



AAR-100

Human Factors Newsletter # 02-05

March 2, 2002 – March 15, 2002

NEXCOM Latency Study: Human factors researchers at the William J. Hughes Technical Center (ACT-530) completed the shakedown phase of the NEXCOM simulation. The research team completed testing of the traffic scenarios and special communications features (i.e., controller override, antiblocking, and frequency occupancy). Twelve controllers are being recruited to evaluate communication delays in a simulation of the Very High Frequency Digital Link Mode 3 (VDL3) system. The simulation is scheduled for two weeks beginning the end of March (R. Sollenberger, WJHTC).

URET: CAMI human factors researchers traveled to Kansas City Center to observe how URET was being used to replace flight strip markings and actions. They discussed URET with several controllers, observed URET DYSIM training, and observed operational usage of the system. Topics of discussion included sector staffing, transition issues, future upgrades, interoperability issues, and how information previously recorded using specific strip markings is treated when URET is used. (C. Manning, CAMI)

AAR Website: The new Office of Aviation Research (AAR) website is now up and running at <http://research.faa.gov/aar>. This newly designed site includes links to FAA Technical Reports, newsletters, technology press releases, and much more. (T. Kraus, AAR-200)

Air Transportation Human Factors Award: Aviation Week & Space Technology presents its 45th annual Aerospace Laurels selections at the Smithsonian Air and Space Museum April 16, 2002. The awards honor individuals and teams who made significant contributions to the global field of aerospace during 2001. Honorees were nominated by the magazine's editors in the categories of Commercial Air Transport, Aeronautics/Propulsion, Government/Military, Electronics, Space, Operations. Dr. Robert Helmreich of the University of Texas at Austin and Continental Airlines Captain Bruce Tesmer will be recognized for marrying a new form of crew resource management, called Threat and Error Management, with a novel cockpit monitoring program called the Line Operations Safety Audit (LOSA). Much of this research was accomplished under an FAA research grant. As of last summer, 11 U.S. and international airlines had completed LOSAs and many more, especially international carriers, were in a queue for the 3-month-long survey. Through 2004, LOSA will be a primary safety initiative of the International Civil Aviation Organization. (E. Edens, AFS-230)

Safe Flight 21:

- Two CAMI researchers attended the quarterly meeting of the Safe Flight 21 (SF 21) Human Factors Team in San Jose, CA. The purpose of the meeting was to review current SF 21 activities and present briefings on future planned research projects. Several SF 21 projects are supported by the CAMI Human Factors Laboratory, including general aviation cockpit display research and airline traffic display research. Attendees were briefed on an upcoming simulation study of the Capstone One equipment that will be conducted at CAMI. (K. Williams, R. Prinzo, CAMI)
- A CAMI scientist traveled with several other members of the Safe Flight 21 Human Factors Team to Bethel, AK to gather data regarding the usability, suitability, and acceptability of the Capstone display systems currently used in the Bethel region. The scientists conducted personal interviews with over 40 Capstone pilots, distributed and collected self-administered questionnaires, held a focus group session with the pilots, and participated in several observation flights in Capstone-equipped aircraft. Data collected from the trip will be summarized in a report that will be submitted to the Safe Flight 21 office in May. (K. Williams, CAMI)

Automation Human Factors: Human factors researchers completed a revision to the automation chapter of the Human Factors Design Guide. This revised chapter is available as a report entitled "Human Factors Design Guide Update: A Revision to Chapter 5 - Automation Guidelines", (DOT/FAA/CT-02-11). The report reflects the latest human factors information on automation. (V. Ahlstrom, ACT-530)

AWIN: CAMI scientists participated in an AWIN meeting at NASA Langley Research Center (Feb. 21-22). They presented the results of the weather information ranking study with ASU and provided an update on the development of out-the-window weather representations for the proposed NEXRAD-data resolution study. They also conferred with scientists from Kansas State University regarding the status of weather-related research. (D. Beringer, K. Williams, CAMI)

Multi-function Displays: A meeting was held at the Small Airplane Directorate in Kansas City to finalize the draft pocket guide for certification of multi-function displays. The focus of the effort was on aligning the guidelines in the pocket guide with FARs and ACs in addition to the other references already contained in the document. A second issue involved certification of primary flight displays containing terrain representations. The state of knowledge concerning these displays was assessed and a research agenda was defined to obtain data not already available. The goal is to provide human factors guidelines for certification of this type of display. (D. Beringer, CAMI)

AFCAPS: A CAMI representative met with the Airway Facilities Centralized Pools System (AFCAPS) Redesign Team in San Antonio, TX (March 5-7, 2002). The team is redesigning the scoring logic and civil service business rules for handling applications, referrals, and selections for the FV-2101 (Airways Transportation Systems Specialist) and FV-0856 (Electronics

Technician) occupations in Airway Facilities. CAMI developed the functional and data requirements for computerized scoring of applications for these two occupations, and is working closely with the Aviation Careers Examining Division (AMH-300) on the development of functional and data requirements and specifications for the business rules. AFCAPS is an internally developed computerized rating, ranking, and referral process to support external hiring in Airway Facilities. In contrast to resume parsers such as Resumex, which merely count the number of occurrences of key or buzz words, AFCAPS includes a weighted application form to capture and appropriately credit training, education, and relevant experience. In addition, AFCAPS incorporates logic for generating referral lists in accordance with the "Rule of Three" under merit principles and veteran's preference. Commercial, off-the-shelf applicant manager systems, such as Resumex and QuickHire, do not have those capabilities. (D. Broach, CAMI)

ATC Program Review: CAMI scientists participated in an Air Traffic Control Human Factors program review with ATC sponsors Mr. Steve Pansky (ARQ-200), Dr. Donald Weitzman (Contractor), Ms. Beth Clark (A0P-30), Ms. Wanda Reyna (AOZ-200), and Dr. Paul Krois (AAR-100) on February 26-27. Briefings were provided by CAMI scientists regarding recent accomplishments and future plans. Discussion was focused on identifying new requirements for AT and AF research. This included the effectiveness of measures of controller proficiency and performance to evaluate the selection instruments and training of new controllers, examination of AF retirement and hiring projections, reporting of AF system incidents and saves, and shift work scheduling and fatigue in AT personnel. A schedule was developed to facilitate communication and coordination of CAMI's AT human factors research planning for 2003. (D. Schroeder, CAMI)

Cognitive Readiness: CAMI representatives participated in the Midyear Symposium and Executive Committee Meeting of the Division of Applied Experimental and Engineering Psychology that was held at Fort Belvoir, VA on March 7 and 8. A number of presentations were made by scientists participating in the Army funded Multidisciplinary University Research Initiative (MURI). The research is focused on "Optimizing cognitive readiness under combat conditions." Several poster presentations were made by graduate students and USMA Cadets. Additional sessions were focused on (a) the effects of physical workload and exercise on performance and physiological markers and (b) operator command and control issues. A demonstration of the new high technology Army Land Warrior Infantry System was provided. (D. Schroeder, S. Shappell, CAMI)

Employee Attitude Survey: A representative from CAMI met with the Employee Attitude Survey (EAS) POCs for the various lines of business concerning the EAS 2000 and the next survey administration. Points of discussion included lessons learned from the EAS 2000, survey development for the next EAS administration, and the impact of possible organizational changes for the next EAS. (C. Hackworth, CAMI)

General Aviation: CAMI representatives conferred with Mr. Robert Wright, Manager, General Aviation and Commercial Division (AFS-800) regarding current and planned general aviation human factors research activities. The AGARS and BGARS research platforms, as well as the capabilities involved with the new 2002 Microsoft flight simulation package were demonstrated, and copies of recent technical reports were provided. (D. Schroeder, CAMI)

Information Management: Scientists conferred with employees from the FAA Washington Operations Center (WOC), at the request of Mr. Dave Canoles (ADA-20). Interviews with a WOC operator and supervisor were designed to elicit information regarding information flow within the WOC and the identification of possible interventions that would enhance information dissemination. Recommendations are being prepared and will be submitted to ADA-20. (L. Bailey, C. Hackworth, 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)



March 20-21, 2002 – FAA R,E&D Advisory Committee, Aircraft Safety Subcommittee, Cincinnati, OH <mailto:gloria.ctr.dunderman@faa.gov>

March 26-28, 2002 – Aviation Suppliers & Services Super Show, Indianapolis, IN
<http://www.as3.com/>

March 27-28, 2002 – FAA R,E&D Advisory Committee, Human Factors Subcommittee, Embry-Riddle Aeronautical University, Daytona Beach, FL <mailto:gloria.ctr.dunderman@faa.gov>

April 2-4, 2002 – 16th Symposium on Human Factors in Aviation Maintenance, San Francisco, CA <http://www.galaxyscientific.com/2002hfams/index.html>

April 8-11, 2002 – Aircraft Interiors Expo 2002, Hamburg, Germany
<http://www.ukintpress.com/airexpo>

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

April 14-15, 2002 – FAA General Aviation Forecast Conference, Wichita, KS
<http://api.hq.faa.gov/Conference/welcome.htm>

April 14-15, 2002 – FREE Flight Safety Boeing Maintenance Human Factors Awareness Training for Managers, Seattle, WA <http://www.fsbt.com>

April 16, 2002 – Aviation Week and Space Technology 45th Aerospace Laurels, Smithsonian Air and Space Museum, Wash, DC

April 23-24, 2002 – FAA R,E&D Advisory Committee, Holiday Inn Rosslyn Westpark Hotel, Arlington, VA <mailto:gloria.ctr.dunderman@faa.gov>

April 23-25, 2002 – NBAA Leadership Conference, Nashville, TN <http://www.nbaa.org/>

April 29-May 2, 2002 – DoD HFE TAG, Clarion Hotel Bayview, San Diego, CA
<http://dtica.dtic.mil/hftag>

April 30-May 1, 2002 – First Threat and Error Management (TREM) Training Workshop, San Salvador, El Salvador <mailto:dmaurino@icao.int>

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

May 6-12, 2002 – International Aerospace Exhibition and Conference, Berlin Brandenburg International Airport, Berlin, Germany <http://www.ila-berlin.com/>

May 20-22, 2002 – 11th Annual Phoenix International Aviation Symposium, The Phoenician Resort, Phoenix, AZ <http://www.phxskyharbor.com/>

May 28-30, 2002 – EBACE2002, Geneva, Switzerland <http://www.ebace.com/>

June 13-14, 2002 – Aviation Conference and Exposition, Oklahoma City, OK
<mailto:skymarket@aol.com>

August 27-30, 2002 – Measuring Behavior 2002, 4th International Conference on Methods and Techniques in Behavioral Research, University of Amsterdam, Amsterdam, The Netherlands
<http://www.noldus.com/events/mb2002/index.html>

September 16-18, 2002 – Conference on Aerospace Materials, Processes and Environmental Technology, Huntsville, AL <http://ampet.msfc.nasa.gov/>

September 17-18, 2002 – FAA R,E&D Advisory Committee, Holiday Inn Rosslyn Westpark Hotel, Arlington, VA <mailto:gloria.ctr.dunderman@faa.gov>

September 17-20, 2002 – International Air Cargo Forum, Hong Kong <http://tiaca.org/>

September 30- October 4, 2002 – Human Factors and Ergonomics Society 46th Annual Meeting, Baltimore Waterfront Marriott Hotel, Baltimore, MD <http://www.hfes.org/>

October 14-16, 2002 – Third LOSA Week, Dubai, United Arab Emirates
<mailto:dmaurino@icao.int>

October 23-25, 2002 – International Conference on Human-Computer Interaction in Aeronautics, Massachusetts Institute of Technology, Cambridge, MA <http://www-eurisco.onecert.fr/events/hci-aero2002.html/>

October 27-31, 2002 – 21st Digital Avionics Systems Conference, Hyatt Regency Hotel, Irvine, CA <http://www.dasconline.org/>

April 7-27, 2003 – Aviation World's Fair, Newport News/Williamsburg, VA <http://www.worlds-fair.com/> or <http://aviation-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?
Please contact Bill Berger at (334) 271-2928
or via e-mail at bill.ctr.berger@faa.gov