8:00 a.m.	2008-01-2238	Importance of Unmanned Air Vehicles Yoav Heichal
8:30 a.m.	ORAL ONLY	An Innovative Lenticular Blimp for Thermal Monitoring and Close Reconnaissance Michele Trancossi, Antonio Dumas, Francesco Zumbo Ing, Stefano Anzillotti PhD, Universita degli Studi di Modena e Reggio Emilia
9:00 a.m.	ORAL ONLY	Civil Applications using UAV's - Aerial Photography and Mapping with Non-metric Cameras Fabian Alberto Moreno, Aerial Photo & Survey Co.
9:30 a.m.		BREAK

Wednesday, August 20

Unmanned Aerial Vehicles (Part 2 of 3)

Session Code: WATC25

Room Conference Room 210A

Session Time: 10:00 a.m.

Papers on Unmanned Aerial Vehicles (UAV): design, modeling, flight testing and applications will be presented.

Organizers - Piergiovanni Marzocca, Clarkson Univ.

Time	Paper No.	Title
9:30 a.m.		BREAK
10:00 a.m.	2008-01-2237	Robust Control Design for a Flexible Unmanned Aerial Vehicle Ilhan Tuzcu, Univ. of Alabama; Piergiovanni Marzocca, Clarkson Univ.
10:30 a.m.	2008-01-2244	Plasma Micro-thrusters for Micro Aerial Vehicles Ceren Ozturk, Jamey D. Jacob, Oklahoma State Univ.
	2008-01-2243	Nimbus Meta-plane, a New Aerodynamic Concept for Unmanned Hybrid Aerial Vehicle Application (Written Only -- No Oral Presentation) Emilio Cafaro, Roberto Taurino, Luca Stantero, Politecnico di Torino; Alfredo Capuani, Nimbus

The papers in this session are available in a single publication, SP-2211, and also individually.

Wednesday, August 20

Unmanned Aerial Vehicles (Part 3 of 3)

Session Code: WATC25

Room Conference Room 210A

Session Time: 1:30 p.m.

Papers on Unmanned Aerial Vehicles (UAV): design, modeling, flight testing and applications will be presented.

Organizers - Piergiovanni Marzocca, Clarkson Univ.

Time	Paper No.	Title
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1:30 p.m.	2008-01-2231	Hybrid Rigid/Inflatable Wings for Low Volume Wing Storage Ben Loh, Oklahoma State University; Jamey D. Jacob
2:00 p.m.	2008-01-2242	Hybrid Propulsion System Design of a VTOL Tailsitter UAV Mirac Aksugur, Istanbul Technical Univ.; Randy Beard, Brigham Young Univ.; Gokhan Inalhan, Istanbul Technical Univ.
2:30 p.m.	ORAL ONLY	Photovoltaic Space Isle for Conversion in Hydrogen as Energy Vector: the Concept of a Stratospheric Airship for Energy Production, Telecommunications and Territorial Surveillance Antonio Dumas, Stefano Anzillotti PhD, Michele Trancossi, Universita degli Studi di Modena e Reggio Emilia
3:30 p.m.		BREAK
	2008-01-2275	Aerodynamic Comparison of Tilt-Rotor, -Wing and -Body Concept for Multi Task MAVs (Written Only -- No Oral Presentation) Chinnapat Thipyopas, Institute Supérieur de l'Aéronautique et de l'Espace

Wednesday, August 20

Structures, Loads and Vibrations

Session Code: WATC28

Room Conference Room 210B

Session Time: 8:00 a.m.

This session will focus on structural design, structural analysis, loads analysis, and the effect of vibrations on structures.

Organizers - Ronald M. Barrett, Univ. of Kansas - Lawrence; Richard D. Hale, Univ. of Kansas

Time	Paper No.	Title
8:00 a.m.	2008-01-2232	Operational Loads Monitoring of a Fleet of Beech 1900D Aircraft Linda Kliment; Richard Bramlette; Kamran Rokhsaz, Wichita State Univ.; Thomas DeFiore, FAA
8:30 a.m.	ORAL ONLY	Reconstruction of In-Flight Interior Vibro-Acoustic Response of an Aircraft Manmohan Singh Moondra, SenSound LLC
9:00 a.m.	ORAL ONLY	Case Studies of Aircraft Curved Beam/Frame Lateral Buckling Ying Teng, Boeing Co.
9:30 a.m.		BREAK

Wednesday, August 20

High Intensity Radiated Frequencies (HIRF)/Lightning

Session Code: WATC1

Room Conference Room 210B

Session Time: 10:00 a.m.

Presentations on HIRF (High Intensity Radiated Frequencies) and Lightning will take place during this session.

Organizers - John B. O'Loughlin, Wichita State Univ.

Time	Paper No.	Title
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9:30 a.m.

BREAK

10:00 a.m.

ORAL ONLY

Impulse Conduction Properties of Superconducting Nanocomposites under Simulated Lightning Strikes

Ronald M. Barrett, Univ. of Kansas - Lawrence

10:30 a.m.

ORAL ONLY

High Intensity Radiated Fields: An OEM's perspective into the background and how we got where we are.

Billy M. Martin, Cessna Aircraft Co.

11:00 a.m.

ORAL ONLY

Manufacture Experience in Meeting HIRF and Lightning Requirement

Billy M. Martin, Cessna Aircraft Co.

Wednesday, August 20

Materials, Processes, Maintenance and Electronics

Session Code: WATC3

Room Conference Room 210B

Session Time: 1:30 p.m.

The session will address aerospace applications of materials and manufacturing processes.

Organizers - *Richard D. Hale, Univ. of Kansas; Willem Anemaat, DARCorporation; Ronald M. Barrett, Univ. of Kansas - Lawrence*

Time

Paper No.

Title

1:30 p.m.

ORAL ONLY

Collaboration & Composites: Designing and Manufacturing Composites Across the Supply Chain

Rani Richardson, Dassault Systemes

2:00 p.m.

ORAL ONLY

"Smart Panel" Electronic Circuit Breaker Control Technology

Fred Potter, Astronics Advanced Electronics Systems

2:30 p.m.

2008-01-2246

ORAL ONLY

New PEEK Products and Process Technology Developments for Lightweight Aerospace Components

Timothy A. Spahr, Victrex USA Inc.; John Walling, Victrex USA Inc

3:30 p.m.

BREAK

2008-01-2266

Outsourcing Aircraft Maintenance (Written Only -- No Oral Presentation)

Jeffrey A. Weaver, Maintenance Control Supervisor

Wednesday, August 20

Safety

Session Code: WATC7

Room Conference Room 210C

Session Time: 8:00 a.m.

Papers and presentations in this session address the aspects of safety and risk assessment of vehicles beginning at the advanced design stage and continuing through the remaining service life of the product.

Organizers - *Douglas Sheridan, Cessna Aircraft Co.*

Time

Paper No.

Title

8:00 a.m.	2008-01-2228	The Art of Conducting a Safety Risk Analysis on In-Service Problems <i>Robert A. Mattern, Pratt & Whitney</i>
8:30 a.m.	2008-01-2229	Performance Evaluation of Computational HIC Component Tester for Aerospace Application <i>Chandrashekhar K. Thorbole, The Engineering Institute; Hamid Lankarani, Wichita State Univ</i>
9:00 a.m.	ORAL ONLY	What Every Engineering Manager Must Know About Complexity in System Safety <i>Dev G. Raheja, Design for Competitiveness Inc.</i>
9:30 a.m.		BREAK

Wednesday, August 20

Panel: FAA Update

Session Code: WATC17

Room Conference Room 210C

Session Time: 10:00 a.m.

This session will be a panel format. FAA managers will present strategic plans and current issues they are working on. The session will include an update of Small Airplane Directorate activities, a discussion of the impact of new technologies, a look at preparations for NexGen, and ample time for questions from the audience.

Organizers - Marvin R. Nuss, George W. Ryan, Federal Aviation Administration

Time	Paper No.	Title
9:30 a.m.		BREAK
10:00 a.m.	ORAL ONLY	Activities in the Small Airplane Directorate & Beyond <i>John R. Colomy, Federal Aviation Administration</i>
10:30 a.m.	ORAL ONLY	GA Revitalization and the Roles of New Technology & the FAA <i>Wes Ryan, Federal Aviation Administration</i>
11:00 a.m.	ORAL ONLY	NextGen Avionics Evolution <i>Steve VanTrees, Federal Aviation Administration</i>

Thursday, August 21

Fuels & Lubes

Session Code: WATC9

Room Conference Room 205

Session Time: 8:00 a.m.

This session presents the latest developments in synthetic fuel research and applications. Effects of biological factors and corrosion of fuel properties are discussed.

Organizers - Quentin Coon, Hawker Beechcraft Corporation

Time	Paper No.	Title
8:00 a.m.	2008-01-2247	Using Synthetic Kerosene in Civil Jet Aircraft <i>Tim Snijders, Joris Melkert, TU Delft</i>
8:30 a.m.	ORAL ONLY	Susceptibility to Biological Attack and Corrosion of Aviation Fuels <i>Howard L. Chesneau; Edward English, Fuel Quality Services Inc.</i>

9:00 a.m. **ORAL ONLY** **Swift Renewable Aviation Fuels - A High Octane Alternative to 100LL**
John Rusek, Jon Ziulkowski, Swift Enterprises

9:30 a.m. **BREAK**

Thursday, August 21

Certification

Session Code: **WATC11**

Room Conference Room 205

Session Time: **10:00 a.m.**

Certification related issues will be presented in this session.

Organizers - *Ken Farsi, L-3 Communications Integrated Systems*

Time	Paper No.	Title
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9:30 a.m.		BREAK
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10:00 a.m.	ORAL ONLY	AS9100: What's the Point? <i>John Obrien</i>
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Thursday, August 21

Legal / Product Liability and the Engineer

Session Code: **WATC21**

Room Conference Room 205

Session Time: **10:30 a.m.**

This session will focus on product liability issues facing manufacturing and design engineers and legal issues.

Organizers - *Ronald P. Williams, Morrison & Hecker*

Time	Paper No.	Title
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9:30 a.m.		BREAK
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10:30 a.m.	2008-01-2257	Use of TC ODAS May Cause Unforeseen Litigation Turbulence for Designers <i>Mark Mattioli, Richard Wickersham, Post & Schell PC</i>
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Thursday, August 21

Computational Fluid Dynamics

Session Code: **WATC23**

Room Conference Room 206

Session Time: **8:00 a.m.**

This session will cover Computation Fluid Dynamics (CFD) including heat transfer, aerodynamic design optimization and airfoil analysis.

Organizers - *Chittur S. Venkatasubban, Hawker Beechcraft Corporation*

Time	Paper No.	Title
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8:00 a.m.	2008-01-2249	CFD Method for Aircraft Skid Performance including Wear and Heat Transfer George W. Carroll, Hawker Beechcraft Corporation
8:30 a.m.	2008-01-2250	Numerical Investigation of Transitional Flows over a NACA0012 Airfoil Mohammad Alam, Yildirim Suzen, North Dakota State Univ.
9:30 a.m.		BREAK
	2008-01-2251	Aerodynamic Design Improvement of NDSU Solar Car through Computational Fluid Dynamics (Written Only -- No Oral Presentation) Alex Hoerl, Derek Larson, Matthew Stenson, Kendall Dennis, Yildirim Suzen, North Dakota State Univ.

Thursday, August 21

Aging Aircraft, Airworthiness

Session Code: WATC16

Room Conference Room 206

Session Time: 10:00 a.m.

This session provides information regarding research into aging issues such as usage, fatigue analysis methods, NDI and destructive teardown.

Organizers - Marvin R. Nuss, Paul Nguyen, Federal Aviation Administration

Time	Paper No.	Title
9:30 a.m.		BREAK
10:00 a.m.	ORAL ONLY	Advanced NDI on Composite Material Matt J. Crompton; Jörg Collrep, Dantec Dynamics
10:30 a.m.	2008-01-2258	Destructive Evaluation of Four Aircraft Representative of the General Aging Aircraft Fleet Melinda Laubach, National Institute for Aviation Research
11:00 a.m.	2008-01-2259	The Fatigue Behavior of Fastener Joints Sureshraj Keshavanarayana, Wichita State Univ.
11:30 a.m.	ORAL ONLY	Preliminary Examination of Operational Loads on Firefighting Aircraft Richard Bramlette; Linda Kliment; Kamran Rokhsaz, Wichita State Univ.; Thomas DeFiore, FAA; John Nelson, US Forest Service

Thursday, August 21

Light Sport Aircraft (LSA) and Single Engine Props

Session Code: WATC12

Room Conference Room 206

Session Time: 1:30 p.m.

This session will offer presentations on the history of the development of the LSA regulations, the current state of the industry and representative aircraft. Presenters will include industry observers, developers of the regulations and LSA producers.

Organizers - John Hunter, Univ. of Kansas

Time	Paper No.	Title
1:30 p.m.	ORAL ONLY	Light-Sport Aircraft (LSA) Program Terry Chasteen, FAA

2:00 p.m.	ORAL ONLY	Cessna Model 162 SkyCatcher Overview <i>Neal Willford, Cessna Aircraft Co.</i>
2:30 p.m.	2008-01-2267	Are the New Ones Really Better? An Inquiry About Sporty Looking Airplanes of All Ages <i>Harry Clements, Retired</i>
3:00 p.m.	ORAL ONLY	A Deregulation in Aircraft Certification through Consensus Standards <i>Daniel A. Schultz, ASTM</i>

Thursday, August 21

In-flight Icing

Session Code: WATC22

Room Conference Room 208

Session Time: 8:00 a.m.

Presentations on performance and characteristics of airfoils with ice or simulated ice and Effect of icing on aircraft will be presented.

Organizers - Reuben M. Chandrasekharan, Bombardier Learjet

Time	Paper No.	Title
8:00 a.m.	2008-01-2252 ORAL ONLY	Silicone Based Coatings to Reduce In-flight Icing <i>Summer L. Sivas, NuSil Technology</i>
8:30 a.m.	ORAL ONLY	FENSAP-ICE: A Unified Platform for Integrated In-flight Icing Studies of any Aircraft, Rotorcraft, UAVs and/or Engine <i>Martin Aube, Guido Baruzzi, Newmerical Technologies Inc; Cristhian Aliaga, McGill Univ.</i>
9:00 a.m.	ORAL ONLY	Icing System Development and Certification for General Aviation Aircraft <i>Jim R. Hoppins, Cessna Aircraft Co.</i>
9:30 a.m.		BREAK

Thursday, August 21

Avionics, Glass Cockpit Revolution

Session Code: WATC19

Room Conference Room 208

Session Time: 10:00 a.m.

This session will cover Avionics and increased use of flat panel displays in cockpits.

Organizers - Wes Ryan, FAA

Time	Paper No.	Title
9:30 a.m.		BREAK
10:00 a.m.	2008-01-2260	Reduction of Jitter within Optical Tracking Data through an In-depth Survey of Smoothing Techniques <i>Schinnel Small, Kofi Nyarko, Craig Scott, Morgan State Univ.</i>
10:30 a.m.	2008-01-2261	Testing a Nonveridical Aircraft Collision Avoidance System <i>William R. Knecht, Maneuver Space Technologies</i>

11:00 a.m. **ORAL ONLY** **The Glass Cockpit Revolution in GA and the Next Jump in Aviation Safety**
Wes Ryan, FAA

Thursday, August 21

Flying Cars

Session Code: **WATC24**

Room Conference Room 208

Session Time: **1:30 p.m.**

This session will address the development of personal transportation vehicles and components, focusing on innovative CTOL and VTOL roadable airplanes and flying automobiles. Required technologies, alternative system configurations, designs under development, prototype hardware, and in-flight performance of remote controlled models and full size prototypes will be presented.

Organizers - *Bruce Harman, Branko Sarh, Boeing Co.*

Time	Paper No.	Title
1:30 p.m.	2008-01-2268	Distributed Vehicle Concepts and Technologies <i>Mark D. Moore, NASA Langley Research Center</i>
2:00 p.m.	ORAL ONLY	AUTOVOLANTOR - An Automobile That Can Occasionally Operate Above Traffic <i>Paul S. Moller, Moller Intl.</i>
2:30 p.m.	ORAL ONLY	History and Development of the LaBiche Aerospace FSC-1, Flying Car <i>Mitchell LaBiche, LaBiche Aerospace</i>
3:00 p.m.	ORAL ONLY	The Transition: A Driving and Flying Vehicle Created by Terrafugia <i>Sam Schweighart, Terrafugia</i>
	2008-01-2269	The Pulsed Turbine Rotor Engine VTOL Propulsion Concept and Applications: Capturing the Elusive Jet-Powered Flying Car and Redesigning a Radical Variant of the V-22 Osprey (Written Only -- No Oral Presentation) <i>David Haskins, Haskins Enterprises</i>

Thursday, August 21

Design Processes, Software (Part 1 of 3)

Session Code: **WATC6**

Room Conference Room 210A

Session Time: **8:00 a.m.**

This session will feature presentations related to: software tools for design; analysis of airplanes; programming tools; languages and programming environments; commercial off-the-shelve tools for aerodynamics, stability and control; and performance and detailed design.

Organizers - *Willem Anemaat, DARCorporation*

Time	Paper No.	Title
8:00 a.m.	2008-01-2253	Aircraft Performance Prediction: Comparison of Classical Handbook Methods to Detailed Time Integration Computer-Aided Methods <i>Willem Anemaat, DARCorporation</i>
8:30 a.m.	2008-01-2254	Cost Benefits of Aerodynamic Data Generation Techniques for Aircraft Stability and Control Analysis Using the J2 Universal Tool-Kit <i>John A. Jeffery, J2 Aircraft Dynamics Ltd</i>
9:00 a.m.	ORAL ONLY	Multi-Disciplinary Multi-Objective Optimization <i>James Mullins, Engineering Software</i>

9:30 a.m.

BREAK

Thursday, August 21

Design Processes, Software (Part 2 of 3)

Session Code: WATC6

Room Conference Room 210A

Session Time: 10:00 a.m.

This session will feature presentations related to: software tools for design; analysis of airplanes; programming tools; languages and programming environments; commercial off-the-shelf tools for aerodynamics, stability and control; and performance and detailed design.

Organizers - Willem Anemaat, DARCorporation

Time	Paper No.	Title
9:30 a.m.		BREAK
10:00 a.m.	2008-01-2262	Keys to Success with Knowledge-based Techniques <i>Dave Cooper, Genworks International; Mazlina Wan-Mohamed, TU Delft</i>
11:00 a.m.	ORAL ONLY	A Knowledge Based Engineering Approach Applied to the Conceptual Design of Commercial Aircraft using Pacelab Suite <i>Alexander Schneegans, PACE America Inc.</i>

Thursday, August 21

Design Processes, Software (Part 3 of 3)

Session Code: WATC6

Room Conference Room 210A

Session Time: 1:30 p.m.

This session will feature presentations related to: software tools for design; analysis of airplanes; programming tools; languages and programming environments; commercial off-the-shelf tools for aerodynamics, stability and control; and performance and detailed design.

Organizers - Willem Anemaat, DARCorporation

Time	Paper No.	Title
1:30 p.m.	2008-01-2230	Model-Driven Architecture for Platform and Store Design <i>Robert M. Boman, Lockheed Martin Missiles & Fire Control</i>
2:00 p.m.	2008-01-2270	Modern Solutions for Ground Vibration Testing of Small, Medium and Large Aircraft <i>Bart Peeters, LMS International</i>
2:30 p.m.	2008-01-2271	Dynamic Taxonomies Usage in the Context of Aeronautical Maintenance Processes to Increase Effectiveness and the Efficiency of the Operations <i>Francesco Gargiulo, Italian Aerospace Research Center</i>
3:00 p.m.	2008-01-2272	Finite Element Modeling Strategies for Dynamic Aircraft Seats <i>Prasannakumar Bhonge, Hamid Lankarani, Wichita State Univ</i>

The papers in this session are available in a single publication, SP-2212, and also individually.

Thursday, August 21

Stability and Control, Flying Qualities and Flight Control System Design (Part 1 of 2)

Session Code: WATC4

Room Conference Room 210B

Session Time: 8:00 a.m.

This session addresses the aircraft handling qualities, stability and control. This covers aircraft control power, stability characteristics and transients, control laws, cross axis interference and coupling, pilot induced oscillations, flight envelope, and onboard store carriage and separation.

Organizers - Kahtan Awni, US Air Force

Time	Paper No.	Title
8:00 a.m.	2008-01-2256	A Brief Study of Conditionally Enabled Phase Compensated Rate Limiters Eric R. Kendall, Boeing Aircraft Co.
8:30 a.m.	ORAL ONLY	Static Stability Analysis of a Conceptual Designed UAV Asim Rehman, Airforce
9:00 a.m.	2008-01-2255	Three-Movement Handlebar Piloting Control Adam Wolff, Wolff AeroCycle
9:30 a.m.		BREAK

Thursday, August 21

Stability and Control, Flying Qualities and Flight Control System Design (Part 2 of 2)

Session Code: WATC4

Room Conference Room 210B

Session Time: 10:00 a.m.

This session addresses the aircraft handling qualities, stability and control. This covers aircraft control power, stability characteristics and transients, control laws, cross axis interference and coupling, pilot induced oscillations, flight envelope, and onboard store carriage and separation.

Organizers - Kahtan Awni, US Air Force

Time	Paper No.	Title
9:30 a.m.		BREAK
10:00 a.m.	2008-01-2263	Jam-Free, Fail-Safe Flight Control System with Asymmetric Load Alleviation Capability Mihailo P. Djuric
10:30 a.m.	2008-01-2264	The Seven Parameters of Highly Effective Cable Control Systems Takashi Maeda, Cessna Aircraft Company

Thursday, August 21

Human Factors

Session Code: WATC30

Room Conference Room 210B

Session Time: 1:30 p.m.

Decision-making styles of pilots, flying habits as function of age and heat stress events are presented, as well as human factors issues on cockpit design.

Organizers - Cindy Miller, Cessna Aircraft Company

Time	Paper No.	Title
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1:30 p.m.	2008-01-2274	Investigating the Decision Making Styles of General Aviation Pilots: An Exploratory Study Maria Olinda Rodas, Wichita State University- NIAR
2:00 p.m.	ORAL ONLY	Examining Flying Habits as Function of Age from Self-Reported Data Amber L. Culpepper, Wichita State University
2:30 p.m.	2008-01-2273	Modeling Human Thermoregulation as a Means of Evaluating Heat Stress Events Allen Curran, Peter Rynes, ThermoAnalytics Inc.

Thursday, August 21

Composites (Part 1 of 2)

Session Code: WATC29

Room Conference Room 210C

Session Time: 10:00 a.m.

This session will have presentations related to airplane maintenance from an engineering stand point.

Organizers - Kristin Marlett, National Institute for Aviation Research; Brian Taylor, Taylor-Deal Aviation

Time	Paper No.	Title
9:30 a.m.		BREAK
10:00 a.m.	ORAL ONLY	NASA & Air Force Research Laboratory (AFRL) Sponsored Projects at the National Center for Advanced Materials Performance (NCAMP) Yeow Ng, Wichita State Univ.
10:30 a.m.	ORAL ONLY	Certification Challenges for Composite Airframes Waruna Seneviratne, Wichita State Univ.
11:00 a.m.	ORAL ONLY	Advanced Composite Materials Ric Abbott, Abbott Aerospace Composites
11:30 a.m.	ORAL ONLY	Certification of Composites Used in Aviation Applications David Ostrodka, Composite Airframe Solutions LLC

Thursday, August 21

Composites (Part 2 of 2)

Session Code: WATC29

Room Conference Room 210C

Session Time: 1:00 p.m.

This session will have presentations related to airplane maintenance from an engineering stand point.

Organizers - Kristin Marlett, National Institute for Aviation Research; Brian Taylor, Taylor-Deal Aviation

Time	Paper No.	Title
1:00 p.m.	ORAL ONLY	Overview of FAA and DOD research at NIAR John S. Tomblin, Wichita State Univ.
1:30 p.m.	ORAL ONLY	Materials Selection for Primary and Secondary Aircraft Structures Steven C. Litke, Federal Aviation Administration

Thursday, August 21

Composites Panel

Session Code: **WATC31**

Room Conference Room 210C

Session Time: **2:00 p.m.**

This workshop brings together aviation industry leaders responsible for the integration and repair of aircraft composite and bonded structure within their organization. The panelists will address, in an audience interactive format, the challenges faced in assuring safety through ground support workforce awareness, technician training and certification, materials and processes, facilities development, regulatory compliance, inspection, and return to service of aircraft manufactured with composite and metal bonded structures. Also to be addressed are the challenges associated with working with and repairing primary and secondary structures as well as differentiating the skills required to perform maintenance within and beyond a manufacturer's Structural Repair Manual.

Moderators - *Brian Finnegan, SAE Institute*

Panelists - *Michael D. Borgman, Co-Chair CACRC; Ken Farsi, Midcoast Aviation; Randy A. Martin, Bombardier Aerospace; Phil Watkins, Cessna Citation Service Centers;*