



## AAR-100

### Human Factors Newsletter # 03-21

December 3, 2003 – December 26, 2003

#### Technical Information – CAMI's Bioaeronautical Sciences Research Laboratory

- **Laboratory Mission.** The Bioaeronautical Sciences Research Laboratory of the FAA Civil Aerospace Medical Institute, Federal Aviation Administration, conducts research on specimens collected from fatal aircraft accidents for the purpose of determining the presence of drugs, alcohol, and impairment. This information is used by the FAA and the NTSB to determine the cause of aircraft accidents and to determine drug and alcohol use in the aviation industry. In addition, research is conducted on the effects of radiation and the use of functional genomics and bioinformatics in predicting impairment.
- **2003 Summary.** The laboratory received toxicology samples and processed data from 321 fatal aircraft accidents and 422 aviation fatalities that occurred in 2003. A total of 349 fatal aircraft accidents were reported nationwide during the same time. The laboratory conducted testing on specimens from six living pilots, one international case, and 27 cases from the previous fiscal year involved with aviation accidents. The laboratory received 12 surface cases for analysis during the year. A total of 463 cases were analyzed from 2002 and 2003, while analytical reports of 513 completed cases were mailed. During the year, the laboratory received and analyzed 92% of the fatal accidents reported in the Administrator's Daily Accident Bulletin. <http://www.cami.jccbi.gov/>

**In Memory - Roy Van Gowdy:** The CAMI Aerospace Medical Research Division sadly reports the death of Mr. Roy Van Gowdy, electrical engineer and team leader for the CAMI Biodynamic Research Team, Dec. 10, 2003. Van was widely recognized as the FAA's leading expert in aircraft seats, restraint systems and certification testing. He was respected throughout the aviation industry for his engineering expertise and integrity. Van was 52 years old and had worked for the FAA for 30 years. He will be missed from both the personal and professional standpoint.

**Annual Report:** The Human Factors Research and Engineering Division's (AAR-100) FY 03 Annual Report is now available. The report summarizes flight deck, air traffic control, airway

facilities, and aerospace medicine research projects as well as system acquisitions supporting projects. It is posted at <http://www.hf.faa.gov/report.htm>. (W. Krebs, AAR-100)

**Safety Analysis:** Kevin Williams traveled to Dallas, TX to participate in a meeting of the Remaining Risk Joint Safety Analysis Team (JSAT). The Mid-Air/Cargo subgroup reviewed its first cargo accident, a FedEx DC-10-10F in-flight cargo fire which occurred on September 5, 1996 at Newburgh NY. The next scheduled meeting for the JSAT is in January 2004 in San Diego, CA. (K. Williams, CAMI)

**FAA/NASA Research:** General Roy D. Bridges, Jr., Director, NASA Langley Research Center and nine of his top executives visited the William J. Hughes Technical Center on December 12<sup>th</sup>. The visit was designed to provide the NASA representatives an overview of Technical Center research and capabilities, and to discuss areas of common interest for research. Dr Mike McAnulty provided an overview of human factors operations. (E. Stein, WJHTC)

**ATC Visual Symbols:** AOP 30 (Ms Beverly Clark) asked ACB-220 to do some consultation by applying visual symbol research to the icons used by NAS Infrastructure Management System (NIMS). This is a low level of effort activity that will make use of current research as a resource for the evaluation of proposed displays in NIMS. (E. Stein, WJHTC)

**Training on the Measurement of Sound.** Human factors engineers and support personnel at the William J. Hughes Technical Center participated in training on the measurement of sound. A representative from Bruel and Kjaer taught the participants some basic acoustical principles as well as the basics of assuring proper calibration and measurement in different environmental conditions. The participants also learned about using linear and weighted averages, and how to use the sound analyzer for doing spectrum analysis including octave analysis. Sehchang Hah and Vicki Ahlstrom/ACB-220 organized the training. (E. Stein, WJHTC)

**HFACS:** In December, Scott Shappell provided a briefing to the Capstone Director and regional representatives concerning results from the analysis of general aviation accident data using the Human Factors Analysis and Classification System (HFACS) taxonomy. Attention was focused on a comparison of the data from Alaskan general aviation accidents with accidents from the rest of the U.S. He also met with the National Aviation Safety Data Analysis Center (NASDAC) team lead to integrate HFACS data into the NASDAC database. (D. Schroeder, CAMI)

**Enhanced Traffic Management System:** Dr. Tanya Yuditsky/ACB-220 traveled to the Air Traffic Control System Command Center (ATCSCC) to collect user input on the development of a reroute modeling function for the Traffic Situation Display of the Enhanced Traffic Management System. To understand the reroute process used today, Dr. Yuditsky observed as Air Traffic Specialists demonstrated the steps they follow when implementing a reroute. She also asked the specialists to describe the decisions they make at each step of the process and what information is needed to make those decisions. In addition, a software developer from the Volpe National Transportation Systems Center joined in asking the specialists to provide feedback on prototyped concepts for a reroute modeling function. These concepts will be refined based on their discussions. Overall, it appears that the capability for modeling reroutes will be especially beneficial when there is time for strategic planning. Furthermore, the ability to share the results

of the model will help provide a common awareness of a reroute's impact to the ATCSCC and the field facilities. (E. Stein, WJHTC)

***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)



**January 11-15, 2004** – Transportation Research Board Annual Meeting, Washington, DC  
<http://www4.trb.org/trb/annual.nsf>

**January 13-15, 2004** – SAE SEAT –Aircraft Seat Committee Meeting, Phoenix, AZ  
[mlemank@sae.org](mailto:mlemank@sae.org)

**January 13-16, 2004** – International Conference on Intelligent User Interfaces/Computer-Aided Design of User Interfaces, Island of Madeira, Portugal <http://www.iuiconf.org/>

**January 18-22, 2004** – Conference on Visualization and Data Analysis, San Jose Marriott and San Jose Convention Center, San Jose, CA <http://vw.indiana.edu/vda2004/>

**January 21 – 23, 2004** - AHS 4th Decennial Specialists' Meeting on Aeromechanics, Fisherman's Wharf, San Francisco, CA. For more information contact the Technical Chairman, Tom Maier at [tmaier@mail.acr.nasa.gov](mailto:tmaier@mail.acr.nasa.gov)

**February 9, 2004** – Call for proposals (workshops, lecture papers, symposia, panels, debates, special-format sessions, and posters), Human Factors and Ergonomics Society 48<sup>th</sup> Annual Meeting to be held September 20-24, 2004, New Orleans, LA  
<http://www.hfes.org/meetings/2004menu.html>

*March 2-3, 2004* – REDAC Human Factors Subcommittee, Washington, DC  
<http://research.faa.gov/aar/redac.asp>

*March 3-4, 2004* – 5<sup>th</sup> European Technology Summit, Amsterdam Marriott Hotel, The Netherlands <http://www.eyefortransport.com/technology/brochure.shtml>

**March 4-5, 2004** - Divisions 19 and 21, in conjunction with the Potomac Chapter of the Human Factors and Ergonomics Society, will be hosting the Annual Mid-year Symposium March 4<sup>th</sup> and 5<sup>th</sup>, 2004 at the Fort Belvoir Officer's Club, Fort Belvoir, Virginia. [jruffner@dcscorp.com](mailto:jruffner@dcscorp.com)

**March 8-11, 2004** – SAE World Congress, Cobo Hall, Detroit, MI

<http://www.sae.org/congress/index.htm>

**March 15-17, 2004** – 16<sup>th</sup> Annual European Aviation Safety Seminar, Barcelona, Spain

[http://www.flightsafety.org/eass04\\_cfp.html](http://www.flightsafety.org/eass04_cfp.html)

**March 22-24, 2004** – Eye Tracking Research and Applications Symposium, Menger Hotel, San Antonio, TX <http://www.e-t-r-a.org/>

**March 22-25, 2004** – HPSAA II Conference, Human Performance, Situation Awareness, and Automation Technology, hosted by Embry-Riddle Aeronautical University and the University of Central Florida, Hilton Oceanfront Resort, Daytona Beach, FL

<http://faculty.erau.edu/vincenzd/hpsaa>

**March 23-26, 2004** – 4<sup>th</sup> International Workshop on Smart Appliances and Wearable Computers, Tokyo, Japan <http://www.unl.im.dendai.ac.jp/TWSAWC/>

**April 2004** – DOD TAG-51, Atlantic City, NJ <http://hfetag.dtic.mil/meetschl.html>

**April, 2004** – SAE General Aviation Technology Conference and Exhibition, Century II Convention Center, Wichita, KS <http://www.sae.org/calendar/aeromtgs.htm>

**April 18-21, 2004** – FAA Worldwide Airport Technology Transfer Conference, Hilton Atlantic City Hotel, Atlantic City, NJ <http://www.airtech.tc.faa.gov/att04/>

**April 20-22, 2004** – SAE General Aviation Technology Conference and Exhibition, Century 21 Convention Center, Wichita, KS <http://www.sae.org/calendar/aeromtgs.htm>

**April 24-29, 2004** – CHI 2004, Conference on Human Factors in Computing Systems, Vienna, Austria <http://www.acm.org/sigchi/chi2004/>

**April 25-28, 2004** – SAE Cabin Safety Technical Committee Meeting, Oklahoma City, OK [mlemank@sae.org](mailto:mlemank@sae.org)

**April 27-29, 2004** – 49<sup>th</sup> Annual Corporate Aviation Safety Seminar, Tucson, AZ [http://www.flightsafety.org/cass04\\_cfp.html](http://www.flightsafety.org/cass04_cfp.html)

**May 3-6, 2004** – SAE Aircraft Oxygen Equipment Committee, Anchorage, AK [mlemank@sae.org](mailto:mlemank@sae.org)

**May 3-6, 2004** – 75<sup>th</sup> Annual Scientific Meeting of the Aerospace Medical Association, Egan Convention Center, Anchorage, AK <http://www.asma.org/>

**May 6-8, 2004** - AHS International 60th Annual Forum and Technology Display, Virginia Beach, VA. Contact [Staff@vtol.org](mailto:Staff@vtol.org)

**May 10-12, 2004** – Royal Aeronautical Society 10<sup>th</sup> AIAA CEAS Aeroacoustics Conference, Manchester Town Hall, UK <http://www.aerosociety.com/homepage.asp>

**May 11-13, 2004** – SAE SEAT – Aircraft Seat Committee, Savannah, GA  
[mlemank@sae.org](mailto:mlemank@sae.org)

**May 23-26, 2004** – Tenth International Conference on Mobility and Transport for Elderly and Disabled People, Hamamatsu, Japan <http://trb.org/calendar/>

**May 26-27, 2004** – Royal Aeronautical Society Conference – Flight Simulation 1929-2029, A Centennial Perspective, London, UK <http://www.aerosociety.com/homepage.asp>

**June 15-17, 2004** – SAE Digital Human Modeling for Design and Engineering Meeting, Oakland University, Rochester, Michigan <http://www.sae.org/calendar/aeromtgs.htm>

**July 27-August 2, 2004** – 52nd Annual AirVenture, Oshkosh, WI <http://airventure.org/>

**July 28 – August 1, 2004** – 112<sup>th</sup> Convention of the American Psychological Association. Honolulu, Hawaii <http://www.apa.org/convention>

**August 1-4, 2004** – Designing Interactive Systems, Cambridge, MA  
<http://www.sigchi.org/DIS2004/>

*September 8-9, 2004 – Civil Aviation Safety Symposium 2004, Westin Hotel Galleria, Dallas, TX*  
<http://www.asdnet.org/cass/default.htm>

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

**September 29 – October 1, 2004** – 2004 International Conference on Human Computer Interaction (HCI-Aero), Toulouse, France  
<http://www.eurisco-international.com/hci-aero2004>.

**October, 2004** – 18<sup>th</sup> Airbus/JetBlue Human Factors Symposium, New York City, NY  
<http://www.airbus.com/customer/events.asp>

**October 4-7, 2004** – SAE SEAT – Aircraft Seat Committee Meeting, Albuquerque, NM  
[mlemank@sae.org](mailto:mlemank@sae.org)

**October 18-19, 2004** – National Academies Institute of Medicine Annual Meeting, National Academy of Sciences, Washington, DC <http://wwwsearch.nationalacademies.org/>

**October 23-27, 2004** – NordiCHI 2004, Tampere, Finland <http://www.cs.uta.fi/nordichi2004/>

**October 25-28, 2004** – SAE S-9 Cabin Safety Technical Committee Meeting, San Diego, CA  
[mlemank@sae.org](mailto:mlemank@sae.org)

**October 25-28, 2004** – DoD Maintenance Seminar and Exhibition, Hilton Americas, Houston, TX <http://www.sae.org/calendar/aeromtgs.htm>

**January 9-13, 2005** – TRB 84<sup>th</sup> Annual Meeting, Washington, DC <http://trb.org/calendar/>

**April 11-15, 2005** – SAE 100<sup>th</sup> Anniversary World Congress, Cobo Hall, Detroit, MI  
<http://www.sae.org/congress/about/news/congressdates.htm>

**May 9-12, 2005** - 76<sup>th</sup> Annual Scientific Meeting of the Aerospace Medical Association, Kansas City, MO <http://www.asma.org/>

**August 18-21, 2005** - 113<sup>th</sup> Convention of the American Psychological Association, Wash, DC  
<http://www.apa.org/convention>

**September 26-30, 2005** – Human Factors and Ergonomics Society 49<sup>th</sup> Annual Meeting, Royal Pacific Resort at Universal Orlando, Orlando, FL <http://hfes.org/meetings/menu.html>

**October 24-25, 2005** – National Academies Institute of Medicine Annual Meeting, National Academy of Sciences, Washington, DC <http://wwwsearch.nationalacademies.org/>

**January 22-26, 2006** – TRB 85<sup>th</sup> Annual Meeting, Washington, DC <http://trb.org/calendar/>

*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  
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