



Aerospace Human Factors Association

A Constituent Organization of the Aerospace Medical Association

NEWSLETTER

Volume 16, Issue 2

April 2008

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Election Results New AsHFA Officers

President Elect

Carla Hackworth

Representative to Council

Ray King

Member at Large

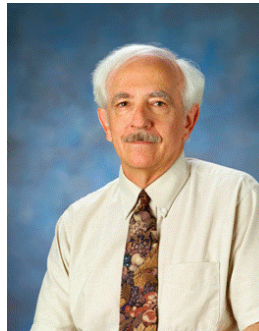
Eduard Ricaurte

AsMA Scientific Meeting Calendar

Boston, MA	May 11-15, 2008
Los Angeles, CA	May 3-7, 2009
Phoenix, AZ	May 8-13, 2010
Anchorage, AK	May 8-12, 2011

Letter from the President

"I look to the future because that's where I'm going to spend the rest of my life." - George Burns



Another year has dashed by in blazing speed once again and soon AsHFA will have a new President. We have taken steps to enhance our membership's directory with a revised new/renewal membership form (see web site), but at the same time we have serious membership

issues. Our future as a Constituent Organization within AsMA depends on two things: 1) retaining 100 fully paid members, and 2) increasing member participation in implementing the functions of our association.

Many of our members have not paid their dues. We hope to correct this situation during the May meeting in Boston. If you wish to pay your dues by mail, please send a check to our secretary treasurer:

Carol Manning
FAA/CAMI/AAM-520
P.O. Box 25082
Oklahoma City, OK 73125

This May we will have vacancies for the Membership Chair, the Secretary/Treasurer, the Newsletter/Publicity Chair, Program Chair, and the Webmaster. AsHFA is not alone in having participation problems. Membership and support for professional societies is decreasing in many fields in this country. This is the first time in several years that we have

AsFHA Officers

President	President-Elect	Past- President	Secretary/Treasurer
Ron Hoffman, PhD Hoffman Science & Engineering 11818 Park Shadow Trail Houston, TX 77059	Larry Bailey, PhD Civil Aerospace Medical Institute FAA/CAMI, AAM-520 P.O. Box 25082 Oklahoma City, OK 73125.	James R. De Voll, MD, MPH Supervisory Medical Officer Medical Specialties Division FAA HQ/AAM-200 800 Independence Ave., SW Washington, DC 20591	Carol Manning, Ph.D. Civil Aerospace Medical Institute FAA/CAMI, AAM-520 P.O. Box 25082 Oklahoma City, OK 73125

Letter from the President

had only one candidate for President. Seven people turned down their nominations. We all have busy lives, but if you are a human factors practitioner, this association has a lot to offer and requires only very low dues and a small amount of support. Please consider volunteering to help AsHFA.

At the AsMA annual meeting, we will have our annual luncheon and business meeting on May 12, Monday, noon to 2:00 p.m., in the Commonwealth Room of the Sheraton Boston Hotel. The speaker will be Dr. James C. Miller, the 2007 recipient of the Henry L. Taylor Founder's Award. His talk is entitled, "Recent Developments Based Upon Applied Research Concerning Fatigue Effects." This event tends to be a sellout, so please register early and get your ticket.

At the Midyear meeting in November, there were two items discussed that I would like to call your attention. One concerned ways to enhance our visibility in AsMA and through our newsletter. AsHFA can contribute one page to the *Aviation, Space, and Environmental Medicine* journal (ASEM) each month. This would require a volunteer to undertake this contribution. Our incoming President, Dr. Larry Bailey, is interested in getting items from the laboratories of our members, particularly titles of recent publications that could be added to the monthly page and summarized in either ASEM or the AsHFA newsletter.

The second item concerned modifying the Constituent File Sharing page assigned to AsHFA for additional functionality to make our operations more effective and efficient, but this discussion

was deferred because the AsMA Executive Council is examining the interfaces between AsMA headquarters and the contractors supporting the AsMA web site. In fact I have been appointed to a subcommittee, chaired by Dr. Carol Manning, supporting this effort and collecting the communication requirements that AsMA will have in the near future. These will be used for re-competing the contract and for upgrading the overall AsMA web site. At the May executive committee meetings for AsHFA, I will be proposing that AsHFA play a role in ensuring the usability of the designs for the AsMA web pages.

As I mentioned in the previous newsletter, human factors has a special role to play in the attacking the issues facing the medical community.

One of the challenges is in reducing medical errors. "The IOM estimates that medical errors cause between 44,000 and 98,000 deaths annually in the United States. Using the more conservative figure, medical errors rank as the eighth leading cause of death, killing more Americans than motor vehicle accidents, breast cancer, or AIDS. In addition to this extraordinary human toll, medical errors result in annual costs of \$17 to \$29 billion in the United States (Institute of Medicine, 1999)." This excerpt was taken from *Doing What Counts for Patient Safety: Federal Actions to Reduce Medical Errors and Their Impact*. This is a report of the Quality Interagency Coordination Task Force (QuIC) To the President, February 2000, and is readily available online (www.quic.gov/report/errors6.pdf).

Two cases are cited of approaches that have reduced medical errors. One resulted in a 7-fold reduction in surgical anesthesia error rates,

primarily due to the collection of data that permitted a systems analysis of errors, and development of practice guidelines, automation, procedure simplification, and standardization of many functions. The other case was a specific example at the Department of Veterans Affairs where a reduction in medication errors by 70 percent was achieved at relatively low cost by employing, a hand-held, wireless bar-coding systems.

The authors of the report note that there are still major obstacles to error reduction. These were listed as the following;

- 1) Lack of awareness that a problem exists.
- 2) A traditional medical culture of individual responsibility and blame
- 3) The lack of protection from legal discovery and liability, which causes errors to be concealed.
- 4) The primitive state of medical information systems, which hampers efficient and timely information collection and analysis.
- 5) Inadequate allocation of resources for quality improvement and error prevention throughout the health care system.
- 6) Inadequate knowledge about the frequency, cause and impact of errors, as well as about evidence of effective methods for error prevention.
- 7) Lack of understanding of systems-based approaches to error reduction (such as those used in aviation safety or manufacturing) and the perceived difficulty of adapting those approaches to the health care sector.

It appears to me that human factors practitioners, are basically systems engineers concerned about design issues at the interface between the users and the technology. Therefore we could play a critical role in removing some of these obstacles.

On a different design issue of reducing patient anxiety during Proton Therapy for Prostate Cancer that I also mentioned in the previous newsletter, I may have made some progress. By the time this newsletter is distributed I will have met with an individual I was able to locate in the MD Anderson Cancer Center who is a human factors

practitioner with the interesting title of “Improvement Advisor”. She has passed my concerns on to the Vice President of the Performance Improvement Division. So maybe I will have some small impact for the benefit of future patients

Thank you for the opportunity to help AsHFA improve and grow. Also I want to thank all the officers, committee chairs and committee members for their efforts. Everyone has many requirements on their time, and I am very aware of the effort and dedication it takes to “get the job done” while confronting the demands of work, family, and numerous other responsibilities. Please continue your support for the next President, Larry Bailey.

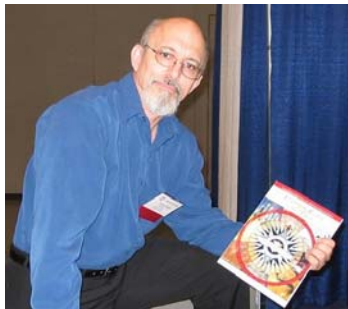
Remember, all members are welcome to the executive committee meetings in May and to our annual luncheon and business meeting on May 12, Monday.

We are looking forward to seeing you in Boston. Please stop by our table and pay your dues and/or say hello. We value our members and want to keep current with each one.

-Ron

ronald.b.hoffman@att.net

Letter from the Editor



How quickly times have changed. Just a few years ago we were mailing newsletters to our membership. Now we are publishing electronic copies

and distributing them through email. Soon we will replace the newsletter with quarterly AsHFA updates that will appear in the back of ASMA's Aviation, Space, and Environmental Medicine Journal, which also exists in an online form.

Currently we are evaluating ways of improving our AsHFA website located at <http://www.asma.org/Organization/ashfa/>. Our president, Ron Hoffman, has been the primary person behind developing the website and performing those activities that keep the website up-to-date with relevant information. Ron's efforts have been outstanding but we need to broaden the human factors community that we are trying to reach. We need to be a source of information for those within ASMA and for those outside of ASMA who wish to know what is going on in the aerospace human factors research. To accomplish this goal means that we need our AsHFA members to become active contributors to our AsHFA webpage. Please help with this effort by identifying important aerospace human factors links that we should include on our website.

Thanks for being involved.

Larry

Larry.L.Bailey@Faa.Gov

AsHFA Sponsored Panels



AsHFA is proud to be the sponsor of three panels that should be especially relevant to our membership. To help you plan your itinerary for Boston, I've included the time and place of each panel along with a brief overview of the topics that will be covered. Please

support our sponsored panels by your presence.

See you in Boston!

Carla

Carla.Hackworth@Faa.Gov

Aviation Human Factors Applied to Medicine
Co-chairs: Dr. Dave Schroeder and Maj. Julia Sundstrom. May 12, Monday - 10:30 am-12:00 noon. Constitution B Room

Human performance issues within medical practice contribute to misdiagnosis, decision errors, and user-interface errors. Medical errors have been found to occur regularly in all aspects of patient care ranging from medication errors to surgical procedures. Over the past decade a number of aviation human factors specialists have been hired to provide quality assurance evaluations, operational risk assessments, and to develop mitigation strategies focused to address human error within the medical arena. These assessments have addressed the transfer of crew resource management (CRM) to medical practice, human factors evaluations of medical instrumentation, the use of procedural checklists, issues associated with alarms and alerts, review of medical errors, error reporting systems, transfer of information across shifts, and the influence of interruptions and distractions on communication and performance. Approaches aimed at preventing and correcting human error within medicine are similar to that found in other disciplines and

require a multi-layer preventative approach. A data-driven

2. Double Panel Recent Progress in Aviation Color Vision II & II. Co-chairs: Drs. Jeff Hovis and Nelda Milburn. May 13, Tuesday - 2:00-3:30 pm and 3:30-5:00 pm. Constitution B Room.

The use of color to code information in the aviation environment has continued to increase along with the controversies that accompany the phrase “adequate color perception for the aviation environment.” The controversies take two forms: one is the question of what constitutes critical color-related tasks in aviation, and the other question is what constitutes an appropriate set of tests for evaluating a person’s color perception. This panel will examine both of these questions and present perspectives from both the civilian and military aviation communities. Presentations will examine color-critical tasks in aviation, changes in color perception in compromised environments, differences between the military and civilian approaches to addressing the issues, and various testing protocols that include the usual screening tests and some newer instruments.

Measurement of Cognitive Function.
Chair - Dr. Lauren Leveton, NASA.
May 15, Thursday - 3:30-5:00 pm. Back Bay D Room

This panel focuses on the use of various performance-based cognitive assessment measures in government and industry. Research indicates that cognitive deficits or decrements can be caused by a myriad of common factors, including stress, circadian desynchronization, sleep loss, and fatigue; yet despite this fact, many individuals engaged in high-risk professions, are not equipped with tools to help gauge their alertness. As indicated in the press, airline and automobile accidents, as well as errors created during medical procedures, have been attributed to errors created by fatigue. Tools that provide assessment of cognitive functioning can aid in applying countermeasures to maintain performance during critical operations.

This panel will examine various tools currently being used by NASA, the military, FAA, and other organizations. The panel will provide forward looking suggestions for how to match and enhance existing tools to adequately meet the needs of complex environments, as well as how these tools might be used in other settings.

2008 AsHFA Election Results

President Elect: Carla Hackworth



Dr. Carla Hackworth works at the Federal Aviation Administration (FAA) Civil Aerospace Medical Institute (CAMI) as an Engineering Research Psychologist for the Aerospace Human Factors Division.

Currently she is serving a three-month rotation as the acting manager for the Aerospace Human Factors laboratory in which she oversees: (1) advance and basic general aviation research conducted in CAMI’s general aviation simulators, (2) research on aircrew performance and behavioral stressors, and (3) the assessment of the organizational effectiveness of the FAA and its customers. As a principle investigator, Dr. Hackworth has recently conducted research on: (1) maintenance human factors programs in domestic and international maintenance organizations, (2) the causes of general aviation accidents using the Human Factors Accident and Classification system, and (3) the way designated pilot examiners’ conduct their assessments of pilot performance. Based on her publications in these areas, Dr. Hackworth received the 2007 Office of Aerospace Medicine’s William Collins Publication Award.

Dr. Hackworth has been an active AsHFA member for five years and currently is serving as a member at large and program chair. In addition, she is an active member of ASMA’s Human Factors Committee and the Scientific Program Committee.

Representative to Council: Ray King



Larry didn't take this picture when I learned of my election, but in a way it captures the way I felt when I realized that you were once again allowing me to serve you, my AsHFA friends. On the other hand, it would have required Edvard Munch to capture my likeness when I realized the awesome responsibility.

You see, we are a small constituent organization, barely meeting our minimum membership. While the *quantity* of our membership is at a critical level, the *quality* of our membership is impressive and gives AsHFA its strength. Nevertheless, we need to increase our membership, or at least not lose a single member. Not even one. So, as the first order of business, let's all pay our annual dues (by visiting the AsHFA table in Boston) and recruit some new members.

I am particularly interested in figuring out how AsHFA can be attractive to the next generation of potential members. Students currently entering college and graduate school are potentially our strongest allies. They simply expect things to work and to do so without a need to refer to a thick manual. In other words, they expect that the goods and services that are offered to them have good human factors considerations. These are the folks who plan to never have a "house phone" and who expect a website for every aspect of living. We need to effectively mentor them and recruit them into the various human factors careers and perhaps into AsHFA as well. Please let me hear your ideas about how to reach out to them.

Next, I want to consider our role within the larger Aerospace Medical Association, which is directly impacted by the high quality of our membership. We are the human factors specialists and we have

a broad range of expertise to offer. As Ron notes, we have a role in the mitigation of human error in many realms, to include aviation as well as medicine. Too often, however, we are called in to examine how the mishap/accident occurred rather than consulted earlier in the cycle to determine how to best prevent the potential hazard. Interventions might include person-centered design, more prominent and timely warnings, and/or improved personnel selection and more effective training.

There are those in the human factors community who seek to define human factors very narrowly, perhaps limiting the field to the knobs and dials level. While those contributions are important, human factors is so much more. My intent is to represent the entire spectrum of what human factors can offer the Aerospace Medical Association and, ultimately, those at the pointy end.

So, let me know what's on *your* mind (as long as you're not like the guy in the foreground of this painting). As your representative to the AsMA Council, I will strive to make your (well-modulated) voice heard. Each of us has a role within the great human factors community and it is my mission to best exploit your expertise for the greater good. Please share your thoughts about the state of human factors and the role of AsHFA, either in person or via skyking321@aol.com. I promise *I* won't scream.

Thank you!

Ray

Member At Large: Eduard Ricaurte



Dr. Ricaurte was born in Cartagena, Colombia, South America. He graduated from the University of Cartagena School of Medicine in 1989. His interest in aviation medicine began in 1990, when he worked as a

Manager of Health Programs for the Colombian Civil Air Patrol. In 1992, he completed training in

aviation medicine at the National University in Bogotá, Colombia.

In 1993, as the Chief of Aviation Medicine Division in the Civil Aviation Authority of Colombia (CAAC), Dr. Ricaurte had the opportunity to deal with a broad spectrum of activities in the areas of aeromedical certification, airport health services, and aircraft accident investigation. He was involved in the investigation of medical aspects of three major aircraft accidents in Colombia. In 1996, he went to the Federal Aviation Administration, Civil Aerospace Medical Institute in Oklahoma City, to receive post-graduate training in Aviation Medicine and Aircraft Accident Investigation.

After completing his Master of Science's degree in Aerospace Medicine at Wright State University in Dayton, Ohio in 2001, Dr. Ricaurte began a Ph.D. program in Human Factors Engineering, with emphasis in human-computer interface and spatial disorientation. He is currently working at the Federal Aviation Administration, Civil Aerospace Medical Institute in Oklahoma City as contractor Research Physician, providing Aeromedical and Human Factors engineering expertise to support the development of an Aviation Accident Injury and Autopsy Database. Specific interests include improving FAA's ability to classify and study aircraft occupants' injuries in order to reduce injuries in aircraft accidents and to improve occupant's survivability.

Dr. Ricaurte also has been an adjunct professor of Human Factors Engineering in Aerospace Medicine at Wright State University and the Military University in Bogota, Colombia; a member of Aerospace Medical Association (AsMA) since 1993 and is currently the Vice-President of the Iberoamerican Aerospace Medical Association. He has also been active as a speaker in aviation medicine, human factors and aviation safety at various international meetings in Latin America and the United States.

Dr. Ricaurte was the recipient of the John A. Tamisea Memorial Award at AsMA in 2007 for his contribution in the application of the art and science of aviation medicine to general and commercial aviation.

David Schroeder Retires



On February 29, 2008, Dave Schroeder, former AsHFA and ASMA president, retired from the Federal Aviation Administration after 41 years of civil service. We asked one of his former employees to write a tribute to him as a way of thanking him for not only being a good manager, but for being a good human being.

The Good Life

We all look forward to “the good life” and retirement and hope that we will still have the energy and wherewithal to enjoy it when the time comes. As I watched Dave Schroeder winding down his illustrious career, it occurred to me that he would be one of those people. Dave is the epitome of a life to be emulated.

Even though Dave retired earlier this year, he lived his life well throughout his career, beginning as a Psychology Technician in 1967 at the Federal Aviation Administration (FAA) Civil Aeromedical Institute's (CAMI) Psychology Laboratory. He earned his Doctor of Philosophy in Psychology from the University of Oklahoma

in 1971 and remained at CAMI for one year prior to moving to Nebraska to do post-doctoral work.

Before returning to Oklahoma, Dave served as a Clinical Psychologist for the Veteran's Administration in Tennessee and Kansas. In 1980, Dave returned to CAMI to become the supervisor of the Clinical Psychology Research Unit and held that position for several years. In 1990, he became the acting manager of the Human Resources Research Division (now known as the Aerospace Human Factors Research Division) and was named manager in 1991, the position that he held until his retirement on March 1, 2008.

Dave's research is documented in over 40 Office of Aviation Medicine (OAM) technical reports and in more than 125 presentations in areas of interest such as disorientation, job attitudes, stress, age, shiftwork and fatigue, and color vision. Dave was primarily responsible for administering the FAA Employee Attitude Survey for 22 years. He participated in numerous national human factors working groups and helped develop many international collaborative research projects. Dave also assisted with the psychological screening of federal air marshals during their post-9/11 hiring increase.

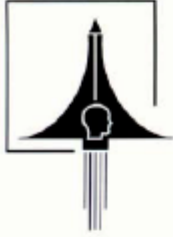
Dave served in leadership roles in a variety of scientific organizations including the American

Psychological Association, the Aerospace Medical Association, the Aerospace Human Factors Association, and the Oklahoma Psychological Association. He was a vital member of each organization and presided over many of the committees. Not surprisingly, Dave received numerous professional awards and honors throughout his career, many having to do with his work in these outstanding organizations.

Dave was the Office of Aviation Medicine Manager of the Year in 2005 and led his division to become the OAM Office of the Year in 1999 and 2005. His employees held him in high esteem due to his fairness and integrity. As a private citizen, I am sure that Dave will continue to encourage and promote those around him just as he has for the past 40 years.

Many friends, co-workers, and family attended the retirement reception for Dr. Schroeder held on March 3, 2008. We wish him the best as each day comes along and provides him with a new opportunity to make a difference in the world. We thank him for a job well done and say, "Here's to the good life, Dave; enjoy!"

--by Cheryl Scroggins



Application/Renewal of Membership in
Aerospace Human Factors Association

- Membership Renewal: I wish to renew my membership in the Aerospace Human Factors Association. **I am a current member of the Aerospace Medical Association.** I am enclosing \$15.00 (U.S. funds) for annual dues with this application.

- Full-time Student

Name: _____

Title: _____

Name of Highest Degree: _____ Year: _____

Preferred Address: Home Business (circle one)

Preferred Phone: () _____ Home Business (circle one)

Fax Number: () _____

E-mail address: _____

Please complete this printed form and mail it with a check for \$15 (payable to Aerospace Human Factors Association) to the Membership Chair listed below. You can also find a copy of the application form at:

<http://www.asma.org/Organization/ashfa/Pages/AsHFAMemApp2001.pdf>

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