National Aeronautics and Space Administration

Airspace Systems Program Newsletter

APR–JUN 2014

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// Technical/Programmatic Highlights

Autonomy Discussion with Office of Naval Research, April 2013

A meeting was held on April 2 at NASA Langley Research Center with Dr. Julie M. Stark of the Office of Naval Research - Global (ONR-G) and Langley personnel. Present from Langley were Dr. Natalia Alexandrov, Mr. Mike Marcolini and Mr. Kurt Neitzke of the Aeronautics Systems Analysis Branch, and Mr. Mark Motter and Mr. Garry Qualls of the Engineering Directorate. The purpose of the meeting was to discuss mutual interest in the area of autonomy and autonomous systems.

Dr. Stark said that ONR-G was primarily interested in autonomy related to unmanned systems, and she made particular note of the NASA Langley work on airborne autonomous systems. Motter and Qualls shared their detailed efforts in that area, and Dr. Alexandrov and others discussed recently initiated efforts, including the Autonomy Incubator and the Inter-Center Autonomy Study Team. Dr. Stark explained that ONR-G exclusively funds international partners (no domestic), and that collaboration with Langley may be possible in situations where ONR-G may be able to fund an international partner. Also, ONR-G is able to collaborate with other ONR directorates that are able to fund domestic partners, and in potential collaboration with Langley.

Mr. Qualls mentioned the website for the NASA Centennial Challenge–Unmanned Aircraft Systems Airspace Operations Challenge to Dr. Stark. Dr. Alexandrov provided an introduction for Dr. Stark to Dr. Parimal Kopardekar, project manager for the Concepts and Technology Development (CTD) Project within the Airspace Systems Program, specifically citing the "AutoMax" focus area within CTD. Dr. Stark said she would share her presentation slides that outline the requirements that ONR-G and prospective partners must satisfy for collaboration to occur.
(POC: Natalia Alexandrov)

Air and Space Traffic Management Workshop, April 2013

A technical workshop on integrated air and space traffic management was held at NASA Ames Research Center on April 18. The workshop attracted more than two dozen participants, including 12 Federal Aviation Administration (FAA) personnel representing the FAA's Next Generation Air Transportation System (NextGen), Commercial Space Transportation, Command Center and Technical Center. Other organizations participating in the workshop were Stanford University, Florida Tech, Cal Poly, the U.S. Air Force Research Lab and NASA Ames.

The briefings covered various aspects of air and space traffic integration: NextGen vision and goals, current operational practices and constraints, and analyses of future operational concepts and technologies. Current operational practice is very conservative because it requires large time/space reservations to protect air traffic from a variety of possible malfunction scenarios.

There was consensus among workshop participants that NextGen operations should provide equitable

sharing of airspace resources by issuing air traffic restrictions strategically based on the nominal spacecraft trajectory, and then imposing additional tactical restrictions only as required in the event of an actual malfunction. Accomplishing this goal will require an integrated set of real-time technologies for trajectory-information sharing, debris-envelope computation, and decision support for issuing aircraft reroute/hold advisories. Participants from NASA, the FAA, and Stanford agreed to coordinate their work going forward and share relevant tools/data.
(POC: Karl Bilimoria)

Future ATM Space Apps Challenge Code-a-thon, April 2013

On April 20, NASA's Airspace Systems Program issued a 48-hours-long Space Apps Challenge to develop a gaming and technology crowd-sourced development platform to evolve the best ideas for future air traffic management (ATM). Key ATM functions include, but are not limited to, flight planning, scheduling, airport surface movement, rerouting airborne aircraft based on weather and winds, and efficient arrival/departure planning from gate to gate.

The gaming and technology development platform will allow the public to participate as a controller, pilot, dispatcher or flow manager. The platform will simulate at least five airports and connecting flights within the United States, and show gate-to-gate operations. The platform will also allow the users to change the roles and responsibilities of the controller, pilots and dispatchers with appropriate decision-support capabilities. For example, the conflict detection and resolution task can be performed either by the controller or pilots.

Such a rapid app-development timetable doesn't permit a complete simulation of the entire air traffic management system. However, the ultimate goal of the effort is to build a scalable, open-source, development and gaming framework where others can add airports, routes, airspace details and aircraft characteristics. Proposed projects will involve developers from the U.S., Canada, Australia, Bolivia, Ecuador, Bahrain and India. The York team was commended for its "No Delays York" project and the organizers are now assessing the products.
(POC: Parimal Kopardekar)

NASA Langley Provides Expertise to ONR Autonomy Program, April 2013

On April 23-24, Dr. Danette Allen served as a subject matter expert on the government review team for the Office of Naval Research (ONR) Autonomous Aerial Cargo Utility System (AACUS) Program's preliminary design review for the Tactical Autonomous Aerial Logistics System (TALOS). The TALOS proposal would develop an AACUS sensing and perception subsystem and a motion-planning and autonomy subsystem.

Critical design reviews for both TALOS and the Open-Architecture Planning and Trajectory Intelligence for Managing Unmanned Systems efforts will be conducted over the summer. Proposers will demonstrate

their prototype systems at Marine Corps Base Quantico in February 2014. Based on a demonstration flight, ONR will downselect to one contractor, who will then ready their prototype for a more complex demonstration the following year.
(POC: Danette Allen)

I-SIM HITL Experiment Data Collection Completed, April 2013

Kurt Swieringa, research engineer at NASA Langley Research Center, completed data collection on April 26 for the Interface Study for Interval Management (I-SIM) human-in-the-loop (HITL) experiment. The purpose of the experiment was to investigate the acceptability and usability of retrofit Flightdeck Interval Management (FIM) displays in preparation for the Air Traffic Management Technology Demonstration-1 (ATD-1).

FIM is a concept that uses onboard avionics to provide speed guidance to pilots, enabling them to achieve a precise spacing interval behind a lead aircraft at a designated point in space, or maintain a precise spacing interval behind a lead aircraft. Currently, FIM is one of three technologies that have been selected to be demonstrated as part of ATD-1. Since ATD-1 will occur in the near term, radio communications will be used to transmit lengthy FIM clearances. Additionally, aircraft will likely be equipped with retrofit FIM avionics that will include an electronic flight bag (EFB) for manually entering FIM clearance data, and a primary field-of-view display for monitoring the FIM operation. In preparation for ATD-1, it was necessary to ensure that the amount of data pilots were expected to manually enter was acceptable and to determine display requirements for future avionics procurement.

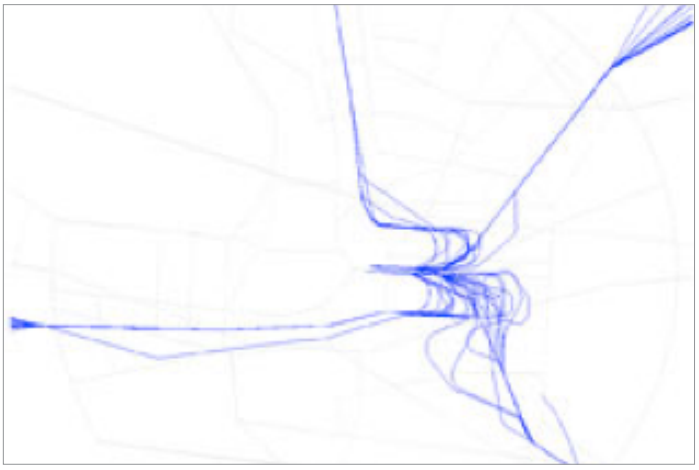
The I-SIM experiment investigated the usability and acceptability of two EFB interfaces and two primary field-of-view displays. The two EFB interfaces included one that allowed pilots to enter multiple pieces of data on a single page, and one that had a menu layout with separate pages for entering each piece of data. The two primary field-of-view displays included one that was only capable of displaying numerical information and one that was capable of displaying both numerical and graphical information.

The results from the I-SIM experiment will be used to determine display requirements for future avionics procurement, and to further develop FIM displays for follow-on ATD-1 experiments at NASA Langley.
(POC: Kurt Swieiringa)

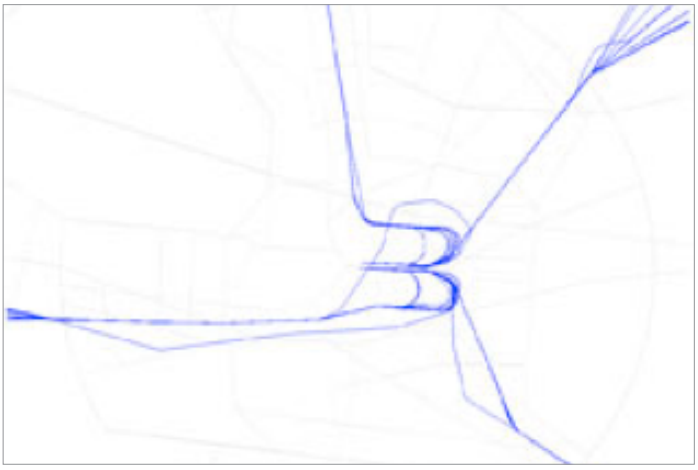
TSS Simulation Completed, April 2013

A two-week, high-fidelity air traffic control (ATC) simulation of ATD-1 technologies was completed on April 8, focusing on the Terminal Sequencing and Spacing (TSS) ground scheduling-and-control tool that the Federal Aviation Administration (FAA) has adopted. MITRE's Center for Advanced Aviation System Development conducted an independent evaluation of TSS technologies with active FAA controllers from New York, Boston and Phoenix ATC facilities in the NASA Ames Research Center ATC Lab.

The TSS system was evaluated using four different high-density ATC simulations of the Phoenix airspace with traffic levels exceeding 120% of current opera-



Baseline, No Tools



ATD-1 Tools Aided

X-Y Tracks of Arrivals in Phoenix Airspace During Simulation of ATD-1 Technologies

tions, and using advanced FAA performance-based navigation (PBN) procedures coupled with current procedures. The simulations varied the environmental conditions and compared and contrasted performance of the TSS system with current operations. The initial results indicated that, using TSS technologies, controllers could successfully execute advanced PBN procedures simultaneously with current procedures, with less delay and higher throughput than without the TSS tools.

(POC: Harry Swenson)

ATD-1 Phase 1 Avionics Recommendations and Final Report, May 2013

On May 2, Mr. Michael Koch, avionics lead for Air Traffic Management Technology Demonstration-1 (ATD-1), and other members of the NASA Langley Research Center ATD-1 team hosted representatives from The Boeing Company to receive Boeing's final report and to review their contract deliverables for the ATD-1 Phase 1 avionics-development contract. The ATD-1 concept aims to demonstrate the feasibility and value of integrating three NASA research efforts intended to achieve high-throughput and fuel-efficient arrival operations throughout busy terminal airspace.

One of these technologies, the Flight Deck Interval Management System (FIM), targets the use of advanced aircraft avionics and new flight crew procedures to conduct airborne spacing operations and support performance-based navigation requirements. The heart of FIM operations is the algorithm used to achieve and maintain a desired spacing interval. Boeing's ATD-1 Phase 1 avionics development effort concentrated on prototype concepts for integrating an algorithm based on NASA's FIM spacing algorithm – Airborne Spacing for Terminal Arrival Routes (ASTAR) – into the flight deck.

Both NASA and Boeing consider the Phase 1 activity to be a strong success, meeting its intended objectives

and providing the ATD-1 team with valuable information for future FIM avionics system development. The prototype-recommendation results delivered under the contract will serve as a basis for the system architecture and functional requirements for further development of FIM avionics in a Phase 2 effort. Under the Phase 1 contract, the cost and schedule requirements of integrating the recommended FIM avionics system into simulator assets for both NASA and the FAA, and in a commercial transport class aircraft, were also explored. The resulting estimates aligned well with NASA's expectations.

ATD-1 aims to equip multiple aircraft with FIM to demonstrate in-flight interval management operations in the 2016-2017 timeframe; the Phase 1 avionics effort is the first step to meeting that goal. The information generated by this and all other ATD-1 activities will further inform the FAA and industry on the FIM concept and its viability, and facilitate its technology transfer into the national airspace system.
(POC: Michael Koch)

Langley Hosts NASA Administrator Charles Bolden for Demonstrations, May 2013

NASA's Langley Research Center hosted Administrator Charles Bolden on May 10 for a demonstration of the Airspace Systems Program ATD-1 activities, as well as Enhanced Vision System (EVS) technology under evaluation. Administrator Bolden visited the Air Traffic Operations Lab and received a presentation on ATD-1 and a demonstration of the latest ATD-1 simulation activity. He then visited the Cockpit Motion Facility Research Flight Deck simulator where he flew a successful low-visibility approach into Memphis using EVS technology. The Administrator was very complimentary of the technologies and research activities, as well as the Langley facilities. Additional details concerning Mr. Bolden's visit can be found by visiting these links:

http://articles.dailypress.com/2013-05-10/news/dp-nws-nasa-bolden-visit-20130510_1_nasa-langley-research-center-nasa-boss-cockpit-simulator

http://www.nasa.gov/centers/langley/news/researchernews/rn_BoldenTour_prt.htm

http://www.nasa.gov/centers/langley/news/researchernews/BoldenVisit0510.html

SOAR Simulation Study for Metroplex Operations, May 2013

A Sharing of Airspace Resources (SOAR) simulation was conducted on May 20-24 in the NASA Ames Research Center's Airspace Operation Laboratory to explore operational issues of managing metroplex operations within airspace that is either spatially or temporally shared: otherwise known as hybrid airspace. Modeling studies have shown that hybrid airspace allows departures and arrivals in the metroplex area to be flown most efficiently, with reduced delays and decreased fuel cost. This study aimed to explore the feasibility of hybrid airspace operationally, and to develop and test procedures and tools to support it.

The research team chose a site where only spatial separation is currently used and developed a concept of operations that would allow the more efficient hybrid spacing to be used.

Use of NextGen scheduling and spacing tools enabled air traffic controllers to identify and display gaps in the arrival flows for a direct departure to pass through. A scheduling tool was developed for the tower that showed when aircraft on the direct departure route should take off in order to cross the arrival airspace during gaps in the arrival flow.

Arrival and departure operations in six terminal area sectors were iterated during the simulation. The study tested two methods for coordinating between controllers in adjacent sectors, and three tools to assist the controllers in deciding if the gap in the arrival flow would provide adequate lateral separation for use by a departing aircraft.

(POC: Everett Palmer)

NASA and US Airways Sign NRSSA, May 2013

NASA and US Airways have signed a Nonreimbursable Space Act Agreement (NRSAA) to jointly build and test a prototype decision-support tool (DST) for ramp operators at the Charlotte Douglas International Airport (CLT). The automation will assist ramp operators by providing an optimal pushback schedule for departure aircraft in the presence of uncertainties, thus improving the flow of airport surface traffic.

NASA has developed the Spot and Runway Departure Advisor (SARDA), an innovative technology for optimal surface traffic sequencing. SARDA provides a collaborative DST for airline operators and tower controllers to enhance surface traffic efficiency by reducing delays in departure queues. The core components of the

The Spot and Runway Departure Advisor (SARDA)

SARDA tool – consisting of the scheduling algorithm, taxi prediction algorithm, and interfaces with both air traffic control and airlines – have shown great promise in reducing ground traffic congestion through human-in-the-loop simulations. Per this agreement, SARDA functions will be adapted to CLT operations, and NASA and US Airways will jointly develop a customized SARDA user interface.

If this development effort is successful, US Airways could benefit by saving direct operational costs through reduction of taxi delays and fuel usage. The airline may also gain better connection of passengers and baggage, with more predictable service times for departing flights. Benefits are also anticipated for the Federal Aviation Administration through enhanced efficiency and predictability of surface operations, which in turn is expected to improve the efficiency and predictability of the national airspace system.

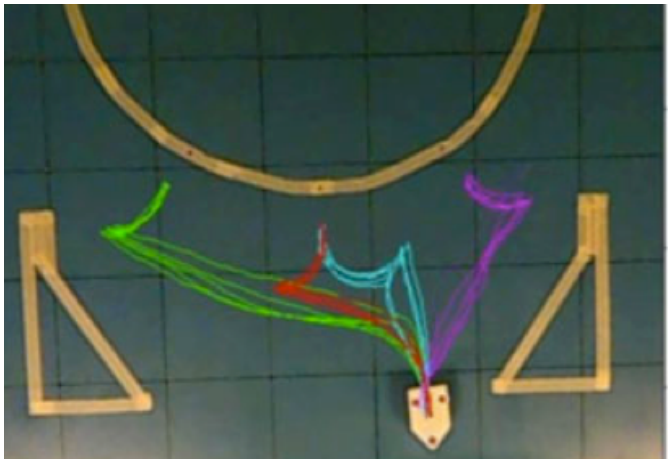
(POC: Yoon Jung)

Understanding Surface Traffic Conflicts, May 2013

Aircraft maneuvers inside the airport ramp area are frequently not confined to well-defined route segments and are subject to uncertainties due to the many different parties responsible for aircraft and gate operations. Because detailed high-resolution data about aircraft maneuvers in the ramp area are not currently available, NASA is collaborating with the University of California, Santa Cruz (UCSC) to research the structure of surface traffic conflicts and their resolutions by using E-puck robots. The goal of this research is to develop a stochastic control theory-based algorithm for gate pushback control under the presence of arrival and departure uncertainties.

The UCSC researchers have matched their robot kinematics to the kinematics of a B747-400. The human operator "pilot" drives the E-puck, which moves as if it were an aircraft. The maneuvers are recorded by a video camera. These records are used to compute time intervals and maneuver types for aircraft pushbacks that provide maximum flexibility for ramp area operations meeting a specified ramp area exit schedule.

The data collected so far include arrival and departure trajectories modeled for the Dallas/Fort Worth International Airport (DFW) Terminal C ramp area, as well as selected departure trajectories for ramp areas of Charlotte Douglas International Airport. The analysis of the DFW data provides an insight into spatio-temporal conflicts among aircraft, as well as their



A fraction of experimentally recorded trajectories in a lay-out of the scaled-down ramp area and an E-puck robot.

structure with respect to aircraft push-back times. Results will be integrated with SARDA research to help the implementation to a specific airport ramp area, and may someday be applied to a broader selection of airport ramp area layouts.
(POC: Waqar Malik)

STARS Facility Upgrade in NASA Ames ATC Laboratory, May 2013

A major enhancement to the Air Traffic Control (ATC) Laboratory at NASA Ames Research Center has been completed. Two Federal Aviation Administration Standard Terminal Automation Replacement System (STARS) workstations have been installed by Raytheon, under contract to NASA. This includes integration of the STARS systems development environment, which will enable STARS software changes to be made locally.

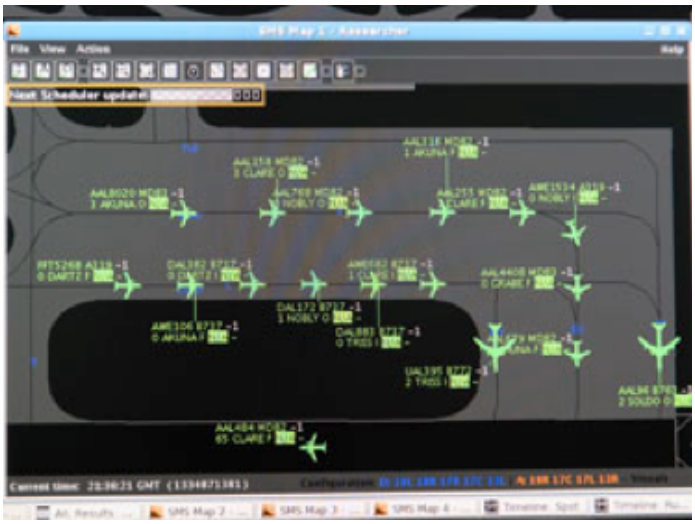
Hardware/software integration has been completed, and system test and evaluation continues through the end of May. This includes software integration of the research version of Traffic Management Advisor, NASA's Air Traffic Management Technology Demonstration-1 (ATD-1) ground based automation software, and the Multi-Aircraft Control System, NASA's air traffic control simulation capability. Both are being prepared for the Fully Integrated ATD-1 Technology-3 simulations scheduled this summer.
(POC: Harry Swenson)

NASA Researchers Receive Eurocontrol Awards, June 2013

Eight NASA Ames Research Center personnel presented their research at the 2013 FAA/Eurocontrol Air Traffic Management (ATM) Research and Development Seminar, held June 10-13 in Chicago, Illinois. This highly selective international conference is the premier venue for the exchange and discussion of technical progress in air traffic management research in the US and Europe.

Ames individuals recognized with best paper awards in the following tracks included Sandra Lozito in Human Factors: "An Investigation of Flight Deck Data Link in the Terminal Area;" Laurel Stell in Trajectory and Queue Management: "Regression Analysis of Top-of-Descent Location for Idle-Thrust Descents;" and division co-authors William Chan and Shon Grabbe in Weather in Air Traffic Management: "An Operational Evaluation of the Ground Delay Program Parameters Selection Model." Sandra Lozito's paper was also selected for the Kevin Corker Award for best overall paper at the conference.
(POC: Tom Davis)

US Airways Meeting to Discuss Airport Surface Research, June 2013



The Spot and Runway Departure Advisor (SARDA)

US Airways analysts and ramp managers met with the Spot and Runway Departure Advisor (SARDA) team at NASA Ames Research Center on June 19-20. In May, NASA and US Airways signed a Non-Reimbursable Space Act Agreement to jointly build and test decision support automation for airline ramp operators, and this meeting was one of the first formal activities to take place under the terms of the agreement. During the meeting, NASA and US Airways provided updates on

their respective research plans and goals. The NASA/SARDA team gave presentations and demonstrations specifically featuring the status of the development efforts for a human-in-the-loop SARDA simulation planned for summer 2014.

In discussing the next steps, US Airways agreed to provide staff to participate in critical design reviews for upcoming SARDA simulations. NASA researchers will also visit Charlotte Douglas International Airport in the next few months to further enhance the development of simulator graphics of the airport and relevant automation tools.

(POC: Sandy Lozito)

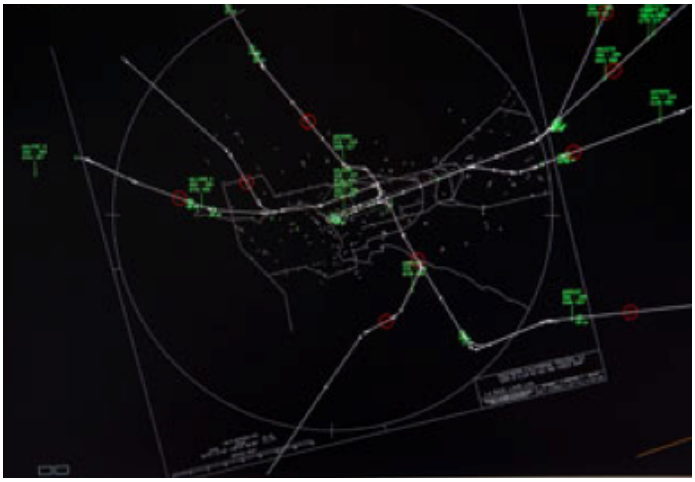
Operations at Albuquerque Center to Support FIAT-3 Experiment, June 2013

Members of the Air Traffic Management Technology Demonstration-1 (ATD-1) team traveled to the Federal Aviation Administration's Albuquerque Air Route Traffic Control Center (ZAB) to observe operations at, and gain experience with, the proposed ATD-1 test facility. The team observed operations in the Traffic Management Unit and the actual sectors that will be simulated in the Fully Integrated ATD-1 Technologies(FIAT)-3 experiment set for June 24-25. In an effort to improve realism in the upcoming ATD-1 simulation activities, the team met with the ZAB airspace manager, traffic management officer, and members of the facilities plans and procedures team.

(POC: Harry Swenson)

ATD-1 System Integration Testing, June 2013

A full system integration test and simulation was performed June 24-28 in support of ongoing Air Traffic Management Technology Demonstration-1 (ATD-1) development. The testing examined the performance of new software emulating both the Federal Aviation Administration's En Route Automation Modernization and Standard Terminal Automation Replacement System (STARS) interfaces, and the research Traffic Management Advisor (rTMA) software for the Fully Integrated ATD-1 Technologies-3 (FIAT-3) experiment scheduled for August 2013. The testing and simulations included a full controller complement using either NASA's newly acquired STARS capabilities or the Multi-Aircraft Control System STARS emulation. With the support of controllers and pilots, the team collected data on system interface issues, debugged system problems, prepared software enhancements for all components, and practiced failure modes during heavy traffic conditions. The FIAT-3 team is now well prepared for the final software checkout in July 2013.
(POC: Kevin Witzberger)



Screenshot of ATD-1 Controller Managed Spacing tools

// Awards/Papers/Appointments

Gary Lohr appointed to TRB Committee, April 2013

On April 5 Mr. Gary Lohr, aerospace engineer at NASA Langley Research Center, was appointed to the Transportation Research Board (TRB) Committee on Airfield and Airspace Capacity and Delay. Mr. Lohr will serve for a term of three years. His participation was sought based on operational background in the field of air traffic control and research on air traffic management-related issues. The TRB is a division of the National Research Council, a private, nonprofit institution that provides expertise in science and technology to the government, the public, and the scientific and engineering communities.
(POC: Gary Lohr)

SAE International Awards, April 2013

On April 16, the Society of Automotive Engineers International selected the technical paper "Modeling Weather Impact on Ground Delay Programs" by NASA Ames Research Center computer scientists Yao Wang and Deepak Kulkarni for the 2011 Arch T. Colwell Merit Award. The paper presented a study of the impact of dynamic airport surface weather on ground delay programs.

Congratulations to the 2012 ARMD Associate Administrator Award Winners!

NASA's Airspace Systems Program is pleased to congratulate our award winners from this year's Aeronautics Research Mission Directorate (ARMD) Associate Administrator Awards.

Winner/Individual Award: Mr. Joshua Holladay, an intern at NASA Ames Research Center, was honored for his enhancements to a version of the Airspace Concept Evaluation System such that both airborne- and ground-based separation concepts can be represented and tested simultaneously and impartially. Mr. Holladay also developed a software configuration management capability for the Advanced Airspace Concept.

Honorable Mention/Team Award: The Controller Managed Spacing (CMS)/Air Traffic Management Technology Demonstration-1 team (ATD-1), together with the NASA Ames Research Center Technology and Innovation Group, research partners from the Human Systems Integration Division and the Intelligent Systems Division, and personnel from NASA Langley Research Center were all recognized for their development under aggressive deadlines of an ambitious technology demonstration project to illustrate the potential benefits of integrating into the national airspace system a variety of NASA air traffic management technologies that promise significant efficiency improvements. The CMS/ATD-1 research includes multiple simulations involving numerous research labs that are evaluating new procedures for improving air traffic flow.

Honorable Mention/Individual Award: Dr. Parimal Kopardekar was honored for leadership and excellence in pioneering efforts to develop several innovative initiatives in the airspace systems area to coalesce the

Dr. Jaiwon Shin (L), Associate Administrator for ARMD, presents Josh Holladay (R) with his award.

technical community, and for his ongoing inspiration to the research community in which he works.

Winner/Team Award: Members of the NASA Aeronautics Research Mission Directorate (ARMD) Outreach Team were recognized in the category of program and mission support. Implementing and participating in an unusually high number of NASA and ARMD events in fiscal year 2012, the team was lauded for its work to communicate the value and societal benefits of NASA aeronautics research to decision-makers and to the general public. Specifically cited were Rich Coppenbarger, Matt Ma and Leslye Mogford, all of whom were instrumental in producing the first-ever "NASA Aeronautics Day" on Capitol Hill, a highly suc-

cessful informational event for U.S. Congress members and staff that significantly elevated awareness of NASA's role in improving the nation's air transportation system.

For details on these awards and to see all of the award winners, please visit *http://www.aeronautics.nasa.gov/aa_awards_2012.htm*
(POC: Kim Miller)

PDRC Fact Sheet posted to ARMD Website, April 2013

A new fact sheet for the Precision Departure Release Capability (PDRC) has been published by NASA's Airspace Systems Program and posted to the Aeronautics Research Mission Directorate (ARMD) website. The fact sheet highlights the research NASA is doing to automate portions of the tactical departure scheduling process. It can be viewed at:
http://www.aviationsystems.arc.nasa.gov/research/tactical/PDRC_Factsheet_Final_20130411.pdf
(POC: Shawn Engelland)

Heinz Erzberger, Co-Authors Receive the Kenneth Harris James Prize, May 2013

Originally published in the August 2012 issue of the Journal of Aerospace Engineering, the paper entitled "Automated Conflict Resolution, Arrival Management, and Weather Avoidance for Air Traffic Management" authored by Heinz Erzberger, Todd Lauderdale and Yung-Cheng Chu was selected on May 14 for the Kenneth Harris James Prize by the Institution of Mechanical Engineers' Aerospace Division, a professional engineering organization in the United Kingdom.

This year the Prize honors the best paper on an aerospace subject published in the Journal in 2012. The certificate for the Prize and a cash award was given in London, England. The paper describes three algorithms to address separation conflicts, arrival management, and weather avoidance, and how they can be integrated in automated separation assurance. The paper was first presented at the 27th International Congress of the Aeronautical Sciences 2010 in Nice, France. A part of the algorithm described in the paper has been incorporated into the Dynamic Weather Reroute system that NASA and American Airlines are currently evaluating in operational tests. The paper can be found at *http://www.aviationsystemsdivision.arc.nasa.gov/publications/2010/Erzberger_ICAS2010_final.pdf*
(POC: Katharine Lee)

ASP Newsletter Wins a Communicator Award of Distinction, May 2013

For its 19th Annual Communicator Awards of Distinction, the International Academy of Visual Arts has recognized NASA's Airspace Systems Program's (ASP) quarterly newsletter and the 2011 ASP Technical Integration Meeting Program Guide with Silver Awards of Distinction in the Newsletter: Government and Marketing/Promotion: Program Guide categories.

A detailed list of all winners can be found here: *http://www.communicatorawards.com/winners/list/?l=N&event=8&category=3&award=D*

Personnel Recognized for Contributions to RTCA, June 2013

Four NASA Langley researchers were honored on June 5 at the Radio Technical Commission for Aeronautics (RTCA) Annual Symposium for their outstanding contributions and accomplishments in support of RTCA activities. Mr. Randy Bailey and Ms. Lynda Kramer were recognized for their contributions to DO-341, Minimum Aviation System Performance Standards for an enhanced flight vision system to enable all-weather approaches, landings and roll-outs to a safe taxi speed. Mr. Ken Jones was cited for his contributions to DO-312, Safety, Performance and Interoperability Requirements Document for the In-Trail Procedure in Oceanic Airspace Application. Mr. Ed Johnson was noted for his contributions to DO-339, Aircraft Derived Meteorological Data via Data Link for Wake Vortex, Air Traffic Management and Weather Applications–Operational Services and Environmental Definition. Their support and accomplishments in development of performance standard documentation for key aviation technologies and data is helping to accelerate into national and oceanic airspace the implementation of potentially game-changing technologies.
(POC: Steven Velotas)

3D-PAM Team Receives Prestigious FAA Award, June 2013

NASA's Three-Dimensional Path Arrival Management (3D-PAM) Team was presented with the 2012 Federal Aviation Administration (FAA) Excellence in Aviation Research Award during a June 10 ceremony at the FAA Technical Center in Atlantic City. The Excellence in Aviation Research Award is presented each year to worthy individuals or institutions conducting research that supports the FAA's core goals to enhance safety, improve efficiency, increase capacity in the national airspace system, and continue to lay the groundwork for the Next Generation Air Transportation System (NextGen).

Only one individual and one team were so recognized this year. The 3D-PAM team was cited for conceiving, developing, and transferring to the FAA new technology and procedures to expand the capacity of the NextGen air traffic management system while simultaneously reducing the environmental footprint of aviation. Developed in concert with the FAA, Boeing and airline partners, this technology is a key element of the multi-agency NextGen effort to transform U.S. aviation operations.
(POC: Rich Coppenbarger)