



AAR-100

Human Factors Newsletter # 01-20

(September 29, 2001 – October 12, 2001)

Surface Safety Framework Study: A meeting was conducted on September 28, 2001, between the principals of the Surface Safety Framework Study and members of the ASDE-X/AMASS program offices. This meeting was successful in providing an opportunity to exchange pertinent information and experience between the Surface Safety Framework Study investigators and those in the AMASS/ASDE-X program office. The meeting offered valuable insight into several important topics, including: areas of human performance issues (e.g., human-system surveillance, detection, and response), information requirements and information sources, system safety logic and incursion scenarios, and acceptable false alarms rates and empirical experiences with alarm rates. Attendees agreed to exchange copies of studies and analyses discussed in the meeting and will continue to coordinate between study members and program office members as necessary. (G. Hewitt, AAR-100)

Rapid Prototyping/Simulation: On September 28th, engineering research psychologists from the William J. Hughes Technical Center's NAS Human Factors Branch (ACT-530) briefed representatives of En Route Systems (AUA-200), MITRE, and Computer Sciences Corporation (CSC) on their rapid prototyping process and tools and their air traffic control simulation capabilities. AUA-200 is interested in using these capabilities to prototype Controller Pilot Data Link Communication (CPDLC) interfaces being developed by CSC, and to conduct CPDLC simulations. (M. McAnulty, WJHTC/ACT-530)

Enhanced Traffic Management System (ETMS): Human factors researchers from the William J. Hughes Technical Center (ACT-530) visited MITRE-CAASD in McLean, VA to review the Collaborative Routing Coordination Tool (CRCT). An operational prototype of CRCT, a strategic traffic management tool developed by MITRE, has been undergoing continuous evaluation, development, and enhancement. CRCT functions that are determined to be mature are being integrated into ETMS for use in the field. The CRCT Team demonstrated the functions that are scheduled for integration into ETMS. ACT-530 and the CRCT Team shared findings from various evaluations of ETMS and CRCT. (T. Yuditsky, WJHTC/ACT-530)

Human Factors and Ergonomics Society (HFES) Meeting: The HFES held its annual meeting in Minneapolis the week of October 8, 2001. Following is a list of papers from the Office of the Chief Scientist for Human Factors/AAR-100, the William J. Hughes Technical

Center and CAMI which were presented at the conference (K. Krebs, AAR-100; E. Stein, WJHTC; D. Beringer, CAMI):

- W. Krebs/AAR-100 and A. Ahumada/NASA - Air Traffic Control Weather Radar Displays: Validation of a Masking Metric for Prediction of Text Block Identification
- B. Willems/WJHTC - Real-time Assessment of Situation Awareness of Air Traffic Control Specialists on Operational Host Computer System and Display System Replacement Hardware
- S. Hah/WJHTC - Computer Text Shading Algorithm
- K. Allendoerfer/WJHTC - Advanced Weather Products on Terminal Automation Systems; Further Lessons Learned in the Design of Terminal Air Traffic Displays
- P. DellaRocco/WJHTC - Future ATC Concepts and Air Traffic Controller Job Performance.
- T. Yuditsky and R. Sollenberger/WJHTC - Display Alternatives for Reducing Complexity (DARC).
- D. Beringer. and J. Ball/CAMI - A Comparison of Pilot Navigation Performance Using Conventional Instrumentation, Head-down, and Head-up Highway-in-the-Sky Primary Flight Displays
- D. Beringer and J. Ball/CAMI - When Gauges Fail and Clouds Are Tall, We Miss the Airport Most of All: General Aviation Pilot Responses to the Loss of Attitude Information in IMC
- W. Knecht/CAMI – Modeling the Big Sky Theory

JANUS: CAMI scientists met with representatives from the FAA Offices of Aviation Safety (ASY-1), Air Traffic Investigations (AAT-200), the Chief Scientist for Human Factors (AAR-100), and the Runway Safety Team (ARI-100) on October 11, 2001 to discuss CAMI's project to develop and test JANUS, a human factors technique for identifying causal factors in aviation incidents. Included was an informational briefing giving an overview of the JANUS project being coordinated with AAT-200 and NATCA. The CAMI scientists also met with Dr. Paul Krois (AAR-100) to discuss activities in conjunction with the FAA/EUROCONTROL Action Plan 12 -- Management and Reduction of Human Error in ATM. (D. Schroeder, CAMI)

Data Link: Members of the Data Link LACK Study Research Team held a joint meeting at the William J. Hughes Technical Center with members of the DSR ATDAT team to discuss special case scenarios for the study. The purpose of the meeting was to ensure the Special Case Scenarios concerning LAC vs NOLAC are developed to meet the needs of the test. A LACK scenario was presented to demonstrate the capabilities of DESIREE, the NGen TGF and the

Gateway connection. Attendees were pleased with the demonstration but provided a list of several changes to the DSR and a few to the Data Link displays. These included features that were not previously known. The meeting served to close the loop about what everyone was doing and why. (E.Stein, WJHTC)

Aviation Security Human Factors:

Human Factors Grants Announcement: On September 28, personnel from the Aviation Security Human Factors Program (AAR-510) produced an announcement advertising funding opportunities for academic researchers. AAR-510 will fund up to five 1-year grants to academic scientists who perform research in the areas of human attention and object recognition. This funding effort is designed to encourage long-term research in areas that will affect our understanding of how the x-ray screener detects threats. The deadline for these grant applications is December 1, 2001. (C.George, AAR-1)

Screener Readiness Test (SRT) Longitudinal Study: On September 19th, personnel from the Aviation Security Human Factors Program (AAR-510) began the development of a longitudinal study tracking the effects of the SRT. At least 250 screeners will be given the SRT following initial screener training. Their threat image projection (TIP) data will be collected every month for at least 1 year. These data will be correlated with SRT scores to determine if the SRT predicts TIP performance over time. These analyses will help determine the best SRT cutoff score for maximizing threat detection performance among the screener workforce. (C. George, AAR-1)

Secure Flow Coordination Meeting: Representatives of the Aviation Security Human Factors Program (AAR-510) attended a meeting to discuss/reevaluate the concept of aviation security free flow (i.e., Secure Flow) with industry representatives, including air carriers, equipment vendors, aviation consultants, and airport operators. A follow-on meeting is planned for October, 2001 to expand on the concept and prepare a draft concept document. (C. George, AAR-1)

Image Quality Tester Grant Award: The Aviation Security Human Factors Program (AAR-510) and TNO human factors in the Netherlands entered into a cooperative agreement grant on August 23. TNO will be developing a Baggage X-ray Scanner Tester, also known as BAXSTER. BAXSTER, when complete, will objectively assess the image quality of 2-dimensional x-ray machines by using an operator-based test. (C. George, AAR-1)

*More information on human factors research can be found at
the FAA Human Factors (AAR-100) web site: <http://www.hf.faa.gov>*

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FAA (AAR-100)



October 14-18, 2001 – Aerospace Expo 2001, Los Angeles Convention Center, Los Angeles, CA <http://www.aviationnow.com/conferences>

October 22-25, 2001- Annual Cabin Safety Research Technical Group Meeting, Taj Mahal Hotel and Casino, Atlantic City, NJ

October 22-25, 2001 - DOD Technical Advisory Group Meeting, San Diego, CA <http://dticam.dtic.mil/hftag/>

October 30-31, 2001 – FAA Research, Engineering and Development Advisory Committee (REDAC) meeting, Washington, DC <mailto:tom.proeschel@faa.gov>

October 31-November 2, 2001 – Air Cargo Americas 2001, Sixth International Congress and Exhibition, Radisson Center, Miami, FL <http://www.worldtrade.org/>

November 4-8, 2001 – ATCA 46th Annual International Program & Exhibits, Washington Convention Center, Wash, D.C. <http://atca.org/>

November 5-8, 2001 – Joint meeting of the Flight Safety Foundation 54th International Air Safety Seminar, the International Federation of Airworthiness 31st Conference, and International Air Transport Association. Theme: Keeping People Safe in a Global Environment. Athens, Greece <http://www.flightsafety.org/>

November 8-10, 2001 – AOPA Expo 2001, Fort Lauderdale, FL <http://aopa.org/expo>

November 27-30, 2001 - The Third International Aviation Security Technology Symposium, Tropicana Resort & Casino, Atlantic City, NJ, sponsored by the FAA Aviation Security R&D Division and National Safe Skies Alliance. Symposium topics include: Trace Detection, Bulk Detection, Human Factors, Technical Integration, Operational Testing and Evaluation, Deployment, Aircraft Hardening, Emerging Technologies, and other related topics. http://www.safeskiesinternational.org/symposium_2001.htm

December 3-5, 2001 – MRO Asia 2001, Regal Hotel, Hong Kong <http://www.aviationnow.com/conferences>

December 3-7, 2001 – FAA/EUROCONTROL Air Traffic Management R&D Seminar, Santa Fe, New Mexico <http://atm2001.eurocontrol.fr>

December 10-11, 2001 – FAA/EUROCONTROL R&D Committee Meeting, Santa Fe, New Mexico <http://atm2001.eurocontrol.fr>

February 26-March 3, 2002 – Air Freight Expo 2002, Shangri-La Hotel, Singapore <http://www.eyefortransport.com/asia2001>

March 2002 – European Transportation Leaders Conference, Landmark Hotel, London
<http://www.aviationnow.com/conferences>

March 7-8, 2002 – Potomac Chapter Human Factors and Ergonomics Society Mid-Year Symposium, Ft. Belvoir Officer's Club, Virginia <mailto:jerrykrueg@aol.com>

April 9-11, 2002 – Maintenance, Repair and Overhaul Conference & Exhibition, Phoenix Convention Center, Phoenix, AZ <http://www.aviationnow.com/conferences>

May 5-9, 2002 – 73rd Annual Scientific Meeting of the Aerospace Medical Association, Queen Elizabeth's Hotel, Montreal, Canada <http://www.asma.org/>

September 23-27, 2002 – Human Factors and Ergonomics Society 46th Annual Meeting, Pittsburgh Hilton and Towers, Pittsburgh, PA <http://www.hfes.org/>

April 7-27, 2003 – Aviation World's Fair, Newport News/Williamsburg, VA
<http://www.worlds-fair.com/>

May 4-9, 2003 – 74th Annual Scientific Meeting of the Aerospace Medical Association, Convention Center, San Antonio, TX <http://www.asma.org/>

October 13-17, 2003 – Human Factors and Ergonomics Society 47th Annual Meeting, Adams Mark Denver Hotel, Denver, CO <http://www.hfes.org/>

May 2-7, 2004 – 75th Annual Scientific Meeting of the Aerospace Medical Association, Egan Convention Center, Anchorage, AK <http://www.asma.org/>

September 20-24, 2004 – Human Factors and Ergonomics Society 48th Annual Meeting, Sheraton New Orleans Hotel, New Orleans, LA <http://www.hfes.org/>

Note: Calendar events in Italics are new since the last Newsletter



Comments or questions regarding this newsletter?
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