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**Colorado Springs, Colorado, USA
5-9 October 2014**

Pages 1-830



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Special Event Presentations

Presentation	Title	Author(s)
Awards Lunch	Resilience in Navigation Systems – A Pilot’s View	Al Herndon

Track 1 - Air Traffic Management

**Bernd Korn, German Aerospace Center (DLR) and
Wolfgang Schuster, Imperial College London**

Session A - Terminal Area Management

Alexander Kuenz, German Aerospace Center (DLR)

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1A3	27	Optimizing Integrated Terminal Airspace Operations Under Uncertainty	Christabelle Bosson, Min Xue, Shannon Zelinski
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Ralf H. Mayer, MITRE/CAASD

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Session C - Transition to Future ATM Systems and Concepts

Bill Bateman, MITRE/CAASD

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Shannon Zelinski, NASA Ames Research Center

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1D3		Development of Miles-in-Trail Passback Restrictions for Air Traffic Management	Kapil Sheth, Sebastian Gutierrez-Nolasco
1D4	204	Numerical Analysis of Surface Congestion Factors for Modeling of Taxi-Out Times	Izumi Yamada, Midori Sumiya, Mark Brown, Hisae Aoyama

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Patricia Glaab, NASA Langley Research Center

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Track 2 - Avionics and Flight-Critical Systems

Al Herndon, MITRE and Todd Lovell, Raytheon

Session A - Avionics Standards and Architectures

Justin Littlefield, GE Aviation

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Jim DeArmon, MITRE

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Izabela Gheorghisor, MITRE			
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Forrest Colliver, Innovative Solutions & Support			
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Aloke Roy, Honeywell and Michael Schnell, German Aerospace Center (DLR)			
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Dmitriy Shutin, German Aerospace Center (DLR)			
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3A3	517	Extending WiMAX with End-to-End Security and Correspondent Node Anchored Mobility	Thomas McParland
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3A6	548	An Adaptive DS-CDMA Receiver for Air Traffic Control	Tao Chen, Bo Chen, Yongfei Ding, Ruifan Pang, Cheng Gong
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Thomas Gräupl, University of Salzburg			
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Emmanuel Letsu-Dake, Honeywell Advanced Technology			
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Michael Brychey, Boeing			
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Tom McParland, Basic Commerce and Industries, Inc.			
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3E3	707	Characterizations of Navigation Performance in Terminal Performance-Based Navigation Operations	Ralf H. Mayer, Dennis J. Zondervan, Thomas B. Hudak, II

Track 4 - Integrated Modular Avionics (IMA)

Justin Littlefield, GE Aviation and Scott Crawford, Raytheon

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David Rinehart, Saab Sensis

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4A2	730	Research on Integrated Technology and Model in Avionics System	Guoqing Wang
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4A4	752	A Resilient and Distributed Cabin Network Architecture	Nicolai Kuntze, Carsten Rudolph, Oliver Hanka, Nils Tobeck, David Shaw
4A5	762	Embedded Cloud Computing for Critical Systems	Mirko Jakovljevic, Carlos Insaurrealde, Astrit Ademaj
4A6	771	OpenFlow Channel Deployment Algorithm for Software-Defined AFDX	Zheng Li, Qiao Li, Luxi Zhao, Huagang Xiong

Session B - Avionics Applications

Liling Ren and Mauricio Castillo-Effen, GE

4B1	781	Recommendations for Managing Complexity in Electronic Chart Information Displays	Emmanuel Letsu-Dake, David Pepitone, Jerry Ball, Roger Burgin
4B2	795	Flight Testing of Agent Supervisory Control on Heterogeneous Unmanned Aerial System Platforms	Georg Rudnick, Sebastian Clauß, Axel Schulte
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4B4	820	Concept of an Integrated Apron Controller Working Position Implemented and Tested in Field Trials	Hejar Guerluek, Meilin Schaper, Steffen Loth, Marcus Helms
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Aditya Saraf, Saab Sensis

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Session D - IMA Configuration, Modeling, & Integration

Bryan Theriault, GE Aviation

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Paul Kostek, Air Direct Solutions LLC. and Bob Fall, Tandel Systems Inc.

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Paul Kostek, Air Direct Solutions LLC

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5A2	902	Investigation of Electrical Power Generation and Distribution versus Product EMC	Jan Leuchter, Vitezslav Stekly
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5A4	919	Statistical Evaluation of Multiple Low-Cost MEMS Sensors for Altitude Measurement	Pavel Paces, Jakub Suchy
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Session B - Scenario Testing/Safety Support

Paul Comitz, Boeing

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5B4	961	Applying Software Model Checking to PALS Systems	Min-Young Nam, Sagar Chaki, Lui Sha, Cheolgi Kim
5B5	975	A Computational Study of Autonomy and Authority in Air Traffic Control	Raunak Bhattacharyya, Amy Pritchett

Session C - Simulation Support

Bob Fall, Tandel Systems Inc.

5C2	984	Design of DIMA Scheduling Algorithm Based on Network Partition Integrating Model	Yu Han
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Session D - Human in the Loop Testing

Paul Kostek, Air Direct Solutions LLC.

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5D2	1004	A Closer Look at Automation Behavior during a Human-in-the-Loop Simulation	Joey Mercer, Ashley Gomez, Jeffrey Homola, Thomas Prevôt
5D3	1019	The Research on the Task Synthesis Technology of the Airplane	Wen-hao Wang, Sheng-hua Hu, Yong Bao
5D4	1024	THRUST: A Method for Speeding up the Creation of Process-Related Deliverables	Barbara Gallina, Kristina Lundqvist, Kristina Forsberg
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Track 6 - Unmanned Systems and Networks

Douglas Abernathy, Lockheed Martin and Peter Skaves, FAA

Session A - Unmanned Air Systems (UAS) Air Traffic Management

Robert Duffer, FAA

6A1	1056	Assuring Ground-Based Detect and Avoid for UAS Operations	Ganesh Pai, Ewen Denney, Randall Berthold, Matthew Fladeland, Mark Sumich
6A2	1072	NAS Operational Implications and Infrastructure Changes for UAS Integration	Chris Wargo, Gary Church, Jason Glanueski, Mark Strout
6A3	1088	Development of Simulation-Supported Long Range B-VLOS RPAS Mission Planning for Remote Sensing in Alpine Disaster Operations Management	Thomas Gräupl, Elias Pschernig, Carl-Herbert Rokitansky, Robert Marschallinger, Fritz Zobl
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6A5	1110	Refinement of a Conflict Probe Algorithm and Display to Support Well Clear: Concept and Implementation	Erik Theunissen, Maarten Uijt de Haag, Brandon Suarez, Tatsuya Kotegawa

Session B - Unmanned Air Systems (UAS) Designs/Advancements

Erik Theunissen, Netherlands Defence Academy (NLDA)

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6B2	1132	Aircraft Ground Monitoring with High Performance Computing Multicore Enabled Video Tracking	Bin Jia, Haibin Ling, Erik Blasch, Carolyn Sheaff, Genshe Chen

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Sherif Ali, GE Aviation Systems

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6C3	1159	Distributed QoS Awareness in Satellite Communication Network with Optimal Routing (QuASOR)	Erik Blasch, Khanh Pham, Genshe Chen, Gang Wang, Chaoyong Li
6C4	1170	Implementing Space Separation Functionalities into Linux-Based Spacecraft Computer	Duksoo Kim
6C5	1178	CAPE II: Design, Development, Launch, and On-Orbit Operation of an Experimental Picosatellite	Alexander Lanclos, Caleb Pellerin

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Douglas Abernathy, Lockheed Martin

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6D2	1196	A D-MILS Console Subsystem for Advanced ATM Communication Services	Wolfgang Kampichler, Dieter Eier
6D3	1204	Airborne Radar for High Maneuvering Stealth Target	Chao Zhang, Dong Chen
6D4	1215	PTSD Monitoring by Using Brain Computer Interface for Unmanned Aerial Vehicle Operator Safety	Marwa El Diwiny, Abou Heshema, El Sayed Hassanen, Gamal Abou el Magd
6D6	1221	Required Surveillance Sensors for DAA	Eric Euteneuer, Greg Loegering, Satish Krishnan, Jim Jewell

Track 7 - Emerging Technologies

Mary Ellen Miller, Mosaic ATM and Cynthia DeBisschop

Session A - Weather Information for Decision Support

Cynthia DeBisschop

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7A2	1243	Analysis and Prediction of Weather Impacted Ground Stop Operations	Yao Wang
7A3	1257	Trajectory Prediction in North Atlantic Oceanic Airspace by Wind Networking	Olga Rodionova, Daniel Delahaye, Mohamed Sbihi, Marcel Mongeau
7A4	1272	Departure Flow Efficiency and the Identification of Causes for Inefficiencies	Jim DeArmon, Anuja Mahashabde, Brendan Hogan

Session B - Separation in High Traffic Density Airspace

Timothy Waldron, Saab Sensis

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7B2	1290	Decision Support Tools For Climbing Departure Aircraft Through Arrival Airspace	Eric Chevalley, Bonny Parke, Paul Lee, Faisal Omar, Hyo-Sang Yoo
7B3	1305	Development of a Route Crossing Tool for Shared Airspace Environments	Daphne Rein-Weston, Richard Jacoby, Eric Chevalley, Albert Globus, Everett Palmer
7B4	1319	Examining Operations Coupling Autoflight to ADS-B Targets in High Traffic Density	Rachel Haga, Amy Pritchett

Session C - Collision Risk and Operations Safety

Leihong Li, Georgia Institute of Technology

7C1	1331	Effect of Traffic Position Accuracy for Conducting Safe Airport Surface Operations	Denise Jones, Lawrence Prinzel, Randall Bailey, Jarvis Arthur, James Barnes
7C2	1345	Safely Conducting Airport Surface Trajectory-Based Operations	Denise Jones, Lawrence Prinzel, Randall Bailey, Jarvis Arthur, James Barnes
7C3	1361	Coordination Between Sectors in Shared Airspace Operations	Bonny Parke, Eric Chevalley, Paul Lee, Faisal Omar, Joshua Kraut
7C5	1373	Investigating the Causality of Potential Collisions on the Airport Surface	Timothy Waldron, Andrew Ford

Session D - Improving Pilot Situational Awareness

Mary Ellen Miller, Mosaic ATM

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7D3	1394	Preliminary Analysis of ADS-B Performance for Use in ACAS Systems	Maarten Kastelein, Maarten Uijt de Haag
7D4	1404	Research on an EGPWS/TAWS Simulator with Forward-Looking Alerting Function	Gang Xiao, Fang He, Jianmin Wu
7D5	1415	Status and Challenges of Synthetic Vision System for Civil Aviation of China	Yupeng Zhang, Xiujuan Deng
7D6	1419	Pilot Timeliness of Safety Decisions Using Information Situation Awareness	Erik Blasch, Pavel Paces, Jan Leuchter

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Cynthia DeBisschop			
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7E2	1438	Implementation of Anti Stealth Technology for Safe and Secure Operation of the Unmanned Aerial Vehicle	Marwa El Diwiny, Abou Heshema, El Sayed Hassanen, Gamal Abou el Magd
7E3	1450	Continuous Safety Analysis for Avionics System with Dempster-Shafter Theory	Chao Zhang, Xiaomu Shi

Track 8 - Software
Paul Miner, NASA and Phil Smith, Ohio State University

Session A - Software Design, Validation and Verification			
Pavel Paces, Czech Technical University in Prague			
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8A2	1473	An Approach to Generate Optimized Cyclic Scheduling from AADL Specification	Henrique Forlani Masini, Ricardo Bedin França, Celso Massaki Hirata, Juliana de Melo Bezerra
8A3	1486	Taming Interrupts: Deterministic Asynchronicity in an ARINC 653 Environment	Steven VanderLeest
8A4	1497	Verification of Quasi-Synchronous Systems with Uppaal	Siddhartha Bhattacharyya, Steven Miller, Junxing Yang, Scott Smolka, Baoluo Meng
8A5	1509	Adapting DO-178C Processes by Implementing a Reverse Engineering Technique	Mehmet Koray Bingol, Etem Deniz, Mustafa Sari, Ismail Engin Saritas, Yunus Yilmazer
8A6	1519	Design for ARINC 653 Conformance: Architecting Independent Validation of a Safety-Critical RTOS	Ahmet Alptekin, Yunus Yilmazer, Ugur Usug, Feyzullah Koca, Koray Incki

Session B - System Safety and System Architectures			
Chris Wargo, Mosaic ATM			
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8B2	1541	Service Selection Approach for SWIM Consumer Application Based on Semantic Annotations in SOAML Architecture	Inaldo Costa, José M. Parente Oliveira, Alexandre Barreto
8B3	1550	Autonomic Control Architecture for Avionics Software of Unmanned Space Vehicles	Carlos C. Insaurralde, Emil Vassev
8B4	1560	A Prototype Implementation of OpenGL SC on a Massively-Parallel Architecture	Nakhoon Baek

Session C - System Safety, Certification and Performance Modeling			
Wilfried Steiner, TTTech			
		Towards a Lean Tool Qualification Process	Matteo Bordin
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8C3	1574	Managing Cache Partitioning in Multicore Processors for Certifiable, Safety-Critical Avionics Software Applications	Tim King
8C4	1581	Machine Learning Model for Aircraft Performances	Marko Hrastovec, Franc Solina
8C5	1591	Open Source, 3-D Terrain Visualization on a Mobile Device	Joseph Rios, Patrick Hogan, Tom Gaskins, David Collins

Poster Presentations

Al Helfrick, Embry-Riddle Aeronautical University

One or two authors from each track are invited to present a poster in addition to the usual presentation. The posters are displayed for the entire conference in a public area. The invitations are selected from high quality papers that have the potential as an effective poster and the topic would have a broad appeal.

Poster	Title	Author(s)
1A4po	Improving Departure Throughput by Dynamically Adjusting Inter-arrival Spacing	Hyo-sang Yoo, Everett Palmer, Paul Lee
1B2po	Paired Approaches to Closely Spaced Parallel Runways: Results of Real Time Pilot and ATC Simulations	David Domino, David Tuomey, Peter Stassen, Anand Mundra
1C2po	Increasing the Margins – More Freedom in Trajectory-Based Operations	Alexander Kuenz
2B2po	Using Vision System Technologies to Enable Operational Improvements for Low Visibility Approach and Landing Operations	Lynda Kramer, Kyle Ellis, Randall Bailey, Steven Williams, Kurt Severance
3C1po	LDACS1 Ranging Results with Doppler Smoothing from New Flight Experiments	Dmitriy Shutin
3E3po	Characterizations of Navigation Performance in Terminal Performance-Based Navigation Operations	Ralf H. Mayer, Dennis J. Zondervan, Thomas B. Hudak, II
5D1po	Benefits of a Unified LaSRS++ Simulation for NAS-Wide and High-Fidelity Modeling	Patricia Glaab, Michael Madden
7A1po	Mini Global Risk Mitigation Demonstration	Corissa Robinson, Thien Ngo, Wade Lester, Douglas Swol, Stuart Wilson
7B3po	Development of a Route Crossing Tool for Shared Airspace Environments	Daphne Rein-Weston, Richard Jacoby, Eric Chevalley, Albert Globus, Everett Palmer
8B3po	Autonomic Control Architecture for Avionics Software of Unmanned Space Vehicles	Carlos C. Insaurralde, Emil Vassev