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DASC Lunch Panel			
Papers	Present.	Title	Author(s)
	1	Lunch Panel — Rise of the Machines! (Lockheed Martin and Mentor Graphics Presentations)	Chair: Art Tank
Track 1 - Closing the Generation Gap **Susan Cheng, Boeing and Bruce DeCleene, FAA**			
Session A - Bridging from Legacy and Traditional Avionics **Wolfgang Schuster, Imperial College London**			
	N/A	Practical ATM Applications and Requirements for Avionics	Steve Fulton
1A2	18	A Passive Bistatic Radar for Detection of Aircraft Using Spaceborne Transmitters	William Barott, Brian Butka
	41	Hazard Analysis for ADS-B Backup Performance in Non-Radar and Peripheral Radar Airspace	Anthony Warren
1A4	54	Quantitative Analysis of Aircraft Height on Final Approach	Marshall Koch, Alex Buchholz
1A5	93	An Expanded Concept of a Single Unified Global CNS/ATM System Requiring ADS-B	Greg Gardner
1A6	110	Overcoming the Generation Gap in Aircraft Designs with Executable Specifications	Nils Fischer, Horst Salzwedel
Session B - Future Concepts and Forward Thinking **Steve Fulton, GE and Don Porter, Tetratech-AMTI**			
1B1	127	Integrated Aircraft Environment Surveillance System for Large Civil Aircraft	Gang Xiao, Hainan Diao, Zhongliang Jing, X. Tony Zhang
1B2	149	Operational Preferences for ATC Data Link Equipped Aircraft: Severe Weather Reroutes	Kevin Gormley, Deborah Kirkman, Stephen Giles, Marc Narkus-Kramer
1B3	157	Allocation of Functions in a Far-Term Air Traffic Control Environment	Jeffrey Homola, Lynne Martin, Joey Mercer, Christopher Cabrall, Thomas Prevot
	189	Filling the FAA Guidance and Policy Gap for Systems Integration and Safety Assurance	Kirk Baker
	193	Safety-Capacity Trade-Off and Phase Transition Analysis of Automated Separation Assurance Concepts	Arash Yousefi, Richard Xie
	202	Computational Air Traffic Management	Marc Anthony Azzopardi, James F. Whidborne Whidborne

Session C - Cybersecurity **Radhakrishna Sampigethaya, Boeing and** **Radha Poovendran, University of Washington**			
	224	RTCA SC-216 Status	Chuck Royalty
1C2	230	Information for Cyber Security Issues Related to Aircraft Systems	Peter Skaves
259		Aircraft Systems Cyber Security	Raymond De Cerchio, Chris Riley
1C4	266	A New Approach to Improve Safety of Reconfiguration in Integrated Modular Avionics	Dajiang Suo, Jinxia An, Jihong Zhu
	290	Novel Near-Ground Navigation for General Aviation with Terrestrial Mobile Networks	Chao Zhang, Keke Pang
	301	Safety Issues in the Asynchronous Control of Critical Avionics Systems	Natasha Neogi
Session D - Collision Avoidance Systems **Liling Ren, and Mauricio Castillo-Effen, GE Global Research**			
1D1	325	Collision Avoidance for General Aviation	Thomas Billingsley, Mykel Kochenderfer, James Chryssanthacopoulos
1D2	344	Decomposition Methods for Optimized Collision Avoidance with Multiple Threats	James Chryssanthacopoulos, Mykel Kochenderfer
1D3	363	A Selection Algorithm for Conflict Aircrafts and Performance Analysis Based on ADS-B	Gang Xiao, Yue Xu, Chaocheng Dai, Zhongliang Jing, Jianmin Wu
1D4	380	Self Synchronization Based Air Traffic Control and Collision Avoidance System	Amol Khedkar, Dr. Vijay Kumar
	397	UAS Sense and Avoid and TCAS Interoperability: Mini-Panel Discussion	Liling Ren
Session E - Trajectories of the Future **Tom Becher, MITRE**			
	407	Air-Ground Trajectory Synchronization -- Metrics and Simulation Results	David Chan, Glen Brooksby, Joachim Hochwarth, Joel Klooster, Sergio Torres
	421	Mobile Tools Prospecting the Trajectories for the Legacy Aircrafts	Tatsuo Minohara
1E3	432	Trajectory Synchronization between Air and Ground Trajectory Predictors	Sergio Torres, Joel Klooster, Liling Ren, Mauricio Castillo-Effen
1E4	455	Flight Management System Execution of Idle-Thrust Descents in Operations	Laurel Stell

Track 2 - ATM Capacity Improvements

Mike Burkle, Lockheed Martin and Al Herndon, MITRE

Session A - Separation, Spacing and Merging

Deiter Eier, Frequentis USA, Inc.

Papers	Present.	Title	Author(s)
2A1	478	Integrating and Sequencing Flows in Terminal Maneuvering Area by Evolutionary Algorithms	Catya Zuniga, Daniel Delahaye, Miquel A. Piera
	505	Performance of Airborne Precision Spacing Under Realistic Weather Conditions	Frederick Wieland, Michel Santos, William Krueger, Vincent Houston
	518	Analysis of a Wind Compensation Tool for the Relative Position Indicator (RPI)	Joseph Hopper
2A4	529	Relative Position Indicator for Merging Mixed RNAV and Vectored Arrival Traffic	Stephen Atkins, Brian Capozzi
2A5	562	A Separation Standard for Departures Transitioning from Terminal to En Route Control	Ralf H. Mayer, Dennis J. Zondervan, Albert A. Herndon
	589	Satellite Based Voice Communication System for ATC with Sector Virtualization	Dieter Eier

Session B - Surface CDM and Capacity

Chris Brinton, Mosaic ATM

2B1	598	Valuating Surface Surveillance Technology for Collaborative Multiple-Spot Control of Airport Departure Operations	Pierrick Burgain, Eric Feron, Sang Hyun Kim
2B2	625	Departure Flow Control Through Takeoff Sequence Optimisation: Setup and Results of Trials at Athens Airport	Meilin Schaper, Gina Tsoukala, Rania Stavrati, Nikos Papadopoulos
2B3	660	Airport Surface Management as a Distributed Supervisory Control Task	Philip Smith, Alicia Fernandes, Ken Durham, Mark Evans, Amy Spencer
2B4	689	A Refined Model for Identifying Unavoidable Portion of the Impact of Weather and Other Factors on Airport Operation	Alexander Klein, Robert S. Lee, Michael Robinson
2B5	714	Improving Departure Taxi Time Predictions Using ASDE-X Surveillance Data	Amal Srivastava
2B6	737	A Probabilistic Airport Capacity Model for Improved Ground Delay Program Planning	Christopher Provan, Lara Cook, Jon Cunningham

Session C - Surface Management and Automation **Ben Levy, Sensis**			
	758	Mining Airport Surveillance for Operational Insights	Timothy Waldron
2C2	772	Causality of Surface Movement Anomalies at KJFK Airport	Sherry Borener, C.J. Knickerbocker, Ben Levy, Tim Waldron
	794	Improving Taxi Traffic Flow by Real-Time Runway Sequence Optimization using Dynamic Taxi Route Planning	Joris Koeners, Erwin Stout, Richard Rademaker
2C4	806	Optimal Mixed-Mode Runway Scheduling - Mixed-Integer Programming for ATC Scheduling	Andrea Peter, Hartmut Helmke, Sebastian Pokutta, Uwe Siebert, Olga Gluchshenko
2C5	843	The Tower Flight Data Manager Prototype System	Vineet Mehta
2C6	868	Robustness of Two Air Traffic Scheduling Approaches to Departure Uncertainty	Adrian Agogino, Joseph Rios
Session D - Scheduling, Metering and Delivery **Jonathon Lee and Jason Glaneuski, Volpe Center**			
2D1	890	Reinventing High Density Area Departure Traffic Management	Lixia Song, Christine Taylor, Tudor Masek, Bill Bateman
2D2	913	Optimal Time Advance in Terminal Area Arrivals: Throughput vs. Fuel Savings	Alexander Sadovsky, Harry Swenson, William Haskell, Jasenka Rakas
2D3	963	Trajectory Predictor Performance Experiment Using Required Time of Arrival during Descent	Mike Paglione, Ben Musialek, Christina Young, Carl Pankok
2D4	985	Seattle Required Time-of-Arrival Flight Trials	Mahesh Balakrishna, Thomas Becher, Paul MacWilliams, Joel Klooster, Patrick Smith
2D5	1007	Investigating the Impact of Off-Nominal Events on High-Density 'Green' Arrivals	Todd Callantine, Christopher Cabrall, Michael Kupfer, Lynne Martin, Joey Mercer
2D6	1031	Prediction of Weather Impacted Airport Capacity using Ensemble Learning	Yao Wang
Session E - Capacity and Efficiency **Seamus McGovern, US Dept of Transportation**			
2E1	1049	Efficient Climb and Descent Benefit Pool	Mary Ellen Miller, Michael Graham, James Aldous
	1072	Speed Control on RNAV OPD for Near-Term ATM Tracon Operations	Julien Scharl, Ann Berner, Aslaug Harladsdottir
2E3	1082	Analysis of Top of Descent (ToD) Uncertainty	Craig Johnson
2E4	1105	A Simulation-Based Method for Estimating Metroplex Efficiency	Leihong Li, Jong Wook Park, John-Paul Clarke

Track 3 - Tools and Procedures for Improved ATM Efficiency

John Moore, Boeing and Mark Weber, Lincoln Lab

Session A - Airspace

Yosef Gavriel Tirat-Gefen, Castel Research Inc.

Papers	Present.	Title	Author(s)
3A1	1127	Comparing Methods for Dynamic Airspace Configuration	Shannon Zelinski, Chok Fung Lai
3A2	1174	Initial Validation of a Convective Weather Avoidance Model (CWAM) in Departure Airspace	Mikhail Rubnich, Rich DeLaura
3A3	1194	Trajectory-Based Complexity (TBX): A Modified Aircraft Count to Predict Sector Complexity during Trajectory-Based Operations	Thomas Prevot, Paul Lee
3A4	1218	User Selection Criteria of Airspace Designs in Flexible Airspace Management	Hwasoo Eric Lee, Paul U. Lee, Jaewoo Jung, Chok Fung Lai
3A5	1247	Massively Parallel Processing for Dynamic Airspace Configuration	Bart Gallet, Chris Brinton

Session B - Conflict Detection and Conformance Monitoring

Katie Shepley and Ray Stanley, MITRE

3B1	1265	Role of the Controller in an Integrated Pilot-Controller Study for Parallel Approaches	Savita Verma, Thomas Kozon, Deborah Ballinger, Sandra Lozito, Shobana Subramanian
3B2	1288	Evaluation of a Genetic Algorithm That Modifies Air Traffic Data for Conflict Probe Testing	Bryan Petzinger, Robert Oaks, Mike Paglione, Christina Young
	1310	Integration of Weather Avoidance and Traffic Separation	Maria Consiglio, James Chamberlain, Sara Wilson
3B5	1324	Converging Runway Display Aid in the NAS: Challenges, Successes and Outlook.	Anand Mundra
	N/A	Effectiveness of a Spatial Algorithm for Air Traffic Controller Use in Airport Surface Conformance Monitoring	Ray Stanley

Session C - Flow Management

John McCarron, FAA and Lixia Song, MITRE

3C1	1351	Air Traffic Optimization on Data-Driven Network Flow Model	Aude Marzuoli, Maxime Gariel, Adan Vela, Eric Feron
3C2	1377	Scheduling Algorithms for ATM Applications - Tools and Toys	Hartmut Helmke
3C3	1412	A Case for Mean Field Games in Airspace Congestion Forecasting	Vlad Popescu, Eric Feron, Karen Feigh
3C4	1434	Interaction of Airspace Partitions and Traffic Flow Management Delay	Hak-Tae Lee, Gano Chatterji, Kee Palopo

3C5	1455	A Human Relatable Course of Action Planner for Air Traffic Coordinators	Chris Brinton, Bart Gallet
3C6	1480	Traffic Flow Management Exploiting Increased Navigation Performance	Rafal Kicinger, Jimmy Krozel, Ray Jakobovits, Pierrick Burgain
Session D - DST/Trajectory Optimization **Adan Vela, Georgia Tech and Anand Mundra, MITRE**			
	N/A	Integration of Route-Specific Weather Impacts in Airport Capacity Optimization Models	Dale Joachim
3D2	1511	Evaluating Surface Trajectory-Based Operations Concepts Through A Human-in-the-Loop Simulation	Emily Stelzer, Raymond Stanley, Kathryn Shepley
3D3	1536	Trajectory Management Driven by User Preferences	Sergio Torres, Joel Klooster, Joachim Hochwarth, Raj Subbu, Ren Liling
3D4	1553	Cross-Polar Aircraft Trajectory Optimization and the Potential Climate Impact	Hok K. Ng, Banavar Sridhar, Shon Grabbe, Neil Chen
3D5	1578	Trajectory Assessment and Modification Tools for Next Generation Air Traffic Management Operations	Connie Brasil, Paul Lee, Thomas Prevot, Nancy Smith, Matthew Mainini
3D6	1607	Quantitative Analysis of Aircraft Height on Final Approach	Marshall Koch, Alex Buchholz
Trajectory Prediction **Bernd Korn, German Aerospace Center (DLR)**			
	N/A	Overview of Three-Dimensional Path Arrival Management	Elida Smith
3E2	1631	Impact of Missing Longitudinal Aircraft Intent on Descent Trajectory Prediction	Jesper Bronsvoort, Greg McDonald, Mike Paglione, Carlos Garcia-Avello, Christina Young
	1656	A Global Airspace Model for 4D-Trajectory-Based Operations	Alexander Kuenz
3E4	1665	Prediction of Noise Exposure Levels Using Simulated Flight Trajectories	Barbara Jandl, Carl-Herbert Rokitansky

Track 4 - Communications, Navigation, Surveillance (CNS)

Wolfgang Schuster, Imperial College London and Dave Nakamura, Boeing

Session A - Navigation 1

Denise Ponchak, NASA Glenn Research Center

Papers	Present.	Title	Author(s)
4A1	1686	Analysis of Advanced Flight Management Systems (FMS), Flight Management Computer (FMC) Field Observations Trials: Area Navigation (RNAV) Holding Patterns	Albert Herndon, Michael Cramer, Tommy Nicholson, Sam Miller
4A2	1718	Position Validation Strategies using Partially Observable Markov Decision Processes	Mykel Kochenderfer, Kevin Shih, James Chryssanthacopoulos, Charles Rose, Tomas Elder
	1737	Localizer Flight Technical Error Measurement And Uncertainty	Timothy Hall, Stephen Mackey, Steven Lang, Jeffrey Tittsworth
4A4	1746	Anomaly Detection In Onboard-Recorded Flight Data Using Cluster Analysis	Lishuai Li, Maxime Gariel, R. John Hansman, Rafael Palacios
4A5	1773	Concept of a Complex Navigation Signal Generator	Petr Bojda, Michal Dub
	1794	Toward Performance Based Navigation Enabled Separation Standards	Ralf Mayer

Session B - Navigation 2

Chris Hegarty, MITRE

4B1	1802	Integration of the “Constant Radius Arc to a Fix” (RF) Navigation Leg Type into NEXTGEN	Sam Miller
4B2	1823	CAT II / OTS CAT II Operations Using Existing CAT I Ground Based Augmentation System	Ferdinand Behrend, David De Smedt, Oliver Lehmann, Sylvie Grand-Perret
	1855	State of Art in Airport Navigation	Audrey Guilloton
4B4	1866	TRN Revisited: A Systematic Design of a GPS Inspired Adaptive Tracking Loop	Daniela Vaman
	1889	Towards Higher Levels of Automation in Taxi Guidance: Using GBAS Terminal Area Path Msg. for Transmitting Taxi Routes	Thomas Ludwig, Korn Bernd, Robert Geister
	1900	Antenna Array for Doppler Cancellation in Aircraft	Chao Zhang

Session C - Communication

Steven Young, NASA Langley Research Center

4C1	1909	AeroMACS - An Airport Communications System	Max Ehammer, Elias Pschernig, Thomas Graüpl
	1934	Improving the Performance of AeroMACS by Cooperative Communications	Paola Pulini, Marco Chiani

	1944	L-Band Compatibility of LDACS1	Nicolas Schneckenburger, Nico Franzen, Snjezana Gligorevic, Michael Schnell
4C4	1955	LDACS1 Data Link Layer Evolution for ATN/IPS	Thomas Graüpl, Max Ehammer
4C5	1985	Overview of Interference Situation and Mitigation Techniques for LDACS1	Ulrich Epple, Michael Schnell
	2009	Interference Estimation in an Aeronautical Ad Hoc Network	Frederic Besse, Alain Pirovano, Fabien Garcia, Jose Radzik
Session D - Communication/ Surveillance **Michael Schnell, German Aerospace Center (DLR) and Brent Phillips, FAA**			
4D1	2020	Statistical Distribution of Line-of-Sight and Reflected Path in the Aeronautical Channel	Michael Walter, Michael Schnell
4D2	2038	An Examination of Selected Datacom Options for the Near-Term Implementation of Trajectory Based Operations	Walter Johnson, Joel Lachter, Vernol Battiste, Veranika Lim, Summer Brandt
4D3	2068	LTE Performance in the Airport Surface Area Channel	David Matolak, Qiong Wu, Juan Sanchez, Mari-Carmen Aguayo-Torres
4D4	2085	Broadband Air-to-Ground Communications with Adaptive MIMO Datalinks	Chao Zhang, Yannian Hui
4D5	2105	Surveillance Range and Interference Impacts on Self-Separation Performance	Zahra Khan, Husni Idris, Maria Consiglio, David Wing
	2139	Using the Future L-Band Communication System for Navigation	Michael Schnell
Session E - Surveillance **Chris Daskalakis, Volpe**			
4E1	2150	TCAS Surveillance Algorithm Modification for Reduced Channel Utilization	Charles Rose, Tomas Elder
	2169	Comparison of ASR-11 and ASR-9 Surveillance Radar Azimuth Error	Colin Mayer, Panos Tzanos
4E3	2175	An Algorithm for Conflict Detection in Dense Traffic using ADS-B	Maxime Gariel, Fabrice Kunzi, R. John Hansman
	2199	A Mode S Decoding Scheme Using Equalization for Multilateration Systems	Yasunori Nouda, Hiroyasu Sano, Akinori Taira, Hiroshi Kubo

Track 5 - Unmanned Aircraft Systems (UAS)

Rose Mooney, AAI/Textron and Bob Smith, Wright Patterson AFB

Session A - Airspace Integration

John Walker, John Walker Group

Papers	Present.	Title	Author(s)
	2207	Netherlands MALE UAS: Airspace Integration Challenges & Innovations	LtCol Armand Goossens, Erik Theunissen, Lt Jochum Tadema
	N/A	Question and Answer Session	John Walker, Rose Mooney
	2218	The NEO Spiral II Program: An FAA/Industry Exploration of Unmanned Aircraft System Integration in the National Airspace	Samet Ayhan, Paul Comitz, David Sweet , Les Robinson , Florian Hafner
5A4	2330	Integrating the UAS Intelligent Analyzer for Lost Link Comm into a UAS Testbed	Ricky Sward, Qian Hu, Jason Letourneau, Galen Williamson, Chris Jella
	2248	Tailored Airworthiness Standards for Unmanned Aircraft Systems	Stephen Cook
5A6	2257	Modeling Conflicts Resolution of Unmanned Aircraft System Using a Lightweight Duration Calculus	Diogo Branquinho Ramos, Rovedy Aparecida Busquim e Silva, Inaldo Capistrano Costa, Emilia M. Colonese, José Maria Parente de Oliveira

Session B - Sense and Avoid 1

Rick Sward, MITRE

	2282	Development of Simulator for Aircraft Ad Hoc Networks	Ki-Il Kim, SeUng Hyeon, SangWoo Yang, JinSeob Yi
	2290	An Automated General Aviation Protection System for Manned and Unmanned Aircraft	Neale Fulton, Richard Baumeister, Mark Westcott, Regina Estkowski
5B4	2306	Autonomous Collision Avoidance Based on Aircraft Performances Estimation	Marco Melega, Samuel Lazarus, Al Savvaris
5B5	2342	Environment Modeling for Sense and Avoid Sensor Safety Assessment	John Griffith, Seung Lee
5B6	2368	Ground Control Station Avionics Software Development in ANKA UAV	Barış Kayayurt, İhsan Yayla, Ahmet Yapici, Celal Küçükoğuz

Session C - Sense and Avoid 2 **Mauricio Castillo-Effen and Liling Ren, GE Global Research**			
5C1	2384	Automatic Collision Avoidance System: Design, Development and Flight Tests	Salvatore Luongo, Vittorio Di Vito, Giancarmine Fasano, Domenico Accardo, Lidia Forlenza
5C2	2405	Non-Cooperative Collision Avoidance Concept for Unmanned Aircraft System Using Satellite-Based Radar and Radio Communication	Ming-Shih Huang, Ram Narayanan
5C3	2426	Multi-Sensor Data Fusion: a Tool to Enable UAS Integration into Civil Airspace	Giancarmine Fasano, Lidia Forlenza, Anna Elena Tirri, Domenico Accardo, Antonio Moccia
5C4	2455	Synthetic Vision for Remotely Piloted Aircraft in Non-Segregated Airspace	Oscar Torres, Jorge Ramirez, Cristina Barrado, Joshua Tristancho
5C5	2470	UAS Insertion into Commercial Airspace: Europe and US Standards Perspective	Eric Euteneuer, George Papageorgiou
5C6	2488	UAS Behavior Modeling Based on High Level Abstraction	Sonia Mansilla
Session D - Uninhabited Aircraft Systems (UAS) Control **Robert Kerczewski, NASA Glenn Research Center and Dr Sharif Ali, GE Aviation**			
5D1	2507	Using Formal Methods To Verify Safe Deep Stall Landing of a MAV	Wolfgang Pointner
5D2	2526	An Advanced System for Performance Evaluation of Integrated Navigation Systems	Giancarmine Fasano, Alfredo Renga, Domenico Accardo, Michele Grassi, Roberto Senatore
	N/A	NASA UAS in NAS Project	Robert J. Kerczewski
	N/A	FAA UAS in NAS Project (UFIT/CRDA)	Sherif Ali, Ph.D.
Session E - Uninhabited Aircraft Systems (UAS) Applications **Kevin Clark, Volpe National Transportation Systems Center**			
5E1	2551	Common Avionics System Design For Serial Unmanned Adaption RUAS	Lei Zhang, Hongzhe Xu, Zhe Wu

Track 6 - Human Factors and Synthetic Vision Systems

Elly Smith, MITRE and Kenneth Allendoerfer, FAA

Session A - Concepts and Flight Deck Human Factors

Divya Chandra, Volpe National Transportation Systems Center

Papers	Present.	Title	Author(s)
6A1	2578	Integrating Human Factors Principles into Systems Engineering	Zarrin Chua, Karen Feigh
6A2	2602	Trading Energy for Knowledge: Outside the NextGen Box	Hugh Blair-Smith
6A3	2624	Human Factors Considerations in Prototyping an En Route Data Communications Human Computer Interface	Ben Willems, Sehchang Hah, Ken Schulz
6A4	2645	Using Neural Networks to Assess Human-Automation Interaction	Katlyn Sullivan, Karen Feigh, Francis Durso, Ute Fischer, Vlad Pop
6A5	2673	Piloting Changes to Changing Aircraft Dynamics: What Do Pilots Need to Know?	Anna Trujillo, Irene Gregory
	2699	Wake Turbulence Avoidance Automation: Evaluation of Feasibility and Impact	Steven Estes, Marshall Koch, Clark Lunsford, Andrew Mendolia

Session B - Flight Deck Human Factors and Collision Avoidance

Colleen Donovan, FAA

6B1	2710	The Use and Understanding of the Proximate Status Indication in Traffic Displays	Michael Zuschlag, Divya Chandra, Rebecca Grayhem
6B2	2736	Flight Deck Interval Management and Delegated Separation for Equivalent Visual Operations	Lawrence Prinzel
6B3	2765	Control Theoretic Concept for Intuitive Guidance of Pilots during Taxiing	Steffen Haus, Alexander Sendobry, Carole Urvoy, Uwe Klingauf
6B4	2799	Human Computer Interaction Issues with Touch Screen Interfaces in the Flight Deck	Sridher Kaminani
6B5	2815	Integrating Vector Overlay Information Into Naval Digital Map Systems	Marvin Roe, Michael Trenchard, Maura Lohrenz

Session C - Human Factors in Airspace and Procedures

Dan Boyle, Boeing

6C1	2832	First Findings on the Controller's Mental Model in Sectorless Air Traffic Management	Bettina Birkmeier, Frank Flemisch, Bernd Korn
6C2	2859	Identifying Functional Requirements for Flexible Airspace Management Concept using Human-in-the-loop Simulations	Paul Lee, Kim Bender, Danielle Pagan

6C3	2894	Enhancing Pilot Ability to Perform CDA with Descriptive Waypoints	Michael LaMarr, Nhut Ho, Walter Johnson, Vernol Battiste, Joe Biviano
6C4	2920	Soft System Analysis to Integrate Technology & Human in Controller Workstation	James Poage, Caroline Donohoe, Jonathan Lee
6C5	2938	Navigation System Autonomy and Integration in NextGen: Challenges and Solutions	Eric Theunissen, Richard Rademaker, Tony Lambregts
	N/A	Analysis of Runway Incursions and their Causal Factors	Elida C. Smith
Session D - Air Traffic Control Tools and Procedures with Workload Considerations **Todd Lovell, Raytheon**			
	2960	The Relative Value of Trajectory Prediction and Conflict-Resolution Algorithms	Adan Vela, John-Paul Clarke, Eric Feron, William Singhose
6D2	2971	Effects of Scheduling and Spacing Tools on Controllers' Performance and Perceptions of Their Workload	Lynne Martin, Harry Swenson, Alexander Sadovsky, Jane Thipphavong, Liang Chen
6D3	2995	Evaluation of the Impact of Data Communications Equipage Level on Air Traffic Controller Workload Using the Functional Near Infra-Red Imaging Technique	Ben Willems, Sehchang Hah, Ken Schulz
6D4	3016	Estimating the Likelihood of Success in Departure Management Strategies during Convective Weather	Rich DeLaura, Ngaire Underhill, Yari Rodriguez
	3040	Analyze Possible Benefits of Real-time Taxi Flow Optimization Using Actual Data	Joris Koeners, Richard Rademaker
	N/A	When Tools Collide: Human Factors Effects of Using Multiple ATM Tools in Combination	Kenneth Allendoerfer
Session E - Synthetic Vision Systems and Surface Applications **Ben Willems, FAA and Atul Deshmukh, Hi-Tec Systems**			
6E1	3051	Towards a Seamless Integration of Awareness Support and Alerting Systems: Why and How	Eric Theunissen, Maarten Uijt de Haag
6E2	3076	Emergency and Precautionary Landing Assistant	Petr Frantis
	3097	Affordable Multisensory Situational Awareness for Aircraft Applications	Todd Lovell

Track 7 - Avionics Design

Justin Littlefield, GE Aviation

Session A - Integrated Modular Avionics (IMA)

Larry Kinnan, Windriver

Papers	Present.	Title	Author(s)
	3107	Integrated Modular Avionics Onboard of Small Airplanes - Fiction or Reality	Pavel Paces, Tomas Levora, Ondrej Bruna, Jan Popelka, Jiri Mlejnek
7A2	3119	Model Driven Early Exploration of IMA Execution Platform	Michaël Lafaye, Marc Gatti, David Faura, Laurent Pautet
7A3	3149	A Versatile Input Interface for Avionic Computers	Antoine Canu, David Faura, Patrice Toillon, Marc Gatti, Philippe Benabes
	3179	Rearchitecting Legacy LRUs to Support Distributed IMA	Andrew Hull

Session B - Networks

Wilfried Steiner, TTTech

	3189	Leveraging MIL-STD-1553'S Physical Layer for Use in Aircraft Data Networks	Michael Hegarty
	3197	Military and Aerospace Standards for Digital Avionics Fiber Optic Systems	Mark Beranek
7B3	3209	A Tight End-to-End Delay Bound and Scheduling Optimization of an Avionics AFDX Network	Melhem Tawk, Guchuan Zhu, Yvon Savaria, Xue Liu, Jian Liu and Fei Hu
7B4	3229	A Bifilar Approach to Power and Data Transmission Over Common Wires in Aircraft	Stephen Dominiak, Hanspeter Widmer, Markus Bittner, Ulrich Dersch
	3254	TTA and PALS: Formally Verified Design Patterns for Distributed Cyber-Physical Systems	Wilfried Steiner, John Rushby
7B6	3269	Proximity Synchronization for Mobile Wireless Sensor Networks	Michael Lingg, Greg Wolffe

Session C - Safety and Certification Applications

Mike DeWalt, FAA and Ted Bayruns, Boeing

7C1	3291	Autocoding Control Software with Proofs I: Annotation Translation	Romain Jobredeaux, Timothy Wang, Eric Feron
7C3	3314	Automatic Safety Computation for IMA Systems	Uwe Salomon, Reinhard Reichel
7C4	3334	Using Assertions to Satisfy DO-254 Elemental Analysis	David Landoll, Steven Beland
7C5	3369	Finding System-Level Failures in Flight-Critical Software Systems	Misty Davies, Greg Limes
7C6	3390	New Methodology to Develop Certified Safe and Secure Aeronautical Software - An Embedded Router Case Study	Antoine Varet, Nicolas Larrieu

Session D - Systems **Ralf Mayer, MITRE**			
7D1	3417	Improving Performance and Reliability Assessments of Avionics Systems	Stephan Marwedel, Nils Fischer, Horst Salzwedel
7D3	3429	A Design Approach for Predictable and Efficient Multi-Core Processor for Avionics	Hicham Agrou, Pascal Sainrat, Marc Gatti, David Faura, Patrice Toillon
	3456	Design for Testability in Embedded Software Projects	Gaurav Sahay
7D5	3466	FPGA Level In-Hardware Verification for DO-254 Compliance	Louie De Luna
7D6	3480	Management of Control Channels Under Actuator Failure: an Optimization Approach	Felix Mora-Camino, Lunlong Zhong, Hongying Wu, Hakim Bouadi
Session E - Software Applications **Will Johnson, NASA**			
7E1	3506	Full Virtualization Based ARINC 653 Partitioning	Sanghyun Han, Hyun-Wook Jin
7E2	3537	Minimal Embedded Robustness Requirements Analysis	Matt Jaffe
7E3	3555	A Modular Software Framework Supporting Simulation-Driven Optimization Techniques	Marco Enriquez
7E4	3579	A Comparison Between Automated Generated Code Tools Using Model Based Development	Guilherme Correa, Adilson Cunha, Luiz Dias, Osamu Saotome
Track 8 - Advanced Avionics **Peter Skaves, FAA**			
Session A - Space **Zheng Tao, MITRE**			
Papers	Present.	Title	Author(s)
8A1	3599	The Necessity of Functional Analysis for Space Exploration Programs	Allan Morris, Julian Breidenthal
8A2	3623	A Probe of Concept for Femto-Satellites Based on Commercial-off-the-Shelf	Joshua Tristancho, Jordi Gutierrez-Cabello
8A3	3643	A Synthetic Aperture Antenna For Femto-Satellites Based on Commercial-off-the-Shelf	Enric Fernandez-Murcia, Luis Izquierdo, Joshua Tristancho
8A4	3661	Next Generation of Sensors for Femto-Satellites Based on Commercial-off-the-Shelf	Luis Izquierdo, Joshua Tristancho
8A5	3675	Time and Space Partitioning Security Components for Spacecraft Flight Software	James Windsor, Knut Eckstein, Peter Mendham, Thomas Pareaud
8A6	3698	IMA for Spacecraft - User Requirements, Architecture & Role Definition	James Windsor, Marie-Hélène Deredempt, Regis De-Ferluc

Session B - Human Machine Interface Applications **Randy Mumaw, Boeing**			
8B1	3723	MBD & Code Generation: A Cost-Effective Way to Speed up HMI Certification	Luc Marcil
8B3	3747	Reinventing the Past: Avionics Systems That Didn't Make It	Erik Theunissen, Tim Etherington
8B4	3778	Socio-Technical Framework of Hazard Identification in Trajectory-Based Operations	Xidong Xu, John Brown, Tom Holford, Jim Mast, Marissa Singleton
Session C - Surveillance and Alerting Applications **Mary Ellen Miller, Mosaic ATM**			
	3806	Hazard Tracking with Integrity for Surveillance Applications	Rajesh Bezawada, Pengfei Duan, Maarten Uijt de Haag
8C3	3821	An Accurate Numerical Method for Estimating the Delay Between Two Omni-Directional Receiving Elements	Rangarao Kaluri, Shridhar Venkata Narasimhan
8C4	3837	Blade-Tip Close Warning Situational Awareness Laser System For Improving Helicopter Safety	Lei Zhang, Yaoming Zhou, Zhe Wu
	3863	Auto GCAS for Analog Flight Control System	Amy Burns, Daniel Harper, Arthur Barfield, Shawn Whitcomb, Brian Jurusik
	3874	Evaluating ASR-9 Azimuth Error Models Through Analysis of Targets of Opportunity	Colin Mayer, Panos Tzanos
Session D - General Applications **Worth Kirkman and Kevin Gormley, MITRE**			
8D1	3880	Electronic Flight Bag (EFB) Policy and Guidance	Peter Skaves
8D2	3906	Agent-Based Model of Aerial Ad-Hoc Network Market Potential	Christopher Watkins, Cihan Dagli
8D3	3931	High-Speed Generator - Converter Set for Auxiliary Power Units	Jan Leuchter, Pavol Bauer
	3961	Discussing Millimeter Wave Pencil Beam Radar for Terrain Visualization	Sven Schmerwitz, Niklas Peinecke, Hans-Ullrich Doehler, Thomas Lueken, Bernd Korn
	N/A	Enhancing Vision for General Aviation	Brennan Haltli
Session E - Surface Guidance Applications **Kirk Baker, FAA**			
8E1	3971	Situation Awareness through the Integration of Transient Information into Future Cockpit Taxi Guidance	Nico Zimmer, Theo Hankers, Keyvan Bayram, Peter Hecker, Jens Schiefele
8E2	3989	Airport Routing & Safety Nets Based on Standardized Surface Movement Description	Guillermo Frontera, Juan A. Besada, Rafael de Andrea, David J. Martín

8E3	4011	Design of an Airport Surface Routing Evaluation Tool	David J. Martín, Guillermo Frontera, Iñigo Marquínez, Ángel Carrasco, Juan A. Besada
	4034	Aerodrome Mapping Databases Supporting Taxi Routing Functions	Christian Pschierer, Brian Gilbert, Cynthia DeBisschop, Sam Van der Stricht