



AAR-100

Human Factors Newsletter # 01-04

(February 10, 2001 – February 23, 2001)

Human Factors Training Seminar (Sound): The FAA Human Factors Division (AAR-100) is sponsoring a seminar for personnel interested in learning more about the principles and measurement of sound. This is a 7-hour module presented in conjunction with other human factors technical workshops and seminars. It provides an overview of the principles of acoustics especially related to design and testing of the auditory acquisition of information in modern workstations. The seminar provides a tutorial on the propagation of sound, physiology of hearing, determinants of detection and discrimination (including those related to masking, temporal resolution, loudness, pitch, and localization), the measures of sound, instrumentation for noise measurement, and the use of equipment to support acoustical design, measurement, and analysis. A demonstration and hands-on familiarity with acoustic equipment will be provided. The seminar will be conducted February 28th from 8:30 AM until 4:00 PM in the Bessie Coleman Auditorium. FAA contractors are welcome if directed by their CO/COTR. There is no cost to attendees. Reservations can be made by e-mail to Latonia Sewell (lsewell@cssiinc.com) or by phone (484-3372). If you have questions regarding the seminar, please contact Glen Hewitt (267-7163). (G. Hewitt, AAR-100)

Human Factors Training Seminar (Human Factors Design Guide): The FAA Human Factors Division (AAR-100) is sponsoring a seminar for personnel interested in learning more about the recent update to the FAA Human Factors Design Guide. The sessions will provide an overview of the changes to the Design Guide (Chapter 8: Computer-Human Interface), why the changes were necessary, and what they mean for the future. Areas of interest include: the process used to update the chapter; organization, format, style of the change; what is contained in the chapter (what's new, why it's important); how the document should/could be used; and what was learned during the update process (trends in CHI, future considerations, lessons learned). The seminar will be conducted in Conference Room 5AB in HQ, FAA on March 13th from 10:00 AM. until 12:00 PM. FAA contractors are welcome if directed by their CO/COTR. There is no cost to attendees. Accommodations will be first-come, first-served. If you have questions regarding the seminar, please contact Glen Hewitt by e-mail (glen.hewitt@faa.gov) or by phone (267-7163). (G. Hewitt, AAR-100)

Knowledge Management: A representative of the Office of the Chief Scientist for Human Factors was requested to provide a briefing and demonstration on the KMS2000 Knowledge Management System to the military Special Operations Joint Command (SOC) at MacDill Air Force Base in Florida. The SOC is attempting to develop similar system and wanted to understand the FAA's technological approach. Based on the meeting, the SOC requested limited access to KMS2000 to better explore the capabilities. A similar briefing was presented to the Office of the Secretary of Defense Committee on Interagency Collaboration. This committee is charged with identifying collaboration tools that can be utilized by the interagency community to leverage information in the area of Research, Development, and Acquisition. (R. Simmons, AAR-100)

Knowledge Management: The Office of the Chief Scientist for Human Factors reports that KMS2000 was selected as the Internet site to host the FAA's Knowledge Management Community of Practice (FAA-KM-COP). The FAA-KM-COP has been established to promote, facilitate, and encourage collaboration and knowledge sharing within the FAA. (R. Simmons, AAR-100)

News Media Visit: A reporter from the *Federal Times* visited the human factors laboratory at the William J. Hughes Technical Center to gather information on STARS and rapid prototyping research. Tanya Yuditsky and Kenneth Alledorfer demonstrated the CHI development on STARS, and Mike Pomykacz and Larry Rovani described the rapid prototyping capability. (E. Stein, WJHTC)

FAA, JAA, TCCA Human Factors Research Cooperation: FAA, Joint Aviation Authorities (JAA), and Transport Canada (TCCA) recently committed to increasing technical coordination and cooperation among their respective research programs. One of three specific focus areas identified was human factors. The first meeting of the joint human factors technical team was February 6-8 at the William J. Hughes Technical Center. The human factors technical team discussed regulatory and research activities and decided on an initial collaborative research effort involving an FAA project (Electronic Flight Bag) and a JAA project (Certification of New Flight Deck Interfaces). The objective of the FAA's Electronic Flight Bag research is to identify the human factors considerations in the design and evaluation of Electronic Flight Bags. The objective of the JAA's Certification of New Flight Deck Interfaces research project is to provide a methodology to identify potential human error and flight crew vulnerabilities during certification. The shared activity will apply the methodology of the second project to the first project. Results will be directly applicable to advisory material and benefit safety by improving the methods of certifying new flight desk interfaces. (T. McCloy, AAR-100)

ATC Communications: The FAA is introducing new decision aid technology into the air traffic control (ATC) workforce. Although considerable research has focused on the effects that these decision aids will have on pilot-to-controller communication, relatively little research has been conducted on how the decision aids will affect controller-to-controller communication, specifically as they relate to R-side and D-side ATC communications. The FAA is currently addressing this lack of research through a collaborative effort between William J. Hughes Technical Center and the Civil Aeromedical Institute. Human factor researchers from both

organizations are combining their resources to explore the individual and collective impact that aircraft density, ATC enroute team configuration, and different kinds of automated decision aids have on controller-to-controller communications. The current collaboration involves three experiments to be conducted over a two-year span. In the first experiment, researchers will examine the effects that aircraft density and automated decision support tools have on the communication exchanges between enroute R-side and D-side ATC teams. In the second experiment, researchers will examine the effects that aircraft density and team configuration (two vs. three-person teams) have on R-side and D-side communications. Finally, the design of the first two experiments will be combined to examine the impact that aircraft density, team configuration, and automated decision support tools have on controller-to-controller communications. (L. Bailey, CAMI)

HFACS: A researcher from CAMI's Human Factors Research Laboratory (AAM-510), briefed the Federal Railroad Administration (FRA) on HFACS, in Washington, DC, February 14-15. Discussion topics included integration of the Human Factors Analysis and Classification System (HFACS) into the FRA's safety program. A preliminary assessment of fatal switching operation accidents was presented. It was determined that the FRA would investigate the feasibility of contracting with the Volpe Transportation Center to conduct a larger investigation of these accidents using the HFACS framework. CAMI will continue to support this One-DOT effort. (S. Shappell, CAMI)

HFACS: A briefing on the HFACS analysis of general aviation fatal accidents was presented to sponsors in AFS-800. The data indicate that the primary human error form associated with fatal accidents between 1990-98 are skill-based errors (roughly 80% of all fatal accidents). This type of error more than doubles all other error types and provides support for efforts aimed at improved initial and recurrent flight training in general aviation. A comparison of fatal with non-fatal general aviation accidents during this same time frame is underway at CAMI. (S. Shappell, CAMI)

Aviation Security Human Factors Program (AAR-510) Panel Review: AAR-510 held a panel review at FAA headquarters in Washington, DC, for the Associate Administrator for Civil Aviation Security (ACS) and Civil Aviation Security, Policy and Planning (ACP). During the review, AAR-510 presented a summary of their current projects, with a focus on the items specific to the FY01 Developmental Implementation Plan. (C. George, AAR-1)

Voice Page: Check out the FAA's VOICE page. It now includes - virtually on a daily basis - news updates on what's happening around the FAA and/or aviation. You can access these updates at <http://interweb.faa.gov/voice> under "Hot Topics." (G. Lavey, AOA-1)

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)



March 5-8, 2001 – 11th International Symposium on Aviation Psychology, Columbus, OH
<http://aviation.eng.ohio-state.edu/sympos/11th/index.htm>

March 13-15, 2001 – The Advanced Technology Electronic Defense Systems Conference and The Tactical Situational Awareness Symposium, Shelter Pointe Hotel and Marina on Shelter Island, San Diego, CA [mail to:AssemacheTJ@navair.navy.mil](mailto:AssemacheTJ@navair.navy.mil)

March 18-20, 2001 – National Aviation Environmental Conference, Dallas, TX
<http://www.airportnet.org/>

March 21-23, 2001 – International Symposium on Smart Graphics, Hawthorne, NY
<http://www.smartgraphics.org/>

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

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

April 3-5, 2001 – Maintenance Repair and Overhaul Conference and Exhibition, Dallas, TX
<http://www.aviationnow.com/>

April 8-14, 2001 – Sun ‘n Fun EAA Fly-In, Lakeland, FL <http://www.sun-n-fun.com/>

April 24-26, 2001 – 46th Annual Corporate Aviation Safety Seminar, Orlando, FL
<http://www.nbaa.org/>

April 30-May 2, 2001- Regional Airline Association Convention, Tampa, FL
<http://www.raa.org/>

May 3-4, 2001 – Human Factors for Aviation Technicians Workshop, Long Beach, CA
<http://www.greyowl.com>

May 14-17, 2001 – DOD Technical Advisory Group Meeting, Antler’s Adam’s Mark Hotel, Colorado Springs, CO <http://dticam.dtic.mil/hftag/>

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)

June 17-24, 2001 – Paris Air Show, Le Bourget, France <http://www.promosalons.com/>

July 8-11, 2001 – ATCA 12th Annual International Technical Conference & Exhibition, Conrad International Hotel, Dublin, Ireland <http://www.atca.org/>

August 5-10, 2001 – 9th International Conference on Human-Computer Interaction, New Orleans, LA <http://hcie2001.engr.wisc.edu/>

September 10-14, 2001 – Aerospace Congress & Exhibition By Aerospace North America and SAE, Washington State Convention and Trade Center, Seattle, WA [mail to:kthomson@sae.org](mailto:kthomson@sae.org)

September 18-20, 2001 – NBAA Annual Meeting and Convention, New Orleans, LA <http://www.nbaa.org/>

October 8-12, 2001 – Human Factors and Ergonomics Society 45th Annual Meeting, Minneapolis, MN <http://www.hfes.org/>

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

November, 2001 – DOD Technical Advisory Group Meeting, San Diego, CA <http://dticam.dtic.mil/hftag/>

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

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.safeskiessinternational.org/symposium_2001.htm

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

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

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