

## President's Page

I have just returned from our Annual Scientific Meeting in New Orleans. There were some glitches related to the late shifting of all functions to one hotel due to construction activities, for which I apologize. Nonetheless, I feel the meeting was a great success. There is no experience that matches meeting with one's colleagues from around the globe.

I came into New Orleans from the east, where the brunt of Hurricane Katrina was experienced. Seeing the devastation and trying to imagine the despair that accompanied it, I asked the taxi driver about the spirit of the people of New Orleans. He answered immediately that it was positive, enthusiastic, and hopeful. That warmed my heart. Some meeting participants arrived early and joined a Habitat for Humanity effort for the city; no doubt they felt that spirit.

Experiences in New Orleans and musings about the duties of this office have given me much to ponder. As part of that effort, I have tried to wrap my arms about how the Aerospace Medical Association functions. We are a diverse organization, with 11 constituent and 31 affiliate organizations. We come from all walks, ranging from basic scientific research to applied research to clinical aerospace medicine and individual aeromedical dispositions. We are composed of basic scientists, physiologists, academicians, regulators, administrators, nurses, physicians, human factors specialists, aviation medical examiners, and others. We are a global organization representing many lands.

What is it, then, that unites us within this Aerospace Medicine Association? I can think of three things. The first is air, where many years ago things got started. The second is space, which came later and where the planets await us. The third is the spirit that unites us all. It is the spirit which causes us to look up to the heavens that we call air and space and makes us yearn to be there, to explore and to learn the secrets and lessons there. I suspect most of us think it's also fun to play there. This association truly symbolizes the heights to which the human spirit can soar. In my mind's eye, these things unite us.

I have chosen to focus on three goals in the coming year. The first was to form an ad hoc committee to coordinate efforts in clinical aerospace medicine. These efforts range from the establishment of aeromedical standards, to revision of standards in light of advances in waiver provisions, to individual aeromedical dispositions. The committee's focus is twofold, international and evidence-based. The first meeting of the committee, composed of one U.S. and five international members was held in New Orleans. There will be more to come on this ambitious effort as it evolves.

The second goal is to heighten emphasis on the international nature of AsMA. Discussions have already begun to address international activities at the annual scientific meeting, as well as AsMA participation in international meetings of constituent and affiliate organizations.



**John D. Hastings, M.D.**

International exchange in outreach programs to reach medical schools and aerospace medicine training programs will be discussed. Vice President of International Activities, Jeff Myers, and his International Activities Committee will be integral to this effort.

The third goal is to examine instruments by which AsMA communicates with the global aerospace medicine community and the processes that govern those instruments. These include position papers, position statements, letters, resolutions, website content, and journal content. The purpose of this review is to assure well considered and timely association response to issues facing aerospace medicine. The Executive Committee and an expanded Communications Committee will shepherd this effort. We will also review our internal communications and the fundamentals of how the association does its work.

In a volunteer organization such as ours, with members scattered around the globe, internal communications can be problematic. Assuring currency of e-mail addresses and struggling with a format for between-meeting deliberation of committee tasks via e-mail are two major issues that will be examined. When we meet, we plan. Then we must do, and communication is the linchpin.

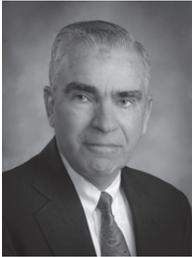
Internal communications depends upon relationships, and I am happy to announce that decisions of the membership in New Orleans have the great potential of linking the new member of AsMA, joining just today, with the most senior Fellow in our association. The membership chose to place representatives of both the Fellows and Associate Fellows Groups on Council. Ideas from the newest member will be heard, and the collective wisdom of past association leaders will not be untapped. The Fellows Group has also chosen to embark upon an election reform initiative for the Fellow selection process.

I am excited about this year. This association has done much for me. It has broadened my perspective and world view. It has connected me with many around the globe who are now good friends and colleagues. I look forward to working with you all. In New Orleans, you elected a great crew to sail this ship in the coming year. We will do our best to serve you.

# Medical News

## AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE

### Executive Director's Column



Rayman

### Potpourri

As I write this month's column, the Home Office is extremely busy preparing for the meeting in New Orleans. I would like to emphasize that the meeting is made possible because of so many dedicated volunteers whose support is critical. I can't mention them all but I would like to express special appreciation to Joe Dervay - Science Program Chair, Gordon Landsman - Registration, Bob Johnson - Arrangements, Susan Northrup - MOC Program, and Stella Bellarts - CME Program.

Quite a bit has happened in the past several months that I think you would find of interest. First, we received a large grant from Cephalon Inc. in the amount of \$169,000 to pay for our May Supplement, Operational Applications of Cognitive Performance Enhancing Technology. All the credit goes not only to the writers, but also to Mike Russo who somehow acquired this grant for AsMA.

Recently our offices have approved 3 letters that you can see on our website under announcements. First, we have responded to the FAA Docket on Periodicity by supporting the NPRM calling for medical examinations for air transport pilots to be extended from 6 months to 1 year and for general aviation pilots from 36 to 60 months. In both cases, this applies only to pilots under age 40.

Another letter was sent to Congressional leaders in support of the space life sciences research program. Just prior to the release of these letters, your Association along with other scientific organizations spent two days on Capitol Hill visiting key Congressional offices explaining the critical need for an adequate budget for countermeasure and in-flight medical care research.

As you may recall, AsMA approved a resolution last year calling for Auto-Ground Collision Avoidance Systems (Auto-GCAS) for high performance military aircraft. We did this in response to a paper prepared by Pete Mapes. As a follow up, we have contacted Congressional leaders emphasizing the importance of Auto-GCAS as a promising remediation for spatial disorientation.

The International Civil Aviation Organization (ICAO) had a meeting at its Headquarters in Montreal recently to review their policies on a number of issues includ-

ing HIV, periodicity, diabetes, and in-flight first-aid kits. AsMA was well represented at this meeting and proffered its recommendations to the ICAO Chief Medical Officer, Dr. Tony Evans.

And finally, an NPRM on the Age-60 Rule is expected to be published in about 2 years. The reason for this delay is due to the need for a full economic impact study.

I very much look forward to working with our new President, Dr. Jack Hastings, our officers, and committees during this coming year. I'm sure we'll have a very productive 2007 - 2008.

Point your mouse to the AsMA home page at: [www.asma.org](http://www.asma.org)  
It's frequently updated with important, new information about your Association.  
**August Features:**  
Annual Meeting photos, awards, reports, and much more!

**MEETINGS CALENDAR 2007**

**July 13-15, 2007, Double Tree Hotel Sonoma, Rohnert Park, CA.** 18th Annual NASA Space Radiation Investigators' Workshop. Info: [www.dsls.usra.edu](http://www.dsls.usra.edu).

**October 29-31, Grand Sierra Resort & Casino Hotel, Reno, NV.** SAFE Association 45th Annual Symposium. For more info, call (541) 895-3012, Fax (541) 895-3014, e-mail [safe@peak.org](mailto:safe@peak.org), or visit [www.safeassociation.com](http://www.safeassociation.com) or [www.safeassociation.org](http://www.safeassociation.org).

**November 1-2, 2007, Holiday Inn Regents Park, London, UK.** Second Annual Aviation Health Conference. For more information, visit [www.quaynote.com](http://www.quaynote.com). For sponsorship or speaking opportunities, contact [lorna@quaynote.com](mailto:lorna@quaynote.com) or phone 44-20-8531-6464.

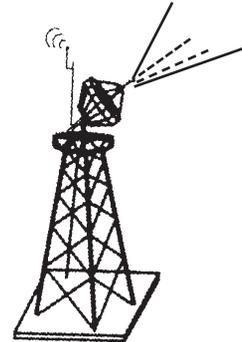
**Postponed until 2008.** Human Performance, Situation Awareness, and Automation (HPSAA III) Technology Conference. Info: Mustapha Mouloua, Conference Chair, 407-823-2910, [mouloua@pegasus.cc.ucf.edu](mailto:mouloua@pegasus.cc.ucf.edu), <http://faculty.erau.edu/hpsaa/>.

**AsMA Future Meetings**

May 11-15, 2008  
Sheraton Hotel  
Boston, MA

May 3-7, 2009  
Westin Bonaventure Hotel  
Los Angeles, CA

May 9-13, 2010  
Sheraton Hotel  
Phoenix, AZ



### Science & Technology Watch

#### Keeping You Informed Of The Latest Advances In Science And Technology

*Given the current trend of longer and longer duration missions, it becomes even more critical to monitor crew fatigue. Greeley and Nesthus review results from current research in voice analysis that can unobtrusively determine fatigue during operational missions.*

#### Predicting Fatigue Using Voice Analysis

*Hal Greeley, Create, Inc. and Thomas Nesthus, FAA Civil Aerospace Medical Institute*

The ability to quickly and unobtrusively monitor an individual's level of alertness prior to and during the undertaking of mission-critical activity would provide commanders with critical information regarding personnel assignments, quite possibly save lives, and increase the likelihood of mission success.

Voice analysis can be used to predict fatigue. Voice analysis differs from established cognitive measures in a number of ways:

- Speaking is a natural activity, requiring no initial training or learning curve.
- Voice recording is an unobtrusive operation that does not interfere with normal work.
- Using telecommunication infrastructure (radio, telephone, etc.), a diffuse set of remote populations can be monitored from a central location.
- Often, previously recorded voice data are available for post hoc analysis.

Mathematically, speech signals consist of a convolution (in the time domain) of the air-flow excitation pattern from the diaphragm with a filter description of word shaping by the mouth, tongue, nose, and lips or by a multiplication of the transfer functions of these two regions in the frequency domain. It is possible to analyze the recorded speech signal,  $S(t)$ , in a manner that separates the filtering effects from the excitation signal.

In this process, the spectral characteristics of the speech signal are obtained and a logarithm of the resulting amplitude is calculated. This provides a computed measure from which excitation ( $\text{Log}(E(w))$ ) and filter ( $\text{Log}(F(w))$ ) components are separated, as seen in the equation:

*See SCIENCE & TECH WATCH, p. 743.*

## 2007 Award Winners of the Aerospace Medical Association

Honors Night Ceremonies of the 78th Annual Scientific Meeting of the Aerospace Medical Association were held May 17, 2007, at the Sheraton Hotel in New Orleans, LA. Fifteen awards for outstanding contributions in aviation and space medicine were presented. The presentations were made by Richard T. Jennings, M.D., president of the Aerospace Medical Association. The winners were recommended by the Awards Committee, chaired by CDR Andrew Bellenkes, and approved by the Executive Committee of the Aerospace Medical Association.



### JULIAN A. WARD AWARD

**Lt. Col. Cheryl Lowry, USAF, MC**

*Established and sponsored by the Society of U.S. Air Force Flight Surgeons in memory of its first member to lose his life in an aircraft accident, and to honor all flight surgeons whose lives are lost in the pursuit of flying activities relating to the practice of aerospace medicine. The award is given annually for superior performance and/or outstanding achievement in the art and science of aerospace medicine during residency training.*

Lt. Col. Cheryl Lowry, USAF, MC, was awarded the 2007 Julian E. Ward Memorial Award at Honors Night for her outstanding academic accomplishments and her superb professional leadership while a resident at the USAF School of Aerospace Medicine (USAFSAM). She set a new standard of excellence in the Air Force RAM residency program and completed an overwhelming amount of coursework. She has contributed to numerous products that benefit the practice of flight medicine throughout the Department of Defense. She has also provided extraordinary support to the residency program.

Like many, she focused her Harvard MPH on humanitarian and disaster response. She was selected as 1 of only 20 MPH students in the nation to be part of an Inter-University Initiative on Humanitarian Studies. This led to her deployment to Afghanistan during the MPH to support a U.S. health assessment team surveying medical capabilities at 13 locations in Kabul, Bagram and the surrounding area. She then co-authored the report detailing the roadmap to coordinate international government and NGO support for Afghan medical infrastructure and education. The ability of the Afghan Army to send medical support outside their nation to tsunami ravaged areas of Indonesia was illustrative of the success of the program.

During the practicum of her residency, Cheryl continued to impress excelling in all required rotations and courses as well as completing more electives than it seemed there would be time for. In addition to the required coursework, she completed: 1. The NOAA Dive Medical Officers Course becoming a certified DMO, 2. Provided a month of medical support to Operation Deep Freeze at McMurdo station in Antarctica, 3. Deployed 30 days as preventive medicine officer in support of US operations in Cambodia, 4. Completed all nine NORTHCOM Homeleand Security Medical Curriculum courses.

Despite the overwhelming amount of coursework she completed, Cheryl managed to perform a dazzling array of projects. She performed research and submitted pa-

pers/posters on 1. Re-Entrant Tachycardia Treated with Radiofrequency Ablation (AsMA) 2. DNIF rates from flu vaccine comparing IM vs. intranasal (AsMA) 3. A review of findings during her participation in the safety investigation board evaluating the sudden death of a combat rescue officer during training (Mil Med), 4. Aerospace issues associated with a case of pituitary adenoma in a pilot (Federal Air Surgeon Bulletin); 5. Case presentation of instructor pilot with HTN and tremor-Stress vs. alcohol. In the international arena she conducted research in a joint project with the Chilean air Force, the University of Chile, and the University of Valparaiso utilizing a deployment ready i-STAT laboratory module to correlate biomarkers with altitude stress.

Lt. Col. Lowry earned a B.S. in Industrial Technology from Southern Illinois University in Carbondale, IL, and a B.S. in Biology/Chemistry from the California State University in Stanislaus, CA, in 1992. She earned her M.D. in 1997 from the Uniformed Services University of the Health Sciences in Bethesda, MD. She completed a Family Practice Residency at Andrews AFB, MD, in 2000 and continued her training with the Aerospace Medicine Primary Course and Survival Training in 2000, the Global Medicine Course in 2001, Combined Humanitarian Relief Training in 2001, Advanced Trauma Life Support in 2002, and Expeditionary Medical Deployment Support in 2003. In 2005, she earned an M.P.H. from the Harvard School of Public Health in Boston, MA.

Lt. Col. Lowry began her career in the military in 1985 as a Law Enforcement Specialist at Spangdahlem AB, Germany. She was transferred to Castle AFB, CA, in 1988, where she continued serving in law enforcement. In 1993, she attended the Uniformed Services University as a medical student, where she was involved in a variety of activities, including Air Force representative to the student government; Family Medicine Interest Group officer; Flight Commander, Field Training Exercise Kerkesner; and representative to the National Congress of Student/Resident members, American Academy of Family Physicians. When she graduated in 1997, she became a Family Practice Resident at Andrews AFB, MD. In 2000, she was promoted to Flight Surgeon and served at Bolling AFB, DC. In 2002, she was transferred to RAF Lakenheath, UK, where she was the Squadron Medical Element and a Family Practice Flight Surgeon. From 2004 to 2005, she attended the Air Force Institute of Technology and was an M.P.H. student at Harvard University. In 2005, she became a Resident in Aerospace Medicine at the USAF School of Aerospace Medicine, where she has also served as the Society of USAF Flight Surgeons Executive Officer.

Lt. Col. Lowry earned her current rank 2 years before the norm. Her other awards and honors include the Air Force Meritorious Service Medal with two oak leaf clus-

*See LOWRY, p.732*

LOWRY, from p. 731.

ters, the Air Force Commendation Medal, the Air Force Good Conduct Medal, the American Military Surgeons of the U.S. Leadership Award, U.S. Air Force Europe Airman of the Year, and the American Red Cross Community Service Award. She is a member of the Aerospace Medical Association, the Society of USAF Flight Surgeons, the American Academy of Family Physicians, the Wilderness Medical Society, and the Undersea and Hyperbaric Medical Society.



#### ERIC LILJENCRANTZ AWARD

**Estrella M. Forster, Ph.D.**

*The Eric Liljencrantz award was established in memory of CDR Eric Liljencrantz, MC, USN, whose brilliant career in aviation medicine was cut short by his death in an airplane accident in 1942. It is given annually to honor excellence as an educator in aerospace medicine, or basic research into the problems of acceleration, altitude, or weightlessness. Sponsored by Bionetics Corporation.*

Estrella M. Forster, Ph.D., was honored with the 2007 Eric Liljencrantz Award on Honors Night for her myriad contributions to the understanding of human responses near the edge of the tolerable acceleration envelope. Her work has greatly expanded the safe operational aerospace realm. She has elucidated psychological responses in an extensive number of scientific publications and has applied her findings to developing advanced integrated life support systems. She is an expert in acceleration and an internationally recognized aerospace medical scientist.

Dr. Forster was born Estrella de Maria Mercedes Elena Forster y Cornejo in Mexico City, Mexico. The family relocated to San Antonio, TX, in 1977. She obtained her B.S. degree from the University of Houston, TX, and her M.S. and Ph.D. from Drexel University, Philadelphia, PA. Her professional career has included serving at the USAF School of Aerospace Medicine, Brooks AFB, Texas; USN NAVAIR in Pennsylvania and Maryland; and as USN Commander Third Fleet in California from 1984-2004. She also served as adjunct professor of statistics at the graduate departments of Drexel University and the Florida Institute of Technology from 1994-2002. She joined the FAA Civil Aerospace Medical Institute (CAMI) Aerospace Medical Research Division in Oklahoma City, OK, in November 2004.

Dr. Forster's experience encompasses 23 years of RDT&E efforts. Her stellar technical and program management accomplishments have focused on aircrew systems, specifically life support equipment addressing acceleration, altitude, and thermal and chemical-biological environments. She has greatly extended our understanding of the human response to +Gz-acceleration stress, covering an extensive spectrum from the cardiovascular responses to variable onset +Gz stress, and the biochemical and energetics responses to high sustained +Gz, through the psychophysiological characterization of +Gz-

induces loss of consciousness, followed by enhanced +Gz-protective techniques, and finally equipment and technology and aircrew acceleration training development and methodology. Her work is described in over 100 publications, presentations and reports. She was able to apply her laboratory results into advanced pilot protective concepts in integrated life support systems, numerous innovative technologies for application to the aviation and space communities. She introduced and delivered USN Aircrew Integrated Life Support Systems for high performance rotor and fixed-winged aircraft. She also conceived, developed, and delivered the Collaborative Operations and Responsive Technology EXperimentation (CORTEX) facility, Third Fleet's Command Center.

Dr. Forster has been a member of the Aerospace Medical Association since 1985 and currently serves in its Science & Technology and Scientific Program Committees. She is an AsMA Fellow, a NAVAIR Fellow, a National Research Council Adviser, and has served on the Naval Postgraduate School MOVES Institute Science Board. She is also a member of the IberoAmerican Association of Aerospace Medicine and is the incoming 2007-08 President of the Life Sciences and Biomedical Engineering Branch (LSBEB) of AsMA. Her most recent honors are the Naval Collaboration Award, granted by the Chief of Naval Research, the Outstanding Leadership Award, granted by the FAA's Federal Air Surgeon, and the A. Howard Hasbrook Award granted by the LSBEB.



#### LOUIS H. BAUER FOUNDERS AWARD

**William E. Collins, Ph.D.**

*This award was established to honor Louis H. Bauer, M.D., founder of the Aerospace Medical Association. It is given annually for the most significant contribution in aerospace medicine. It is sponsored by the Mayo*

William E. Collins, Ph.D., received the 2007 Louis H. Bauer Founder's Award on Honors Night for his outstanding contributions to aerospace medicine through his scientific accomplishments and aeromedical leadership. He enhanced the vitality of civil aviation medicine during more than three decades of significant research, research management, and active participation in the Aerospace Medical Association's scientific programs. His leadership during his tenure as the Civil Aerospace Medical Institute's (CAMI's) director helped firmly establish CAMI as an international resource and a world-class center of excellence.

Dr. Collins was born in Brooklyn, NY, and grew up in Tenafly, NJ. He earned a bachelor's degree in 1954 from St. Peter's College, NJ. He earned his master's degree in 1956 and his doctorate in 1959 in psychology from Fordham University, NY. He subsequently served a 2-year tour of military duty as a research psychologist at the Army Medical Research Laboratory in Fort Knox, KY.

*See COLLINS, p. 733.*

COLLINS, from p. 732.

In 1961, he joined the Federal Aviation Administration's (FAA's) Civil Aeromedical Institute (CAMI) in Oklahoma City, OK, as a research psychologist in the Aviation Psychology Laboratory. He was later appointed Laboratory supervisor in 1965, assistant manager and acting Director of CAMI in 1988, and was the Director of CAMI from 1989-2001. Following retirement from federal service, he has continued his association with CAMI (renamed the Civil Aerospace Medical Institute in 2001) via the publication of three comprehensive indexes of CAMI research reports, including historical vignettes, and CAMI technical report No. 1000, summarizing CAMI's history of aeromedical research accomplishments and their applications.

Dr. Collins' aeromedical work included a research patent, a classic vestibular research film that used professional figure skaters as subjects, and collaboration with industry in the production of the Vertigon—the first portable, commercially produced, spatial disorientation familiarization device. His subsequent research explored the interactions of age, alcohol, drugs, and sleep loss on performance in stationary vs. dynamic (whole body motion) environments; sonic booms and sleep; color vision; and factors associated with air traffic controller selection and training. His leadership and vision during the early 1980s led to a Department of Transportation Silver Medal in 1986.

When Dr. Collins was appointed acting Director and then Director of CAMI, he provided key leadership for the Federal Air Surgeon in gaining administration, department, and congressional support and initiated and stimulated achievement of a "World Class" Institute goal. Over the next decade, he acquired and sustained support that more than doubled funding and significantly increased positions, staffing levels, and in-house contract personnel; he enhanced infrastructure, environment, and computer capability; and selected a management staff of excellence. Those developments demonstrably enhanced CAMI's presence and role as a center of civil aeromedical excellence, nationally and internationally, and were noted when he received the FAA Distinguished Career Service Award in 2001.

Dr. Collins has maintained an active role in the Aerospace Medical Association (AsMA). Beginning in 1962 (and in an unbroken string from 1964 through 1998) he authored/co-authored 56 scientific presentations at the annual meetings, chaired 11 scientific sessions, and effectively stimulated his laboratory staff to share their research and expertise in that same venue. These outcomes were among those cited in his 1993 AsMA Presidential Citation. He was as an associate editor of the AsMA journal (1981 through 2000), served on the Executive Committee for two AsMA presidents, chaired the Science and Technology Committee, and served for varying periods on 12 regular and special committees of the Association and its constituent organizations. One of AsMA's first Life Members and a Fellow (he also holds Fellow status in five other scientific organizations), he was the recipient of the AsMA Longacre Award in 1971 and the Moseley Award in 1998, the LSBEB Professional Excellence Award in 1989 and its first President's Award in 1999, and the Aerospace Human Factors Association (AsHFA) Hansen Award in 1998. AsHFA also established

an annual award in his name in 2002 for best human factors publication and, in 2003, the Federal Air Surgeon named an FAA annual award for him for the best scientific/technical publications in aerospace medicine. In 2004, Dr. Collins was inducted into the Oklahoma Aviation and Space Hall of Fame.



#### RAYMOND F. LONGACRE AWARD

**Carol A. Manning, Ph.D.**

*Established to honor the memory of MAJ Raymond F. Longacre, MC, USA. It is given annually for outstanding accomplishment in the psychological and psychiatric aspects of aerospace medicine. Sponsored by PricewaterhouseCoopers LLP for 2007.*

Carol A. Manning, Ph.D., was presented the 2007 Raymond F. Longacre Award during Honors Night for her systematic, in-depth program of psychological and human factors research. Over the past 24 years, she has meaningfully defined psychological selection requirements for air traffic control specialists (ATCSs), measurement and prediction of ATCS training and field performance, and human factors requirements for advanced ATC automation, including the safety impacts of situation awareness and communication issues on controller performance. She is recognized as a world safety expert on the psychology of air traffic controller selection, training, and human factors.

A native of Kansas City, MO, Dr. Manning earned a B.A. degree in Psychology/Mathematics from Drury College in 1976, an M.S. in 1979 and a Ph.D. in 1982, both in Psychology, from the University of Oklahoma. From 1978 until 1983, she served as a Research Assistant, Senior Research Assistant, and then Associate Research Assistant at the Department of Psychology at the University of Oklahoma in Norman, OK. She then became the supervisor of the Selection and Validation Research Unit in the Aviation Psychology Laboratory at the FAA Civil Aeromedical Institute (CAMI) in Oklahoma, OK, later in 1983. In 1986, she transferred to the Human Resources Research Branch to serve as supervisor of the Training and Skills Evaluation Research Section. In 1989, she became the supervisor of the Training Systems Section. In 1994, she was appointed an Engineering Research Psychologist in the Human Factors Research Laboratory in the Aerospace Human Factors Research Division at FAA CAMI. She was promoted to Lab Manager of the Training and Organizational Research Laboratory in 2003.

For 24 years, Dr. Manning has pursued with dedication significant psychological research regarding safe and enhanced performance of air traffic control specialists (ATCSs). Her initial work involved high priority studies on the selection and FAA Academy training of new hires following the historic firing of thousands of striking ATCSs. The validity of the new selection/training program was critical to recovery of and confidence in the national airspace system. Later, databases she created al-

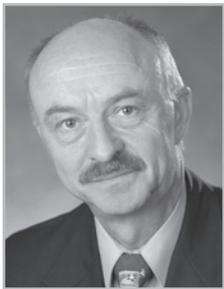
*See MANNING, p. 734.*

MANNING, from p. 733.

lowed her to develop interim criterion measures of controller performance against which ATCS selection tests and procedures were compared, including development of models predicting outcomes (success) of implementing changes in the Academy selection/training program. Currently, she addresses psychological and human factors concerns in human-centered automation for proposed, highly advanced, air traffic systems. Recent field studies assessed the potential safety impacts on ATCS memory and performance of eliminating or reducing the use of flight progress strips in favor of automation.

Dr. Manning is a Fellow and Vice President of the Aerospace Medical Association (AsMA), a Charter Fellow and Past President of the Aerospace Human Factors Association, and a member of the Human Factors and Ergonomics Society. Dr. Manning has also served as AsMA's Scientific Program Committee Chair for 2004, and on Registration, Resolutions, Aerospace Human Factors, and Awards Committees, been a Poster Session Subcommittee Chair, and served on the Editorial Advisory Board. She has also been active in the Aerospace Human Factors Association, with her service there including Chair of the Program Committee, Newsletter Editor, representative to AsMA's Nominating Committee, and Secretary-Treasurer. In the Human Factors and Ergonomics Society, she has served as part of the Aerospace Systems Technical Group and the Test & Evaluation Technical Group.

Her awards and honors include the Distinguished Graduate Award for the Supervisory Initial Course for the FAA Management Training School, a cash award from the Air Traffic service in recognition of her contributions to on-site evaluations on en route facility training programs, the M. Scott Myers Award for Applied Research in the Workplace from the Society for Industrial and Organizational Psychology, and the William E. Collins Publication Award from the Office of Aerospace Medicine.



#### WON CHUEL KAY AWARD

Claude Thibeault, M.D.

*Established by the Korean Aerospace Medical Association in honor of Won Chuel Kay, M.D., the former Surgeon General of the Korean Air Force, founder and first Medical Director of Korean Airlines and first President of the Korean Aerospace Medical Association. This Award is presented annually to a member who has made outstanding contributions to international aerospace medicine. The award was established and is sponsored by the Korean Aerospace Medical Association.*

Claude Thibeault, M.D., received the 2007 Won Chuel Kay Award from the Aerospace Medical Association during Honors Night Ceremonies. Dr. Thibeault has spent his entire career promoting international cooperation in aerospace medicine. As a result, the International Air Transport Association recently selected him as its first

permanent Medical Advisor. In that position, Dr. Thibeault has established a close working relationship between the World Health Organization and the aviation industry to improve the response to public health emergencies. He has developed the first international guidelines for suspected communicable diseases in the industry and is now a key participant in the International Working Group for Avian Influenza Pandemic Planning coordinated by the International Civil Aviation Organization. Dr. Thibeault has continuously stimulated the growth of Aerospace Medicine on the international level and remains strongly involved at present.

From his aerospace medicine training in the United States to his current position of Medical Advisor of the International Air Transport Association, he has always promoted the international aspect of aerospace medicine. His peers have recognized his leadership on the international scene by electing him to positions such as President of the Airline Medical Directors Association (1998-1999), President of the International Academy of Aviation and Space Medicine (1999-2001), and President of the Aerospace Medical Association (2002-2003).

Dr. Thibeault is currently Secretary-General of the IAASM and is dedicated to spreading Aerospace Medicine to developing countries. He has produced over 110 conferences in aerospace medicine, more than 60 of which were at the international level. For the past 5 years he has organized and chaired the IATA international conference on cabin health. He is also a contributor to two textbooks of Aerospace Medicine and is writing the chapter on International Aerospace Medicine in the coming edition of Fundamentals of Aerospace Medicine.

A native of Canada, Dr. Thibeault graduated from Sherbrooke Seminary in 1968 with a B.A. in the Arts. He received his M.D. degree from Sherbrooke University Faculty of Medicine in 1972. He took the Flight Surgeon Course at the Defence and Civil Institute of Environmental Medicine in Toronto, Ontario, in 1975 and served a Residency in Aerospace Medicine at the U.S. Air Force School of Aerospace Medicine from 1978 to 1979. He also attended Intensive Sessions in Occupational Medicine at the University of California, San Francisco, CA, from 1988 to 1989. Throughout his career, he continued to add to his medical knowledge by attending various short courses.

Dr. Thibeault began his career in 1973 serving as a Medical Officer in general practice at the Canadian Forces Base in Chilliwack, B.C. In 1975, he transferred to Bagotville, QC. He was a Base Surgeon in various locations from 1976 to 1979, when he became Command Flight Surgeon for the Canadian Armed Forces in Europe in Baden, Germany. In 1982, he was appointed Director of the School of Operational & Aerospace Medicine at the Defence and Civil Institute of Environmental Medicine in Toronto. In 1983, he became the Deputy Director, Civil Aviation Medicine, Health and Welfare Canada, in Ottawa.

Later in 1983, Dr. Thibeault served as Director, Area Medical Services-East at Air Canada in Dorval, QC. In 1990, he became Air Canada's Senior Director, Occupational Health & Employee Assistance Services in Montreal, where he served until 2004. Concurrently with his other positions, Dr. Thibeault was a Consultant in

See THIBEAULT, p. 735.

THIBEAULT, from p. 734.

Aerospace Medicine from 1985 to 2003 for Smith, Lussier, Saint-Martin et Morin, Lawyers. In 2004, he became a Consultant in Aviation Medicine and Occupational Health for and is the President of Quebec, Inc.

Dr. Thibeault served as Director of Quebec Occupational Medical Association from 1987 to 1989. He has also been Chairman of the Centre d'expertise en médecine aeronautique du Québec from 1989 to 1991, a member of the Tripartite Committee for the Revision of Aviation Occupational Safety and Health Regulations from 1995 to 1997, and a working group member of the Canadian Aviation Regulation Advisory Council from 1994 to 2004.

Dr. Thibeault's awards include the Canadian Armed Forces Decoration, the 150th Anniversary Medal of the Université de Montréal, the Kidera Award from the Airline Medical Directors Association, and the Médaille du Centenaire de l'AMLFC.



**THEODORE C. LYSER AWARD**

**Chiharu Sekiguchi, M.D., M.S.**

*This award was established to honor the memory of Brig. Gen. Theodore C. Lyster, the first Chief Surgeon, Aviation Section, United States Signal Corps. It is given annually for outstanding achievement in the general field of aerospace medicine. Sponsored by Lockheed-Martin Space Operations.*

Dr. Chiharu Sekiguchi received the 2007 Theodore C. Lyster Award at Honors Night for his sustained and outstanding accomplishments in the field of aerospace medicine for over three decades that have earned him an international reputation. He has served as a flight surgeon in three aspects of Japanese aviation: the Japanese Air Self-Defense, the Japanese Space Program, and Japan Airlines. He has made significant contributions in the areas of operations, education, and management.

As a military flight surgeon, Dr. Sekiguchi did research into acceleration and designed high-G training programs for Japanese fighter pilots. He was a principal investigator of the Japanese Space Shuttle Mission that investigated physiological changes during spaceflight in Japanese astronauts and has been the Japanese crew surgeon for three Space Shuttle missions. While with Japan Airlines, Dr. Sekiguchi performed seminal studies in circadian rhythm and jet lag, published in *Aviation, Space, and Environmental Medicine*. His recommendations were incorporated into crew scheduling. He also performed in-flight ECG studies of JAL pilots during long-duration flights. He has been extremely active internationally, playing a role in civil aviation, military and space medicine, as well as medical research with NASA, ESA, and Russia.

Dr. Sekiguchi received his M.D. degree from Jikei University School of Medicine in Tokyo, Japan, in 1968. He received an M.S. degree in Aerospace Medicine from Wright State University School of Medicine in 1984 while

serving in the Japanese Air Self Defense Force (JASDF). He was the first Japanese physician to graduate from the Residency Program in Aerospace Medicine at Wright State University. After completing his residency training, Dr. Sekiguchi transferred from the JASDF to the National Space Development Agency of Japan (NASDA) as a flight surgeon in 1985. He served as Chief of the Physiological Training Branch and Chief of the Flight Medicine Branch at the JASDF Aeromedical Laboratory, and had been serving as the Chief Flight Surgeon and Chief of the Medical Operations and Research Office in NASDA from 1985-2002. He supported several Space Shuttle missions as a Japanese crew surgeon when a Japanese astronaut was a crewmember onboard the mission.

Dr. Sekiguchi was the Chairman of the NASDA Medical Board from 1994 to 2002. He played an important role in developing international space medical standards and conducting international joint research with NASA, the European Space Agency (ESA), and the Russian Space Agency. He also served as a President of the Japanese Society of Space, Aviation, and Environmental Medicine from 1995-1996. He has authored several scientific articles and chapters in textbooks and encyclopedias in Japan on the topics of space medicine and physiology. He is considered one of Japan's leading authorities in this field. He currently serves as clinical assistant professor at Wright State University School of Medicine and is a faculty member at the Jikei University School of Medicine.

Dr. Sekiguchi has been a member of the Aerospace Medical Association (AsMA) since 1972 and of the Space Medicine Branch since 1982. He is a Fellow of AsMA and serves as a Program Committee Member. He was a President of the Space Medicine Branch during 2002-2003. After he retired from JAXA (previously NASDA) in 2002, he worked as an aerospace medicine specialist as well as an internist, especially in nephrology, in the hospital. He is an Executive Member of the Japanese Society of Space, Aviation, and Environmental Medicine, a member of the International Academy of Aeronautics, a member of the Japanese Society of Internal Medicine, and a member of the Japanese Society of Occupational Medicine.



**MARIE MARVINGT AWARD**

**Brig. Gen. Thomas W. Travis, USAF, MC**

*Established and sponsored by the French Aerospace Medical Association in memory of Marie Marvingt (1875-1963), a pioneer French pilot and surgical nurse who, for more than 50 years, actively and untiringly involved herself in the conception and development of air ambulance services and in the education of the general public regarding their use and benefits. The award is presented annually to honor excellence and innovation in aerospace medicine.*

Brig. Gen. Thomas W. Travis, currently Command Surgeon, Headquarters Air Combat Command, Langley Air Force Base, VA, received the Marie Marvingt Award

See TRAVIS, p. 736

TRAVIS, from p. 735.

on Honors Night for his practice and leadership both in aerospace medicine and aerospace human factors. He has been at the forefront of designing better aerospace systems and aerospace medical systems for many years. He is not only a USAF flight surgeon, but also a USAF rated Command Pilot. He has served in numerous high-level leadership roles in aerospace medicine: Leader of the USAF Pilot-Physicians, President of the International Association of Military Pilot-Physicians, Commander of the USAF School of Aerospace Medicine, Commander of the 311th Human-Systems Wing, and most recently as the Surgeon General of the Air Combat Command, among many others. In each of these crucial jobs, he has carefully reengineered the direction of these organizations, and had direct, command-level input into the creation of several new organizations to better to adapt to the latest changes and innovations to keep the USAF on the cutting edge of science and technology in his areas or responsibility.

Brig. Gen. Travis graduated from the Virginia Polytechnic Institute in Blacksburg, VA, with a B.S. in 1976. He then entered the Air Force as a distinguished graduate of the ROTC program at Virginia Polytechnic Institute and State University. He was awarded his pilot wings in 1978 and served as an F-4 pilot and aircraft commander. He completed his medical degree from the Uniformed Services University of the Health Sciences School of Medicine, where he was the top Air Force graduate, and in 1987 he became a flight surgeon. For more than 3 years, Brig. Gen. Travis was Chief of Medical Operations for the Human Systems Program Office at Brooks AFB, TX. He later served as the Director of Operational Health Support and Chief of Aerospace Medicine Division for the Air Force Medical Operations Agency in Washington, DC. He has commanded the U.S. Air Force School of Aerospace Medicine, the 311th Human Systems Wing at Brooks AFB, the Malcolm Grow Medical Center at Andrews AFB, and the 79th Medical Wing, Andrews AFB. As the 79th Medical Wing Commander, he also served as the Command Surgeon, Headquarters Air Force District of Washington.

Brig. Gen. Travis is board certified in aerospace medicine. A command pilot and chief flight surgeon, he has more than 1800 flying hours and is one of the Air Force's few pilot-physicians. He has flown the F-4, F-15, and F-16 as mission pilot and, most recently, the Royal Air Force Hawk as senior medical officer and test pilot. He is a Fellow of the Aerospace Medical Association and was the 1994 recipient of AsMA's Julian E. Ward Memorial Award. He was elected as a member of the International Academy of Aviation and Space Medicine. He is also a member and former President of the Society of U.S. Air Force Flight Surgeons, a member and past President of the International Association of Military Flight Surgeon Pilots, a Fellow and former Aerospace Medicine Regent of the American College of Preventive Medicine, a Life member of the Association of Military Surgeons of the United States, and a member of the Order of the Daedalians.

Brig. Gen. Travis' awards include the Legion of Merit with one oak leaf cluster, the Meritorious Service Medal with four oak leaf clusters, the Aerial Achievement Medal, the Air Force Commendation Medal, the Joint

Service Achievement Medal, the Combat Readiness Medal, and the Air Force Recognition Ribbon. He also received the Unger Literary Award from the Society of U.S. Air Force Flight Surgeons in 1994, the 1995 Paul W. Myers Award for outstanding contributions to Air Force medicine from the Air Force Association, and was the 2003 Stewart Lecturer for the Royal Aeronautical Society.



#### MARY T. KLINKER AWARD

**Maj. Christopher Paige, USAF, NC**

*Established by the Flight Nurse Section in 1968, this award became an official AsMA award in 1972. In 1978 it was renamed in memory of Mary T. Klinker, who was killed in a C-5A crash while performing a humanitarian mission. The award is given annually to recognize significant contributions to, or achievements in, the field of aeromedical evacuation. Sponsored by the Aerospace Nursing Society.*

Maj. Christopher Paige, USAF, NC, was presented the Mary T. Klinker Flight Nurse of the Year Award on Honors Night for his significant impact on aeromedical evacuation and his outstanding achievement in bringing our wounded home from the War on Terror. His ability to create effective processes has helped his squadron maintain its 7008 annual training requirements. A recent presentation he made at a NATO/Partner for Peace conference in Denmark was later used at a NATO conference in Kosovo. In addition, for the Space Shuttle's return to flight, he was responsible for resurrecting lost aeromedical evacuation procedural knowledge. He built a 'Train-the-trainer' program that produced 105 flight surgeons trained in AE equipment and C-130 NASA astronaut transport tactics.

Maj. Paige, is currently Assistant Director of Operations, 86th Aeromedical Evacuation Squadron, Ramstein Germany, where he is responsible for 73 flight nurses/aeromedical evacuation technicians. Nearby Landstuhl Regional Medical Center is the largest military hospital outside the United States. Nearly 100% of the casualties from Iraq/Afghanistan are transported through this hub. This past year he validated 7,008 training requirements, launched 456 scheduled missions to 4 continents, 3 combat zones that carried over 12,000 patients for a total of 3,224 hours, 1,560 of which were combat. Additionally, Maj. Paige is responsible for AE manning for the Soyuz recovery in Afghanistan every 6 months.

Maj. Paige graduated from Western Connecticut State University in Danbury in 1993 with a BSN. He then attended the University of Colorado in Colorado Springs and earned an MSN/FNP in 1999. He holds credentials as a Family Nurse Practitioner, a Certified Flight Registered Nurse, a Paramedic, and as an Instructor in Trauma Nursing, among others. He has continued his medical training by attending courses regularly, including the Critical Care Air Transport Team Course at the

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PAIGE from p. 736.

USAF School of Aerospace Medicine (USAFSAM), the Medical Effects of Ionizing Radiation Course at the Uniformed Services University of Health Sciences, the Global Medicine Course, also at USAFSAM, and the Recognition and Treatment of Diving Casualties course at the Naval Diving and Salvage Training Center.

Maj. Paige began his career as a Certified Cardiology Technician in 1988 at the Western Connecticut Cardiac Center in Danbury, CT. He joined the military in 1993 and served an Air Force Nurse Internship with the 1st Medical Group at Langley AFB, VA, until 1994. He then became Medical Surgical Unit Nurse at the 20th Medical Group at Shaw AFB, SC for a year. In 1995, while still at Shaw AFB, he served as Special Care Unit Nurse and then became a Certified Emergency Nurse/Evening-Night Shift Supervisor. At the end of 1996, he was transferred to the 10th Medical Group at the USAF Academy in Colorado. In 2000, he became the White House Nurse in Washington, DC, directly caring for the President, Vice President, their families, and other White House individuals. He was promoted to Senior White House Nurse in 2003. In 2004, he became a Certified Flight Nurse/Flight Nurse Instructor at the 86th AES, Ramstein AB, Germany and was promoted to his current position there in 2006.

Maj. Paige is a member of several organizations, including the American Academy of Nurse Practitioners, the Emergency Nurses Association, the Air and Space Transport Nurses Association, the Association of Military Surgeons of the U.S., and the Aerospace Medical Association. His awards include the Expert Field Medical Badge, Basic Flight Nurse Wings, and Basic Parachute Wings.



#### JOHN A. TAMISIEA AWARD

**Eduard M. Ricaurte, M.D.**

*This award was established and sponsored by the Civil Aviation Medical Association in memory of John A. Tamisiea, M.D. The award is given annually to an aviation medical examiner or other individual who has made an outstanding contribution to the art and science of aviation medicine in its application to the general aviation field.*

Eduard M. Ricaurte, M.D., was honored with the 2007 John A. Tamisiea Award at Honors Night for his wide-ranging contributions to general aviation medicine across an international spectrum. His impressive research and operational successes include enhanced safety through defining airman medical qualification standards, elucidating air traffic controller occupational risks, and developing guidelines for aeromedical evacuation patients. His accomplishments have had a direct impact on all who fly and who practice aviation medicine.

Dr. Ricaurte has made significant contributions to aviation at the Civil Aviation Authority in Colombia where his research and developmental work led to the adoption of the existing aeromedical standards there. The detailed understanding of disease patterns and disqualification

characteristics he delineated remain applicable today. Guidelines for air traffic controller occupational health and aeromedical patient transport remain as the gold standard. A highly trained expert in the medical aspects of aircraft accident analysis, his development of an aviation accident autopsy and injury system will make landmark contributions to human flight safety and survival throughout the 21st Century. He led the Aviation Medicine Division, the Human Factors Group, and the National Airport Health Services for the Civil Aviation Authority in Bogota, as well as being on the Colombian Aircraft Accidents Investigation board. He provided distinguished service on the aircraft accident investigation board during a period of time in which three major commercial aviation accidents occurred. Dr. Ricaurte's probable cause-analyses of those commercial accidents was pace-setting in the aerospace medical profession. He has made significant contributions in aeromedical education on an international scale and made important contributions to aviation human factors research. Dr. Ricaurte is an outstanding physician and humanitarian as evidenced by his service as the aeromedical evacuation coordinator for the 1999 Armenia Earthquake, a medical volunteer member of the Colombian Civil Air Patrol, a member of the Colombian Aviation Safety Council, and the highly recognized medical consultant to the Colombian House of Representatives. His international research collaborations include exceptional work at the Civil Aerospace Medical Institute on ground-breaking aircraft autopsy and injury studies.

A native of Colombia, South America, Dr. Ricaurte earned his M.D. degree in 1989 from the University of Cartagena School of Medicine. He completed the primary course in Aviation Medicine in 1992 at the National University of Colombia School of Medicine in Bogota. From 1996 to 1997, he held a Fellowship in Aviation Medicine and Aircraft Accident Investigation from the FAA Civil Aerospace Medical Institute in Oklahoma City, OK. In 2002 he earned an M.S. in Aerospace Medicine from Wright State University School of Medicine in Dayton, OH, and is currently a Ph.D. candidate in Human Factors Engineering there.

Dr. Ricuarte spent a clinical internship at the Colombian Navy Hospital in Cartagena and San Andres Island from 1988 to 1989. In 1993, he accepted a position as Medical Examiner at the Colombian Civil Aviation Authority in Bogota, a position he still holds. From 1993 to 1995, he was Manager of the Aviation Medicine Division at the Civil Aviation Authority of Colombia (CAA). In 1995, he became an International Aviation Medical Examiner for the Federal Aviation Administration (FAA) until 2000.

In 1997, Dr. Ricuarte became a Human Factors Instructor at IETA in Bogota. From 1999 to 2000, he was Manager of the Colombian National Airport Health Services and from 1993 to 2000, he held the position of Official Investigator of Medical Aspects of Commercial Aircraft Accidents for the Colombian Aircraft Accidents Investigation Board. He served as Manager of the Human Factors Group at the Civil Aviation Authority of Colombia from 1995 to 2000. In 2004, he accepted his current position of Research Physician on the Development of the Aerospace Accident Injury and Autopsy Data

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System Project for the Civil Aerospace Medical Institute (CAMI).

Dr. Ricaurte has been a member of the Aerospace Medical Association since 1994. He is a member and Vice President of the Iberoamerican Aerospace Medicine Association, a member of the Aerospace Human Factors Association, and a member and former Vice President of the Colombian Aviation Medicine Association. His awards include the FAA Research Grant Award, the International Academy of Aviation and Space Medicine Scholarship, a Certificate of Recognition for Aeromedical Education Accomplishments from the Colombian House of Representatives, and Outstanding Service Award for providing human factors and aeromedical education to police pilots from the Colombian National Police, an Outstanding Service Award from PAC, and the Armenia-Colombia Air Show award for outstanding lecturer.



#### HARRY G. MOSELEY AWARD

**John A. Caldwell, Ph.D.**

*Established in memory of Col. Harry G. Moseley, USAF, MC, in recognition of his material contributions to flight safety. It is given annually for the most outstanding contribution to flight safety. Sponsored by Lockheed-Martin Corporation.*

Dr. John A. Caldwell was honored with the 2007 Harry G. Moseley Award at Honors Night for his outstanding efforts at improving flight safety and the effectiveness of aviation personnel through his pioneering research and applications in pilot and aircrew fatigue countermeasures. He is an internationally renowned authority in the areas of research in aviation-related pharmacological and non-pharmacological fatigue mitigation strategies, the dangers of fatigue, and appropriate implementation of scientifically valid fatigue countermeasures in operational contexts.

He designed and executed the only objective, placebo-controlled studies of U.S. Air Force "go pills" in active-duty military pilots; this work formed the basis for the stimulant administration guidance published by both the U.S. Army and the Air Force. This work enabled the safe completion of ultra-long missions by preventing the normally high level of fatigue-related decrements in piloting skills, and instead maintaining performance at or near well-rested levels for up to 3 days and 2 nights without sleep. He has also translated years of research findings on fatigue countermeasures into operationally useful guidance through counter-fatigue workshops, safety briefings, and user-oriented publications.

Dr. Caldwell obtained his Ph.D. in experimental psychology from the University of Southern Mississippi in 1984. Afterwards, he served as the Assistant Director of Behavioral Medicine at Children's Hospital National Medical Center in Washington, DC, for 2 years prior to conducting 16 years of operationally focused pharmacology research for the U.S. Army at Fort Rucker, AL. In

2002, he transferred from the Army to the U.S. Air Force where he continues to conduct research, training, and consultations designed to enhance and sustain the effectiveness of the operational aviation community. In addition to his work with the military, he has completed two assignments with NASA's Human Factors Division at Ames Research Center in California. His current position is Supervisory Principal Research Psychologist within AFRL's Aircrew Protection and Performance Branch, Biosciences and Protection Division, Human Effectiveness Directorate, at Wright-Patterson AFB, OH. Throughout his career, he has provided a variety of fatigue-management workshops, including those presented at the AsMA meetings over the past 5 years, and has delivered well over 100 presentations to flight surgeons, pilots, scientists and others. He has published 1 book, 6 book chapters, 30 first-author peer-reviewed scientific papers, and more than 60 first-author articles in user-focused journals, conference proceedings, and government technical reports. In addition to his work with the Air Force, he is a fatigue-management consultant for United Airlines, NASA, the Army, and the Marines. In May of 2006, he was honored with the Harold Brown Award, the Air Force's highest civilian award for research and development.



#### ARNOLD D. TUTTLE AWARD

**Victor A. Convertino, Ph.D.**

*Established in memory of Col. Arnold D. Tuttle, USAF, MC. Awarded annually for original research that has made the most significant contribution toward the solution of a challenging problem in aerospace medicine and which was published in Aviation, Space, and Environmental Medicine. Sponsored by Wyle Laboratories.*

Victor A. Convertino, Ph.D., received the 2007 Arnold D. Tuttle Award at Honors Night for his role as lead author of the article "Inspiratory Impedance Effects on Hemodynamic Responses to Orthostasis in Normal Subjects" (*Aviat Space Environ Med* 2006; 77:486-93). In this paper, Dr. Convertino et al. investigated whether an impedance threshold device would be effective as a countermeasure against post-spaceflight orthostatic hypotension. The paper provides evidence that the use of an impedance threshold device may provide protection against orthostatic compromise in astronauts returning from space. In 2006, Dr. Convertino received the Leverett Award from AsMA for a different article published in *Aviation, Space, and Environmental Medicine* (2005; 76:319-25).

Dr. Convertino received baccalaureate degrees in Mathematics and Physical Education at the California State University at San Jose, and a Masters degree in Exercise Science and a Ph.D. degree in Physiology at the University of California at Davis. His professional career has taken him to positions at NASA's Ames Research Center, the Stanford University School of Medicine, the University of Arizona, NASA's Kennedy Space Center, and the U.S. Air Force Research Laboratory before assum-

*See CONVERTINO, p. 739.*

*CONVERTINO, from p. 738.*

ing his present position as senior research physiologist at the U.S. Army Institute of Surgical Research at Fort Sam Houston, TX. He also holds adjunct professor positions on the faculty of six universities and at the U.S. Air Force School of Aerospace Medicine.

Dr. Convertino is a contributor to many areas of research, though perhaps his most important work is his current research designed to develop decision-support algorithms and therapeutic devices to advance the capabilities of combat medical personnel to save the lives of battlefield casualties. He has successfully collaborated with nationally and internationally recognized scientists from more than 20 different laboratories. He has published over 200 peer-reviewed manuscripts, invited reviews, and chapters in the scientific literature. He has delivered more than 65 scientific papers at professional meetings and more than 120 invited presentations and lectures to medical, scientific, and lay groups in 34 states and 15 countries.

Dr. Convertino serves on the editorial boards of four international journals and has reviewed more than 300 manuscripts for 25 scientific journals. He has served as an invited member on numerous NASA Working Groups for development of countermeasures for spaceflight, including as a member of the National Space Biomedical Research Institute External Advisory Council, and as a consultant to the United States Department of the Navy Bureau of Medicine and Surgery during Operation Desert Storm. In 1992, he was invited to testify to the Presidential Commission on the Assignment of Women to the Military. He has served as a member of study sections for the National Institute of Health and American Institute of Biological Sciences.

Dr. Convertino has been actively involved in the Aerospace Medical Association (AsMA) since becoming a member in 1980. He was elected an AsMA fellow in 1993, has served as a member of its journal editorial board and on numerous scientific program committees. He has authored or co-authored 47 papers in Aviation, Space, and Environmental Medicine and has participated as a member of the AsMA Writing Committee for the Bellagio Report on cardiovascular risks during spaceflight. He is also a fellow of the American College of Sports Medicine (ACSM), where he has served on numerous committees, as an editorial board member of their journal, on the Board of Trustees, and as Vice President. He is a member of the American Physiological Society and 2007 President of the International Society for Gravitational Physiology. Among other recognitions, he received the 1982 ACSM New Investigator Award, the 1985 AsMA Ellingson Literary Award, the 1986 ACSM Visiting Scholar Award, USAF Scientific Achievement Awards (1996-1998), 2003 Research Citation Award from the Society of Critical Care Medicine, the 2006 AsMA Sidney D. Leverett, Jr. Award, and the 2006 ACSM Citation Award.

Dr. Convertino has been especially dedicated to the academic training and development of graduate students and junior scientists. He has mentored 10 master theses, 11 doctoral dissertations and 2 post-doctoral fellowships that resulted in authorship of 46 peer-reviewed publications. An additional 16 peer-reviewed publications have been authored by other graduate-level junior scientists who worked in his laboratory. In testimony to his com-

mitment to the support of graduate student research, Dr. Convertino worked with the Director of NASA Life Sciences and the ACSM Foundation to establish the ACSM Foundation NASA Space Physiology Graduate Student Research Fellowship that has funded the research of 44 graduate students since 1992.



#### JOHN PAUL STAPP AWARD

**Wg. Cdr. Matthew Lewis, RAF, MC**

*This award was established and sponsored by Environmental Tectonics Corporation to honor Col. John Paul Stapp, USAF(Ret.). The award is given annually to recognize outstanding contributions in the field of aerospace biomechanics and to promote progress in protection from injury resulting from ejection, vibration, or impact.*

Wing Commander Matthew Lewis received the 2007 John Paul Stapp Award at Honors Night for his significant contributions in the field of aerospace biomechanics and his promotion of progress in protection from injury resulting from ejection from aircraft and impact. His research concerning injury causation, aircraft escape systems, pilot restraint systems, and aircrew protective equipment has made him an internationally renowned expert in aerospace medicine. This work has led to significant improvements in both static and ejection seat designs, the development of a new aircrew helmet impact test standard, the requirement for future aircraft to be fitted with arm restraint systems, and improvements in aircrew equipment assemblies and survival equipment.

Wg. Cdr. Matthew E. Lewis qualified in Medicine from the University of Wales College of Medicine in 1985. His House Officer appointments were in West Wales and Edinburgh, where he was extensively involved in the care of orthopedic and trauma patients. Then, after a number of years working in the disciplines of Histology and Chemical Pathology at Westminster Hospital, London, he joined the pharmaceutical industry as a medical writer and researcher.

In 1994, Wg. Cdr. Lewis was commissioned into the Royal Air Force and upon completing the Officer Training Course at RAF Cranwell, he was stationed at RAF Leeming as the Junior Medical Officer. At the end of 1994, he was posted to the RAF School of Aviation Medicine, Farnborough, to pursue a career in aviation medicine. Initially he worked in the areas of altitude and acceleration physiology research before becoming involved full time with aircraft accident investigation and impact biomechanics. He gained a Diploma in Aviation Medicine in 1996, and an M.Sc. in Aeromedical Research in 1999. His M.Sc. thesis was entitled "Occupant Brace Position and Dynamic Testing of Nimrod Rear Crew Seats."

Following the closure of the RAF School of Aviation Medicine, Wg. Cdr. Lewis was transferred to the RAF Centre of Aviation Medicine, Henlow, where he is currently the Head of the Human Factors and Biomechanics section, which incorporates the Accident Investigation

*See LEWIS, p. 740*

LEWIS, from p. 739.

section. He gained an M.D. from the University of Wales, Cardiff, in 2005; his doctoral thesis was entitled "Aircraft Accidents - The Biomechanics of Impact and Ejection Injury." He has been the principal aviation medicine investigator on 120 category 5 (Class A mishaps) aircraft accident investigations and has carried out extensive research on the issues emanating from these investigations. He provides expert advice to the UK Military Commands on all aspects of accident investigation, seat restraint harnesses, static seat design, aircraft crashworthiness, impact protection requirements, injury causation, dynamics of the assisted escape system, and assessment of aircrew equipment assemblies and survival equipment. His in-depth knowledge of human performance and impact injury under crash and assisted escape conditions is sought after internationally and has been instrumental in achieving modifications to current and future aircraft platforms, including the Typhoon and Joint Strike fighter. His recent projects include impact protection of the new Alpha 900 helmet, a comparison of impact protection afforded by the UK and US helmets, impact requirements for future Battle of Britain Memorial Flight helmets and validation of transmitted force and rotational acceleration in oblique impact test standards. He has extensive teaching commitments both in the United Kingdom and internationally.

Wg. Cdr. Lewis is a member of the Aerospace Medical Association and serves on the Aviation Safety Committee and the Scientific Program Committee. He has delivered over 30 presentations to numerous international learned societies, including AsMA and SAFE meetings, and has 13 publications to his credit.



#### KENT K. GILLINGHAM AWARD

**Willem Bles, Ph.D.**

*This award was established and sponsored by the AMST Group of Companies in Austria and the United Kingdom to honor the memory of Kent K. Gillingham, M.D., Ph.D. The award is presented annually to an individual who has made a significant contribution in the field of spatial disorientation and situational awareness related to flight.*

Willem Bles, Ph.D. was honored with the 2007 Kent K. Gillingham Award at Honors Night for his significant contributions in the fields of spatial disorientation and situational awareness research. His work has contributed to the development of a better understanding of how humans perceive motion. His leadership of NATO RTO Research Teams evaluating super-maneuverable flight and ground-based and in-flight spatial disorientation training of aircrews has resulted in significant contributions to current and future air forces. He is an internationally recognized expert in motion sickness, spatial disorientation and motion perception, oculomotor function, and postural control. His vision, a simulator called Desdemona, has resulted in the world's premier orientation research device that will become a resource to scientists, internationally, for years to come.

Dr. Bles is a Senior Scientist and Technical Manager of

the Desdemona facility at TNO Human Factors, the Netherlands. He is also a TNO Senior Research Fellow, awarded in 1999 and renewed in 2004. Dr Bles is the Technical Leader of NATO RTO Task Group 39, "Ground-Based and In-flight Spatial Disorientation Training" with a group of 22 scientists from 10 countries who have met twice yearly for the past 3+ years on the subject of training NATO aircrews in order to help reduce the mishap rate due to spatial disorientation. As the leader, Dr. Bles has helped develop a 10-chapter book for aeromedical specialists that will provide invaluable guidance concerning simulation techniques and in-flight training methods that have been successful in NATO air forces. Dr. Bles presented the results of this group's work in a panel at the 2007 AsMA Scientific Meeting. Another significant contribution by Dr Bles has been his vision of a state-of-the-art spatial orientation research facility. Dr Bles' vision has resulted in the development of Desdemona, a 6-degree-of-freedom motion/visual simulator that is the most advanced device of its kind in the world. As a member of NATO RTO Task Group 27 on "Human Consequences of Agile Flight" in the late 1990s, Bles contributed to a better understanding of the consequences of thrust-vectoring aircraft maneuvers on the pilot's vestibular system and perception of orientation in supermaneuverable flight. This task group's findings were of importance to aircraft such as the Eurofighter and F/A-22. Bles also contributed a chapter to the primary reference on spatial disorientation, *Spatial Disorientation in Aviation* by Previc and Ercoline.

Dr. Bles earned his M.Sc. in Biophysics at the Free University in Amsterdam, The Netherlands, in 1972. He received his Ph.D. from the same institution in 1979. From 1973 until 1989, he was a part-time researcher at the Balance Unit of the Department of Otolaryngology of the Free University Medical Center in Amsterdam. From 1982 until 2003, he also served as a part-time Manager of the Equilibrium and Orientation Research Group at TNO Human Factors in Soesterberg. He accepted his current position of Manager of the 'Desdemona' program at TNO Human Factors in 2002.

During his career, Dr. Bles has focused on various aspects of the human equilibrium system including vertigo, motion sickness and spatial disorientation. He has introduced courses on motion sickness desensitization and spatial disorientation countermeasure demonstrations and has published over 200 reports and papers on motion sickness and spatial disorientation. Dr. Bles has served as a member of the NATO AGARD Aerospace Medical Panel, and as a teacher in the NATO RTO short courses on motion sickness. He has also been a member of the scientific advisory committee for the International Driving Simulator Conferences in Paris, a member of the scientific advisory committee for the Symposia of the Internal Society for Postural and Gait Research (ISPGR), President and Secretary-Treasurer of the ISPGR. He is currently a member of the Aerospace Medical Association, the Bárány Society, and several working groups on life science research in space for the ESA and NASA. His lectures and talks around the world over the past 33 years have contributed to a better understanding of human orientation in dynamic environments.

**DON'T FORGET TO NOMINATE SOMEONE FOR AN AWARD FOR 2008!!!!**



**SIDNEY D. LEVERETT, JR.  
ENVIRONMENTAL SCIENCE  
AWARD**

**Benisse Lester, M.D.**

*Established in memory of Sidney D. Leverett, Jr., Ph.D., this Environmental Science Award is presented annually to an individual who has made a significant contribution in the field of environmental medicine through a publication in Aviation, Space and Environmental Medicine, or by activities conducted in support of aerospace systems operation. Sponsored by Environmental Tectonics Corporation.*

Benisse Lester, M.D., was honored with the 2007 Sidney D. Leverett, Jr., Environmental Science Award on Honors Night for her singularly outstanding comprehensive contributions to the field of aviation medicine for the Federal Air Marshal Service (FAMS). She has provided years of groundbreaking efforts and leadership and played a crucial role in the development and implementation of aviation and environmental medicine programs from 2002 to the present as Chief of Medical Programs for the FAMS Agency and previously as a leading FAA Medical Officer. She was pivotally involved in the rapid development of a new agency and provided mission-critical support and guidance to the national security effort in the post-9/11 aviation world.

She has functioned as a senior advisor on special projects pertaining to aerospace medicine for FAMS top management and is a lead aeromedical specialist for FAMS in the international and national aerospace medical community. She acts as an aeromedical liaison with other federal, academic, and private agencies. She is also an aviation medical expert who has developed and delivered aviation medical education for FAMS and, when appropriate, outside flight personnel. She was involved in the implementation of legacy FAA medical standards for FAMS and is directly involved in the development of new FAMS medical standards to ensure a workforce that is fit for duty.

Dr. Lester provides support for FAMS emergency deployments, such as for national or international crises, humanitarian efforts, security threats such as Hurricane Katrina, and evacuation of American personnel. She has accepted a special tasking to research and report on available aeromedical literature pertinent to optimizing FAMS health and wellness.

Her awards from FAMS include the Superior Achievement award in 2002, the Contributions to Training award in 2004, the Significant Contributions award in 2005, the Service related to Hurricane Katrina award in 2005, and the Superior Achievement award in 2006.

Prior to joining the Federal Air Marshal Service, Dr. Lester was Attending Surgeon in Orthopedic Surgery at the Albert Einstein College of Medicine, where she served as Chief of Hand Surgery and with a faculty appointment as Associate Professor of Clinical Orthopedic Surgery. During her academic career, Dr. Lester has made numerous presentations at professional medical meetings, nationally and internationally. She has also

participated in leadership service, instruction, and support of the scientific programs of the Aerospace Medical Association, the American American Society for Surgery of the Hand, the American Association for Hand Surgery, the American Academy of Orthopedic Surgeons, the American College of Occupational and Environmental Medicine, and other professional organizations. Dr. Lester has written and illustrated a highly rated textbook as well as many peer-reviewed scientific journal articles and chapters.

Dr. Lester completed the Dual-Degree Program of Cornell University, Ithaca New York, where she received a Bachelor of the Arts degree cum laude in Biological Science/Neurobiology and Behavior from the College of Arts and Sciences as well as a Bachelor of Fine Arts degree from the College of Art and Architecture. She holds a Doctor of Medicine degree from the Albert Einstein College of Medicine in New York, where she was selected for Alpha Omega Alpha Honorary Society membership. Dr. Lester completed her General Surgery Internship and her Orthopedic Surgery Residency at New York University Medical Center, followed by a Hand Surgery Fellowship at the Hospital for Special Surgery of Cornell Medical Center in New York. She is certified by the American Board of Orthopedic Surgery, with a Certificate of Added Qualification in Hand Surgery. She is a Fellow of the American Academy of Orthopedic Surgeons and has been elected to membership in the American Society for Surgery of the Hand, the American Association for Hand Surgery, among other professional societies. She is also a Fellow of the American College of Occupational and Environmental Medicine.



**BOOTHBY-EDWARDS AWARD**

**William B. Kruyer, M.D.**

*Established in memory of Walter M. Boothby, M.D., pioneer aviation medicine researcher, and Howard K. Edwards, M.D., clinical practitioner of aviation medicine, this award is presented annually for outstanding research and/or clinical practice directed at the promotion of health and prevention of disease in professional airline pilots. (The separate Boothby and Edwards Awards were given annually 1961-73, and then alternately until 1985.) Sponsored by Harvey W. Watt and Company.*

William B. Kruyer, M.D., was honored with the 2007 Boothby-Edwards Award for his seminal research that has had a direct impact on physical standards for military aircrew members worldwide. He is a renowned authority in aerospace medicine cardiology and has made significant contributions in clinical cardiology research and education.

Specifically, as Chief Cardiologist at the USAF School of Aerospace Medicine in San Antonio, TX, Dr. Kruyer has evaluated a large number of aviators with cardiovascular disease. He has combined this clinical experience with research particularly in the area of cardiac arrhythmias. His research in the areas of ventricular tachycardia,

*See KRUYER, p. 742.*

KRUYER, from p. 741.

LBBB, atrial fibrillation, and coronary artery disease were instrumental in liberalization of aeromedical disposition policy. Furthermore, Dr. Kruyer shared his work and recommendations with armed forces worldwide. Therefore, he has had a great impact on medical standards policy at home and abroad.

The son of a career USAF officer/navigator, Dr. Kruyer earned a B.S. degree in Life Sciences/Pre-Med in 1971 from the USAF Academy in Colorado Springs, CO, then his M.D. degree in 1975 from the University of California at Los Angeles School of Medicine. He served his internship/residency in Internal Medicine from 1975-1978 at David Grant USAF Medical Center, Travis AFB, CA, and his cardiology fellowship from 1978-1980 at Wilford Hall USAF Medical Center, Lackland AFB, TX. He is board certified in Internal Medicine and Cardiovascular Diseases with over 25 years of experience in aerospace and clinical cardiology.

Dr. Kruyer retired as a colonel from the USAF in December 1992 with 21.5 years of active duty service and has been in his current position since January 1993. Active duty USAF positions included flight surgeon, Chief of Cardiology and Cardiology Fellowship Program Director at Wilford Hall USAF Medical Center, Chief Consultant to the USAF Surgeon General for Clinical Cardiology, Chief Consultant to the USAF Surgeon General for Aerospace Cardiology, USAF Governor to the American College of Cardiology, and Chief of Internal Medicine at the Aeromedical Consultation Service, USAF School of Aerospace Medicine.

Dr. Kruyer is a Fellow and Life Member of the Aerospace Medical Association, a Fellow of the American College of Cardiology, a Full Member of the International Academy of Aviation and Space Medicine, and a Life Member Emeritus of the Society of USAF Flight Surgeons. His academic appointments have included Clinical Assistant Professor, Department of Preventive Medicine and Community Health, University of Texas Medical Branch at Galveston; Adjunct Faculty, USAF School of Aerospace Medicine; Associate Professor,

Uniformed Services University of the Health Sciences; and Associate Professor, University of Texas Health Sciences Center, San Antonio. Current academic efforts include annual teaching/lecturing at the USAF Aerospace Medicine Primary course, USAF Residency in Aerospace Medicine short course and Advanced Aerospace Medicine for International Medical Officers course at USAF School of Aerospace Medicine.

Dr. Kruyer is a coauthor of *Clinical Aviation Medicine* and has contributed chapters to the *Fundamentals of Aerospace Medicine*, both standard textbooks. He has also published more than 30 aerospace cardiology/clinical cardiology articles in peer-reviewed journals including the *American Heart Journal*, *Aviation, Space and Environmental Medicine*, and the *American Journal of Cardiology*, and about 100 presentations at national/international medical meetings. He is an invited lecturer and consultant nationally and internationally on aerospace cardiology topics, including for the National Aeronautics and Space Administration, the Canadian Military Forces, the Royal Air Force, the Residency in Aerospace Medicine program at the University of Texas Medical Branch Galveston, and the U.S. Army primary aviation medicine course. He served as a lecture team member for four NATO AGARD/RTO cardiopulmonary aerospace medicine lecture series and as course director for two of them.

Dr. Kruyer's previous recognitions include Outstanding Cadet in Life Sciences, USAF Academy; Distinguished Graduate, USAF Academy; Air Force Association--Texas, Physician/Scientist of the Year; Mederi Award, USAF School of Aerospace Medicine; and Residency in Aerospace Medicine Phase II Clinical Instructor of the Year.

Dr. Kruyer is a recognized authority in aerospace cardiology and commands the highest respect from the international community. His professional contributions in clinical cardiology and related research and his impeccable character well qualify him for the Boothby-Edwards Award.

### Nominations Sought for 2008 AsMA Awards

The Awards Committee of the Aerospace Medical Association, which is responsible for selecting the annual winners of special awards, has set a **December 15** deadline for receiving nominations for awards to be presented at the 2008 Annual Scientific Meeting in Boston, MA. The names of prospective award winners should be submitted as far in advance of the deadline as possible. Lots of time is needed to review all of the names and select the winners.

Nominations can be made by any member of AsMA.

#### Rules:

1. The nominee must be a current member of the Association, with the sole exception that the Sidney D. Leverett, Jr., Environmental Science Awards is open to non-members.
2. Employees of a company sponsoring an award are eligible to receive the award. Self nomination is not allowed. Deceased members may be nominated.
3. Nominations for the Tuttle and Environmental Science

Awards must cite a specific paper printed in *Aviation, Space and Environmental Medicine*. The award will be given to the first author only.

4. An individual can only receive one award in any one year.
5. The form is available on the AsMA website. You may either submit the nomination directly from the website or you may download the nomination form into your computer for e-mailing as a Word document attachment. Nomination forms sent via e-mail should be addressed to the Awards Committee Chair, Dwight Holland at [Dwightholl@aol.com](mailto:Dwightholl@aol.com); and Ms Gisselle Vargas at AsMA Headquarters ([gvargas@asma.org](mailto:gvargas@asma.org)). If e-mail is not available, you can send a hard copy of the form via normal mail to:

Aerospace Medical Association  
Attn: AWARDS NOMINATION  
320 S. Henry St.  
Alexandria, VA 22314-3579  
FAX: (703)739-9652. Electronic and hard copy attachments and biographical material will be retained in Association files.

SCIENCE & TECH WATCH, from p. 730.

$$\text{Log}(S(w)) = \text{Log}(E(w)) + \text{Log}(F(w))$$

The resultant log magnitude spectrum is then transformed back to the time domain, using a discrete Fourier transformation. This process ultimately results in the formation of a discrete and manageable number of coefficients (called cepstrum coefficients) that represent separate filter and excitation signals in the time domain. After completing this analysis, the entire human speech production process may therefore be reduced and described by a manageable number of cepstrum coefficients. In fact, this approach is the basis of most computerized speech recognition software systems.

From the point of view of monitoring the effects of stressors on voice, instead of tracking changes in specific vocal metrics, such as pitch or duration, changes can be tracked in the entire speech production system with the analysis of these coefficients. The speech recognition software used for this analysis calculates 36 mel-frequency cepstrum coefficients (MFCCs) comprised of 12 cepstral coefficients (MFCC 1-MFCC 12) and their first- and second-time domain derivatives.

Having a quantified measure of voice characteristics, the 36-component "Voice Vector" was developed to determine the best way to compare the speaker's voice at various states of fatigue. Early in this study it was found that the MFCC component most sensitive to fatigue varied from speaker to speaker. As such, results from comparisons of individual Voice Vector components across a population of speakers could not be generalized. However, speech recognition software demonstrates the ability to recognize specific sounds spoken by a wide range of speakers by analyzing the entire Voice Vector. Using this lead, it was decided to quantify changes in voice by calculating the correlation coefficient between the Voice Vector obtained when a speaker was at optimum alertness with that obtained during periods of interest. This metric is called the Voice Correlation, or Vc.

In an SBIR (Small Business Innovative Research) Phase II program conducted for the U.S. Air Force (F22615-03-C-6334), changes in the Vc were tracked with time awake during a 65 h field test as nine subjects hiked in the mountains approximately 22 mi over the first 2 days of the field event and then bivouacked for the remaining 24 h of the study. Participants were not allowed to sleep during the first night on the route and were only allowed a 2 h sleep period (0000-0200 hrs) during their second and third night.

Trending comparisons, using Spearman's rank correlations, showed a significant agreement between the Vc from specific voiced sounds and circadian-adjusted time awake (as represented by the Sleep, Activity, Fatigue, and Task Effectiveness, or SAFTE™ model output (3)). These results were compared to those obtained from a test group of six subjects reciting 31 unrelated words every 6 h over a period of 34 h of sleep loss. Significant Spearman's rank correlations were also observed between the same voiced sounds in this previous study and the corresponding SAFTE™ model scores.

Unlike the initial group, the second study group of subjects participated in low arousal activities such as reading, watching TV, and schoolwork between test sessions, but they were not allowed to sleep. As predicted by the SAFTE™ model, the rate of decline in the Vc

was slower for the less active group, compared with the initial study-group.

As part of an NIH / NIAAA funded project (R43-AA014089-01A1S1), voice vectors were acquired from 14 subjects 5 times per day on 2 days (separated by 1 week), as their blood alcohol concentration (BAC) was raised from 0 to 40 mg/dl ethanol (day 1), 100 mg/dl ethanol (day 2), then back to zero. The second BAC level is the legal limit in many states. The Vc from the sound "p" (as in "pat") showed significant correlation with BAC. Our "p" sound also showed a significant correlation with performance (as measured by the Psychomotor Vigilance Test (2)). Two studies have established that 17-25 hours of continuous wakefulness can produce performance decrements equivalent to those observed with BACs of 0.05% to 0.10%; legal limits for driver intoxication (1,4).

Under contract from the FAA (DTFAAC-06-P-08817), changes in the signatures of 18 voiced sounds from 24 sleep-deprived subjects (data from CAMI) were examined and compared with changes in simultaneously obtained fatigue and performance metrics. Comparing total population averages, changes in most voiced sounds showed good to excellent correlations ( $r^2 = 0.8$ ) with speaker sleepiness (as measured by sleep onset latency) and, to a lesser degree, with time awake-based performance prediction (SAFTE™). Although some sounds appeared to be equally sensitive to fatigue for males and females, overall, the voice signatures of the female subjects from this study showed greater fatigue-related change than those of the male population. This agrees with previously reported changes in performance-based measures for this population of subjects (5).

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*The AsMA Science and Technology Committee provides the Watch as a forum to introduce and discuss a variety of topics involving all aspects of civil and military aerospace medicine. Please send your submissions and comments via email to: barry.shender@navy.mil. Watch columns are available at www.asma.org in the AsMA News link under Publications.*

**Call for Papers!**

AsmA 79th Annual Scientific Meeting  
 May 11-15, 2008 Boston, MA  
 "Unity in Diversity"  
 Submission site opens August 1  
 www.asma.org/meeting

**Attention Affiliate Organizations of AsMA!!!**

In the past few years it has become difficult to obtain contact information on our many affiliated organizations. Please take a moment to contact us with your current list of officers and their addresses, e-mails, and phone numbers. Please include your web address so we can link to your website from ours. Please check out your listing on our site at: [www.asma.org/Organization/affiliates.html](http://www.asma.org/Organization/affiliates.html) Contact Gloria Carter at [gcarte@asma.org](mailto:gcarte@asma.org) ; (703) 739-2240, ext. 106

*Here is our most up-to-date list of Affiliate Organizations:*

- Aerospace Medical Association of Korea
- Aerospace Medical Association of Taiwan
- Aerospace Medical Association of the Philippines
- Aerospace Medical Student & Resident Organization
- Alliance of Air National Guard Flight Surgeons
- Association of Aviation Medical Examiners, United Kingdom
- Association of Aviation, Space, Naval, Extreme & Environmental Medicine of Russia
- Association of USAF Reserve Flight Surgeons
- Aviation Medical Society of Australia & New Zealand (Aust Inc)
- Aviation Medical Society of Australia & New Zealand (NZ Inc)
- Brazilian Aerospace Medical Society
- Canadian Aerospace Medicine & Aeromedical Transport Association
- Civil Aviation Medical Association
- Corporate & Sustaining Members
- European Society of Aerospace Medicine
- French Aerospace Medical Association
- German Society of Aviation & Space Medicine
- Greek Aerospace Medical Association
- Hellenic Aerospace Medical Society
- Ibero-American Society of Aerospace Medicine
- Israeli Society of Aerospace Medicine
- Italian Aviation & Space Medicine Association
- Japan Society of Aerospace & Environmental Medicine
- Netherlands Aerospace Medical Association
- SAFE Association
- Slovenian Aerospace Medical Association
- Society of NASA Flight Surgeons
- South African Aerospace Medical Society
- Space Dermatology Foundation
- Spanish Society of Aviation & Space Medicine
- Swedish Aviation & Naval Medicine Association
- The Romanian Society of Aerospace Medicine

## This Month in Aerospace Medicine History-- July 2007

By Walter Dalitsch III, M.D., M.P.H.

### Seventy-five Years Ago

*Psychiatry in the flight surgeon's bag of tricks (Director, Department of Neuropsychiatry, School of Aviation Medicine, Randolph Field, TX):* "The flight surgeon is a relatively new comer in the field of medicine and as such has had some difficulty in arriving at his present important position. Through many vicissitudes and uphill struggles he has eventuated in his present position through a gradual metamorphosis..."

"Early in the experience of those having medical supervision over flying personnel, stress was laid, primarily, on vision, hearing, and general somatic fitness, with but little thought given to the psychological or mental make-up of the individual.

"The psychoses were taught, of course, so that a definitely abnormal individual would not be accepted for flying. However, the psychological evaluation of a pilot or applicant for flying status was an unknown quantity. Through a gradual change and a dawning of the realization that the psychological factor in a flier was of importance, border line cases were presented to classes of students at the School of Aviation Medicine, beginning about 1921. Your own chief, Dr. Longacre, was responsible for this marked advance step..."

"It is evident that an individual may fly in spite of some physical handicap, witness Post's flight around the World, however, it is inconceivable for an individual to fly with a marked handicap of psychogenic origin, a loss of stability or an improper co-ordination of mind and body.

"It is rather interesting to note that the type of individuals, generally speaking, to whom the Air Corps appeals are those extrovertive nomads, who go out to meet their reality and enjoy the exhilaration of flying, and the introvertive types, who by reason of their introversion attempt to compensate for their deficiencies by a stimulation of their ego. In this connection it has been said with reference to a certain large group, that the Air Corps 'had not chosen all of the introverts, but the best of this group, however.' The stable thinking-feeling type is the ideal type for the Air Corps - it is the type that lasts well - wears well through the stresses and strains of flying experiences..."

"Generally speaking, the mental reactions of patients are not sufficiently considered by the profession..."

"A great many of the difficulties experienced in flying are based on an unconscious fear. This is especially true of the new cadet, who has, as yet, not learned to maintain his equilibrium in a new element. Behaviorists state that many of the difficulties to which 'human flesh is heir' are due to a loss of equilibrium and that the fear, engendered by the loss of sustentation [sic] in water and the subsequent loss of equilibrium, is due to this fact. May this loss of equilibrium, this conditioned fear, not also have the same effect on the beginning flyer?..."

"The psychic disturbances to which the cadet beginning his training is subjected, are of paramount interest to every flight surgeon

connected with the Training Center. The reactions of the incipient pilot are as varied and manifold as there are individual personalities to manufacture rationalizations" (4).

*The 1932 Association meeting:* "The Fourth Annual Meeting of the Aero Medical Association of the United States was called to order at the Hotel Cleveland in Cleveland, Ohio, on Saturday, September 3, 1932, at ten o'clock A.M., by the President, Dr. Ralph N. Greene. Eighty-two members and several guests were registered from 24 states and the District of Columbia..."

"The members of the Association and their guests spent the afternoon at the National Air Races..."

"The evening session was devoted to the Annual Dinner and the Annual Business Meeting, both of which are reported elsewhere in this and the December issues" (1)

### Fifty Years Ago

*Revisiting waivers for civil airmen (Civil Aeronautics Board):* "The Civil Aeronautics Board on June 26, 1957, adopted a partial revision of part 29 of Civil Air Regulations retitled, "Physical Standards for Airmen; Medical Certificates," which had been circulated in draft form since February 29, 1956. The changes were published in the Federal Register for July 2, 1957.

"Former policy permitted the Administrator of Civil Aeronautics to issue medical waivers and impose operational limitations, but limited this authorization to those cases in which the applicant's operational record, ability and judgment as an airman compensated for his physical deficiency. A history of psychosis or epilepsy, an established diagnosis of diabetes requiring insulin, or of coronary heart disease, previously considered disqualifying, in the opinion of the Board 'would exclude many persons who are capable of exercising safely the privileges of an airman certificate and therefore, must be regarded as arbitrary.' The Administrator is now authorized 'to evaluate each case on the basis of the applicant's current physical condition.'

"Dr. W. R. Stovall, chief of the CAA medical division, stated that it is not contemplated lowering the current safety standards in the administration of the amended regulations.

"Physical Deficiencies--

(a) A limited medical certificate shall be issued to an applicant who fails to meet the physical standards prescribed for the medical certificate sought if the Administrator finds through more extensive medical examinations, practical tests or otherwise that, by the imposition of terms, conditions, or limitations, the applicant, notwithstanding his physical deficiency, can perform the duties and exercise those privileges authorized by the Administrator without endangering safety in air commerce. The operational limitations imposed by the Administrator shall be set forth on the applicant's airman certificate.

"(b) Where the Administrator's finding regarding an individual's physical fitness is based upon a practical test, that individual shall not be required to retake such practical test during subsequent physical examinations unless, in the opinion of the Administrator, the individual's physical deficiency has become more pronounced" (5).

### Twenty-five Years Ago

*Protecting aircrew on refugee flight operations (Tropical Disease Unit, Toronto General Hospital, Toronto, Ontario, Canada):* "In order to assess measures taken by airlines to protect the health of crews on refugee flights, a survey was made of airlines involved in transporting Indochinese refugees from Southeast Asia. Five of the 20 airlines surveyed provided sufficient data for analysis. Combined, the five airlines transported approximately 2,500 refugees on more than 100 flights, involving at least one crew change per flight. Health measures varied considerably among airlines. Immunizations alone sufficed in some cases, whereas others required flight attendants to wear gloves and provided anti-malarials, even for crew which did not enter malarious areas. Where anti-malarials were recommended, they were not protective against Southeast Asian strains of *P. falciparum* malaria. No airline noted an increase in illness among aircrew involved in refugee flights. Disinsection procedures were improperly performed in three airlines; one airline did not disinsect at all. Aircrew were generally overly immunized and, in some cases, overly protected in a setting where the probability of disease transmission was low" (2).

*Testing a contingency atmosphere for the Space Shuttle (Physiological Performance Laboratory, NASA/Johnson Space Center, Houston, TX):* "Each of 20 subjects was given two Bruce Protocol symptom-limited maximum treadmill stress tests breathing sea-level compressed air (20.9% O<sub>2</sub>) for one test and a 2440-m equivalent (15.5% O<sub>2</sub>) for the other. Subjects ranged from 18-38 years of age; 15 were male and 5 female. Half of the population was tested first on the sea-level air, the other half on the altitude mixture. Real time measurements included heart rate, blood pressure, exercise time, oxygen consumption, carbon dioxide production, respiratory rate and volume, CO<sub>2</sub> production, and several other derived parameters. A significant difference existed between measured VO<sub>2</sub> max ( $p < 0.002$ ) and exercise time ( $p < 0.004$ ) for the two conditions. Mean differences were 8.3% and 6.7%, respectively. No significant differences were observed in heart rate or the recovery time to a respiratory quotient of less than 1. Hemoglobin saturation, as measured by an ear oximeter, averaged 95% for sea-level and 91% for the 2440-m equivalent gases. These results support a 2440-m equivalent contingency atmosphere in the NASA Space Shuttle prior to donning a low pressure suit for the purpose of reducing nitrogen washout times" (3).

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## NEWS OF CORPORATE MEMBERS

Send information for publication on this page to:  
Corporate News  
Aerospace Medical Association  
320 S. Henry Street  
Alexandria, VA 22314-3579

### Andrews Space Opens Huntsville Office

Andrews Space, Inc. (Andrews) announced the opening of an office in Huntsville, AL, near the NASA Marshall Space Flight Center and U.S. Army Redstone Arsenal. The new office allows Andrews to strengthen its business and expand its role in space exploration and national defense initiatives.

Andrews is an integrator of aerospace systems that specializes in systems engineering and integration. A small, minority woman-owned business, Andrews has worked for NASA, the Department of Defense, and aerospace prime contractors. The company currently supports Alliant Techsystems (ATK) on the Ares I First Stage, performing safety and mission assurance and other systems engineering functions. The Ares I Crew Launch Vehicle will launch the Orion Crew Exploration Vehicle as the first element of NASA's Vision for Space Exploration that includes returning humans to the moon. Andrews is also working with Rocketplane Kistler to develop the K-1, a fully reusable launch vehicle for NASA's Commercial Orbital Transportation Services (COTS) program. On COTS, Andrews is responsible for system integration, development and operation of the pressurized and unpressurized cargo modules, and conducting mission operations.

#### About Andrews Space, Inc.

Andrews Space, Inc., was founded in 1999 to be a catalyst in the commercialization and development of space. The company is an affordable integrator of aerospace systems and developer of advanced space technologies. To learn more, please visit: [www.andrews-space.com](http://www.andrews-space.com).

*This story was taken from a press release found at <http://www.andrews-space.com/news.php?subsection=MjM1>.*

### Mayo Clinic Receives Award

Mayo Clinic recently received a Gold Award from the National Business Group on Health, a national nonprofit organization, for its commitment to providing a healthy work environment and encouraging employees to live healthier lifestyles. This is the third consecutive year Mayo Clinic has received the award. Mayo Clinic was among 41 employers receiving the Best Employers for Healthy Lifestyles award at the Leadership Summit, in Washington, DC, sponsored by the Business Group's Institute on the Costs and Health Effects of Obesity. Mayo Clinic was recognized for its "LiveWell" program, a health promotion program that helps employees achieve the best quality of life possible by promoting the extensive resources available to focus on health and wellness lifestyle choices.

Now in its third year, the Best Employers for Healthy Lifestyles awards program acknowledges and rewards employers that recognize the urgent need to improve their workers' health, productivity and quality of life. The goal of the program is to be a catalyst in encouraging all employers to take action re-

garding this need. Winners of the Best Employers for Healthy Lifestyles awards were honored in one of three categories: Platinum, for established programs with measurable outcomes; Gold, for creating cultural and environmental changes that support employees who have made a commitment to long-term behavior changes; and Silver, for employers who have launched programs or services to promote living a healthier lifestyle.

*This story was taken from a press release e-mailed to AsMA.*

### Wyle, Mayo Clinic, and UTMB to Collaborate on Space Medicine

A comprehensive space medicine resource for the entire civilian spaceflight industry is the focus of a memorandum of understanding that has been signed between Mayo Clinic in Arizona, the University of Texas Medical Branch at Galveston (UTMB), and Wyle Laboratories. Medical services including screening, medical management, and special environmental testing would be available to spaceflight vehicle operators, suborbital spaceflight passengers, commercial spaceports, and other entities involved in the commercial spaceflight industry.

The three partners in the collaboration bring unique experience and skills to this civilian space medicine program. Wyle's Life Sciences Group, based in Houston, is a leader in space life sciences, medical operations and preparing astronauts for human spaceflight. Of the almost 500 people who have journeyed to space, more than two-thirds of them have been supported and trained by Wyle staff. Mayo Clinic has a long tradition in aerospace medicine dating back to work on the first G-suits and aircraft oxygen systems. In Arizona, Mayo has broad clinical and operational expertise with one of the largest concentrations of board certified specialists in Aerospace Medicine and Internal Medicine. UTMB's Aerospace Medicine Program provides flight surgeons for NASA's Space Shuttle, International Space Station and Constellation Programs, and Space Adventures commercial space travelers, as well as training for aerospace medicine residents.

*This story was taken from a press release at <http://www.wylelabs.com/news/2007/05-14.html>.*

### Gentex Donates Helmet to Fund-Raiser

Gentex Corporation donated an HGU-56/P helmet to the Fire Engineering Courage and Valor Foundation for a silent auction which took place in Indianapolis, IN, in April. The silent auction raised funds in conjunction with the Fire Department Instructors Conference (FDIC) to honor an outstanding firefighter who displayed courage and valor in the previous year, who was presented with the award during the Opening Ceremonies of FDIC. The helmet was custom painted to honor the heroes of September 11, 2001.

*This story was taken from <http://www.gentex-corp.com/default.aspx?pageid=1717>.*

### MedAire Launches Medical Inventory Control System

MAS, a service of MedAire, recently launched the Medical Inventory Control System™, designed to save commercial shipping time, money, and frustration by eliminating multiple inventory reviews, tracking of pharmaceutical expiration dates, and ordering multiple line-items throughout the year. The Medical Inventory Control System contains a 1-year supply of expirable pharmaceuticals for commercial shipping vessels and will help vessels, tankers, and cargo ships establish uniformity in tracking their onboard medications and streamline the purchasing process. When a ship's medications about to expire, MAS notifies the vessel's management, sends a replacement system, and enables the vessel to return their existing system with a pre-paid shipping label.

Delivered directly to the ship in a 30-in x 30-in container, the Medical Inventory Control System is a series of nine color-coded medical kits that reflects nine maritime-specific medical categories: cardiac, dermatological, endocrine, gastrointestinal, genitourinary, pulmonary, head/eyes/ear/nose/throat, infectious disease, and multi-use pharmacy. Each system is based on the most recent version of the MAS Transocean or Coastal medical equipment formulary, designed to provide the vessel operator with the latest recommendations and advances in maritime medical care. The Medical Inventory Control System is offered in two formats, based on a ship's operational profile: the Transocean for bluewater vessels operating on all oceans, and the Coastal for vessels undertaking coastal voyages and periodic transocean trips.

*This story was taken from [http://www.medaire.com/nr\\_mics.html](http://www.medaire.com/nr_mics.html).*

### PwC Releases Survey of Medical & Life Sciences Industries

PricewaterhouseCoopers (PwC) recently released the fourth survey of the medical device and life sciences industry. The nation's pharmaceutical, biotechnology, and medical device companies report that the U.S. Food and Drug Administration (FDA) has made progress with improved guidance, expectations, and approvals, but the industry remains concerned about a number of regulatory challenges. The report includes detailed recommendations that the industry and the FDA can implement to ensure improvement in a number of areas. PwC's report also found that life sciences companies are not taking advantage of key FDA programs, support the FDA's Critical Path Initiative but question its focus, and that the industry feels that the FDA has provided better guidance and expectations.

PwC has periodically conducted surveys of the life sciences industry for more than a decade. This survey was undertaken in 2006 in partnership with BIOCOM.

*This story was taken from <http://www.pwc.com/extweb/ncpressrelease.nsf/docid/363590078FA60A4C852572E400498562>.*

# WING NEWS & NOTES

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## AsMA Lends A Hand

*by Dale Orford; photos by Dale Orford (some photos taken from www.asmavolunteers.org)*

In August of 2005, Hurricane Katrina roared into New Orleans unleashing mass destruction, resulting in hundreds of deaths and billions of dollars in property damage. Whole neighborhoods have been turned into ghost towns without electrical power, running water, gas service, police or fire protection, schools, medical facilities, or businesses. From a pre-Katrina population of approximately 875 thousand residents, the city has recovered to approximately 175 thousand people. There is a great deal to be done to restore New Orleans to a healthy and vibrant metropolis. Habitat for Humanity is working hard towards this goal, revitalizing neighborhoods one house at a time with the help of volunteers. On May 12<sup>th</sup>, 2007, the Saturday before our annual meeting, AsMA members, their spouses and guests had the opportunity to participate in one of these projects. Over 50 volunteers turned out very early on Saturday morning to head out to the Upper Ninth Ward where they moved concrete,

wrapped a house under construction in weatherproof paper, measured and cut siding, painted, and hammered. We saw firsthand the street after street of houses still waiting for demolition or renovation and met some of the residents who shared their stories of survival with us. One of the neighbors, Mrs. Marguerite Doyle-Johnston opened her home to us and also treated our group to a taste of traditional New Orleans hospitality – a crawfish lunch with potatoes and corn on the cob.

Our very sincere thanks to our sponsors, the Kelsey-Seybold Clinic, St. Luke's Episcopal Health System, who provided transportation and T-shirts for our workers, and to Dr. Bob Johnson and family for providing our lunch from Subway.

Thank you also to Dr. Kjell Lindgren of UTMB for co-coordinating this event. All of the participants came away feeling that they had contributed, at least in a small way, toward the rebirth of this wonderful city.

## Mixed Blessings

*by Pam Day*

Working with Habitat for Humanity for one day was truly a mixed blessing. It was great to meet the residents and see how appreciative they are for every bit of help they receive. We were all anxious to help, but the lack of coordination and supplies, combined with a late start meant that we spent a lot of time in the hot Louisiana sun waiting for instructions or materials. This combined with tasks that were redundant or counterproductive, made for a frustrating experience; e.g., hauling concrete waste (weighing up to 100 lbs) to the street after breaking it with hammers and the very inventive use of a Land Rover, and then being told to haul it back and "toss" it into the skips at the end of the day.

I feel we could have accomplished so much more. Perhaps Habitat for Humanity is becoming overwhelmed by the outpouring of support and just can't handle it.



**THE VOLUNTEERS**--We had 50 volunteers participate from NASA, Wyle, Kelsey-Seybold Clinic, SpecPro, Space Adventures, the AsMA Wing, the Air Force, Navy, Army, and the Air National Guard. We had representatives from both aerospace medicine residencies (UTMB and Wright State). We even had international representatives from India and France!



**PRESIDENTS LEND A HAND**--AsMA President, Richard Jennings and Past President Jeff Davis hold the wall for volunteers.



**BOARDING THE BUS**--Thanks to the generous support of Kelsey Seybold, we had an air-conditioned bus to take us to the work sites. It also provided an oasis from the heat! The houses in the background are completed Habitat houses in the Musician's Village.



**LUGGING CONCRETE**--Dr. Jennings assists with moving overpoured concrete slag--one of the many clean up duties we performed.



**MEETING THE RESIDENTS**--Pam Day chats with Henry, one of the residents who turned out to lend a hand.



**REAL NEW ORLEANS COOKIN'**--Volunteers learn the fine art of eating crawfish, courtesy of Marguerite Doyle-Johnston (Right photo, pictured center with AsMA volunteers).



**MOVE-IN READY**-- This is what the finished house will look like.




**Join the Wing!**

The Wing of the Aerospace Medical Association was formed in 1952 "to support the specialty of aviation, aerospace, and environmental medicine by facilitating cooperation among its practitioners and by increasing public understanding and appreciation of its importance." Dues are \$20 per year. For more information, contact: Judy Waring, 4127 Kenyon St., Seattle, WA 98136; (206) 933-0884; e-mail: judywaring@com-cast.net



**SAFETY FIRST**--Preparing to paint.



**COUPLES GET INTO THE ACT**--Dave and Nevonna Schroeder (top) were among the couples who volunteered, along with Roy and Julia DeHart (above), Richard and Issy Jennings and many more.



**BEFORE AND AFTER**--This is the house we worked on most of the day. The Tyvek was completed and chalk lines placed for the siding; Staples were hammered down; closets framed; flooring was leveled; and the yard was graded. On the right are our supervisors Emily and John.

# NEWS OF MEMBERS

Send information for publication on this page to: **News of Members**  
**Aerospace Medical Association**  
**320 S. Henry Street**  
**Alexandria, VA 22314-3579**  
**pday@asma.org**

## Focus on Members

**N. K. Pandeya, D.O., FAIS, FICS**, was recently honored with the Life Service Award by the Iowa Osteopathic Medical Association at their annual Upper Midwest Osteopathic Health Conference in May. He received the award for his many years of dedicated service to the osteopathic profession. He is a former clinical professor of plastic surgery at Des Moines University in Iowa and at A. T. Still University in Kirksville, MO.

Dr. Pandeya was the hospital commander at 132 TAC Hospital of the Iowa National Guard and later the Iowa State Air Surgeon. He holds the retired rank of Brigadier General in the Iowa National Guard and is a graduate of the School of Aerospace Medicine at Brooks City-Base, TX. He is a 1969 graduate of the College of Osteopathic Medicine and Surgery, now Des Moines University.

Dr. Pandeya is the second person of East Indian origin to graduate from Osteopathic Medical School. He is also in the first generation of fully trained plastic surgeons in the osteopathic profession. He spent two years in Sweden at Umea University and the Karolinska Hospital in Stockholm, where he learned plastic and reconstructive surgery. He holds numerous Fellowships, including in the Association of Surgeons of India. He is a life member of the Association of Surgeons of India and of the Association of Plastic Surgeons of India, and is an Associate Fellow and life member of AsMA.

**Maj. David E. Rayman, USAF**, was recently featured on the inaugural page of *The Chief of Staff's Portraits in Courage* series for his brave actions taken in July of 2006 in support of a convoy under fire in Central Afghanistan. Despite heavy haze and dust, he made a low-altitude pass to locate the enemy targets and to try to force them to break off their attack. Even though his wingman's radio failed and the Joint Terminal Attack Controller involved was not with the convoy being attacked, Maj. Rayman used his weapons to assist the convoy in successfully disengaging. His actions destroyed enemy fighting positions and saved the lives of convoy members. The full write-up can be found at: [www.af.mil/specials/pic/rayman.html](http://www.af.mil/specials/pic/rayman.html).

Maj. Rayman graduated from the U.S. Air Force Academy in 1997 with a B.S. in Biology. He was selected for the USAF Fighter Weapons School at Nellis AFB, NV, in 2004 after two deployments to the Persian Gulf as an A10 pilot. He was promoted to Major in 2006.

**COL Ray W. Watters, MC, FS, USA**, formerly Assistant Program Manager in the Office of the Program Manager in the Saudi Arabian National Guard, is now serving as U.S. Army Aviation Medicine Consultant for the British Army Air Corps, 2<sup>nd</sup> Regiment, Middle Wallop Air Station, Hampshire, UK. He was recently awarded the Legion of Merit.

## New Members

Derosa, Joseph, D.O., Ironton, OH  
 Ford, Daryl R., Scott AFB, IL  
 Gross, Edward A., M.D., Borden, ON, Canada  
 Hagen, Amanda D., LT, MC, USN, Brawley, CA  
 Komatireddy, Ravichandra, M.D., Lebanon, NH  
 Naughman, Christopher, B.A., Jacksonville, FL  
 Nutt, James E., M.D., Raleigh, NC  
 Palmieri, Salvatore, M.D., Naples, Italy  
 Popplestone, Mark, M.B.Ch.B., Finchampstead, UK  
 Portegijs, Catherine, M.D., Amersfoort, The Netherlands  
 Tran, Dai A., M.D., Baltimore, MD

## Obituary Listing

The Aerospace Medical Association recently learned that **Alvin S. Hyde, M.D., Ph.D.**, a former member, died in April after an extended illness. A native of New York, Dr. Hyde graduated from the University of Arkansas in 1950 with a B.S. He earned his Ph.D. in Physiology in 1953 and his M.D. in 1957 from Tulane University. He joined the U.S. Army Medical Corps in 1946, then transferred to the U.S. Air Force Medical Corps in 1956. He was a prominent researcher into environmental physiology and acceleration, primarily mechanical forces. He was a member of many organizations, including the American Physiological Society, the American Institute of Aeronautics and Astronautics, the Undersea Medical Society, the Society of Automotive Engineers, and an Emeritus member of the Medical and Chirurgical Faculty of Maryland.

## CLASSIFIED ADS

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