President's Page

AsMA has an outstanding leadership team, and I think it is appropriate that readers get a chance to hear other voices on the president's page. Without obligating future presidents, I have offered each of the current vice-presidents an opportunity to update AsMA membership on the many ongoing activities under their leadership. The following article is the second in this series.

Richard T. Jennings, M.D., M.S.

We Are The World

K. Jeffrey Myers, M.D.
Vice President for International Activities

Astronauts flying in space are frequently asked the question "What is it like?" No doubt they grow somewhat weary of being repeatedly asked to describe something which must defy words in all languages. I have observed several to comment that there are no clear boundaries between countries when looking down from an orbiting spacecraft. It is not like a map with colors and lines dividing the world into neat little polygons. It all just blends together. Indeed most countries are a mixture of cultures and ethnic backgrounds. AsMA reflects this 'real world' with members from over 60 different nations, and we continually strive to maintain this representation.

We have all heard it said that strength is in diversity. It seems to be true for everything from bacteria to investment portfolios. But it's not just biology and economics where diversity is important. It is a lesson for us as individuals, and a keystone to the foundation of successful organizations. The benefits extend to thoughts, ideas, techniques, skills, and more. The abilities to adapt to and evolve in a changing environment are just two that come to mind. These things will surely be of importance as we seek to explore our world and the universe beyond. Yet it remains up to us to make the most of this treasure trove of potential. We need your help! We need you to reconnect with your constituent and affiliate AsMA groups. For example, several of our International affiliates represent members from one country or another; other affiliates may represent a specific specialty or skill group. These bring out the flavor of our organization, but must be expressed in order to be appreciated. Join a committee and do some work on it. Recruit your colleagues to become members.

Chris Kleinsmith and Andy Bellenkes, current and former Chairs of the International Activities Committee, have been working to improve the global perspective of AsMA by recruiting more International members. There are also a number of group specialties which we represent as mentioned above. Warren Silberman, Chair of our Membership Committee, has been working for some time with the various groups represented on that Committee to increase their membership numbers. For example, Janet Sanner of the Aerospace Nursing Society has begun an initiative within her constituent organization. Similar renewed initiatives are in work for the Army, Navy, and Air Force Flight Surgeons. If your affiliate or constituent group is not yet a part of this effort, please contact Warren or me to get involved.

No discussion of the global perspective and membership of an organization could be complete without attention to the student population. We all remember the excitement of the time we first embarked upon our voyage of discovery into Aerospace Medicine. Perhaps our first flight on an airplane, or a similar experience years before, had sewn the seed of curiosity. We are, after all, a species of explorers! There are generations of explorers, each with its own challenges and accomplishments. It is always important to look forward to each next generation, even those still in training, for they will become the future. In today's world of multimedia glitz, it is difficult to compete for the attention of our youth. Yet we owe it to their future to open up this world of Aerospace Medicine for them to explore. How can we do this? By encouraging more students to join, by supporting the AsMA and the Jeffrey R. Davis Scholarships and current initiatives to fund the new AsMA Foundation, and other efforts by our Constituent and Affiliate organizations. By working to create more educational and research opportunities. By being mentors, teachers, instructors, and goodwill ambassadors spreading the word and helping the field grow. Remember that the most prized resource that AsMA has is YOU! Please help us help students entering this field.

It is indeed an honor to be serving you in this position. I very much look forward to hearing from you. I can be reached by e-mail at jeffrey.myers-1@ksc.nasa.gov, or by phone at 321-867-2025. Thank you for being a member, and thank you for helping AsMA grow!

This Month in Aerospace Medicine History--December 2006

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

Seventy-five Years Ago

Carbon monoxide poisoning in the cockpit (as presented by the Chief Flight Surgeon, Bureau of Medicine and Surgery, Navy Department at the third annual meeting at Hotel Muehlbach in Kansas City, MO): "As probably all of you recall, last year at Cleveland at the National Air Races, Captain Page of the Marine Corps, crashed in his racing airplane, and the medical authorities reported they found a small trace of carbon monoxide in his blood. The report was 0.47 of one per cent… Of course the doctor stated, in his opinion, that he thought the amount so low it played no practical part in the crash, and of course we believed that also because as a rule ten per cent saturation of the blood, even to a highly susceptible individual, is the minimum amount which will give any symptoms. However, this was a matter of great interest and because it was a Marine flier, it was up to the Navy to be able to answer some questions…

"On the face of it it looked rather farfetched, a man in an open plane, flying along, should suffer from the effects of carbon monoxide. Studied, on the other hand, from the viewpoint of aerodynamics, and so forth, and knowing the affinity of blood for CO over that of oxygen, it seemed a little more reasonable… [T]he Bureau of Aeronautics arranged to send up the first day eight different types of planes and they flew an average of about four hours…which gave us an average result of what will happen with these types of planes. We did find five types of planes which gave positive results of CO saturation of the blood of the observer and pilot, varying from five per cent to twenty per cent. The highest percentage obtained was twenty per cent saturation after a four hour flight. The other types of planes at that time were negative…

"In the meantime the Bureau of Medicine and Surgery in connection with the Mine Safety Appliances Company of Pittsburgh have developed a carbon monoxide indicator based on the catalytic principle, in which air is drawn through this indicator and any CO in the air is oxidized with the oxygen present into CO_2 and the resulting heating and expansion taking place, according to the concentration of CO, is recorded by a series of thermocouples in the catalytic agent, which are directly connected with the millivoltmeter scale or dial, thereby causing the needle to rise accordingly and very accurately register as low as 0.01 of one per cent of CO…

"Furthermore, with the Akron [dirigible] coming into commission now, a new departure has been established insofar as they are attempting to heat the ship by passing air over the exhaust manifolds of the two forward engines, which has never been done before in any of the dirigibles. So that brought up the problem of the possibility of CO. So, of course, we wanted to be on guard as to that, and with this same indicator we have finally developed an apparatus based on the same principle that we used in the portable type of indicator. The dirigible will have a permanent installation in each motor-compartment that furnishes the heat, and it will be so arranged in these compartments that if the CO gets as high a concentration as 0.01 of one per cent, it will cause a light to flash in the engine compartment, and a buzzer to sound in the control car, thereby giving notice to the officer on watch, and the engine man in the engine compartment, there is CO present, and he can, by turning a hand valve, discharge all fumes outside…

"…I want to stress the point at present, that we have found no percentage so far that has been of direct danger to any one, 20 per cent saturation of the blood being the highest in one case, and that as a rule will only give a headache, maybe a little nauseated feeling, and ten per cent as a rule is the minimum amount giving a highly susceptible individual any symptoms. As a rule, I think 15 per cent is the minimum percentage giving any symptoms" (4).

Importance of the cardiac examination in pilots (read at the third annual meeting at Hotel Muehlebach in Kansas City, MO): "The object of a heart examination is not only to determine the presence of a pathological lesion and the nature of such lesion, should its existence be discovered, but also to obtain information regarding the function of the heart muscle. In at least ninety per cent of all cardiac examinations the only requisites are the five senses and a certain amount of knowledge of the fundamental facts of heart disease. The prevailing tendency to substitute data produced by mechanical instruments for information obtained from the senses may seem progressive, but actually cannot be done.

"In a small percentage of cases, most of which are beyond middle life, the electrocardiagram [sic] is essential to the determination of the exact nature of a pathological lesion or of some obscure functional disturbance of the heart muscle. In addition, certain valuable information may be obtained with the use of the fluoroscope; however, I have seen more misinformation than aid come from orthodiagrams and teleoroentgenograms due to over-reliance upon these methods of examination because of lack of confidence in physical findings. Even the electrocardiagram [sic] yields no information regarding valvular lesions or disease of the pericardium and only little may be learned from it concerning the reserve power of the heart muscle. Opinion on such conditions must be based on an accurate history and physical examination; however, if forced to rely upon either alone I should much prefer a carefully detailed history.

"An accurate history is not only helpful in the interpretation of physical findings, but a knowledge of the cardiac response to effort is the best index to the amount of reserve power in the heart muscle. The sole evidence of a serious organic affection may be a subjective sensation. An example is angina pectoris, which can only be diagnosed from a definite and clear cut history of effort pain. In this fairly common and rather serious form of heart disease the physical examination and the electrocardiagram [sic] may be and usually are wholly negative. Another example is paroxysmal tachycardia which must be differentiated from attacks due to nervousness. A history of abruptness of onset and termination will usually differentiate the former from the latter. The significance of an apical systolic murmur may depend upon the past history of rheumatism or attacks of sore throat. Lightning pains and a lazy bladder may prove to be the clue to the cause of a diastolic murmur over the aortic cartilage… In many instances the history of weight loss has led to the diagnosis of a toxic goiter as the cause of cardiac arrhythmia. Age is always important Rheumatic heart disease is as rare in the aged as angina pectoris is in youth. Comparatively few patients have the first attack of rheumatic endocarditis after the age of twenty. Only rarely are the findings of mitral stenosis noted before the latter part of ht second decade…

"The most important part of a heart examination is the correct interpretation of findings obtained on *auscultation*. The diagnosis of valvular lesions, which accounts for about one-third of all cases of heart disease, depends solely upon this method of examination. The tendency of the novice or the inexperienced is to hear too much rather than too little. The examiner should always follow a definite system in auscultating" (1).

Fifty Years Ago

New medical problems courtesy of new aircraft (U.S. Air Force Aero Medical Laboratory, Wright-Patterson AFB, OH): "The jet age of aircraft design and the rocket age which promises to follow have brought entirely new problems to aviation medicine. These aircraft, flying at supersonic speeds, require longer time periods to complete even simple maneuvers. The ac-

See HISTORY on p. 1301

Articles of Aeromedical Interest

Here is the latest listing of journal articles published in other journals that may be of interest:

1. Managing passengers with respiratory disease planning air travel: British Thoracic Society recommendations. No author cited. Thorax 2002; 57:289–304.

2. Nakagawara VB, Wood KJ, Montgomery RW. New refractive surgery procedures and their implications for aviation safety. Oklahoma City, OK: Civil Aerospace Medical Institute, Federal Aviation Administration; April 2006. DOT/FAA/AM-06/9.

3. SchreijerAJM, Cannegieter SC, Meijers JCM, et al. Activation of coagulation system during air travel: a crossover study. Lancet 2006; 367:832–8.

HISTORY, from p. 1300

companying prolonged accelerations will create rapidly increasing demands on cardiovascular function and the nervous system. The problem of dealing with the ever growing demands on the human element within the weapons system assumes prime importance. One of two approaches must be selected. Man must either give way to electronic control systems, or the limits of his tolerance must be found and aircraft performance programmed to stay within his capabilities.

"This study was undertaken to determine human tolerance to prolonged accelerations. A few examples will show how greater aircraft speed has increased cardiovascular and nervous insults involved. At operational speeds prevalent during World War II, such as 300 mph, an aircraft could complete a 180° turn in fourteen seconds by pulling three *g*. Present day jet fighters traveling at 800 mph require thirty-eight seconds at three *g* to complete the same turn. It seems likely that aircraft in the foreseeable future will be capable of speeds of 2000 mph, or approximately Mach three. To make a 180° turn at this speed by pulling three *g* will take ninety-five seconds…

"Four of the five subjects experienced cardiac arrhythmias at higher *g*, and the fifth complained of substernal pain without EKG abnormality. All of the four subjects developing arrhythmias showed increasing myocardial irritability. Three had premature ventricular contractions and one had premature contractions of nodal or auricular origin. Two of the arrhythmias were felt to be serious in nature and the other two were certainly potentially serious, with the danger of ventricular tachycardia and fibrillation. We believe that it is likely that they differ only in degree. The two more serious arrhythmias occurred in the subject's experiencing the highest *g*, i.e., 5.6 and 5.4 *g*, respectively. The potentially serious arrhythmias occurred at 5.0 and 4.6 *g*. The one subject without EKG changes experienced substernal pain at 4.6*g*, but no others complained of chest or arm pain or untoward discomfort. It is therefore impossible to know subjectively when cardiac arrhythmias are imminent" (5).

Uses of the controllable human centrifuge (Aviation Medical Acceleration Laboratory, U.S. Naval Air Development Center, Johnsville, PA): "The human centrifuge in the Aviation Medical Laboratory consists of an enclosed gondola, mounted in a two-gimbal system at one end of the 50-foot long main arm… The incorporation of the gimbal system is a unique feature of this centrifuge and is used to control the direction of acceleration with respect to the subject. This feature may be utilized in the simulation of inflight acceleration with more accuracy than has heretofore been possible with the freely swinging platform type of centrifuge.

"In human centrifuge studies, by suspending the subject in a controllable double gimbal system, as compared to placing him on a freely swinging platform, the following beneficial results are derived:

"1. It is possible to vector out the tangential acceleration due to the angular acceleration of the centrifuge arm by proper movement of the inner gimbal, so that it is not felt as a transverse *g* component of the resultant *g*. The oculogyral illusions of the gondola tumbling are less unpleasant and less disorienting than the oculogravic illusions cause by the rotating resultant *g* vector on a nongimbaled centrifuge ride.

"2. The overshooting and oscillating of the freely swinging platform are practically eliminated by the tight control placed on the outer gimbal during its movement.

"3. The ability of the gimbals to operate singly or in combination allows for a great variety of jostling *g* patterns, typical of uncontrolled aircraft. These may be duplicated as often as necessary to gain a statistical evaluation of the tolerance of the average pilot under such conditions.

"4. Catapult *g* patterns may be partially reproduced by proper positioning of the gimbals. Valuable information for a preliminary study on the catapult can therefore be obtained prior to actual catapulting, under more precise control conditions and at a much reduced cost per run.

"5. The gimbal system may offer the means whereby a pilot, with the aid of suitable instrumentation, may actually control his own ride under various conditions" (2).

Space-equivalent cosmic radiation (U.S. Naval School of Aviation Medicine, Naval Air Station, Pensacola, Florida). "The experimental technique of exposing test animals in pressurized capsules to the primary cosmic radiation by means of balloons has improved to the point where an altitude level of 125,000 feet corresponding to 4 g/cm.^{2} can be maintained for a period of thirty hours. The technical details have been well described by Simons and Parks. At the aforenamed altitude, more than 99.5 per cent of the atmosphere is below the exposed specimens. One might conclude that, with less than one-half per cent of residual atmosphere left, space-equivalent conditions are very closely realized. That this conclusion is not cogent can be seen by *a priori* reasoning. An absorber layer of 4 g/cm.^{2} means 4 cm. thickness of tissue. If the primary cosmic ray beam contains a 'soft' component which will be markedly attenuated in that thickness, the depth dose in the human body and all the more in smaller test animals can be expected to be markedly different at varying altitudes within this residual air layer" (3).

Twenty-five Years Ago

The December 1981 issue of *Aviation, Space and Environmental Medicine* consisted of the society Constitution and By-Laws, a Directory of Members, a list of Constituent Associations and Affiliated Organizations, and information on other administration aspects of the society.

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1. Bohan PT. Heart examinations. J Aviation Med, 1931; 2(4):227-35.
2. Crosibe RJ. Directional control of accelerative forces in centrifuge by system of gimbals. J Aviation Med, 1956; 27(6):505-11.
3. Schaefer HJ. Optimum altitudes for biological experimentation with the primary cosmic radiation. J Aviation Med, 1956; 17(6):512-21.
4. White JJ. The effect of carbon monoxide on the flyer. J Aviation Med, 1931; 2(4):212-7.
5. Zuidema GD, Cohen SI, Silverman AJ, Riley MB. Human tolerance to prolonged acceleration. J Aviation Med, 1956; 27(6):469-81.

MEETINGS CALENDAR
2006-2007

December 5, 2006, Arlington, VA. Fundamentals of Psychological Preparedness for Human Remains Expsosure (HRE) Workshop: Preparing for the Worst. For more info, visit http://www.homelanddefensejournal.com/hdl/conf_hre06.htm or contact Katie Smith at 703-807-2758 or at ksmith@marketaccess.org.

December 13-14, 2006, Omni Shoreham Hotel, Washington, DC. Emergency Preparedness and Response Conference: For People with Disabilities, the Elderly, Pediatrics, and Animals. For info, visit www.homelanddefensejournal.com/hdl/conf_emergencypreparedness.htm or contact Pamela Greenstein by e-mail or phone 703-807-2758.

March 1-4, 2007, Orlando, FL. The American College of Legal Medicine's 47th Conference on Legal Medicine at the Caribe Royale Resort. For more information visit www.aclm.org or contact Sue O'Sullivan at info@aclm.org or by phone at 847-969-0283.

March 19-21, 2007, Annapolis, MD. 2007 Human Systems Integration Symposium. Info: Jennifer McKneely, Symposium Chair, jennifer.mckneely@jhuapl.edu; www.navalengineers.org/Events/HSIS2007.

April 3-6, 23, 2007, Cocoa Beach, FL. Human Performance, Situation Awareness, and Automation (HPSAA III) Technology Conference. Info: Mustapha Mouloua, Conference Chair, Dept. of Psychology, P.O. Box 1390, Orlando, FL, 32816, 407/823-2910, fax 407/823-5862, mouloua@pegasus.cc.ucf.edu, http://faculty.erau.edu/hpsaa/.

April 15-20, 2007, Honolulu, HI. 2007 International Conference on Acoustics, Speech and Signal Processing. Info: Institute of Electrical and Electronics Engineers, info@icassp2007.com; www.icassp2007.org.

April 16-19, 2007, Cobo Center, Detroit, MI. 2007 Society of Automotive Engineers World Congress. Info: Society of Automotive Engineers World Headquarters, 400 Commonwealth Dr., Warrendale, PA 15096, 724/776-4841, mjena@sae.org, http://www.sae.org/congress.

April 17-19, 2007, Nottingham UK. Ergonomics Society Annual Conference. Info: Sue Hull, Ergonomics Society, Elms Court, Elms Grove, Loughborough LE11 1RG, UK, +44 0 1509 234904, fax +44 0 1509 235666, hulls@ergonomics.org.uk, http://www.ergonomics.org.uk.

April 22-26, 2007, Dayton, OH. International Symposium on Aviation Psychology: "Airspace as a Cognitive System." For more info, visit www.wright.edu/isap.

April 23-26, 2007, Dayton Convention Center, Dayton, OH. 14th International Symposium on Aviation Psychology. Info: Richard Jensen, 5329 Van Fossen Road, Johnstown, OH 43031, 740/967-4030, rjensen@core.com, http://www.wright.edu/isap/.

April 28 - May 3, 2007, San Francisco, CA. 2007 International Performance Improvement Conference. Info: International Society for Performance Improvement, 1400 Spring St., Ste. 260, Silver Spring, MD 20910, 301/587-8570, fax 301/587-8573, http://www.ispi.org/ac2007/.

Science & Technology Watch

Keeping You Informed Of The Latest Advances In Science And Technology

The subject of this month's column is not from an "Entertainment Tonight" kitchen appliance endorsement, but a look at a propellant-free engine that could be used for a variety of applications, including spaceflight. SPS Ltd., a small company in the United Kingdom, has designed an engine (EmDrive) that generates thrust from electromagnetic radiation (microwaves).

Microwave Oven to the Stars?

John V. Barson, DO, MPH
Centers for Disease Control and Prevention, Division of Bioterrorism Preparedness and Response, Atlanta, GA

The "Emdrive" was developed by Roger Shawyer, who says that the idea for the engine occurred to him when he was at Sperry Gyroscope looking for a reactionless system for missile guidance (1). Conventional thinking says that a reactionless system is not possible, citing Newton's Third Law. However, while photons obey Newton's Laws in some respects (the idea of the solar sail is a typical example), light and objects traveling at or near light speed do not.

Microwaves can be confined inside wave guides, which are hollow copper tubes that trap radiation and direct it along their length. By capping the ends of the tube and injecting microwaves from a magnetron, the microwaves will bounce from one end of the tube's cavity to the other, exerting a small force on the end walls. By matching the size of the cavity to the wavelength of the microwaves, the microwaves resonate (1). The Q-value of the cavity—a measure of how well a vibrating system prevents its energy dissipation into heat or how slowly the oscillations are damped down—is critical. The higher the Q-value, the less energy is dissipated and the higher the store of microwave energy. In a tube with endplates of the same diameter, the impact forces would cancel each other, but if the chamber were designed with one endplate wider than the other, the impact forces would be greater at the wider end, resulting in a higher force generated toward that end (Fig. 1). This is because microwaves are a low-frequency form of light, so their behavior is governed by Einstein's Theory of Special Relativity. This says that microwaves move in their own frame of reference, which is independent of the cavity, as if they were outside of it. While microwaves and other forms of electromagnetic radiation may be thought of as very fast moving particles, they must also be thought of as waves. At the same time that the constituent particles move at light speed, i.e., their phase velocity, energy is transferred by the wave aspect traveling at group velocity (2). Group velocity results from waves of different wavelengths interacting with each other, which in this case is the result of the resonance occurring in the cavity. While, according to Einstein, the phase velocity of electromagnetic waves is governed by the speed of light in the appropriate medium and in whatever moving frame of reference the observer happens to be, group velocity varies (2). Group velocity can be any speed ranging up to light speed, and this then varies the amount of momentum striking an impenetrable barrier and, therefore, the force exerted on it. So, it is possible to have a container full of electromagnetic waves exerting more force on one end than the other due to the shape of the cavity and the different size areas of the endplates.

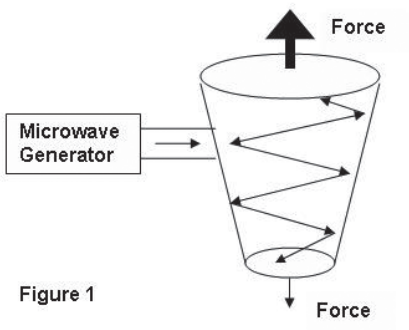

Figure 1

A prototype engine with a mass of about 15 kg has apparently undergone independent testing, generating approximately 2 g of force or about 20 millinewtons (1). While this may not sound like a significant thrust, in perspective, the European Space Agency's SMART-1 Ion Engine has a mass of 94 kg and generates a thrust of 70 millinewtons. A second prototype engine is said to have generated 300 millinewtons, a considerable increase in thrust. This level of thrust would be adequate to lift satellites from low Earth orbit (LEO) to geostationary orbit using no reaction mass, thereby reducing the mass of satellites being launched to LEO significantly. Additionally, thrusters on satellites in orbit would not require reaction mass, thereby prolonging their useful life.

Additional work is being done to optimize the cavity design to include reducing the heat generated from electrical discharge in the cavity wall material, which reduces the energy in the cavity. Superconducting technology under development for particle accelerators may provide the key to cavity optimization. Mr. Shawyer speculates that cavity improvements from this technology could potentially allow a microwave engine to generate 30,000 N of thrust, which would be enough to lift a large car (1).

While a search of Internet discussion sites reveals controversy regarding the theory behind the microwave engine, there has been interest in the United States and China regarding the development of the technology (1). Additional information about the microwave engine can be found at following web sites:
http://www.newscientist.com/channel/fundamentals/mg19125681.400-relativity-drive-the-end-of-wings-and-wheels.html
http://www.freerepublic.com/focus/f-news/1455622/posts
http://83.219.63.174/Articles/295931/Microwave%20engine%20gets%20a%20boost.htm
http://www.shelleys.demon.co.uk/fdec02em.htm

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1. Mullins J. Fly by light. New Scientist 2006;191: 30-4.
2. Shelley T. A force for space with no reaction. Eureka Innovative Engineering Design [serial online] [cited 2002 December 12]. Available from: URL: http://www.eureka-magazine.co.uk/article/index.aspx?articleid=klIgSie10i4GqhNm5IVAVmyVbPGkrRItMOrJzp7woFwA

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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 e-mail to: barry.shender@navy.mil. Watch columns are available at www.asma.org in the AsMA News link under Publications.

AsMA Future Meetings

May 13-17, 2007
Sheraton and Marriott Hotels
New Orleans

May 11-15, 2008
Sheraton and Hilton Hotels
Boston, MA

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

AsMA Board Certification in Aerospace Physiology:

Board certification in Aerospace Physiology was first offered by the Aerospace Medical Association in 1977, as a result of the efforts of nine past presidents of the Aerospace Physiology Society.

The objectives of the certification program are to:

- Encourage the study, improve the practice, and elevate the standards of excellence in Aerospace Physiology;
- Promote the professional stature of the Aerospace Physiology Society within the Aerospace Medical Association;
- Provide an avenue for professional and peer recognition; and
- Serve as a goal which members can strive to attain through dedication, self-study, and personal contributions to the Aerospace Medical Association and the Aerospace Physiology Society.

The examination process begins with eligibility and registration. The exam itself will be presented on Sunday, May 13, 2007, during the first day of the Aerospace Medical Association Annual Scientific Meeting in New Orleans, LA. All those interested in sitting the exam should contact the Certification Committee through Major Julia Sundstrom (530-634-9227; julia.sunstrom@beale.af.mil).

AEROSPACE PHYSIOLOGY REPORT

Send information for publication on this page to: **Maj. Andrew Woodrow, USAF, BSC**
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Andrew.Woodrow@brooks.af.mil

AsPS Membership Campaign 2007

Not unlike your local National Public Radio (NPR) station, the campaign to raise awareness of the Aerospace Physiology Society (AsPS) only comes around once a season. And like the NPR station you may support, the AsPS provides many benefits to its members. Most memberships to 'societies' end at the unceremonious scripting of a check for the annual dues…but AsPS provides more than that! Just like NPR, you can tune in to sage members of the society through networking and peer review opportunities. The results are unbounded. Consider the linkage between a member of AsPS who is working on advanced technology oxygen systems and the budding physiologist who is early in the process of building a foundation to simply understand the difference between OBOGS and MSOGS. The dialogue may begin through an e-mail, progress to a telephone call, then a face-to-face meeting. Before one can say "oxyhemoglobin," the budding physiologist is invited to be a member of a working group and is soon established as the world expert in oxygen systems…goes on to write a ground breaking thesis, finishes a decorated career in service of the nation, gets hired by a well-known manufacturer, patents a revolutionary systems design, and retires to a secluded tropical island to live a long, healthy life. So, membership can bring you to a tropical paradise…well, not right away…in fact most of us are still waiting for that ship to come in.

Membership in professional societies is an industry standard throughout many specialties as a sign of accomplishment. Many professions make membership to an associated society practically compulsory. Aerospace Physiology is a unique specialty that does not require such memberships. However, the importance of the Society is evident when one looks through the membership roster; from the earliest days of aviation research and operational physiology, professionals recognized the importance of being associated with a group of life scientists with a single mission: protecting the human in extreme environments. But more so than simply adding your name to the roster, consider membership a sign of your commitment to advancing the field of study. Before simply adding "AsPS' to your line of other memberships, also consider what you may do for the Society. *Active* membership in a professional society brings even more credibility to the resume or networking opportunity.

Beyond the acknowledgment of your commitment to the development of aerospace physiology, what can the annual dues offer you in return? First, the opportunity to network in your discipline on a professional level. Multi-disciplinary working groups are formed throughout the year in research, acquisition, test, and design; each rely upon the expertise of aerospace physiologists to bring to the table a well-grounded understanding of human physiology in operational environments. The contributions of AsPS members are crucial to the development of systems safety and human performance in all spectrums. Second, the annual recognition of scientific achievement among peers. The AsPS presents three awards each year during the annual AsMA meeting: The Wiley Post Award for excellence in Operational Aerospace Physiology; the Paul Bert Award for excellence in Aerospace Physiology Research; and the Fred A. Hitchcock Award for lifetime achievement in the field of Aerospace Physiology. In addition, the AsPS sponsors an award for the top primary school science teacher in the district that hosts the annual symposium. Finally, membership in AsPS provides a clear pathway for one to participate in a wide variety of activities related to the AsMA's annual meeting. The AsPS Education and Training Day typically results in standing-room only crowds at the annual symposium. The panel session typically draws out the leaders in human performance and physiology and has frequently resulted in spin-offs within other specialty groups seeking solutions to human performance issues. The Society is not limited to USAF or USN physiologists; we invite all who are interested in the development, sustainment, and training of aircrew to join. Just like your local NPR station, the benefits are often enjoyed without the commitment of the user group. In the case of the AsPS, the benefits of assembling a professional group start by opening the door to advanced technologies in the field. But those benefits are bracketed by a peer group that genuinely has fun. Each year, the Society hosts a social event that provides members and other interested individuals an opportunity to interact in a more relaxed atmosphere. So, if you enjoy learning about and contributing to developments in aerospace physiology, and you believe that being part of an international, multi-service group of professionals aligned to the same would provide an incredible network opportunity, then consider investing in a membership to the Aerospace Physiology Society!

JOIN AsPS TODAY!

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

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

MIT's intelligent aircraft fly and cooperate autonomously

The U.S. military depends on small, unmanned aerial vehicles (UAVs) to perform such tasks as serving as "eyes in the sky" for battalion commanders planning maneuvers. While some of these UAVs can be easily carried in a backpack and launched by hand, they typically require a team of trained operators on the ground, and they perform only short-term tasks individually rather than sustained missions in coordinated groups. MIT researchers, in collaboration with Boeing's advanced research and development arm, Phantom Works, are working to change that.

They have developed a multiple-UAV test platform that could lay the groundwork for an intelligent airborne fleet that requires little human supervision, covers a wide area, and automatically maintains the "health" of its vehicles (for example, vehicles anticipate when they need refueling and new vehicles launch to replace lost, damaged, or grounded ones). At the Boeing Tech Expo at Hanscom Air Force Base in May, students on the team conducted more than 60 flights on demand with two UAVs. In the MIT Aerospace Controls Laboratory, the research team regularly conducts flights using three to five UAVs, which have achieved complex tasks such as persistent surveillance of a defined area.

A fleet of UAVs could one day help the U.S. military and security agencies in difficult, often dangerous, missions such as round-the-clock surveillance, search-and-rescue operations, sniper detection, convoy protection, and border patrol. The UAVs could also function as a mobile communication or sensor network, with each vehicle acting as a node in the network. Such missions would depend on keeping the vehicles in the air, with the ultimate goal being to avoid a flight operator altogether.

The team has also designed an automatic docking station that allows the UAVs to recharge their batteries when they are running low. When the aircraft finish "refueling," they can then return to assist in ongoing flight operations. In addition, the team recently achieved a milestone in autonomous flight: landing on a moving surface. Using "monocular vision," one of the quadrotors successfully landed on a moving vehicle—a remote-controlled lab cart. A video camera fastened to the UAV uses a visual "target" to determine in real time the vehicle's distance relative to the landing platform. The ground station then uses this information to compute commands that allow the UAV to land on the moving platform. This technology could enable UAVs to land on ships at sea or on Humvees moving across terrain.

Videos and more information about the project can be found at:
http://vertol.mit.edu/3.

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AEROSPACE NURSING SOCIETY NEWS

President's Message

Nurses have been a part of Aerospace Medical Association for many years. The nurses were accepted as part of the organization on August 19, 1963. The first meeting was held in 1964. The group name was Flight Nurses Section (FNS). In 1992 the names of the Flight Nurse Section was changed to Aerospace Nursing Section (ANS) to reflect the future vision of nursing leadership. This section opened membership to include nurses who worked in aerospace medicine; that includes airline medical departments, occupational health nurses, and nurses who work in the field of aerospace. In the new millennium, AsMA added a technician category; the name was changed to its current name--Aerospace Nursing Society (ANS).

This is a time of year that we can remember those leaders of the nursing society for all of the contributions that they have made during their presidential years and for remaining active in our organization. This is a very special "Thank You" to all of the past presidents.

Past Presidents:

1964-1965	**Lt Col Agnes Arrington, USAF, NC**
1966-1968	**Lt Col Florence T. Marchitelli, USAF, NC**
1968-1970	**Lt Col Sarah E. Beard, USAF, NC**
1970-1971	**Col Claire M. Garrecht, USAF, NC**
1972-1973	**Col Anne T. Hines, USAF, NC**
1973-1974	**Lt Col Ethel A. Nelson, USAF, NC**
1974-1975	**Maj Jeanne L. Curtis, USAF, NC**
1975-1976	**Lt Col Barbara L. Farrell, USAF, NC**
1976-1977	**Lt Col Dennis J. Kirby, USAF, NC**
1977-1978	**Col Helen D. Kopczynski, USAF, NC**
1978-1979	**Col Constance R. Sturim, USAF, NC**
1979-1980	**Lt Col Phyllis A. Luttman, USAF, NC**
1980-1981	**Col Margaret Korach, USAF, NC**
1981-1982	**Maj Jane A. Bigelow, USAF, NC**
1982-1983	**Lt Col Carol A. Glancy, USAF, NC**
1983-1984	**Lt Col Maureen S. Lofberg, USAF, NC**
1984-1985	**Col Melba M. Gillane, USAF, NC**
1985-1986	**Col Margaret V. Hargett, USAFR, NC**
1986-1987	**Maj Donald A. Boucher, USAF, NC**
1987-1988	**Col Patricia A. Clark, USAF, NC**
1988-1989	**Lt Col Margaret A. Seibold, USAF, NC**
1989-1990	**Lt Col Phyllis J. Hansen, USAF, NC**
1990-1991	**Lt Col Patricia C. Ravella, USAF, NC**
1991-1992	**Lt Col Marian B. Sides, USAFR, NC**
1992-1993	**Lt Col Constance Alger, USAF, NC (Ret)**
1993-1994	**Maj Marlon K. Nailling, USAF, NC**
1994-1995	**Lt Col Regina C. Aune, USAF, NC**
1995-1996	**Maj Charles R. Tupper, USAF, NC**
1996-1997	**Maj Julia M. Read, Canadian Forces**
1997-1998	**Lt Col Eileen Hadbavny, USAFR, NC**
1998-1999	**Maj Barbara Werth USAFR, NC**
1999-2000	**Maj Diane Fletcher, USAF, NC**
2000-2001	**Maj Dona Iversen, USAFR, NC**
2001-2002	**Maj Joyce Rosenstrom, USAFR, NC**
2002-2003	**QLDR Jillian Newlands RAAF**
2003-2004	**Col. Virginia Schneider, DE, ANG, NC**
2004-2005	**Colleen Morissette, RN, CFRN, EMT-P**
2005-2006	**Capt. Dan R. Roper, USAF, NC**

Without this stellar leadership , many of us would not have been able to share the honor of being a part of such a scholarly organization. We appreciate all of the work and dedication that you have provided to our nursing organization and look forward to the future of networking with all AsMA Members. Continue to be safe as you serve.

Janet L. Sanner, RN, MSN, COHN-S, CCM
President, Aerospace Nursing SocietyFlight

Nominations Sought for 2007 AsMA Awards

December 15 is the deadline for receiving nominations for the special annual awards to be presented at the 2007 Annual Scientific Meeting in New Orleans, LA.

Nominations can be made by any member of AsMA or previous award winner.

The award nomination form is available on the AsMA website. A web-based form is available in the Members Only section. The nomination must be submitted on this electronic form or via e-mail to the Awards Chair. The completed form should be e-mailed to the Awards Committee Chair Andy Bellenkes (andrew.bellenkes@usafa.af.mil) and the Home Office (gvargas@asma.org) Attachments or biographical material will be retained in Association files.

Policies:

1. The nominee must be a current member of the Association, except that the Sidney D. Leverett, Jr. Environmental Science Award is open to nonmembers. Deceased members may be nominated. Self-nomination is not allowed.
2. The Chair of the Awards Committee does not vote and is not eligible for an award during his/her tenure.
3. An individual may receive only one award in any year.
4. Employees of a company sponsoring an award are eligible to receive the award.
5. 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.
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.

Awards

The Awards are as follows (full descriptions appear on the form):

1. Louis H. Bauer Founders Award
2. Mary T. Klinker Award
3. Harry G. Mosely Award
4. Eric Liljencrantz Award
5. Theodore C. Lyster Award
6. Boothby-Edwards Award
7. Julian E. Ward Award
8. Raymond F. Longacre Award
9. Arnold D. Tuttle Award
10. John A. Tamisiea 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

WING NEWS & NOTES

Send information for publication on this page to:
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Message from Our President
Aloha and Mele Kalikimaka!
By Conoly Barker

Happy Holidays to all my Wing Sisters. Many cultures and faith traditions celebrate this time of year with Festivals of Light. Even here in Honolulu where it is perpetual summer, our city decorates with special light displays. One of our faith communities sends out little boats carrying lit candles. It is a time of joy and reflection.

As I reflect on our Wing fellowship, I think of how beautiful it is that we come together from many different cultures and faith traditions in an atmosphere of friendship and fellowship. We celebrate our diversity and enjoy the various cultures of the cities we visit. I think of our friendships as lights – candles that we take with us wherever we go. I am thankful for all of you and the light you bring into my life. May all your celebrations of light and life be blessed.

Meet Margaret Dougherty

I was born in Lancashire but moved around England as a child. I undertook the latter part of my secondary school education on the Isle of Wight in the South of England. After school, I trained as a State Registered Nurse at The London Hospital (now The Royal London Hospital), where I met my future husband Simon, who was a medical student there. I qualified in 1970, and we were married in 1971. I continued to work as a general nurse in London and then, following Simon on his house (residency) appointments, in Bath.

Simon had joined the Royal Air Force as a medical officer, and when he started productive service, I took a career break for some ten years and we had our family. I returned to work part-time in a variety of appointments in community nursing and as a practice nurse in many locations as Simon moved appointemnts. For the past five years, I have worked part-time in a General Practitioner's Surgery in Gloucester where we currently live. I am a Nurse Practitioner and provide a Primary Care Triage service.

During Simon's career, lasting more than 30 years, I have moved with him many times – we have lived in twenty-four houses since we married, in many parts of England, and for about twelve years, in Holland, Germany, and Cyprus. Currently, we live just outside of Gloucester, close to Simon's office.

We have three adult children – two sons, one of whom is an anaesthetist completing consultant training and the other who is a mathematics teacher working in secondary education. Our daughter works as a Recruitment Consultant in London.

I joined the Wing in 2005 in Kansas City, the first time I had attended an AsMA meeting. I am looking forward to meeting other members again this year in Orlando.

I Wish I'd Joined Sooner!
By Nevonna Schroeder

My husband has been a member of AsMA since the beginning of his career.

Early on we began using the annual meeting site as a base for a vacation. Whenever finances, children and work allowed, the girls and I would fly in on Thursday to meet Dave, who would forgo "Honors Night," and we were off for a few days together. After our daughters left home, and it was easier for me to get away, I began adjusting my schedule – arriving earlier in the week and spending an extra day or two exploring the host city. Somewhere during this time, I remember someone suggesting that I join the Wing, but quite honestly I didn't seriously consider it. I wasn't sure I'd fit in; after all, we weren't military and my husband was not a physician. Besides, I was enjoying the solitary explorations of the host cities; it would require taking too much vacation time from my job to attend all week; but most importantly, I did not see myself joining a stuffy, ladies auxiliary group!

When it appeared that Dave would be nominated for President of AsMA, I decided I would be the supportive wife, and join the Wing. I attended my first Wing function in Montreal, '02. The first thing I learned was that the Wing is not a stuffy, ladies auxiliary group! The Wing is a group of women and men who share many interests, (the basic one being that our spouse is involved in AsMA); but each of whom has a rich and full life of her/his own. The Wing is a warm, welcoming group of people, including military and civilian; physician's spouses and non-physician's spouses, who know how to enjoy life. During one week each May the Wing meets to have fun together. For the rest of the year, Wing members provide support and encouragement for one another, whether that is to celebrate joys or grieve losses.

In the years since I first joined the Wing, I have enjoyed delicious luncheons such as the gazpacho in San Antonio, interesting tours such as the Native Center in Anchorage, and alligators in the swamp in Orlando, while still taking time for my solitary explorations. Most of all I have established friendships — friendships which could have been enhancing my life for many years – if I'd joined sooner. Now these are friendships which I will treasure and renew each year in May. See you in New Orleans!

The Wing of the Aerospace Medical Association

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What is The Wing?

The Wing, founded in 1952, is a nonprofit social and educational organization whose main goal is "to support the specialty of aviation, aerospace, and environmental medicine by facilitating cooperation among its practitioners and by increasing public understanding and appreciation of its importance." It's second purpose is "to promote sociability among its members and their families." Membership – active and associate – is open to women and men. We meet once a year during the Aerospace Medical Association meetings.

What are the membership benefits?

Name tag that gets you into AsMA exhibits
Free Welcoming Reception, where you renew friendships and make new friends
Top-notch tours (usually two per meeting)
The Wing Annual Meeting and Luncheon
Two printed newsletters
Contact with people who share your interest in aviation and space medicine
Membership Directory
Friendships that last a lifetime

How much are dues?

The Wing dues are $20 per year and cover the Membership Directory, two printed newsletters, and postage.

Why should I join?

No matter where it meets, The Wing provides you with instant friends, aviation connections, exciting tours and activities. News updates and tour information are published on The Wing page in *Aviation, Space and Environmental Medicine.* Membership in The Wing is your international, nonstop "ticket" to fun and friendship. Join now!

To join the Wing of AsMA contact Judy Waring, Membership Chair, at judymikewaring@comcast.net.

News of Corporate Members

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

Sanofi-Aventis and WHO Expand Program to Fight Neglected Tropical Diseases

Due to renewed collaboration with Sanofi-Aventis, which has agreed to donate medicines and financial support worth US$25 million over 5 years, the World Health Organization (WHO) is expanding its program to fight some of the most neglected tropical diseases that destroy the lives and health of poor people. This collaboration builds on a previous agreement between WHO and Aventis (now Sanofi-Aventis) to prevent deaths due to sleeping sickness. Since 2001, this work has saved the lives of an estimated 110,000 people who would otherwise have died from sleeping sickness, a disease spread by the bite of the tsetse fly and which is fatal if not treated.

Under the new agreement, Sanofi-Aventis will donate $5 million worth of drugs to treat sleeping sickness and a further US$20 million in financial support for the control of neglected tropical diseases. As well as sleeping sickness (also known as human African trypanosomiasis), the new project will also address leishmaniasis, Buruli ulcer, and Chagas disease. All four diseases are among the most neglected in the world. The people who suffer from them are almost all poor inhabitants of remote, rural areas.

The new project will take a common approach to detecting, preventing, and treating these four diseases. The key to all four is to actively seek out people who show early symptoms of the diseases. By identifying them early, people can be given effective treatment before the symptoms worsen.

About Sanofi-Aventis

The Sanofi-Aventis group is the world's third largest pharmaceutical company, ranking number one in Europe. Backed by a world-class R&D organization, Sanofi-Aventis is developing leading positions in seven major therapeutic areas: cardiovascular, thrombosis, oncology, metabolic diseases, central nervous system, internal medicine, and vaccines.

Lockheed Martin Awarded U.S. Army Contract

Lockheed Martin Corporation and the Triple-I Corporation have joined forces to provide Multi-Source Assessment and Feedback (MSAF) services to the Center for Army Leadership (CAL). The services will be rendered specifically to CAL's Leadership Research, Assessment, and Doctrine Division (LRADD) in Fort Leavenworth, KS.

The Combined Arms Center (CAC) recently completed a 2-year pilot of a multi-source feedback and assessment program. The pilot was conducted with over 2000 uniformed leaders and nearly 23,000 participants at the National Training Center, Joint Readiness Training Center, and other Army sites. Assessment was completed using computer-based surveys. The CAC (through CAL and LRADD) provides leadership and supervision for leader development and professional military and civilian education, institutional and collective training, functional training, training support, battle command, doctrine, and lessons learned to support the Army's expeditionary forces. The MSAF Program will extend the successes of the initial pilot at CAC and will provide the Army with continued support for assessing and evolving its leadership development, training, and educational capabilities. Lockheed and Triple-I have extensive knowledge, experience, and expertise in IT, and survey assessment delivery and analysis.

About Lockheed-Martin

As the nation's largest provider of IT services to the Federal Government, and recently ranked by the Gartner Group as the #1 development, integration, support, and maintenance contractor, Lockheed Martin has demonstrated success in providing customer-focused service and performance excellence in IT programs. Lockheed Martin is committed to provide outstanding quality services and deliverables; offering powerful solutions that meet the needs of their customers.

ETC Offers Video Entertainment for Hyperbaric Oxygen Patients

Environmental Tectonics Corporation's (ETC's) BioMedical Systems Group recently announced a new optional feature for its BARA-MEDÒ hyperbaric chamber products: a video entertainment system. A 19-inch flat panel screen, mounted to the chamber, can be easily adjusted for each patient to optimize viewing preferences of various entertainment products as they are treated.

This video entertainment capability is yet another step in the continuous improvement of ETC's unique hyperbaric oxygen (HBO) product line for ease of use by the operators and the comfort and well-being of the patients. The equipment can be factory installed or easily included as a user upgrade.

About ETC

ETC also designs, develops, installs and maintains aircrew training systems, public entertainment systems, process simulation systems (sterilization and environmental), clinical hyperbaric systems, environmental testing and simulation systems, and related products for domestic and international customers.

Wyle Allies with University of Texas Medical Branch

Wyle Laboratories Inc. has developed a strategic alliance with the University of Texas Medical Branch at Galveston to pursue business opportunities in the emerging commercial human spaceflight market. The company's Life Sciences Group, based in Houston, TX, will pursue health services and training opportunities with University of Texas Medical Branch at Galveston (UTMB) through Wyle's new Commercial Human Spaceflight Services unit.

In addition to consulting services for commercial human spaceflight, Wyle provides medical screening and qualification, training, data and risk management, and mission and ground operations support to transportation providers and operators, spaceports, and regulators including the FAA. Recently UTMB physicians, under contract to Space Adventures, provided medical support for Greg Olsen, who paid $20 million to travel to the International Space Station in October 2005 aboard the Russian Soyuz spacecraft. UTMB physicians are continuing to provide similar services to future space station visitors.

About Wyle

Wyle, with more than 3,000 employees at more than 30 facilities across the nation, is a leader in providing medical operations, engineering, and life science support services for human spaceflight. The company also provides testing, research, aerospace support services, special test systems, and other technical support services to the aerospace, defense, nuclear, communications, and transportation industries.

USAIG Partners with AOPA to Offer Free, Online Course

The United States Aircraft Insurance Group (USAIG) has partnered with the Aircraft Owner and Pilots Association's (AOPA's) Air Safety Foundation in sponsoring a free, online course regarding pneumatic systems. This course is focused on educating pilots, offering an overview of vacuum and pressure-powered aircraft systems. It explains how pneumatic systems work, and how to handle and avoid pneumatic system failures. To access the course, go to http://flash.aopa.org/asf/pneumatic_systems/flash.cfm.

About USAIG

A global leader in aviation and aerospace insurance, USAIG is a group of individual companies that are managed by the United States Aviation Underwriters (USAU), who are responsible for selecting business, specifying rates, binding coverages, issuing policies, arranging reinsurance, collecting premiums, and settling claims on USAIG's behalf.

About AOPA

With a membership base of more than 400,000, or two thirds of all pilots in the United States, AOPA is the largest, most influential aviation association in the world. Providing member services that range from representation at the federal, state, and local levels to legal services, advice, and other assistance, AOPA has built a service organization that far exceeds any other in the aviation community.

Send information for publication on this page to: **News of Members**
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NEWS OF MEMBERS

Focus on Members:

Brig. Gen. Thomas W. Travis

Brig. Gen. (Dr.) Thomas W. Travis is Command Surgeon, Headquarters Air Combat Command (ACC), Langley AFB, VA, and is responsible to the Commander of Air Combat Command for the health of ACC's global team through worldwide medical contingency operations, a comprehensive, community-based health care system, and human-in-the-weapon system expertise and support. He is also the U.S. Southern Command Air Forces and U.S. Northern Command Air Forces surgeon, responsible to the commanders for providing medical services to deploying Combat Air Force forces. Additionally, he is the Air Force's medical global force provider supporting U.S. Joint Forces Command and the U.S. Central Command.

Brig. Gen. Travis graduated from the Virginia Polytechnic Institute in Blacksburg, VA, with a B.S. in 1976. He then entered the Air Force as a distinguished graduate of the ROTC program at Virginia Polytechnic Institute and State University. He was awarded his pilot wings in 1978 and served as an F-4 pilot and aircraft commander. In 1980, he earned an M.S. in physiology from Virginia Polytechnic Institute. He was awarded his M.D. in 1986 from the Uniformed Services University of the Health Sciences School of Medicine, where he was the top Air Force graduate, and in 1987 he became a flight surgeon. In 1991, he continued his education by earning an M.S. in public health from the University of Texas Health Science Center in San Antonio, TX.

For more than three years, Brig. Gen. Travis was Chief of Medical Operations for the Human Systems Program Office at Brooks AFB, TX. He later served as the Director of Operational Health Support and Chief of Aerospace Medicine Division for the Air Force Medical Operations Agency in Washington, DC. He has commanded the U.S. Air Force School of Aerospace Medicine, the 311th Human Systems Wing at Brooks AFB, the Malcolm Grow Medical Center at Andrews AFB, and the 79th Medical Wing, Andrews AFB. As the 79th Medical Wing commander, he also served as the command surgeon, HQ Air Force District of Washington.

General Travis is board certified in aerospace medicine. A command pilot and chief flight surgeon, he has more than 1,800 flying hours and is one of the Air Force's few pilot-physicians. He has flown the F-4, F-15 and F-16 as mission pilot and, most recently, the Royal Air Force Hawk as senior medical officer and pilot. He is a Fellow of the Aerospace Medical Association (AsMA) and was the 1994 recipient of AsMA's Julian E. Ward Memorial Award. He is also a member and former President of the Society of U.S. Air Force Flight Surgeons, a member and past President of the International Association of Military Flight Surgeon Pilots, a Fellow and former Aerospace Medicine Regent of the American College of Preventive Medicine, a Life member of the Association of Military Surgeons of the United States, and a member of the Order of the Daedalians.

His awards include the Legion of Merit with one oak leaf cluster, the Meritorious Service Medal with four oak leaf clusters, the Aerial Achievement Medal, the Air Force Commendation Medal, the Joint Service Achievement Medal, the Combat Readiness Medal, and the Air Force Recognition Ribbon. He also received the Unger Literary Award from the Society of U.S. Air Force Flight Surgeons in 1994, the 1995 Paul W. Myers Award for outstanding contributions to Air Force medicine from the Air Force Association, and was the 2003 Stewart Lecturer for the Royal Aeronautical Society.

News of Members

Terence J. Lyons, M.D., M.P.H., assumed a new position as the Assistant Chief Scientist of the Air Force Office of Scientific Research (AFOSR) in Arlington, VA, in October. AFOSR is part of the Air Force Research Laboratory (AFRL) and manages the Air Force's investment in basic research. Dr. Lyons recently returned from 9 years at AFOSR's Asian Office of Aerospace Research and Development (AOARD) in Tokyo, Japan, including 4 years as a Program Manager and 5 years as the Director of AOARD.

Hans A. Pongratz, Col., GAF(Ret), Munich, Germany, has retired from the German Air Force. He is a Fellow of the Aerospace Medical Association and was the 2002 recipient of the Kent K. Gillingham Award. He has also served as a Vice President of the AsMA Council and has been a member of both the Scientific Program Committee and the International Committee. During his military career, he served in many positions. He has received the German Air Force Flight Surgeon Wings, the German Medical Corps Wings, and the USAF Chief Flight Surgeons Wings. He is a member of many German medical societies.

New Members

Barker, Brent J., M.B., B.S., Tindall RAAF, N.T., Australia
Bostwick, Thomas L., M.D., Mesa, AZ
Carvalho, Anna-Maria, M.D., FRCP, Montreal, QC, Canada
Dean, Dennis A., B.S., M.S., Everett, MA
Gagnon, Dominique, Winnipeg, Canada
Gitlow, Stuart, M.D., M.P.H., M.B.A., Woonsocket, RI
Lutman, Daniel, M.B., B.S., FRCA, London, UK
Medina, Pablo O., 2Lt., USAFR, Gainesville, FL
Nash, Terry S., Flt. Lt., RAAF, M.B., B.S., Darwin, Australia
Nasr, Waleed Mohamed, M.D., M.Sc., Jeddah, Saudi Arabia
Petersen, Johan, M.B., B.Ch., Whakatane, New Zealand
Phaneuf, Andrea T., Arlington, VA
Ruiz, Jose I., LTC, MC, ARNG, Bayamon, PR
Smith, Emma-Jane, B.Sc., London, UK
Szatmari, Akos S., M.D., Gyula, Hungary
Tsekrekos, Stephen, B.Sc., M.Sc., M.D., Ottawa, ON, Canada

In Memoriam

John P. McCann

John P. McCann, M.D., a resident of San Antonio, TX, has died. A native of Fenton, MI, he attended Notre Dame in South Bend, IN, and the University of Michigan, Ann Arbor, MI, as an undergraduate. He earned an M.D. degree from Marquette University in Milwaukee, WI, in 1949 and an M.P.H. from Harvard in Cambridge, MA, in 1955. He began his military career in 1942 and was on continuous active duty except for a 39-month break from 1945 to 1949, when he attended medical school.

Dr. McCann's military career included duty as an infantryman in the 35th Division; Flying School in 1944; serving as a B-17 pilot from 1944-1945; serving as Chief, Professional Services, at the USAF Hospital in Mt. Home, ID, from 1951-1953; taking the Advanced Course in Aviation Medicine at Randolph AFB, TX, from 1953 to 1954; and holding positions such as Chief, Aerospace Medicine; Director, Professional Services; and Deputy Surgeon, Headquarters Air Training Command.

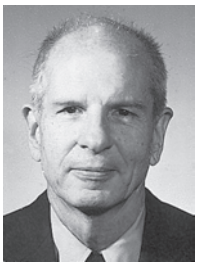
Dr. McCann retired from the military with the rank of Colonel in 1966. He was appointed Chief of the Aerospace Medicine group in the Life Sciences section of General Dynamics' Convair Division in San Diego, CA. In 1971, he was appointed president and medical director of the Life Extension Institute in New York.

Dr. McCann's awards included the Good Conduct award, the World War II Victory

award, the Presidential Unit Citation, the Legion of Merit with cluster (twice), a Commendation Medal for Activities in Flying Safety, and the National Defense Service Medal. His professional memberships included being a Fellow of the American College of Physicians, a Fellow of the American College of Preventive Medicine, a past Treasurer of the Society of USAF Flight Surgeons, and a Past President of the San Antonio Chapter and Fellow of the Aerospace Medical Association.

Joseph P. Pollard

Joseph Page Pollard, M.D., 93, a retired Navy captain, flight surgeon, and division director at the Office of Naval Research died October 15, 2006, at the Virginia Hospital Center, Arlington, VA.



A native of Minor, VA, Dr. Pollard received his Bachelor of Science degree from the College of William and Mary, Williamsburg, in 1935. He attended the University of Virginia at Charlottesville where he received his Doctor of Medicine degree in 1939. He served in the Medical Corps of the U.S. Navy for 27 years, retiring in 1968 with the rank of Captain.

Dr. Pollard attended numerous special courses in military medicine, but was especially concerned with aviation medicine, being a designated Naval Flight Surgeon and having had duty on board the aircraft carriers USS Hornet, USS Yorktown and USS Coral Sea as well as in numerous aircraft squadrons. He was a survivor of the USS Yorktown in the Battle of Midway and was the last officer, along with the Commanding Officer, to abandon the sinking ship. He established and implemented the plan for the air transportation of patients used by the Navy in World War II and was commended for this by the Secretary of the Navy.

In the post-WWII years, Dr. Pollard concentrated on medical research and development and held numerous research assignments, both operational and staff, including serving on the staff of the Research and Development Board in the Office of the Secretary of Defense; in the Office of Naval Research; as Director, Research Division and, also, as Assistant Chief for Research and the Military Medical Specialties of the Navy's Bureau of Medicine and Surgery.

During his naval career, Dr. Pollard made significant contributions to the following: the high-altitude balloon flight series known as STRATOLAB, which set a world altitude record of nearly 114,000 feet using life support systems and medical monitoring provided by the Navy; the selection of the three Navy and one Marine Corps Mercury astronauts of the original seven and their training in meeting the stresses of space flight; the space flight experiments, in cooperation with the Army, of squirrel monkeys Old Reliable, Able, and Baker; the national effort in bioastronautics as it progressed in the 1960's by providing Navy scientists' technology and facilities to the National Aeronautics and Space Administration; and serving as the Navy's member on various committees of the National Academy of Sciences/National Research Council. He was for several years the Director, Astronautical Medicine Division for the Navy's Bureau of Medicine and Surgery.

After retiring from the Navy, Dr. Pollard became Director, Biological and Medical Sciences Division of the Office of Naval Research where he was responsible for the scientific and technical management of the Navy's contract research programs under the general areas of Physiology, Biochemistry, Microbiology, and Medical and Dental Sciences, both domestic and foreign.

Dr. Pollard's numerous professional affiliations include the following: Diplomate and Oral Examiner of the American Board of Preventive Medicine; Fellow of the American College of Preventive Medicine; and Fellow of the Aerospace Medical Association. He was a member of the International Academy of Aviation and Space Medicine; and Association of Military Surgeons of the United States. He was a charter member of the Undersea Medical Society. He also served on the Aerospace Medicine Panel of the Advisory Group on Aerospace Research and Development (AGARD/NATO).

Dr. Pollard was the recipient of the 1972 Theodore C. Lyster Award of the Aerospace Medical Association for outstanding accomplishment in the field of aerospace medicine.

Obituary Listing

AsMA has just learned that **John E. Charles-Jones** died in March. Born in Swansea, S. Wales, in the UK, he earned an MABS at London University and Charing Cross Hospital in 1956. He then attended the Royal College of General Practitioners, graduating with an MRCGP in 1968. He also held a general certificate in aviation medicine. In the past he had been a Class One Examiner in the British CAA, a Sessional Examiner for the DHSS in the UK, and an Associate Member of the Royal Aeronautical Society. He also served in the RAMC in the British Army between 1956 and 1959.

Remember!

Council Meetings are open to all members of the AsMA. Your input and attendance are always welcome. Our next meeting will be on May 13, 2007 in New Orleans, LA.

MEMBERS*MEMBERS

Have you recruited a new member this year? If each one of us recruited at least one new member, we could actually double our membership with a mere stroke of the pen. Let's keep the momentum going. Adopt the slogan:

"EVERY MEMBER
GET A MEMBER."

AME Seminar Schedule for 2006-2007

Dec. 11-16, 2006		
	Oklahoma City, OK	Basic (1)
Feb. 2-4, 2007		
	San Diego, CA	N/NP/P (2)
Mar. 5-9, 2007		
	Oklahoma City, OK	Basic (1)
Mar. 16-18, 2007		
	Bellevue, WA	Cardio (2)
May 14-17, 2007		
	New Orleans, LA	AP/HF (3)
June 11-15, 2007		
	Oklahoma City, OK	Basic (1)
July 13-15, 2007		
	Oklahoma City, OK	N/NP/P (2)
Aug. 17-19, 2007		
	Washington, D.C.	OOE (2)
Sept. 14-16, 2007		
	Savannah, GA	Cardio (2)

(1) A 4½ day basic AME seminar focused on preparing physicians to be designated as Aviation Medical Examiners. **Call your Regional Flight Surgeon.**

(2) A 2½ day Theme AME seminar consisting of approximately 12 hours of AME specific subjects plus 8 hours of subjects related to a designated theme. **Registration must be made through the Oklahoma City AME Programs Branch**. Call Lea Olsen (405) 954-4258.

(3) A 3½ day Theme AME seminar held in conjunction with the Aerospace Medical Association (AsMA). **Registration must be made through AsMA** (703) 739-2240.

N/NP/P	Neurology/Neuro-Pychology/ Psychiatry Theme
Cardio	Cardiology Theme
AP/HF	Aviation Physiology/Human Factors Theme
OOE	Ophthalmology, Otolaryngology, Endocrinology Theme

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For more information, contact Gloria Carter in the Membership Department at (703) 739-2240x106; gcarter@asma.org or sign up on the website at www.asma.org

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