

President's Page

Xian Perspectives

Dr. Bellenkes has invited our Executive Director, Dr. Russell Rayman to write this month's column.

As your Executive Director, it has been an honor and privilege to represent AsMA as an invited speaker at various professional meetings at home and abroad. These have been very interesting, rewarding and, I might add, enjoyable experiences afforded me over the past 17 years. These meetings are usually regional, drawing a much smaller attendance than our AsMA Annual Scientific Meetings. But I have found that smaller meetings have certain advantages in that they are intimate and warm, offering closer encounters with colleagues not infrequently leading to long term professional and social bonding. Such was my experience at the 6th Asia Pacific Congress of Aerospace Medicine held in Xian, China's most historic city, from August 24 – 28, 2008.

The Congress convened 3 days after the conclusion of the Olympic Games with approximately 150 individuals in attendance coming from Asia, Europe, and North America. Although there was a sizable presence of Chinese physicians and scientists from a number of aerospace medicine institutions, many more would have been in attendance if the military had not been on full alert to ensure security during the Olympics and for several weeks after.

I have had the opportunity to visit China several times since 1987. The changes over the past 20 years have been stunning. The cities were unrecognizable and the vibrancy of a society on the move was palpable. What particularly struck me was the enhanced proficiency in English of our Chinese colleagues. When I made my presentations in the past, an interpreter was required. This time, I was told, everybody understands English. This was borne by the follow-on questions and discussion as well as informal exchanges during the breaks.

Attendees had the opportunity to speak with Chinese colleagues engaged in civil and military aviation medicine and space medicine. The aerospace medicine community is very robust with large institutions and several thousand flight surgeons and AMEs. They look forward to furthering cooperation and information exchange with other countries. In this vein, I've discussed possible affiliation with AsMA which will be explored in the coming months.

There were a number of interesting aerospace medicine presentations, several of which struck me in particular. It was clear to me that artificial gravity is a major subject of research in their space medicine program. As their space program continues to mature, I expect we



Andrew H. Bellenkes, Ph.D.

will hear much more of this. There was also emphasis on the use of traditional Chinese medicine and alternative medicine as possible countermeasures. For example, one presenter spoke of minimizing muscle atrophy by applying vibration to the soles of the feet. It was clear to me that the Chinese space program is of a great importance and enjoys government support.

Another interesting paper dealt with a new treatment modality for osteoarthritis. The presenter described an instrument that enhances chondrocyte growth in affected joints. With MRIs, he was able to demonstrate that badly diseased joints post treatment showed considerable healing thereby obviating the need for arthroscopic surgery or joint replacement. However, follow up was only for some months. Consequently, it will take some time, perhaps years, to fully evaluate this treatment for its efficacy.

During the breaks and at several meal functions, there was adequate time to forge relationships and simply to chat informally. One older gentleman that I've known for some time was of particular interest to me as he was with Mao during the Long March in the 1930s. I felt I was sitting next to Chinese history.

The Chinese Society of Aerospace Medicine is a large organization sponsoring meetings and publishing a journal. (AsMA has a journal exchange agreement with the Chinese Society.) It also enjoys the full support of the Chinese Medical Association. To my knowledge there are only four countries worldwide that recognize aerospace medicine as a stand-alone specialty. China is one of them.

The Congress was most successful underwritten by excellent papers, the superb hospitality of our Chinese hosts, and the opportunity to see a little bit of Xian, in particular the famed Terracotta Army. It is very important for AsMA to be represented at meetings such as this Congress. I sincerely hope that our future leaders will sustain our international presence.

Association News

Don't Stop Exercising

According to Paul Williams of Lawrence Berkeley National Laboratory, in Berkeley, CA, the consequences of quitting exercise may be greater than previously thought. The researcher at Life Sciences Division of the Department of Energy's lab determined that the weight gained during an exercise hiatus can be very difficult to lose when exercise is resumed.

Williams found that the key to staying trim is to remain active year-round, year after year, and to avoid seasonal and irregular exercise patterns. While dieting may produce more weight loss than exercise, caloric intake and body weight may be self-regulating in active individuals.

So, avoid start-stop exercise patterns and, most important of all, don't quit exercising. An ounce of prevention is truly worth a pound of cure!

The study, 'Asymmetric Weight Gain and Loss from Increasing and Decreasing Exercise,' is published in *Med Sci Sports Exerc* 2008; 40:296-302.

More info: Paul Williams, ptwilliams@lbl.gov

Coming Soon: Self-Guided, Computer-Based Depression Treatment

by Brad Thomas

HOUSTON – (Sept. 24, 2008) – Self-guided treatment for depression could soon be only a mouse click away. Scientists with the National Space Biomedical Research Institute (NSBRI) are developing an interactive, multi-media program that will assist astronauts in recognizing and effectively managing depression

and other psychosocial problems, which can pose a substantial threat to crew safety and mission operations during long-duration spaceflights. Even though the depression treatment is under development for NASA, project leader Dr. James Carreine said it could be spun off for use on Earth.

"This project has great potential as a self-guided treatment for many people," said Carreine, a member of NSBRI's Neurobehavioral and Psychosocial Factors Team. "Depression is the number one cause of disability days in the United States, but it's not only about days lost. Depression also results in presenteeism - showing up for work but not really working."

The depression treatment is part of the Virtual Space Station, a multi-media program that addresses multiple types of potential psychosocial problems and can be used for training before, and for assistance during, missions. Other problems being addressed via the Virtual Space Station include interpersonal conflict, and stress and anxiety. Carreine, a Harvard Medical School research psychologist based in the Division of Clinical Informatics at Beth Israel Deaconess Medical Center in Boston, said the Virtual Space Station will make effective therapeutic depression treatment more easily accessible to astronauts aboard the International Space Station and proposed missions to the moon and Mars. Currently, astronauts have audio and video access to psychologists only when communication links are available.

Project co-investigator, former astronaut and AsMA member, Dr. Jay Buckley, said long-duration spaceflight can be tough on astronauts. "While astronauts are not particularly prone to psychological problems, the environment is very demanding," Buckley said. "On a mission, they face a

lot of challenges that could lead to depression."

Buckley, a professor and physician at Dartmouth Medical School, said the depression module and other aspects of the Virtual Space Station are based upon proven methods. "These are unique NSBRI products that did not exist before," Buckley said. "The Virtual Space Station is based on proven treatment programs and is a very helpful way to work on problems in general."

The system's multi-media approach for depression includes graphics and video featuring a psychologist who leads the user through a straightforward process called Problem-Solving Treatment. The system provides feedback based upon the information provided when answering a series of questions.

The first step of the process is to make a problem list and select a problem on which to work. The second and third steps are setting goals and brainstorming ways to reach them. The final two steps are assessing the pros and cons of possible solutions and making an action plan to implement them. The program also helps users plan and schedule enjoyable activities, which people who have depression often stop doing. Additionally, the program provides preventative and educational information on depression.

Carreine and Buckley, who received input from 29 current and former astronauts while designing the Virtual Space Station, said some of the system's other benefits include its portability and privacy. "It can be delivered to the International Space Station on a flash drive and run directly from that drive, so that the astronaut has complete control over his or her data," Carreine said. "The system is private and secure. The user is the only one who can share the information with others."

Eventually, the researchers want to adapt the system for use in many different settings, giving people access to treatment they may not have now. For instance, people with depression often seek treatment by going to their primary care physician, so the researchers hope to adapt it for use at the doctor's office or in a person's home.

The system could also be beneficial in rural areas where clinical help is in short supply or nonexistent. Other possible locations for use include schools, social service offices, places of worship, military bases, prisons, commercial ships, oil rigs and underwater research stations.

The self-guided treatment project is part of the NSBRI Neurobehavioral and Psychosocial Factors Team portfolio, which includes studies on and development of countermeasures for stress, anxiety, interpersonal conflict and fatigue.

NSBRI, funded by NASA, is a consortium of institutions studying the health risks related to long-duration spaceflight. The Institute's science, technology and education projects take place at more than 60 institutions across the United States.

Info: Brad Thomas, Senior Communications Specialist, NSBRI; rbthomas@bcm.edu

MEETINGS CALENDAR 2008-2009

November 13-14, 2008; European Conference on Aerospace Medicine; Budapest, Hungary. Info: www.esam.aero; Contact: HBL Travel Ltd., 1092 Budapest, Erkel u. 13/a.; (+36-1) 299 0686; Fax: (+36-1) 299-0685; E-mail: incoming@hbl.t-online.hu

November 20-22, 2008; 2nd International Conference on Air Travel and Health; Dead Sea, Israel. Info: www.palexconventional.co.il/ath2008; ath2008@palex.co.il

November 26-27, 2008; 21st Century Medicine: Breakthroughs and Challenges; Royal Institute of British Architects, London, UK. For more information or to register, please see the Institute of Nanotechnology's conference flyer: www.nano.org.uk/nanomednet/images/stories/flyers/ion_conference_flyer.pdf.

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

o **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

This Month in Aerospace Medicine History-- November 2008

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

Two Hundred Twenty-Five Years Ago

Physician and army involved in first manned free flight: The first untethered, manned balloon flight was made on November 21, 1783 by French physician Jean-François Pilâtre de Rozier and French army officer Marquis d'Arlandes. The flight reached an altitude of 3,000 feet, lasted 25 minutes and flew approximately 7 miles on the outskirts of Paris. The balloon was designed by Jacques and Joseph Montgolfier of Annonay, France, who had previously flown a tethered manned balloon flight in October, preceded by an untethered balloon in September "manned" by a sheep, a duck, and a rooster (3, 4).

Seventy-five Years Ago

Selection for extreme professions based upon breathing (Boise, ID): "In the performance of routine basal metabolic determinations certain observations were made and these led to interesting questions. Why do some people under basal conditions breathe rapidly, 22 to 24 times per minute, while others breathe slowly, from 8 to 10 times per minute? Why do some people breathe very deeply and others very shallow? Do all people absorb the same amount of oxygen from that which they respire? These and other questions, while not fully answered, led to the work presented in this paper.

"It was found that under basal conditions all people do not breathe the same... It is usually considered that the average rate of respiration is 16 to 18 times per minute. However, there are wide variations in the respiratory rate of different people, as can be noticed on basal metabolic charts. It is also observed that there are wide variations in respiratory amplitude.

"From previous physiological experiments it was found that persons absorbed on an average of 4.9 per cent of oxygen from the air which they breathed...

"These older methods were approximate estimations based on direct chemical analysis of expired air. They included such average figures as, the capacity of the bronchial tree 140 c.c., the normal expiration 500 c.c., the alveolar air 360 c.c., etc. These methods while interesting were time consuming, expensive and impractical.

"A mathematical evaluation of the respiratory rate, the respiratory amplitude, and the oxygen absorbed, has produced the results set forth in this paper...

"The Oxygen Absorbing Power seems to be characteristic of the individual. When this work was begun it was thought that the Oxygen Absorbing Power might vary in the same person from time to time. If this were the case the Oxygen Absorbing Power would have little or no meaning. Repetition of the test on the same individual, days or weeks apart, gave similar results at each test...

"No significant number of any particular disease conditions has been studied yet in correlation with the Oxygen Absorbing Power. It would be interesting to make such a study in such diseases as pulmonary tuberculosis, obesity, diabetes, the anemias, cardiac disease, etc....

"It was surprising to find that the average Oxygen Absorbing Power of the age group 18 to 30 was slightly lower than that for the age group above 30. It indicated that there was no general correlation between Oxygen Absorbing Power and age...

"Oxygen Absorbing Power would seem to be of practical importance in the examination, study and selection of aviators, athletes, divers and perhaps other special groups of people" (5).

Fifty Years Ago

Effects of space travel on humans (Soviet Air Force Scientific Research Experimental Institute of Aviation Medicine, Moscow): "Scientific research work investigating the effect of space flight upon living organisms has been carried on in the Soviet Union since 1949. Penetration of the upper air layers by animals is achieved with the help of rockets.

"The first thing was to place the animals in specially equipped and hermetically-sealed cabins which were supplied with an air-conditioning system allowing to keep up the gas composition of the air, the temperature, and humidity at the required level so as to make the normal vital activity of the organism possible. The air conditioning system created the necessary conditions for the life of two days during three hours under observation. The rocket flew at a height of 100-210 kilometers (62-130 miles). In the course of the flight the hermetically-sealed cabin separated itself from the rocket and regained the earth with the help of a parachute bringing back the animals.

"Special instruments and apparatus enabled the scientists to register the animals' breathing, blood pressure, biological electric currents and temperature just before the start, and during the actual space flight and the parachute flight. They could also register all the changes in pressure and temperature of the air in the cabin, and the acceleration.

"The analysis of the data collected points to the fact that the conditions existing at the height of 100-200 km. make life possible. There are hardly any considerable changes at all in the living organisms, which could be regarded as the result of acceleration, when the rocket was started or when the parachute reached the dense air layers. The effect of the inevitable absence of gravity to which the animals were subjected for from 3 to 6 minutes was almost imperceptible and their condition was quite satisfactory. Some animals travelled [sic] twice into space, but as in the previous case they showed no perceptible change in their behavior or general condition, neither immediately after the flight nor at any time later during observations in the laboratory. The results of the investigation showed that, provided all the physiological requirements for flight were observed, the space flight itself held no danger or harm for the life and health of the animal...

"It was impossible to arrive at a final conclusion on the effect of cosmic radiations on the animal, since no direct indication of its physiological influence was discovered. The positive results of these experiments are encouraging for future research geared to protect the life and health of man in space flights" (2).

Twenty-five Years Ago

Cardiovascular findings in Space Shuttle flights (Medical Research Branch, NASA-Johnson Space Center, Houston, TX): "During the first four flights of the space shuttle, cardiovascular data were obtained on each crewmember as

part of the operational medicine requirements for crew health and safety. From monitoring blood pressure and electrocardiographic data, it was possible to estimate the degree of deconditioning imposed by exposure to the microgravity environment. For this purpose, a quantitative cardiovascular index of deconditioning (CID) was derived to aid the clinician in his assessment. Isotonic saline was then investigated as a countermeasure against orthostatic intolerance and found to be effective in partially reversing the hemodynamic consequences. It was observed that the space flight environment of reentry might potentially be arrhythmogenic in at least one individual...

"In summary, the OFT series has provided evidence of cardiovascular deconditioning reflected in changes in heart rate and blood pressure both at rest and in response to orthostatic provocation. Universally, crewmembers react with higher heart rate responses after deconditioning. Nevertheless, there appear to be two categories of blood pressure response. One group responds as a rigid pipe with decreases in systolic and diastolic pressure upon orthostatic stress. A second group responds with increases in diastolic pressure, and in at least one instance, to hypertensive levels. These vascular hyperresponders appear to have had their cardiovascular controlling mechanisms reset during the weightless period as well as having experienced the usual in-flight diuresis and volume depletion.

"Additionally, in one astronaut, previously noted ventricular ectopic activity was exacerbated. Whether this was a result of the release of catecholamine stimulation from intense psychological input, thermal stress, respiratory factors, or any of a host of other explanations, can only be a matter of speculation with the available data.

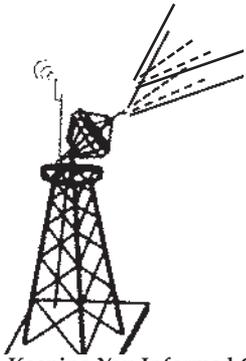
"Continued research into the volume shifts and neural-hormonal control of cardiovascular function should provide the knowledge needed to counter the deleterious effects of space flight deconditioning and to understand its physiology, along with understanding its earth based analog, bed rest. Eventually, investigation into the primary structure of the myocardium and microvascular tissue pressures as they relate to the weightless state will be necessary to understand the long-term consequences of space travel" (1).

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(703)739-2240, x 107; skildall@asma.org



Science & Technology Watch

Keeping You Informed Of The Latest Advances In Science And Technology

In this edition of the Watch we're given a brief review of some of the alternatives to traditional aviation fuels that can contribute to the reduction in the level of global greenhouse gases over the next few decades.

Facts About Bio-Fueling In Commercial Aviation

Felix Porras, M.D., International Aeromedical Advisory, San Jose del Cabo, Baja California Sur, Mexico

Given the increasing interest and concern about fuel production, oil costs, ecological damage, etc., the ASMA Science and Technology Committee asked Dr. Porras to provide a summary of the current status and level of feasibility of several mid- and far-term concepts to address these issues (5).

The first and most universal perspective is that the amount of oil in the Earth is limited. Scientists from all over the world are convinced that at some point in the following decades oil availability will gradually come to zero, as indicated by the Association for the Study of Peak Oil and Gas in 2006 (4).

An important consideration is the need to change the properties of the fuel burned by airplanes in such a way that it will not damage the atmosphere and contribute to warming of the planet by producing greenhouse gases and harmful levels of CO₂.

From a technical standpoint we have to analyze two different things. First is the objective to decrease or almost eliminate the carbon from any kind of aviation fuels. Second is the timing for the transition to these new clean energy sources for the long term. This will lead to the use of a synthetic blend substitute fuel usable in current aircraft, and the definite design of a zero carbon type of fuel, likely to be on the market sometime around 2050.

But why is there an interest in decreasing the amount of carbon from aviation fuel if aviation produces far less carbon as compared with motor vehicles all over the world?

Perhaps it is because most of the CO₂ emitted by aviation goes directly into the upper atmosphere. This becomes of greater concern to ecologists when one considers the prognosis for the growth of aviation over the next 50 years forecasting a significant increase in such emissions (5).

Mid-Term Solutions

Thinking in terms of the next 50 years, key indicators project that synthetic jet fuel will be the most feasible approach. This alternative, which performs equally well as conventional

fuel and has zero sulfur, also has the great advantage of such properties as the ability to keep low viscosity at low temperatures (2).

Blending bio-fuels with synthetic fuels is part of the mid-term solution, in the light of three disadvantageous features of pure bio-fuel (6): 1. it becomes unstable when stored for long periods; 2. it freezes at average cruise temperatures; 3. it has a poor thermal stability at high temperatures.

There are some other important considerations to be made about bio-fuel projects: 1. the physical volume of fuel must be suitable to be carried in the aircraft; 2. the "carbon lifecycle" must be accounted for--this is the amount of CO₂ during production and burning of the bio-fuel minus the amount absorbed by the biomass feedstock (8); 3. the production of sulfur; 4. the extension of the land and biomass used to produce the bio-fuel should not affect the production of food consumed by human beings (7).

Other Choices

There are good alternative organic sources for fuel production, which provide an interim solution. These include wood and nuts of plants like the Barbados nut and Babassu oil (extracted from the seeds of the babassu palm). Each grows well in arid areas unsuitable for conventional farming and the Barbados nut is poisonous (1).

There are also some projects that consider the use of algae to produce the bio-fuel, and may become the optimum solution to aviation's fuel needs. A number of basic problems need to be addressed under this solution, such as ensuring that enough light gets to every part of an algae tank to enable all the cells to grow properly and drying algae cells sufficiently to enable the oil they contain to be extracted and processed into jet fuel.

The largest aircraft manufacturers are confident that these problems can be solved, and the benefits that algae offer as a "third-generation bio-fuel" are enormous. Algae can produce an oil yield 15 times that of second-generation bio-fuel plants. The world's entire airliner fleet could be powered from a cultivated area just the size of West Virginia or Belgium (1).

Another interesting factor is that algae can be grown in tanks anywhere around the world. Facilities producing jet fuel from coal or natural gas using the Fischer-Tropsch process, a "coal-to-liquid" or "gas-to-liquid" methodology, generate large amounts of CO₂ as a waste product. If this generated CO₂ is piped off into a bio-fuel producing algae farm sited next to it, the two forms of fuel production together could create an efficient, carbon-neutral sustainable jet fuel production facility (1).

Long-Term Solutions

The actions taken in the long-term will be focused on reducing carbon emissions and greenhouse gases. For this particular purpose alternate fuels with low to zero carbon content, such as liquid hydrogen or liquid methane, might be used (3).

To use liquid, cryogenic fuels in aircraft engines, modifications are necessary to the combustor and fuel system components. Early tests with cryogenically stored fuels demonstrated that a heat exchanger will be required for vaporizing the fuel prior to combustion.

Compromises are necessary to the airframe to address fuel tank insulation requirements and pressure issues. The need for heavy insu-

lated fuel tanks would result in a decrease in the aircraft's energy efficiency on short range flights. On the other hand, vast quantities of methane currently trapped in the form of methane hydrates could become readily available in the future.

Either of these new aircraft fuels will require an enormous change in infrastructure and engine-airplane design. This will also require new logistical approaches, including mechanical maintenance, fueling procedures at the airports, loading of luggage and even taxiing and parking procedures.

Whichever solutions prove the most sustainable and cost effective to implement, the result will usher in a new era of aviation.

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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 two ASMA News links under Journal.

Send information for publication on this page to:

Kim Barber
flygrl141@woh.rr.com

The Future is not what it used to be....in the Aerospace Nursing Society!

Indeed, the Aerospace Nursing Society (ANS) has come a long way... We have moved away from the long time perception of a military association only. While giving its deserved credit to flight nursing being born from military operations, the ANS was composed predominantly of United States Air Force members, a few U.S. Navy members and a few international military "guests". In the recent years, we have seen many more civilians and military alike getting involved with the ANS, making it a dynamic group to belong to.

I was assigned to an exchange duty at Scott AFB when I attended my first AsMA meeting in 1992. I loved it! We spoke the same language: the love for the work we did, the missions we flew, and the experiences we lived. During my presentation in San Antonio, I could see the heads of the attendees nodding in agreement to what I was saying ... and I felt an immediate kinship to the ANS attendees of that year. Later on, while employed as an instructor at the Canadian Flight School, I learned about our differences in loading patients on CC-130s, and brought back home some valuable information and tips that I gleaned from various AsMA presentations that year. I have gained so much in sharing our Canadian experience at the annual meetings. Like many, I have learned why some AE systems worked the way they did and why those differences existed. When I coached colleagues from Australia and the UK to present at AsMA meetings, they shared their experiences in lively presentations. I can honestly say these meetings

have translated into a valuable networking experience for many of us... It has shaped my military career and continues to influence my civilian life today.

Over the last decade, the world of military operations has deeply changed. Multinational Cooperation as become the norm as countries can no longer meet their operational objectives alone. Simultaneously, the international participation at annual AsMA meetings has increased as more participants have sought to come and share their lessons learned and gain from the wealth of experience found at AsMA.

New countries have also joined in the international arena of operations. Some of these countries have grown since their first attendance to AsMA. Some are still learning and developing. Naturally, this has also brought a greater civilian participation to AsMA, for many civilians are working hand in hand with their national services. However, in spite of the increased international participation to yearly AsMA meetings, the ANS is not seeing its equal share of international participants, thus my appeal to you today...

The ANS is preparing for the 80th Annual Scientific meeting of AsMA next year. We are seeking more international military and civilian participation at our meetings. With the increase of civilian relief and multinational operations that the world is witnessing, there is much to learn from each other. While emphasis should remain on the scientific process and the exchange of operational information, thought-provoking presentations sharing the ever im-

portant lessons-learned (and universally compiled in each and every country) is equally important to the ANS.

As many may have read in previous AsMA journals, your ANS has a new team, comprised of military and civilians, national and international members. We need your support to rally more participants to attend our annual meeting. We need your support in facilitating the attendance of those who are at the fore-front of their operations and those who have much to share with us.

You will see...the future is not what it used to be....in the Aerospace Nursing Society. By promoting a broader attendance, will we shape a better future for us all.

Christine Cloutier
RN, BScN, LCdr(Ret) Cdn Forces
Aerospace Nursing Society Secretary

Should you wish to obtain more information about the Aerospace Nursing Society, please contact us at: ANS2008@ymail.com

Join the Aerospace Nurses Society Today!

Dues are just \$10 (\$5 allied health professionals). For further information, contact:
Diane Fletcher, ANS Treasurer
4042 Stonewall Lane
Shiloh, IL 62221
Work: (618) 206-8467
Home: (618) 830-4581
diane.fletcher-02@scott.af.mil
Fletcher4echarter.net

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 2009 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 and award descriptions 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 nonmembers.
2. Employees of a company sponsoring an award are eligible to receive the award.
 - 2a. Self nomination is not allowed.
 - 2b. 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 to Ms Gisselle Vargas at AsMA Headquarters (gvargas@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.

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

Russell B. Rayman, M.D., AsMA's Executive Director, was the invited keynote speaker at the 6th Asia Pacific Congress of Aerospace Medicine held in Xian, China August 25 – 28, 2008. At the conclusion of the Congress, he was awarded a special citation in recognition of significant contributions to international aerospace medicine.

CDR Edwin Y. Park, MC, USN, had recently transferred from Washington, DC, where he was a resident in the National Capital Consortium Neurology Residency Program (a combined Army & Navy program based out of the National Naval Medical Center and Walter Reed Army Medical Center), to the Naval Hospital Pensacola, FL, to be the staff Neurologist for the hospital. He will also be working closely with the Naval Aerospace Medical Institute (NAMI) here in Pensacola. He is board certified in Aerospace Medicine (Navy RAM class of 1999) and was the Command Surgeon for Naval Air Systems Command (NAVAIR) prior to entering the Neurology Residency. Additionally, he is the Vice President/President-Elect of the International Association of Military Flight Surgeon Pilots (IAMFSP). He has been selected for promotion to the rank of captain.

In Memoriam **Randall M. Falk**

Colonel Randall M. Falk, ANG, MC, died September 10, 2008, at the age of 54. Col. Falk was the Air Surgeon, Air National Guard Medical Services in Washington, DC, for 6



years until September 2006. He served as the Director, Medical Services on the staff of the Director of the Air National Guard. His responsibilities included coordinating medical policy, plans and programs for the Air National Guard. He was instrumental in

forging an alliance between the Air National Guard and the Aerospace Medical Association, whereby the Guard held their meeting in conjunction with AsMA's meeting for several years. It was always a pleasure to see Randy at the meetings.

Colonel Falk was commissioned in the Air National Guard in 1983 during his urology residency at Vanderbilt University. He received his M.D. degree from the University of Tennessee and his B.S. from Vanderbilt University. His active and traditional Guard and Air Force assignments have been focused on aerospace medicine, occupational medicine, and public health. In 1996, he became the first physician to complete the National Security Fellowship at John F. Kennedy School of Government, Harvard University. Most recently, he completed the U.S. Air Force's Residency in Aerospace Medicine (RAM) and

began examining the role of the ANG Medical Service in the Air Expeditionary Force (AEF), Homeland Security, and international health/humanitarian deployments. Colonel Falk was an Aviation Medical Examiner (AME) and a Chief Flight Surgeon with more than 500 hours in fighter, trainer, airlift and refueling aircraft. He began operation Top Knife to benefit Flight Surgeons.

(Taken from The Tennessean, September 13, 2008.)

New Members

Al-Momani, Tareq M., M.B., B.S., D.Av.Med., Amman, Jordan
 Avers, Katrina B., Ph.D., Yukon, OH
 Gaebler, Teresa S., BSN, Colorado Springs, CO
 Gonzalez, Herbert F., M.D., M.S., Tyler, TX
 Martin, Sidney N., COL, MC, ANG, Fenton, MI
 Pruett, Casey J., B.S., M.S., Cologne, Germany
 Ronghi, Iman F., O.D., Tehran, Iran
 Samsey, Kathleen, CPT, MC, USA, El Paseo, TX
 Sax, Jordan M., 2LT, MC, ANG, Burlington, VT
 Warddrip, Erin, 1LT., USAF, B.Sc., Yorktown, VA
 Wood, Jennifer, BSE, M.D., Honolulu, HI
 Yan, Wang, Beijing, China

Erratum

In the August issue, we incorrectly printed Dr. Barry Shender's e-mail address. Dr. Shender is chair of the Science and Technology Committee. He may be reached at barry.shender@navy.mil

IAMFSP Scholarship

The International Association of Military Flight Surgeon Pilots, IAMFSP, is pleased to announce it is offering 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. Any 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

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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

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