



AAR-100

Human Factors Newsletter # 00-18

(October 7, 2000 – October 20, 2000)

- **KMS2000 Wins Exchange and Collaboration Award:** A representative from the Office of the Chief Scientist for Human Factors (AAR-100) accepted an award in international competition for development of a knowledge management system (KMS2000). The award was presented at the MEC2000 convention and was for “The Best Exchange 2000 Solution by a Customer”. The system was also recognized as one of four finalists for “The Most Innovative Use of the Web Storage System”. The system, KMS2000, was designed to provide Internet-based technology to support and enhance virtual team collaboration as well as organizational knowledge management. (R. Simmons, AAR-100)
- **HPSAA Conference:** Representatives from AAR-100 and CAMI participated in the Human Performance, Situation Awareness and Automation (HPSAA) Conference that was held in Savannah, GA. The CAMI representative presented a paper entitled "Age and Situation Awareness: A Highway-in-the-Sky Display Study." This is the second annual HPSAA conference. The conference had a strong international attendance. (K. Williams, CAMI)
- **Air Traffic Management:** Representatives from AAR-100 and CAMI met with Anthony Ferrante (AAT-200) and representatives of EUROCONTROL at CAMI on October 16-19. These activities are part of the FAA/EUROCONTROL Action Plan 12: Management and Reduction of Human Error in Air Traffic Management (ATM). The purpose of the meeting was to review actions to date and to assess results of the application of the Human Error in ATM Technique and Human Factors Analysis and Classification System taxonomies to U.S. and European Air Traffic Control incidents. A research protocol for the meeting to be held at EUROCONTROL in Luxembourg in November was also outlined. (P. Krois, AAR-100; J. Pounds, CAMI)
- **Safeflight 21:** Human factors representatives from the William J. Hughes Technical Center will be visiting Louisville, Kentucky to provide ground-side human factors support during the OPEVAL-2 examination of the use of ADS-B technology in Class B airspace. This project is a part of the Safeflight 21 initiative. (E. Stein, WJHTC)

- **ATC Simulations:** Two CAMI researchers will brief human factors scientists at the William J. Hughes Technical Center regarding the analysis of system data from high-fidelity ATC simulations using the Cochran-Weiss-Shanteau performance index. Technical Center researchers provided an archival dataset for the initial test of the index. (L. Bailey, J. Pounds, CAMI)
- **National Safe Skies Alliance (NSSA) Coordination Teleconference:** Representatives of the Aviation Security Human Factors Program (AAR-510) participated in a coordination teleconference and technical information exchange with the NSSA. The Human Factors Program is specifically working with the NSSA to develop a memorandum of cooperation for human-centered testing of technologies and equipment at the security screening checkpoint at McGhee-Tyson airport in Knoxville, Tennessee. (C. George, AAR-1)
- **Human Research Engineering Directorate:** Representatives of the Aviation Security Human Factors Program (AAR-510) and the Human Factors Branch (ACT-530) participated in a technical information exchange with the U.S. Army Human Research Engineering Directorate (HRED). A contingent from HRED visited the William J. Hughes Technical Center to discuss efforts in modeling, simulation, air traffic control human factors, aviation safety, and aviation security. Follow-on collaborative efforts are being discussed between HRED and the Technical Center. (C. George, AAR-1)
- **Aviation Security Human Factors Panel Review:** Representatives of the Aviation Security Human Factors Program (AAR-510) attended the fourth quarter panel review at FAA Headquarters. Also in attendance were personnel from AAR-100, the Associate Administrator for Civil Aviation Security (ACS), and the Office of Civil Aviation Security Policy and Planning (ACP). The review covered all major Strategic Implementation Plan projects, ongoing efforts, and planned efforts for FY01. (C. George, AAR-1)
- **Discovery Channel Documentary:** Several employees of the Aviation Security Human Factors Program (AAR-510) participated in the taping of a Discovery Channel documentary on airport security. Scenes were filmed depicting x-ray screener training and other aviation security technologies such as trace portals and explosives detection systems. AAR-510 personnel enacted airport security screeners and an air carrier training specialist. The final documentary is scheduled for release in May 2001. (C. George, AAR-1)
- **Delivery of Cargo Improvised Explosive Device (IED) Recognition Training Storyboards:** The Human Factors Program (AAR-510) is developing computer based training (CBT) for cargo screeners. This training will assist screeners in recognizing IEDs while performing manual searches. The contractor delivered the storyboards for the CBT. Development of the CBT from these storyboards began on October 2. This task is included in the AAR-500 Strategic Implementation Plan. (C. George, AAR-1)
- **Ancore Cargo Inspection Usability Study:** The Human Factors Program (AAR-510) is performing a usability study on Ancore's cargo inspection system. A task was awarded on September 28 to Veridian to assist with this study. The study will take place from October 19 through 26. The kick-off meeting for this task was held on October 5th.

Topics of discussion included the human factors usability checklists to be used for the evaluation. (C. George, AAR-1)

- **Controller Teamwork Evaluation:** Representatives from CAMI presented an overview of CAMI ATC human factors research projects to Department of Psychology faculty and students at Kansas State University (KSU) in Manhattan, KS. The KSU laboratory devoted to research using the CAMI developed Controller Teamwork Evaluation and Analysis Method was "officially" opened by CAMI scientists and university administrators. Meetings were held with the research teams developing the index of controller performance and involved in related teamwork research for the Office of Naval Research. Meetings were also held with university officials to discuss current research and the potential for future aviation-related research collaboration. (J. Pounds, L. Bailey, CAMI)
- **Shiftwork Study:** CAMI researchers met with personnel at the ATC en route center in Houston, TX on October 16-18 to review the status of data collection for the Congressional Shiftwork and Fatigue Field Study. Up to 60 Air Traffic Control Specialists have volunteered to participate in the study between October 1 and November 11. Participant scheduling changes appear to be made frequently and may create a more complex shift comparison analysis. The schedule changes appear to be a common practice and may reflect some degree of shift work adaptation. Additional information is needed to identify the factors associated with the nature of, and factors associated with schedule changes. (T. Nesthus, CAMI)
- **Flight Strip Study:** CAMI researchers provided briefings on the results of the flight strip observation study to AOZ-1 in Washington, D.C. and to members of the Free Flight Phase I team at the Chicago Air Traffic Control Center. Discussions at the en route center were focused on methods for reducing flight strip usage at the Chicago Center before URET is introduced. (C. Manning, CAMI)
- **Job Task Analysis:** A representative from CAMI participated in a meeting at FAA Headquarters with personnel from the Staffing and Compensation Policy Division (AFZ-200) concerning the job-task analysis. A meeting was held with the lead investigator for Operations Technology System Inc., and the project contractor to AFZ-200. Attendees identified high-impact systems currently in acquisition for further evaluation, and developed a standardized interview protocol for use with system designers. They also conferred with personnel from the Office of Civil Rights regarding MWE oriented research to support the prototype organizational assessment in the Southern Region. (D. Broach, CAMI)
- **World Aviation Congress Meeting:** A representative from CAMI participated in the World Aviation Congress 2000 meeting that was held in San Diego, CA. During the meeting, he served as a session chair for the technical session entitled, "Managing Separation Assurance from the Flight Deck: Analytical, Simulation and Real Time Evaluations." He also presented the OpEval 2 Human Factors Data Collection Plan during the Op-Eval 2 Coordination Group Meeting that was held in Louisville, KY. The meeting was devoted to preparation for the Op-Eval 2, which is scheduled for October 25-30. (K.

Joseph, CAMI)

- **SABET:** William J. Hughes Technical Center Engineering Research Psychologists met with researchers from the EUROCONTROL Experimental Center to discuss the upcoming Study of an ATC Baseline for the Evaluation of Team-configurations (SABET). The EUROCONTROL representatives demonstrated their Tactical Load Smoother, a tool that enables controllers to see bottleneck areas in their airspace. Technical Center researchers also met with representatives from NASA Ames to discuss their work on trajectory based Air Traffic Control and the upcoming ACT-530 Study of an ATC Baseline for the Evaluation of Team-configurations. (E. Stein, WJHTC)
- **Flight Progress Strips:** William J. Hughes Technical Center Engineering Research Psychologists met with a researcher from the Centre d'Études de la Navigation Aérienne (CENA) to discuss the latest version of DigiStrips. This is a digital version of flight progress strips implemented on a touch panel. (B. Willems, WJHTC).
- **HOCSR:** A representative from the William J. Hughes Technical Center will be going to Rockville, MD this week to work with Lockheed Martin on developing and shaking down user scripts for the HOCSR Early User Involvement Exercise (EUIE). The concept of EUIE was coined by the Technical center's Human Factors Branch to cover a host of user activities, to include part task simulation and other front-end work for user interface development. (E. Stein, WJHTC)
- **Simulator Radio Communications Fidelity Requirements.** Volpe researchers will attend the Air Transport Association /Advanced Qualification Program Industry Working Group combined meetings of the Line Operational Simulation Design and Instructor-Evaluator Focus groups. The meeting will be hosted by DHL Worldwide and is scheduled for November 1st and 2nd in Cincinnati, OH. They will present the results of their Volpe/NASA collaborative research on the effect of realistic radio communications simulation during Line Oriented Flight Training and Evaluation in the flight simulator, and will seek the group's input on future research. (E. Edens, AAR-100; J. Bürki-Cohen, A. Kendra, Volpe Center)
- **Simulator Motion Cue Fidelity Requirements:** Volpe researchers have been invited to present the results of their study on simulator motion cueing requirements for recurrent training and evaluation of engine failure handling by airline pilots to MIT's Man Vehicle Laboratory students and staff. The presentation is scheduled for October 25, 2000. (E. Edens, AAR-100; J. Bürki-Cohen, Volpe Center)
- **Aviation Medicine:** The manuscript "Prevalence of Drugs and Alcohol in Fatal Aviation Accidents between 1994 and 1998" has been accepted for publication in *Aviation, Space and Environmental Medicine*. Also, Dr. Dennis Canfield was selected to become a member of the editorial board of *Aviation, Space and Environmental Medicine*. (J. Whinnery, CAMI)

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

Mark D. Rodgers
FAA (AAR-100)



October 22-26, 2000- ATCA 45th Annual Technical Program and Exhibits, Taj Mahal Resort, Atlantic City, NJ <http://www.atca.org/>

October 30-November 1, 2000-Aviation 2000 Exhibition and Conference, Omni Shoreham Hotel, Washington, DC <http://www.aviationtoday.com/aviation2000>

October 31-November 2, 2000- 10th International Aviation Security Human Factors Technical Advisory Group Meeting at SEATAC Airport, Washington.

November 6-9, 2000 - DOD HFE TAG-45, El Paso, Texas.
<http://dticam.dtic.mil/hftag/index/html>

November 15-16, 2000- Avionics 2000, 14th Annual Conference and Exhibition, Renaissance London Heathrow Hotel, UK <http://www.era.co.uk/conf/confpage.htm>

March 27-29, 2001- The Fifteenth Symposium on Human Factors in Aviation Maintenance, The Brewery Conference Centre, London, UK [mail to: enquiries@conference-consultancy.com](mailto:enquiries@conference-consultancy.com)

March 31 – April 5, 2001- CHI 2001, Seattle, WA <http://www.acm.org/chi2001>

June 3-8, 2001- Society for Information Display, International Symposium, Seminar & Exhibition, San Jose Convention Center, San Jose, CA [mail to: pdrzaic@elink.com](mailto:pdrzaic@elink.com)

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

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



Comments or questions regarding this newsletter?
Please contact Bill Berger at (202) 267-8532
or via e-mail at bill.ctr.berger@faa.gov