

President's Page

Colleagues and Friends,

The air has turned crisp and cool and the deep purple of the evening Fall skies comes ever more quickly with each passing day. The Holidays are upon us, replete with the festivities of this most joyous season. It brings to mind the almost unbelievable question: Can it really be that it has already been more than six months since we all last met in Boston? As I reflect back on this waning year, I think of all the changes and challenges that have impacts on all our lives, both personally and professionally. Disasters, both of Nature and Man have affected all of us in some way. Many of our colleagues have suffered hardships wrought by the furies of storms and the uncertainties of international finance. It is easy, in this time where so much in our lives is being tested, to fall back on our laurels, become complacent, or even to take on airs of cynicism and resignation.

Yet, I do not see that happening within our close-knit AsMA family. Just the opposite; for I can see that there is also much for which we all can be thankful. Nowhere has this been more evident than in the many demonstrations of caring and comraderie this past year, when members of AsMA went far above and beyond countless times to assist their colleagues in need. Our volunteers rallied together to house and care for members displaced by winds and floods. Our members came together to mourn the devastating personal losses to many in the AsMA family. In the midst of tragedy and sorrow, it has been our members who have often been first to offer succor, care, and hope.

Still others have given so freely of their time and talents as mentors to ensure that the youngest of our many representative lands continue to look with hope and zeal to the skies and beyond, to become part of an exciting future in aviation and space. We will be able to meet many of these



Andrew H. Bellenkes, Ph.D.

young professionals as they become new members attending their first AsMA meeting, this year, in Los Angeles. So many of these mentors of the youngest have been some of the most senior of AsMA members. Their wisdom and good counsel have provided a solid foundation upon which our organization has grown and matured. They, along with those of you they have taught and guided, continue to lead the evolution in both aerospace medicine and AsMA.

All of these and so many more examples of our moving "from good to great" as an association shall, I hope, instill in all of you the pride you so richly deserve for your many accomplishments, satisfaction in the knowledge that you all have been the heart of a profession that remains as exciting and challenging as ever, and optimism for a brighter time for all of us ahead, free of want and uncertainty.

So, dear colleagues and friends, as we all reflect on the year past and look toward that to come with great anticipation, please know that my wife, Susi, and I wish you and yours a most joyous, peaceful and blessed holiday season. Looking very much forward to seeing you all in 2009!

Association News

Executive Director's Column



Rayman

Potpourri

As we come to the end of another year, I would like to briefly describe some of our major accomplishments. First, we continue to attract new affiliates. It was just a few years ago when we had 25 affiliates but we have now grown to 34 with 3 more in the hopper. At the upcoming Council meeting, we will be considering the applications of these 3 organizations: the Middle East Society of Aerospace Medicine, the International Association of Aerospace Dentistry, and the International Committee of Medicine and Physiology. Affiliates are always invited to attend our Council meetings and to fully participate in discussions. If you look at our website, you can see that most of our affiliates are international, providing a global umbrella in aerospace medicine.

A major position paper on fatigue was prepared by the Aerospace Human Factors Committee. The paper is extraordinary and should be part of everyone's professional files. It has received accolades from many individuals. The position paper was approved by Council and will be published in the January issue of our Journal. It will also be posted on the website under "About AsMA", Downloadable Materials, Policy Compendium: www.asma.org/publications/toc_compendium.php

The FAA had published a final rule on periodicity with commercial pilots under 40 years of age to have their medical examination annually rather than at 6-month intervals. The AsMA position on periodicity was consistent with this and this was mentioned as a supporting document in the publication of the final rule.

Our aerospace medicine Foundation is up and running with many of our members generously contributing. I would envision that in the near future the Foundation will have enough funds to be self sufficient, providing monies to deserving students.

Your Home Office continues to receive calls from the media on various aerospace medicine issues and has been asked to peer review articles in other medical journals including *The Lancet*.

The President has asked me to form an ad hoc committee to investigate medical standards for commercial space pilots. At the time of this writing, the ad hoc committee is being formed and I would anticipate that we will

have recommendations for Council within a few months. We had done this on two occasions in the past for commercial space tourists but we have been silent thus far regarding pilots.

Dr. Eilis Boudreau (Chair of the Education and Training Committee) and I met with ACCME inspectors in late October. AsMA was due for its 4-year inspection to ensure that our CME program is in compliance with ACCME standards. The application process for this is very lengthy, tedious, and I might add, expensive. Eilis and I boned up for this face-to-face inspection at the ACCME head office in Chicago and hopefully we will have good news for you some time in 2009.

We are currently working with a company to produce an internet CME program. It is expected that this program will be available to our members some time in 2009. At the same time, Dr. Boudreau, Chair of the Education and Training Committee, is working on a new Journal CME/MOC program. More information will be forthcoming in the coming months.

Your Home Office receives calls from both travelers and managing physicians inquiring about fitness to fly for passengers with preexisting illness. It is difficult to advise these individuals because of very sketchy information and legal implications. My approach has been to give only general information and to refer them to our website publications feature (Medical Guidelines for Airline Passengers). But this does tell us that people continue to look to our Association.

Dr. Richard Montminy has represented AsMA on the Commission Accreditation of Medical Transport Systems (CAMTS) for a number of years but will soon retire from the Air Force. This organization inspects and certifies helicopter and fixed wing civil aeromedical transport units. AsMA, in addition to a number of other medical associations and societies, has been a member of their Board for a number of years. With Dr. Montminy's retirement, we are now looking for a replacement. Many thanks to Dr. Montminy's service to AsMA - we wish him well in his retirement.

I would like to take this opportunity to wish everyone a Merry Christmas, Happy Kwanza, and Happy Hanukah.

NASA Celebrates 50 Years

As the Aerospace Medical Association prepares to enter its 80th year, we can thank NASA for helping making the last 50 of those years better, more interesting and more challenging. NASA is celebrating 50 years of inspiration, scientific and technological excellence, and discovery. They were featured in the 2008 Smithsonian Folklife Festival and hosted a conference of historians. A set of lectures was also offered, along with Future Forums, which discussed the role of space exploration in science, engineering, technology, and education. Additionally, Aviation Week celebrated NASA's 50th with special online features and events.

NASA was created in 1958 in response to the Cold War and began operations in October of that year. It absorbed the National Advisory Committee for Aeronautics (NACA), along with several other programs, including the Jet Propulsion Laboratory and the space science group from the Naval Research Laboratory. In the past 50 years, they have circled the Earth, put men on the Moon, helped build the International Space Station (ISS), and sent out unmanned probes to study Earth and the other planets.

NASA's first launch was Pioneer I in 1958. Pioneer 3 was launched later in 1958 and was the first satellite to reach an altitude of 63,580 miles. Project Score, a communications relay satellite, was also placed in orbit in 1958. In 1959, Pioneer 4 did the first successful U.S. flyby of the Moon. About a month later, the Mercury astronaut corps was unveiled, and in May of that year, the monkeys Able and Baker made a successful suborbital flight.

The first manned suborbital flights were the Mercury missions in 1961, the first orbital mission of John Glenn was in 1962, and the Gemini missions of 1965-66 paved the way for the landing of Apollo 11 on the Moon in 1969. In 1975, the United States and the Soviet Union cooperated in the first international human spaceflight project: the Apollo-Soyuz Test. The first space shuttle, Columbia, made its maiden voyage in 1981. The shuttle program has deployed many satellites, placed major scientific missions such as Galileo in orbit, launched and serviced such missions as the Hubble Telescope, and has made many flights in support of the ISS and Mir. Unfortunately, along with its successes, the shuttle program has also known several major trials: in 1986, a fuel leak caused an explosion that destroyed Challenger shortly after launch, killing all seven astronauts, and in 2003, the Columbia and its seven crewmembers were

See, NASA 50th, p. 1121.

2008 Associate Fellows

The following members have been approved by the Executive Committee to become Associate Fellows of AsMA:
Brian Agee, Yael Barr, Tyson Brunstetter, Charles Clinton, Mark Coakwell, Schuyler Geller, Susan Jay, Brian Musselman, James A. Ross, David Sarnow, Nereyda Sevilla, Brian Smalley, Lisa Snyder, Timothy Sowin, and Donald White.

Articles of Aeromedical Interest

This article is available for free download from <http://www.sciencedirect.com/> then place "astronaut survey" in the title search box and click go:

Saluja IS, Williams DR, Woodard D, Kaczorowski J, Douglas B, Scarpa PJ, Comtois J-M. Survey of astronaut opinions on medical crewmembers for a mission to Mars. *Acta Astronautica* 2008; 63:586-93.

NASA 50th, from p. 1120.

lost upon re-entry. Three shuttles remain and will stay in service until 2010, helping to build the ISS and service the Hubble Telescope.

In addition to space exploration, NASA has focused many resources on "spaceship Earth". While we may take for granted photographs of weather and Earth resources data from space, as well as navigation and worldwide communications, these have all been made possible by satellites. Worldwide satellite com-

munications have brought the world closer together. In the 1970s, NASA's Earth resource satellite program began with the launch of Landsat satellites. In the 1980s were steps taken toward a more comprehensive plan for studying the entire Earth system on a global scale. Following a number of studies, in 1987 the "Ride Report" on Leadership and America's Future in Space recommended that NASA adopt a Mission to Planet Earth as one of its four overriding themes. The centerpiece of Mission to Planet Earth was the Earth Observing System. Currently with cooperation between the National Oceanic and Atmospheric Administration (NOAA), NASA, and the U.S. Air Force, a National Polar-Orbiting Environmental Satellite System (NPOESS) is under long-term development. These satellites and others are making, and will continue to make, significant contributions to Earth science.

NASA's research and exploration has led to quite a few spinoffs that have been the product of the technologies used or discoveries made by NASA. There have been more than 1300 documented spinoffs since 1976 that are used by industry, medicine, environmental and automotive markets, sports, computers, and refrigeration, among others. The Space Shuttle program alone has contributed 100 spinoffs, including the artificial heart, a hand-held infrared camera, safer jewelry soldering bases, a land mine removal device, insulating paint powder to help turn your home "green", satellite imaging of wildfires to aide in fire-fighting, lighting technology that is now used to treat brain tumors in children, an extrication tool that is used to rescue accident victims from wrecked vehicles, and video stabilization software. For more information on NASA's spinoffs, visit the Spinoffs Fact Sheet at <http://www.nasa.gov/centers/kennedy/new>

s/facts/nasaspino.html; there is also a Spinoffs database at <http://www.sti.nasa.gov/spinoff/database> and a Spinoff publication, found at <http://www.sti.nasa.gov/tto/>.

Currently, NASA efforts are focused on return trips to the Moon and an eventual mission to Mars. A new design for the space shuttle is also in the works, as are plans for a lunar outpost at the Moon's south pole, from which missions to Mars will eventually depart. For a full timeline of defining events, please visit NASA's Defining Events page (<http://www.hq.nasa.gov/office/pao/History/Defining-chron.htm>) and their page on 50 Years of NASA History (http://www.nasa.gov/50th/50th_magazine/historyLetter.html).

This article was compiled from various pages on the NASA website. For more information on NASA, please visit www.nasa.gov

MEETINGS CALENDAR 2009

January 11-15, 2009. D. Eugene Strandness Jr. Symposium: Diagnostic and Therapeutic Approaches to Vascular Disease; Wailea, Maui, HI. Info:

www.strandness-symposium.com; strandness@administrare.com; 978-744-5005

March 24-26, 2009; 2009 International Conference on Fatigue Management in Transportation Operations: A Framework for Progress; Boston, MA. Hosted by the U.S. Department of Transportation's Human Factors Coordinating Committee under its Operator Fatigue Management Program. Info: <http://hfcc.dot.gov/ofm/>

April 26-29, 2009; American Occupational Health Conference; Manchester Grand Hyatt, San Diego, CA. For more information: www.acoem.org; e-mail: education@acoem.org.

June 25-27, 2009; Undersea & Hyperbaric Medical Society Annual Scientific Meeting; Crowne Plaza Los Cabos Grand Faro Beach Resort, Mexico. Info: Lisa Tidd/Stacy Rupert uhms@uhms.org; www.uhms.org

SAVE THE DATE!

2009 International Conference on Fatigue Management in Transportation Operations: A Framework for Progress

Date: March 24-26, 2009

Organizer: U.S. Department of Transportation, Human Factors Coordinating Committee, Operator Fatigue Management Program: <http://depts.washington.edu/uwconf/fmto/>

Location: Boston Marriott Long Wharf in Boston, MA

The objective of the conference is to disseminate information on the latest fatigue-related research, technology, and countermeasures.

Nominations Sought for 2009 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 Los Angeles, CA. 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. To view a list of past recipients go to the AsMA website: <http://www.asma.org/pdf/awrdwin.pdf>

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; and Ms

Gisselle Vargas at AsMA Headquarters (gvgargas@asma.org). If e-mail is not available, you can send a hard copy of the form via normal mail to: Dwight Holland
4874 Glenbrooke Dr.
Roanoke, VA 24081
Phone: (540)761-1576
AsMA FAX: (703)739-9652.

Any auxiliary biographical material in electronic or hard copy attachments **must be limited to 3 typed pages** and will be retained in Association files.

6. Nominations received by Dec. 15 will be considered for awards to be presented at the next annual meeting. Unsuccessful nominations will be retained in the active file through three award cycles.

ANNUAL AWARDS (descriptions online)

1. Louis H. Bauer Founders Award
2. Mary T. Klinker Award
3. Harry G. Moseley Award
4. Eric Liljencrantz Award
5. Theodore C. Lyster Award
6. Boothby - Edwards Award
7. Julian E. Ward Memorial Award
8. Raymond F. Longacre Award
9. Arnold D. Tuttle Award
10. John A. Tamsisia Award
11. Sidney D. Leverett, Jr. Environmental Science Award
12. John Paul Stapp Award
13. Kent K. Gillingham Award
14. Won Chuel Kay Award
15. Marie Marvingt Award

This Month in Aerospace Medicine History-- December 2008

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

Seventy-five Years Ago

Prescription goggles for vision correction (Director of Dept. Ophthalmology and Otology, School of Aviation Medicine, Randolph Field, TX): "Ordinarily, considering the fairly rigid requirements regarding ocular functions of the aviator, both military and civil, one does not consider the correction of errors of refraction in aviation goggles as a problem of great import. In military aviation it is a problem that demands immediate attention in an increasing number of instances.

"At first let us consider the pilots who are beginning to become presbyopic, disregarding for the time being all cases of ametropia. This class includes a great number of our pilots who came into service during the World War, and certainly all of those who were flying prior to that time. These men, pilots or observers, are hampered tremendously in the performance of their duties by the fact that their power of accommodation has dropped to below the amount necessary to enable them to read maps, and perhaps instruments, while actually in flight. Such a condition, unless corrected, interferes with the efficiency of a pilot or observer, and may result in serious consequences. In military aviation the open cockpit type of airplane is still the type, by far, more generally used as service aircraft, and the open cockpit necessitates the wearing of goggles. It is quite obvious that all the simple presbyope requires is a small correction, plus sphere only, as required, in the lower part of the goggle lens. This appears, at first glance, quite simple, but upon investigation certain difficulties will become manifest, and before the solution has been reached it will become evident that each individual case is a problem, the solution of which calls for the expenditure of quite a great deal of ingenuity



Fig. 1. Correction for presbyopia fitted as segments in B-6 goggle (3).

and thought...

"The correction for distance may be ground in the entire goggle lens. This is not as simple as it first appears...

"The correction for distance may be worn as auxiliary lenses fitted in the goggle frame underneath the regular lens. Obviously, this method has certain disadvantages: there are four surfaces to be fogged, and to be cleaned; the auxiliary frames must be complicated by a hinge device to allow cleaning; there is additional weight...

"The correction for distance may be worn as spectacles underneath the issue goggle. To date, this method has proven the most satisfactory and economical... We have found that quite satisfactory results have been obtained by the use of specially shaped spectacle lenses designed to fit within the goggle frame, and with bridge and temple fittings so constructed that there will be no points of pressure. This method is now used by several pilots who have rendered very favorable reports upon its comfort, efficiency and convenience. They have their correction whether their goggles are worn or not; if a cylinder is required it is always worn with its axis as prescribed, and the additional weight is negligible as the spectacles may be ground quite thin of glass with a high refractive index, and the rimless type of mounting used. This method appears to be particularly applicable for individuals who habitually wear spectacles. Extreme care should be taken in the fitting of the frames to avoid discomfort. Should an addition be required for reading in such spectacles, I would again emphasize the necessity for small segments" (3). (See Fig. 1)

Fifty Years Ago

First domestic jet passenger service: On December 10, 1958, the first domestic jet passenger service was begun by National Airlines, with an East Coast route between New York and Miami (4).

Current status of oxygen systems aboard aircraft (Aero Medical Laboratory, Wright-Patterson Air Force Base, OH): "Aircraft liquid oxygen breathing systems were last discussed before the Aero Medical Association at its meeting in 1947. Since that time these systems have undergone considerable change and improvement. It is the intent of this paper briefly to review the 1947 presentation and bring the information on liquid oxygen systems up-to-date.

"At the time of the earlier presentation, liquid oxygen systems were in their infancy. Units had been evaluated on a test basis which included complete laboratory trial of an established circuit together with flight

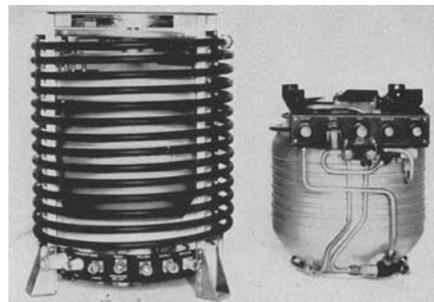


Fig. 2. An early liquid oxygen converter for military aircraft (left) and a recent [1958] model (2).

evaluation of the system in a single bomber aircraft. This test program was the basis for the decision to employ liquid oxygen systems in the U. S. Air Force.

"The change from gaseous to liquid aircraft oxygen was carefully programmed because of the knowledge that the introduction of a radically new system would create problems. In addition, adapting or tailoring the system for specific aircraft would have to be accomplished. Unlike many aircraft items which are supported only by spares and test equipment, a liquid oxygen system requires, in addition, flight line recharging equipment, a primary source of liquid oxygen supply, and trained personnel at the various bases where aircraft would be operational. Hence, an immediate change-over could not be accomplished...

"Liquid oxygen, because of the weight and space-saving that results from its use, is now being used in most fighter and bomber aircraft. Specific aircraft that employ liquid oxygen are the F-84, 100, 101, 102, 105, and 106 fighters and the B-47, 52, 57, and 58 bombers. The expanding utilization of liquid oxygen over the past ten years is all the more remarkable when one considers that during this period liquid oxygen has gone from practically a laboratory curiosity to a standard stock item handled every day by Air Force personnel at bases throughout the world" (2). (See Fig. 2)

Twenty-five Years Ago

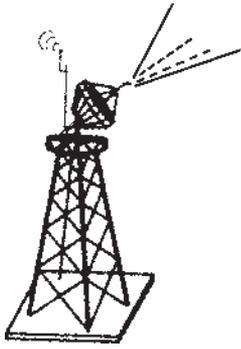
Nissen fundoplication and the pilot (Department of General Surgery, USAF Medical Center, Keesler Air Force Base, MS): "The post-operative experiences of a high-performance pilot who underwent Nissen fundoplication for reflux esophagitis illustrate two important points concerning return to flying duties... Gas bloat syndrome occurring in 6% of patients and obstructive phenomena in 1% or less are both complications of antireflux surgery about which the flight medical officer needs understanding. Details on both gas bloat and obstructive complications form a basis for a rational approach to the question of when to return a patient to flying duties" (1).

REFERENCES

1. Durning JP, Torma MJ. The aviator after Nissen repair: Gas bloat and other perils. *Aviat Space Environ Med*, 1983; 54(12): 1117-8.
2. Roach CG, Roundy RW. Present status of aircraft liquid oxygen breathing systems. *J Aviat Med*, 1958; 29(12):898-902.
3. Simpson RK. Aviation goggles with correction for errors of refraction and accommodation. *J Aviat Med*, 1933; 4(4):146-52.
4. www.infoplease.com/ipa/A0004537.html

ARCHIVAL DVD FOR SALE ! 73 Years of the Aerospace Medicine Journal

73 years (1930-2002) of the Aerospace Medical Association's Blue Journal on one convenient DVD! Free up shelf space with this set of searchable PDF files! To order contact Sheryl Kildall at 703-739-2240 x 107; via e-mail at skildall@asma.org, or download the order form from www.asma.org/journal/archives-order-form.pdf, fill it out, and fax it to 703-739-9652.



Science & Technology Watch

Keeping You Informed Of The Latest Advances In Science And Technology

Given the increased role of detection of single nucleotide polymorphisms to determine risk of incurring disease, it is critical to apply statistical techniques correctly to ensure accuracy. Our article this month stresses the importance of carefully determining the sample size, a non-trivial task, in conducting this type of investigation.

The Importance of Sample Size Calculations in Medicine

Scott Haney, Leonid Hrebien, and Moshe Kam
Data Fusion Laboratory, Drexel University,
Philadelphia, PA

As genetic research progresses, the need for personalized medicine based upon individual genetic information has become apparent. Evidence suggests that certain genetic sequence variations (polymorphisms), which occur with at least a 1% chance in the human population, significantly impact the likelihood of contracting certain diseases. Examples of genes containing polymorphisms that have been shown to be important include HLA in type I diabetes, APOE in Alzheimer's disease, factor V in deep vein thrombosis, NOD2 in inflammatory bowel disease, APOAV in hypertriglyceridemia, PPARG in type II diabetes, neuregulin I in schizophrenia, ADAM33 in asthma, PDE4D in stroke, and LTA in myocardial infarction (4). Although several different types of polymorphisms exist, over 90% of all genetic sequence variations are due to single nucleotide polymorphisms (SNPs) which are polymorphisms that occur at a single nucleotide base (1). Several researchers have recently performed large scale studies on locating SNPs that are risk factors for diseases such as breast cancer (3) and prostate cancer (5). Due to such intense focus on using SNPs for determining disease risk, the accurate location of all SNPs in the human genome is an important task.

Currently speculation exists over whether or not most SNPs have been accurately classified (2). Most of this speculation is warranted due to poorly defined and developed sample size calculations. As an example of a particularly disturbing statement, the authors of the international HapMap project (4) reported that "Samples of 45 unrelated individuals should be sufficient to find 99% of haplotypes with a frequency of 5% or greater in a population." From a mathematical standpoint it can be shown that by following standard statistical practice (and is shown in the next paragraph) 45 samples are not even sufficient to locate an event that occurs with 10% probability, thus refuting the claim. We use this example to show

that sample size computations are not necessarily a simple matter.

To see why this statement is mathematically incorrect we begin by assuming that the probability distribution for the SNP under study follows a binomial distribution with parameters $P \geq 0.05$ and $n = 45$. Under these conditions we are testing the hypothesis that $P < 0.05$ (our null hypothesis) against the hypothesis that $P \geq 0.05$ (our alternative hypothesis). Standard statistical procedure dictates that we should reject the null hypothesis if the probability that the null hypothesis is true is less than 5% (in other words our test is at level $\alpha = 0.05$). To find the number of observed polymorphisms that corresponds to $\alpha = 0.05$ we must find m such that the probability that a binomial distribution with parameters $P = 0.05$ and $n = 45$ is less than or equal to m is at least 95%. Calculations reveal that this occurs for $m = 5$ and so at the level $\alpha = 0.05$ our statistical test determines a nucleotide to be an SNP with frequency of 5% or greater if we observe at least 6 polymorphisms in a sample of size 45. This test is not very effective, however. Further calculations reveal that the probability that this test would correctly identify an SNP that occurred with a 10% frequency is only 29%!

Thankfully things turn around once the frequency reaches 20%. By this time the probability of detection is slightly over 90%. Nevertheless, the fact that this test will only correctly identify an SNP that has 10% frequency less than 3 in 10 times is very disturbing considering the claim that this test was appropriate for detecting any SNP with a frequency of at least 5%. From this work we see that it was important to not only specify n and p but also two hypotheses, and a statistic m . Indeed a statement about sample size calculations is not complete without these terms being defined.

The question now becomes can a test be found that given a sample size of 45 is sufficient to locate an SNP that occurs at least 5% of the time? Had we asked this question in the first place we would have saved ourselves a lot of time because there is only one test that could fulfill these requirements, assuming standard statistical procedure. Let's assume that we are given an SNP that occurs 5% of the time. Given 45 samples the probability that we would observe no polymorphisms for this SNP is given by $(1 - p)^n = 0.95^{45} \approx 9.9\%$. If we follow standard statistical procedure and use 95% as our default significance level, it is clear that if we set our statistic m to be 0 then we only have a 90.1% chance (100% - 9.9%) of detecting a 5% polymorphism. Therefore the only possible test that we could use is to accept all nucleotides as being SNPs with frequency of at least 5%, which is obviously unacceptable. If an experiment had been run that assumed this sample size was sufficient for the SNPs sought, it is likely that a lot of money would have been wasted on SNPs with frequencies between 5% and 20% since 45 samples will fail to detect these variations more than 1 in 20 times which would likely result in missing more than 5% of these polymorphisms.

As medicine progresses it is becoming more and more important to individualize. This creates an increased need for locating more and more specific genetic information which automatically implies that more care must be taken from a mathematical standpoint. Accurate sample size calculations are essential for deter-

mining whether a project is feasible given fixed financial resources. Worse still, inaccurate sample size calculations can lead an investigator to believe that an experiment will detect an event when in fact the probability of detection is disappointingly low. In this case the entire experiment could be worthless.

REFERENCES

1. Chorley BN, Wang X, Campbell MR, et al. Discovery and verification of functional single nucleotide polymorphisms in regulatory genomic regions: current and developing technologies. *Mutat Res: Rev Mutat Res* (In press).
2. Huang H, Thuita L, Strickland P, et al. Frequencies of single nucleotide polymorphisms in genes regulating inflammatory responses in a community-based population. *BMC Genetics* 2007; 8:7.
3. Kammerer S, Roth RB, Reneland R, et al. Large-scale association study identifies ICAM gene region as breast and prostate cancer susceptibility locus. *Cancer Res* 2004; 64(24): 8906-10.
4. The International HapMap Consortium. The International HapMap Project. *Nature* 2003; 426:789-96.
5. Zheng SL, Sun J, Wiklund F, et al. Cumulative association of five genetic variants with prostate cancer. *N Engl J Med* 2008; 358(9): 910-9.

This column is edited by Barry S. Shender, Ph.D. 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 two AsMA News links under "Journal."

NEW IMPROVED WEB FEATURE: POLICY COMPENDIUM

Some of you may be aware that you can already access AsMA position papers and resolutions online. But we've just made it easier for you! Previously, you had to scroll through an extensive PDF file that contained all papers since 1992. You can now view and print each paper from the table of contents. Just go to our Home Page (www.asma.org) and click "About the AsMA". Then scroll down to "Downloadable Materials". Select "Policy Compendium" and you will have a table of contents from which you can choose the document you wish to view or print.

AsMA Future Meetings

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

May 9-13, 2010
Sheraton Hotel
Phoenix, AZ

May 8-12, 2011
Egan Convention Center
Anchorage, AK

Psychological Support for U.S. Astronauts on the International Space Station

By Gary Beven, Al Holland, and
Walter Sipes

NASA's ISS astronauts undergo an extremely challenging training flow lasting 3 to 4 yr before launch. Frequent international travel and intensive foreign language training compound the technical aspects of learning to become a proficient ISS astronaut. Then the mission itself, lasting up to 6 mo, presents the challenges of isolation, confinement, demanding workload, and family disconnection. The post-landing period of extended physical rehabilitation and reintegration presents another hurdle to surmount. ISS families, in turn, face the challenge of life at home without their astronaut spouse or parent. To state that all of this is psychologically demanding, is certainly an understatement.

Fortunately, NASA has a dedicated team of professionals whose primary goal is to provide psychological support to ISS astronauts and their families. The Johnson Space Center (JSC) Behavioral Health & Performance (BHP) group is a multidisciplinary team of professionals led by NASA civil servants Dr. Gary Beven, flight surgeon and psychiatrist, Dr. Al Holland, operational psychologist, and Dr. Walter Sipes, aerospace psychologist. Other valued members of the BHP ISS mission support team are from the Wyle Integrated Science and Engineering Group, led by Stephen Vander Ark.

Each ISS astronaut is assigned a BHP team comprised of a NASA psychiatrist, NASA psychologist, and a primary Wyle operational psychology specialist. This team works in a collaborative manner and becomes familiar with the ISS crewmember, their family, and the mission. ISS astronauts are assigned their BHP team 2 yr before their actual launch, prior to assignment as back-up ISS crewmember.

ISS BHP mission responsibilities are broken into two broad categories: behavioral medicine and operational psychology. The NASA psychiatrist is responsible for the behavioral medicine components of support, and the NASA psychologist and Wyle team member are responsible for the operational psychology support. Each ISS mission is divided into three stages: preflight, in-flight and postflight.

Behavioral medicine support activities provided by Dr. Beven include crewmember assessment, monitoring, and intervention. Faithful to the tenets of aerospace medicine, the goal is to help keep the astronaut at peak mental and emotional fitness in a challenging environment while undertaking a demanding workload. Three preflight assessments occur before launch, the first at Launch 1 yr and the last at Launch 30 d; private psychological conferences (PPC's) take place every 2 wk while in-flight; and three postflight assessments are rendered, the first at Return +3 d and last at Return +30 d. The immediate postflight assessment takes place either in Russia for Soyuz landings, or in Houston for Shuttle

landings. The period starting with the ISS astronaut's Launch 1 yr assessment as a back-up crewmember through their Return +30 d interview following their actual mission, provides for 2.5 yr of contact and allows a close working relationship to develop.

Each assessment focuses on particular aspects of psychological fitness depending on the mission stage. Training, workload, fatigue, sleep, family, crew interactions, crew-ground interactions, mood, cognition, morale and family reintegration are covered. The NASA psychiatrist also acts as the primary consultant to the ISS crew surgeon on all aspects of mission behavioral health and performance. All behavioral medicine contacts are considered private and confidential medical events, thus ensuring free and expressive communication on all topics.

Operational psychology support services provided by Drs Holland and Sipes include preflight training and mission preparation, in-flight support, PPC's, and postflight debriefings. The main goals of such service are to psychologically prepare ISS astronauts and their families for the rigors of long-duration spaceflight and to ensure a high level of morale, crew cohesion, and family connectedness during the mission.

NASA psychologists provide briefings during the preflight stage on the psychological factors of long-duration missions and strategies for addressing them. Briefings also include instruction on what in-flight support services are available and are structured to obtain personal preferences for inflight BHP activities. For the astronaut and their spouse, there is a briefing on practical mission planning that covers the ISS training flow and the associated stresses involved. A briefing developed specifically for the astronaut's spouse explains processes such as crew care packages and private family conferences.

In-flight services consist of: psychological support hardware, crew care packages (CCP), recreational materials, personal videos/photo uplinks, news and information uplinks, and private family conferences (PFC). Psychological support hardware is individualized, although some hardware, like a guitar and keyboard, remain on the ISS. Items in the 5-kg CCP are provided by family, friends, the BHP team, and co-workers. Favorite foods, surprise gifts from the family, and holiday decorations are a few of the items that have been sent to the ISS in CCP's.

In-flight communication with friends and family is one of the most important psychological services provided by BHP. The most valued of these is the Private Family Conference (PFC). This deeply appreciated communication service occurs each weekend with videoconference equipment placed in the astronaut's home that allows private two-way video and audio between the astronaut and their family. Another very popular means of communication is the internet protocol (IP) telephone. This enables the astronaut to have communication with anyone on the ground

via private phone call. ISS astronauts also have email capabilities.

Crew Discretionary Events (CDE) are also very popular among ISS crewmembers. These are special requests from the astronaut to make contact (audio or video) from the ISS with extended family members, celebrities, sports stars, authors, radio hosts, universities, military academies, and others that help boost the morale of the ISS crew. JSC Public Affairs Office and Education Office events also occur during a mission that help lift the morale of the astronauts, and BHP works in collaboration with these offices. These contacts may be live video links or recorded messages from the astronaut to be played during a public event on the ground, such as a college football game video scoreboard.

Additional in-flight communication resources come in the form of electronic books, movies, and updated electronic family photo albums, including family video. This continual communication with the Earth provides recreation and ongoing contact with their family throughout the mission. The crewmember's personal web page on ISS is the mechanism used to provide news, television shows, music, family videos, etc., and is maintained on the ISS server.

Postflight, operational psychology providers have debriefings with each astronaut to get feedback and gain lessons learned. The spouse also has the opportunity to meet with the BHP support personnel and give feedback on the positive and negative aspects of the psychological support provided during the mission.

BHP additionally provides resources for deployed astronauts in training and their ground support teams. U.S. astronauts spend many months at the Gagarin Cosmonaut Training Center in Star City, Russia outside of Moscow. Resources provided in Star City include a movie library, 2-way video communication to families in the United States, magazine subscriptions, and recreational equipment.

BHP is also responsible for the JSC Family Support Office (FSO). The FSO focuses on the crew family to enhance mission goals and serves as an information and referral service. Some of the coordination activities include working with local schools, a preflight practical planning class, seminars of family topics, language training, multicultural training, a newsletter for astronaut families, and various briefings as requested. Serving as a centralized clearinghouse, the FSO can provide child appropriate information, support for launch, and information on mission and landing stress.

Collaboration with NASA's international partner BHP professionals (Russia, Japan, Canada, and European Space Agency) helps to keep multicultural issues in mind when supporting ISS missions and completes the comprehensive support from BHP to ISS crews and their families. More on our website at www.asma.org/journal/html_news.

AEROSPACE PHYSIOLOGY REPORT

Send information for publication on this page to: **Lt. Col. Andrew Woodrow, USAF, BSC Chief, Aerospace Physiology Formal Programs, Brooks City Base, TX 78235 210-536-6441 Andrew.Woodrow@brooks.af.mil**

A Message from the AsPS President

As the new President of the Aerospace Physiology Society it is now my turn to work with you, the members of the AsPS, in fulfilling the goals of our Society. These goals are generally directed by our By-Laws. The Aerospace Physiology Society by-laws changes recently approved by the Board of Governors were presented to the Society's general membership and approved during the Society's annual business meeting on 14 May 08. These changes will be forwarded to the ASMA committee for action. I want to give a special acknowledgement to CAPT (s) Marva Lynn Wheeler; it has been her leadership this past year that has put the Society on the track we are now following. Of course, she got a tremendous amount of help and input from the Board of Governors and Committee Chairs so here is a "shout out" to all of their hard work as well.

The By-Laws state that our purpose is to promote Aerospace Physiology for the community we serve and for the individuals in the

Society. I believe we are doing just that, and have been doing so for over two decades. How does this happen? It seems obvious, but I want to stress this point: VOLUNTEERS. We have a Board of Governors, a number of Committee Chairs and many committee members. Most of the people that have been in leadership and volunteer positions have moved on to positions in the parent organization, are nearing retirement or have retired. Our Society is blessed to have many new members with fewer gray hairs, exciting new ideas, and great energy. If our Society is to continue to grow, we need your involvement. I strongly encourage you to get involved in the business of the Society. A great way to start is to volunteer to serve on one of our committees. This will get you familiar with the people and processes. From there, please consider running for an elected position. The Society has an important but challenging future, and without your involvement, success will be difficult to achieve. As Physiologists, we learn, and teach the importance of crew communications, resource management and coordination in the successful completion of a mission. It takes an entire team effort to launch a crew, fly the mission and get them home again safely to fly another day. The same can be said for running a successful organization.

This coming year I see several goals that fit into our needs. 1.) We need a robust strategic communication plan to be able to get the word out to the membership; use our Web Site to get prospective members to join as well as make all of you aware, on a timely basis, of activities, events and successes of our organization's membership. 2.) We need to discuss and possibly experiment with new protocols to generate volunteerism and new membership. If you have attended a few AsMA meetings, or a lot of them, you might have ideas as to how we can be more effective and efficient. It is input from the membership that will help determine the future course of the Society. 3.) We need a mechanism for feedback from all the members, not just those that can get funding to attend the annual AsMA meeting. To this end I would like to find a way to use our website to generate electronic membership feedback. I hate being surveyed, so I would like you all to understand that this one will be as painless as possible.

I would like to congratulate the nine Society members who achieved a significant career milestone while in Boston, earning their Board Certification in Aerospace Physiology. Your hard work and study paid off, and demonstrates your professionalism and dedication to our profession...way to go! I encourage all of our members (and those members of ASMA who are not Board Certified) to follow the example and consider sitting for Board Certification as soon as you are eligible. Lastly, I would be remiss if I did not thank Dr. Jim Webb for the valuable work in support of the development of the Society bylaws and also offer him my sincere congratulations for being this year's AsPS Presidents Award winner.

We have a Society of professionals. I am continuously proud of your individual accomplishments and look forward to seeing you May 3-7, 2009 at the annual scientific meetings in Los Angeles, CA. In the mean time, I'll be looking forward to hearing your ideas, and sharing them with the Board of Governors.

**Col. Donald J. White, USAF, BSC
AsPS President, 2008-2009**

Aerospace Physiology Certification

The Aerospace Physiology Certification Board of the Aerospace Medical Association will administer the certification examination at the 80th Annual Scientific Meeting in Los Angeles, CA on Sunday, May 3, 2009.

Being awarded the gold pO2 pin and certificate of board certification says that a scientist has met significant academic challenges and is a true professional in a select field. In essence, board certification declares that an individual has formally earned the respect of his or her professional peers and their governing organizations. Finally, board certification serves as a goal that members can strive to attain through dedicated self-study and personal and professional contributions to the AsMA and AsPS. However, eligibility is not simply limited to individuals who possess the necessary academic backgrounds. Perhaps the most significant prerequisite is demonstrated interest, participation, and contribution to the field of aerospace physiology over a period of at least 5 years. Relevant education, experience, and professional contributions are each fundamental elements leading to board certification. Board certification in aerospace physiology says that a scientist takes the aeromedical profession seriously.

Application must be made prior to March 1, 2009, to assure consideration for the 2009 examination. Applications received after that date cannot be guaranteed consideration for the 2009 exam. Any late applications not considered for 2009, will automatically be held in abeyance for consideration for the 2010 exam.

To obtain an application form and complete information about certification requirements, submit a short biography describing your relevant background in aerospace physiology, and request for information to the Chair of the Admissions Committee:

Troy P. Faaborg, Maj, USAF, BSC, CAsP
502 Westgate Drive
Warrensburg, MO 64093
Email: troy.faaborg@whiteman.af.mil (professional), or faaborgs@msn.com (personal)

AsPS Member Benefits

The outstanding network potential and the chance to gain knowledge from the field's top minds.

The opportunity to take part in forums for the integration and utilization of experts in many diverse professional fields. Our members have shared their expertise in multinational and multi-service working groups for altitude effects, acceleration, spatial disorientation, passenger and patient transport, and human factors.

The opportunity to recognize scientific achievement in the field of aerospace physiology. There are three Society awards presented each year.

The chance to contribute to the success and quality of the annual AsMA conference. The Society's Education and Training Day has been one of the most widely attended sessions during the annual conference.

Membership is only \$10. For more information, please contact Joe Essex at joseph.essex@navy.mil, or write to:

LCDR Joe Essex, MSC, USN
BLDG 2272 Suite 345
47123 Buse Rd
Patuxent River, MD 20670

WING NEWS & NOTES

Send information for publication on this page to:
Jennie Bendrick
8825 Redwood Blvd
California City, CA 93505
760-373-810; butljenn@aol.com

From the President

By Peggy Trumbo

"California, here I come..." are the first words to the old song, and Wing members are hopefully headed that direction. Encourage your spouse to register for the May 3-7, 2009, AsMA meeting in Los Angeles at the Westin Bonaventure Hotel. It is a fabulous meeting site and the city has so much to offer us.

Nevonna Schroeder, Arrangements Chair, along with her committee, have planned an exciting week of activities. Registration and Hospitality will be in the Tsubaki Lounge on the 12th floor of the hotel. It is the perfect space to gather for meeting new members and visiting.

The Monday afternoon Welcoming Reception, planning by Jackie Jordan and Issy Jennings, will say "Hooray to Hollywood" as we gather on the top floor of the hotel in the carousel lounge with its spectacular view of Los Angeles and surrounding hills.

Betty Jo Lilly is planning our tours which include a full Los Angeles tour with a special stop at the Kodak Theater on Tuesday and on Thursday a trip to the Getty Art Center. The Kodak Theater backstage tour will be given by Dr. Dean Gean, the medical doctor for the Oscars and a friend of Dale Orford.

Our Wednesday luncheon, arranged by Joan Marinelli and Marilyn Brath, will be at the elegant and historic Los Angeles Athletic Club which is within walking distance of our hotel and (for those of you who want to do some shopping) is located in the Jewelry District.

The Dash bus is easy to use from the hotel to get around town for just 25 cents. It will be a good means of transportation for your own

choices of places to shop and visit. There are many routes that can take you as far as the Olympic Coliseum and museums at Exposition Park or to closer-by Olvera Street, the very beginnings of the city of Los Angeles. Once at Olvera Street, the El Pueblo/Olvera Street offers free docent-led tours Tuesday through Saturday at 10:00, 11:00, and noon.. The tours take you through the early historic sites and buildings of LA, as well as a walk through the outdoor market and the authentic Mexican restaurants. Go to www.lasangelitas.org to learn more about them.

See You in Los Angeles- May 2009

ICASM - Bangkok

By Nevonna Schroeder

ICASM 2008 in Bangkok: the perfect excuse for an exotic Southeast Asia vacation. The meeting was held in an ultramodern hotel/shopping mall complex. This provided ample opportunity to shop for brand names & designer items, but of course, the most interesting shopping was to be found in the street markets. A number of social events provided opportunity to meet those Wing friends undaunted by the reports of political unrest and lucky enough to be in attendance. At the welcome reception we were greeted with Thailand smiles and presented with braided flower chains. Entertainment was provided by talented students from a nearby school of nursing, who charmed us with their costumes, music, and dance. And of course, the food was plentiful and delicious. The Wednesday afternoon technical visit provided me with an opportunity to visit the Thai Institute of Aviation Medicine. A Wednesday evening dinner on a riverboat hosted by the Wing's

own Sallypahn & Michael Hawkins was a real treat. Of course, the farewell dinner is always special. We were royally entertained by a traditional dance group, and served a delicious meal. After the meeting concluded many of us took the opportunity to travel in the region. Dave and I headed up to Chiang Mai, then to Phuket, on to Kanchanaburi, where we toured the WWII memorials at the various sites along the River Kwai. Our last stop was in Siem Reap, Cambodia, to tour the Angkor complex.

Next year, ICASM 2009, will be in Zagreb, Croatia. I am already making plans - the Dalmatian Coast? Or maybe go up into Slovenia? Italy isn't that far..... Hope to see many of you there!

Join the Wing

Now is the time to pay dues for 2008. Dues are \$40 and should be mailed with your current address, phone number and email to our Wing Treasurer, Josie Borchardt at 3215 Limestone Trail, San Antonio, TX 78253. There is a fee of \$2 for those paying by credit card. Your information will be used in preparing the next Wing Directory which will be mailed to you in February and will also include the meeting registration form, a volunteer form, and a February "News on the Wing". Please mail this to Josie as soon as possible!

By-law Change, first notice:

The following change to the By-laws of the Wing has been approved by the Executive Board on May 14, 2008, and will be presented at the May 6, 2009, meeting for a vote of the membership.

Article III, Section 3 of the By laws is proposed to be changed to: Associate members shall be those persons desiring membership and not identified as Active Members. They shall pay dues and participate in Wing activities, but shall not be eligible to hold elected office.



ICAASM 2008--Upper Left: Sallypahn Hawkins and Nevonna Schroeder. Upper Right: Catherine Hickman with her daughter Kris who just returned from working with the Peace Corps. Lower Left: Nevonna with Helen Lestage and Kiyoko Kai. Lower Right: Nevonna, Louise Grenier Thibeault and Helen Lestage.

To read 'The Wing' page online, Go to www.asma.org, Click on AsMA News Online, Click on Wing News and Notes

Join the Wing!



The Wing of the Aerospace Medical Association was formed in 1952.

Dues are \$40 per year. For more information, contact:

Jackie Bohnker
2253 Riverside Dr. S.
Clearwater, FL 33764
727-812-4868
e-mail: jpbohnker@juno.com

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

Corporate Member Profile: **NUI Becomes Newest AsMA Coporate**

Norwegian Underwater Intervention (NUI) recently became the newest company to become a Corporate Member of the AsMA. Based in Laksevåg, Bergen, Norway, NUI has provided products and services to the subsea industry for over 30 years. They were established in 1976 by the Royal Norwegian Council for Scientific and Technical Research and Det Norske Veritas for the purpose of working in the fields of diving technology, diving medicine, and testing of undersea equipment. They became a foundation in 1982 and then reorganized in 1985 to become a limited company. At that point, they expanded into safety training. In 1998, they split into two companies, with NUI eventually working in the areas of hyperbaric contingency and performance testing, engineering, training, research and development, and pressure/equipment testing.

NUI works in a wide range of specialist areas and has international expertise in meeting underwater operational challenges. Their aim is to improve equipment safety, and awareness of safety and health risks. Their services include environmental analysis of areas such as ergonomics, noise, lighting, and climate, and chemical analysis, such as that on air from a hyperbaric chamber. Their facilities include a chamber complex that can simulate offshore diving down to 385 m, a chamber suitable for pressure testing equipment, a large quay area, a pool for equipment testing, human experiments, and diving training, and a test well. They offer an annual diving seminar, ROV and ALST courses, and publish a magazine and various reports.

— Adapted from information on NUI's website: <http://www.nui.no/EN/Home>.

Sanofi-Aventis Signs Collaboration Agreement

Sanofi-Aventis has announced the launch of the dScreen Consortium, a research initiative conducted with RainDance Technologies, Inc., Lexington, MA, and Louis Pasteur University, Strasbourg, France, to develop the next generation of high-throughput screening (HTS) for drug discovery applications. The consortium was founded with the assistance of the Alsace BioValley™ Cluster, France, which helped secure financing and support for the program.

Based in the Alsace BioValley in Strasbourg, the consortium will utilize the pico-liter volumes and ultra-high speed capabilities of RainDance's technology and systems to achieve breakthrough performance in high-throughput drug screening methodologies. The aim is to develop a digital microfluidic system for quantitative HTS of bio-active compounds using purified targets and cell-based assays. The very high throughput will enable the measurement of dose/response curves for

every compound in a chemical library. The second objective is to develop a new system for compound storage in which each compound will be stored into droplets using a microfluidic device.

— Adapted from a press release at http://en.sanofi-aventis.com/binaries/080926_DSCREEN_EN_tcm28-21663.pdf

ALPA Seeks to Prevent Serious Runway Incursions

Capt. John Prater, president of the Air Line Pilots Association, Int'l, challenged both government and industry to establish a goal of zero serious runway incursions involving commercial airliners in his testimony in September before the U.S. House of Representatives Transportation and Infrastructure Subcommittee on Aviation. Prater discussed solutions involving procedures and training, as well as new technologies, highlighting action items that government and airline industry stakeholders should take to improve the safety of the traveling public. These solutions include better markings and signage at the nation's airports, standardized operating procedures, and standardized phraseology consistent with that of the International Civil Aviation Organization.

— For more information on this, please see www.alpa.org/DesktopModules/ALPA_Documents/ALPA_DocumentsView.aspx?itemid=16180&ModuleId=12567&TabId=73

Data from Axiom's DRX9000 Presented at ACSMS

Clinical data using the DRX9000 True Non-Surgical Spinal Decompression System™ was presented at the 2008 ACSMS (ASICS Conference of Science and Medicine in Sport) in Hamilton Island, Australia, in October. This study was designed to evaluate the effectiveness and safety of the DRX9000 in treating chronic lower back pain. A greater than 50% reduction in pain score was observed after 2 weeks of treatment and upon completion of the entire 6-week protocol an amazing success rate of 88.9% was documented. The second study was on retrospective data, which included lumbar spine CT scans before and after patients were treated on the DRX9000, which demonstrates possible morphological changes associated with treatment.

— For more information on these studies, please visit <http://axiomworldwide.com/PressReleaseDetails.aspx?id=63>

Japan Airlines Launches Interactive Map of Tokyo

Japan Airlines (JAL) has launched a JAL Map of Tokyo on nearly all of the English-language country/region sites of www.jal.com. The JAL Map of Tokyo is a useful interactive tourist map of Japan's vibrant capital city. It is the first time JAL has launched an English version of JAL Map.

JAL Map comprises a total of 10 maps,

including bird's eye views of central Tokyo and the surrounding area, plus more detailed maps of the major tourist areas of the city, from Akasaka to Ueno. The easy-to-use site contains a wide selection of regularly updated information on Tokyo shopping, dining, hotels, and sightseeing.

The Japanese version of JAL Map was launched on www.jal.com on March 2007. JAL Maps have now been created for some 34 individual cities worldwide, providing Japanese travelers with a useful source of information for these destinations. In 2007, JAL won Japan's coveted Good Design Award in the category of communication design for JAL Map's groundbreaking design.

— Adapted from a press release at <http://press.jal.co.jp/en/release/200810/001027.html>

MedAire Hosts Workshops at Safety Standdown

"Hands-on" took on new meaning in October at the 2008 Bombardier Safety Standdown in Kansas City, MO, especially for those attendees who selected the safety workshops being provided by international remote medical care provider MedAire Inc. Invited to participate for the second consecutive year, MedAire encouraged learners to "practice-by-doing" in the three workshops its medical personnel hosted. Students used a portable Mini-Anne Learning Manikin, operated actual remote medical monitoring devices, and used real suturing and splinting supplies.

The Safety Standdown, co-sponsored by the National Business Aviation Association (NBAA), the Federal Aviation Administration (FAA), and the National Transportation Safety Board, also included a 3-day general session highlighting speakers from the FAA, NBAA, and NASA, among others. Leading physicians, academicians, and executives also shared health and safety insights.

— Adapted from news about MedAire found at <http://www.medaire.com/Bombardierstanddown.asp>

Wyle Assists DB Consulting Group

Wyle is a major part of a subcontractor team that is assisting DB Consulting Group, Inc., on a follow-on contract to perform a variety of tasks, including computer science, computer and software engineering, security, networking, application development, and web services at NASA's Glenn Research Center. It is called the Professional, Administrative, Computational, and Engineering Services (PACE III) contract. The total value of the indefinite delivery, indefinite quantity contract, including a 3-yr base period of performance and one 2-yr option, is approximately \$88 million.

— Adapted from a press release at <http://www.wylelabs.com/news/2008/09-19.html>

Please visit www.asma.org/journal/html_news/corporate_news.php for more News of Corporate Members.

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

Malcolm M. Cohen, Ph.D., Sunnyvale, CA, received the 2008 Jeffries Aerospace Medicine and Life Sciences Research Award from the



American Institute of Aeronautics and Astronautics (AIAA) on July 2, 2008. The Jeffries award is named after the American physician who made the earliest recorded scientific observations from the air, and is presented "for outstanding research accomplishments in aerospace medicine and space life sciences." The citation on the award reads: "presented to Malcolm M. Cohen for outstanding work for the aeronautical medical community in developing, implementing, and assessing countermeasures to physiological and psychological effects of all aspects of space travel." Dr. Cohen "retired" from his job as Chief of Human Information Processing Research at NASA-Ames in October, 2005 (nearly 3 years ago, and after more than 43 years of working for the government), but he has still tried to keep active in the field, and has been doing some private consulting, and some unpaid advising for NASA-Ames.

Shepard B. Stone, MPS, PA, FAHA, DFAAPA, was recently appointed Deputy Commander of the Connecticut Army National Guard (CTARNG) Medical Detachment and promoted to Colonel. He still serves as the CTARNG State Aviation Medicine Officer. His non-military position is that of Associate Clinical Professor of Anesthesiology at Yale University School of Medicine and Physician Associate-Anesthesiologist at Yale-New Haven Hospital.

LTC Eric Olins, MS, USA, has been reassigned from the United States Army School of Aviation Medicine (Fort Rucker, AL), where he was an instructor, Assistant Dean, and then Dean, to Fort Monmouth, NJ. His current position is Commander, Patterson Army Health Clinic.

AsMA Future Meetings

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

May 9-13, 2010
 Sheraton Hotel
 Phoenix, AZ

May 8-12, 2011
 Egan Convention Center
 Anchorage, AK

Daniel K. Berry, D.O., Ph.D., Overland Park, KS, recently retired from the U.S. Air Force after 28.5 years of service. Dr. Berry completed his final assignment as the Joint Project Manager for Biological Defense at the Edgewood Area of the Aberdeen Proving Ground. Dr. Berry is now the Deputy Regional Flight Surgeon for the Central States Region of the Federal Aviation Administration in Kansas City, MO. He may be reached at daniel.berry@faa.gov.

Focus on Member: President Bush Recognizes Eileen Hadbavny for Dedication to Volunteer Service

President George W. Bush presented the President's Volunteer Service Award to Eileen Hadbavny in Charleston, SC, on Friday, October 10, 2008. Hadbavny is a volunteer with the Carolina Lowcountry Chapter of the American Red Cross. To thank them for making a difference in the lives of others, President Bush honors a local volunteer when he travels throughout the United States. He has met with more than 650 volunteers, like Hadbavny, since March 2002.

Hadbavny has been an American Red Cross Volunteer for 20 years both in the Montgomery-Floyd Chapter in Blacksburg, Virginia, and since 2003 in the Carolina Lowcountry Chapter where she has logged more than 7,000 volunteer hours. Hadbavny is a nationally registered American Red Cross nurse and serves as the Chapter Health Services Lead where she ensures volunteers are properly trained in Disaster Health Services. She serves as the Health Services Representative for the Disaster Action Team and is on emergency call year-round. In addition, Hadbavny is the Chairman of the Services to the Armed Forces and International Services Committee and provides annual deployment and hurricane brief-



Eileen Hadbavny receives Volunteer Service Award from President Bush.

ings to military members and their families. In recognition of her volunteer service, Hadbavny has received the American Red Cross Clara Barton Award for Meritorious Volunteer Leadership, the International Services Volunteer Award, and the Armed Forces Emergency Services-International Service Award.

For more information, visit www.presidentialserviceawards.gov.

New Members

- Alabi, Michael Abayomi, Oyo, Nigeria
- Cheong, Siew Meng, M.B.B.S., Singapore
- Fox, Amanda F., MSED, Chesapeake, VA
- Goodchap, Rebecca M., R.N., Graveville, Australia
- Hayes, Andrew M., LT, MSC, USN, California, MD
- Hewak, William J., M.P.H., Varsity Lakes, Australia
- Issa, Islam, M.D., Jeddah, Saudi Arabia
- Millhouse, Christine M., Maj., USAF, MC, Roseville, CA
- Ourfali, Osama, M.D., Jeddah, Saudi Arabia
- Rettig, Charles P., B.S., Beverly Hills, CA
- Wax, Randy S., M.D., M.Ed., FRCPC, Toronto, Ontario, Canada

IAMFSP Scholarship

The International Association of Military Flight Surgeon Pilots, IAMFSP, is pleased to announce a \$500.00 (US) scholarship available to a student in the medical sciences for the purpose of attending the May 2009 AsMA Scientific Meeting in Los Angeles. Students eligible include Masters, or Doctorate candidates in the medical sciences. The Scholarship is intended to defray the cost of attending the AsMA annual Scientific Meeting. Interested candidates should send a letter describing their interest in the scholarship and why they would be the best candidate (250 words or less).

Please include school status, and interest in aerospace medicine / human flight performance / pilot-physician issues. The scholarship will be presented in person at the Tuesday Night 2009 business meeting of the IAMFSP in Los Angeles. Should the primary selectee not be able to attend the AsMA convention, the Scholarship will pass to an alternate that is attending. Send applications (postmark) no later than 31 January 2009 to:

IAMFSP Scholarship Fund
 C/O Kris Belland
 5910 Osceola Rd
 Bethesda, MD 20816

INDEX TO ADVERTISERS

Aerospace Medical Association

- Corporate Membersii
- Information for AuthorsCover III
- ETCCover IV