

# President's Page

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By the time you read this, all of the celebrations of the first century of flight will be over. Sitting here at my desk, it is difficult to envision what lofty goals the early pioneers may have initially had. Certainly they had no idea that man would walk on the moon, spend months on an orbiting space station, or experience intercontinental supersonic flight. So, what are the new innovations that will enhance our ability to cross continents, experience global flight, and go to the furthest reaches of space? In "Flights into the Future" (Popular Science, Nov. 2003), Eric Adams reflects on conversations with seven representatives of the aviation and space industry (Boeing, Airbus, NASA, Scaled Composites, GE Aircraft Engines, AeroVironment, and the X Prize Foundation) regarding their perceptions of the future of flight. As one might expect, the views were often contradictory. While Burt Rutan felt that high fidelity virtual reality networks would eliminate the need for business travel, others believed direct personal contacts in business would always be necessary. Some envisioned a relatively large fleet of air taxis that would service the smaller regional airports, others promoted the role of the Airbus A380 as the most efficient approach for both continental and international flight. Another felt we would skip supersonic aircraft altogether and jump to suborbital space travel.

While robot-controlled passenger aircraft are possible, Burt Rutan felt that they may never have sufficient flexibility in the computer systems to accommodate strong crosswinds and other environmental conditions. On the other hand, changes in the shape of aircraft wings across different phases of flight (morphing) was seen as a distinct possibility, as was the development of intuitive navigation and collision avoidance systems. Perhaps nearer to reality is the question regarding when unmanned aerial vehicles (UAVs) will enter the national airspace system and serve as the foundation for transportation of packages and deliveries.

A concern that appeared to be shared by several was the fact that we no longer see the cadre of young engineers and scientists who eagerly supported the air and spacecraft industry amidst the growth phase of the first century of flight. Today, we have only small numbers of individuals who are receiving aerospace training and have an interest in aviation and space engineering, aerospace medicine, and aviation human factors. Clearly, if the next century is to maintain the pace of the previous century we will need to encourage more inventive young minds to become involved in aviation, space, and aerospace medicine. Many of us have commented on this during our annual meeting the last few years.

We have also observed remarkable changes in the practice of medicine, from advances in diagnostic procedures through new surgical techniques, to new medications. For aerospace medicine, the issues involved in the next century of flight also concern the development of new medications and delivery systems that will more



**David J. Schroeder, Ph.D.**

precisely resolve medical conditions with fewer side effects. As we gain greater understanding of the human genome, advances in genetic testing will more accurately predict individual susceptibility to disease/stressors and gene therapy will cure diseases and reduce or eliminate stress liabilities at the molecular level. Will advances in so-called "nanotechnology" result in specialized robots that, when inserted in the body, will travel to the damaged organ and repair it? Scenes from "Fantastic Voyage" and other movies a few years ago may well become reality within this century. We're not ready to shrink people to the size of blood cells, yet, but the concepts remain the same. How will these changes influence our ability to carry out medical procedures in long duration spaceflights? Advances in diagnostic procedures based on human genome research will allow scientists to identify crewmembers who are susceptible to certain medical conditions in the near future. Will advances in biosensors allow us to monitor brain and body functions noninvasively to identify when a crewmember is no longer capable of performing at an optimal level or when capabilities fail to meet medical certification standards?

As black box monitoring systems expand to ensure that the cabin is free from infectious diseases and chemio-bio-radiation weapons, will we see the day when we have "nano-black boxes" present in aircrew and passengers to monitor their responses to the dynamic flight environment on Earth and in space? These advanced monitoring systems will require more sophisticated accident/incident investigation procedures. Thanks to Dr. Jim Whinnery for sharing his thoughts concerning the future of aerospace medicine.

With all of these changes seemingly on the horizon, how will you and the association adjust? Will we see fewer aerospace medicine specialists and more specialists with extensive knowledge/experience in the advanced sub specialties? How can we build an organization that not only reacts to these changes but is in the forefront of efforts to adapt to the evolving aerospace environment? In this high-paced world we live in today, a blink or two and what was once science fiction will be reality.

# Medical News

## AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE

### Executive Director's Column



Rayman

### Policy Formulation: Part 2

In the December 2003 issue, I described in general terms AsMA's process for our policy formulation. In this month's issue, I will give further details regarding the instruments we employ in order to publish our policy/position statements.

The three instruments we employ are position papers, resolutions, and letters. We choose one of these three depending upon the urgency of the issue and appropriateness.

#### 1. Position Papers

A position paper addresses issues that require a scientific basis for making recommendations. Normally, a position paper states the problem, provides evidence as published in the medical literature, and then recommends a position based upon the evidence. Therefore, the paper must be well referenced and somewhat scholarly. Usually, position papers are prepared by a standing or ad hoc committee and must be approved by majority vote of Council. If it carries a majority vote, the position paper becomes official AsMA policy and is published accordingly.

The strength of a position paper lies in recommendations based upon evidence-based medical references. A disadvantage of the position paper is the long lead time it takes in preparation. Hence, it is not very effective for issues demanding immediate action.

#### 2. Resolutions

Resolutions address issues that do not necessarily require reference to the aerospace medicine literature. For example, AsMA resolutions have included the banning of smoking on commercial airlines, support of the International Space Station, and a call for an inflight Good Samaritan Law. Any AsMA member or committee can submit a proposed resolution to the Resolutions Committee. The resolution is then presented to the AsMA Annual Business Luncheon for discussion and vote. If approved, the resolution becomes official AsMA policy and is published. However, only the "Therefore be it resolved" portion(s) of the resolution is published and not the "Whereas" portion(s).

The advantage of a resolution is that it is very easy to prepare and does not require the library research (as a position paper does). However, the disadvantage is the long lead time because it must be approved by majority vote at the Business Luncheon held annually in conjunction with the Scientific Meeting.

#### 3. Letters

If an issue requires immediate action, it will be reviewed electronically by the Executive Committee. If, in the judgment of the Executive Committee, our position would be acceptable to the majority of the AsMA members, a letter would be written expressing our position on the issue and sent to the appropriate agencies.

The advantage of a letter is that it is suitable for very fast action. Recent examples of letters include the support of the NASA Report, "Safe Passage"; recommendations to airlines to carry anticonvulsants in their emergency medical kits; and, support of the military policy on the use of go-no go pills.

With this understanding of AsMA's instruments for policy formulation, how effective have we been? This will be discussed in part 3 to be published in the March issue.

### Aerospace Medical Association Ethics Statement

*The following statement was approved by the AsMA Council, November 19, 2003.*

The Aerospace Medical Association recognizes the multidisciplinary nature of the membership of the organization. Members, due to their affiliations with allied organizations, are likely to be required to adhere to the code of ethics/conduct of those organizations. Thus, this code of ethics/conduct is more general in nature and reflects the basic principles and guidelines adopted by many of these other organizations.

AsMA members strive to maintain high professional standards for their work. They recognize their areas of expertise or competence and provide services only within those areas in which they are qualified by education, training, or experience. When involved in legal proceedings, members do not serve as an expert witness in areas outside their areas of expertise or competence. Members participate in professional education activities to maintain the scientific and professional expertise required to fulfill their professional obligations. They maintain familiarity with and respect the laws pertaining to the professional areas within which they work.

In all of their interactions, members seek to avoid harm to their clients or research subjects and to contribute to society and the well-being of crewmembers, aerospace personnel, and the flying public. Regardless of their area of work, teaching, research, consultation, evaluation, or patient care, members respect the rights and dignity of all individuals. This includes the right to privacy, confidentiality, self-determination, and autonomy. All research shall comply with applicable national and international laws and standards regarding informed consent, and protection of the rights and welfare of human participants and animal subjects.

In the conduct of their business, members honor property rights, including copyrights

and patents. When preparing reports, manuscripts, and other materials, members provide proper credit for intellectual property. They ensure that citations and descriptions of previous studies are accurate.

Any AsMA member will ensure that he/she responds to issues and concerns on the basis of sound scientific/professional principles. In instances where there may be a perceived conflict between the issue at hand and the place of employment, a member is expected to make a decision on the basis of the scientific and clinical evidence. When it is felt that impartiality cannot be maintained with regard to a specific issue, it is the responsibility of the member to recuse him/herself from influencing the discussion and subsequent vote.

#### I WANT YOU!

Our membership has been flat at about 3,300 for the past 5 years. We now want to increase our rolls. I WANT YOU to get a new member for AsMA sometime during the next 6-12 months. Ask a colleague in your institution or workplace and consider giving an AsMA membership as a gift to a deserving colleague. Let's all get behind this and surge. I will keep you posted on how we are doing. Thank you.

#### Clinical Aviation Medicine

This is a reminder that the book "Clinical Aviation Medicine" which was donated to AsMA by the authors (Rayman, Hastings, Kruyer, and Levy) is available free of charge (a \$110 value) to new AsMA members only through 2004. Please recruit a new AsMA member soon, before this offer expires.

**Russell B. Rayman, M.D.**  
Executive Director

#### Annual Meeting Features Online

You can **View Abstracts and Create Your Very Own Personalized Itinerary** using the COS Website. Just go to our website ( [www.AsMA.org](http://www.AsMA.org) ), and then go to the Annual Meetings page and click on "Meeting Abstracts Online". You can also create a profile using the COS Workbench and search for funding for research and educational projects via the COS system. Check it out! Take advantage of this powerful tool!

You can also **register for the AsMA Meeting** online from the Annual Meetings page on the AsMA site.

In addition, there is information on how to create your slide or poster presentation and much more!

## This Month in Aerospace Medicine History-- January 2004

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

### Seventy-five Years Ago

*Aviation endurance record.* January of 1929 saw the first of the new aviation endurance records. Army Air Corps Major Carl Spaatz commanded an Army Fokker with Captain Ira Eaker as chief pilot. They took off from Los Angeles on January 1st, and utilizing mid-air refueling they remained aloft 150 hours and 40 minutes, landing again on the 7th of January. (6)

### Fifty Years Ago

*Sickle cell trait at altitude.* "The authors report here on six [cases of 'sicklemia' trait] admitted to an Air Force hospital, showing splenic enlargement and infarction in high altitude flight... All six show a remarkably similar clinical pattern. They had flown in unpressurized aircraft at 10,000-15,000 feet for over an hour. All six were Negroes, ranging from eighteen to twenty-three years of age. All felt well on boarding the aircraft. In one-half to four hours after takeoff, they suffered nausea followed by frequent emesis and pain in left upper quadrant of the abdomen. The pain became progressively worse, and in five of the cases the plane was landed because of the severity of the patient's illness.

"The temperature curves of all patients rose from 98-99.6°F to 101-104°F within forty-eight hours. In all cases the fever was associated with anorexia, sweating, moderate abdominal distention, and increasing abdominal pain, primarily in the left upper quadrant... Laboratory examinations revealed definite sickling of erythrocytes... in five patients.

"Splenectomy was performed in each case. A gross and microscopic pathological examination showed massive infarction without evidence of major splenic arterial thrombosis.

"A possible hazard exists for the Negro with the sickle cell trait in airplane flight. There is no definite proof that a direct cause and effect relationship exists between high altitude flying, sicklemia trait, and splenic infarction; however, the triad is certainly suggested and cannot be overlooked. The military implications warrant further investigation" (2).

Symbolic versus pictorial cockpit instrumentation. "Symbolic instruments present data by means of bars, pointers, circles or other geometric shapes moving with respect to some index to represent position, displacement, or rates of change. With few exceptions, all instruments in present-day aircraft are symbolic.

"Pictorial instruments present data by a natural or synthetic reproduction of the visual cues experienced when flying contact. An instrument panel equipped with pictorial presentation would require a minimum of symbolic indication, mostly for rate information - rate of climb, rate of turn, et cetera. "Early aircraft instruments were patterned after those on automobiles. Later new techniques were discovered to supply such information as airspeed, rate-of-turn, direction, rate-of-climb, et cetera. These followed the same basic pattern of a pointer rotating with

respect to a fixed dial, with one exception - the artificial horizon. That was the first approach to pictorial presentation... Until some means of 'seeing through' fog and rain is developed, it would be extremely difficult to create an actual reproduction of vision conditions. But we can design instruments presenting the required information in a more natural way than we do now. In instrument flying, the pilot's natural environment has been obscured; he needs something which resembles these natural cues. Pictorial presentation should be carried out to whatever extreme is required to make the job of flying the aircraft itself a reflex action. The other information required is specific and must be indicated as such... There are many ideas as to how instruments should appear, but they can only be considered as personal opinion unless a very careful psychophysiological study is made with pilots and engineers to determine specifically what information is required, and what is the most natural way to present this information" (3).

*Parachute design for aircraft.* "Missile drop tests and supersonic railroad rides are helping engineers of Cook Research Laboratories to test parachutes for sonic-speed applications to contemporary aircraft... The thirty-two-foot missile, 'Skokie,' used in the drop tests, is dropped from altitudes of over 20,000 feet. During the drop, three parachutes are opened from the missile tail fins. The fourth fin contains a high-speed movie camera which films the operation of the chutes.

"At preset speed and altitude, the first chute is popped. After a few seconds, a powder charge blows that chute clear, but during those seconds the camera and other instruments have been recording drag and stabilizing parameters. The second chute blossoms right after the first is ejected; it is a drogue chute... [T]he third chute [is] opened for recovery of the bomb in good condition. Final shock of impact with the ground is avoided by using a chrome-steel spike, part of the missile nose. The spike penetrates the hard desert floor, absorbing the energy of impact... [A] tape recorder in the missile collects data which is reproduced graphically later.

"Cook engineers have developed a rocket-propelled sled used at Edwards Air Force Base for collecting design data on drogue parachutes. It is stopped by a water brake developed by Cook" (4).

### Twenty-five Years Ago

*Psychoneurotic air traffic controllers.* *Civil Aeromedical Institute, Oklahoma City, OK:* "The morbidity experience of 28,086 air traffic controllers has been examined from 1967-77 with particular emphasis to the potential effects of job demands on ATC health. The morbidity experience of air traffic controllers does not appear excessive, except for psychoneurotic disorders, compared with the experience of other outside groups studied. Additionally, a lack of association between disease occurrence and occupation is observed in the data correlating disease occurrence with length of service and age. While some isolated trends found in these data are supportive of an occupation/disease relationship they are neither - as would be expected if the association were a strong one - impressive nor consistent. Although anticipated empirically, one of the more interesting results of the study was quantification of the substantial differences found to exist in the incidence of dis-

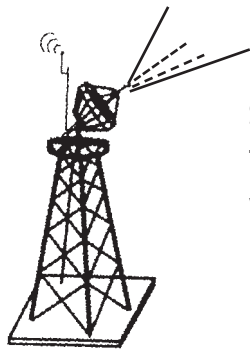
ease before and after the second-career legislation" (1).

*Cavitation theory and diving.* Department of Physics and Astronomy, University of Hawaii, Honolulu: "Although decompression sickness results from bubble formation in blood or tissue, pressure schedules currently in use are essentially empirical and contain little input from cavitation theory. The recent convergence of three lines of investigation suggests that a synthesis of practice and theory may now be possible. The data consist of pressure reduction limits for gelatin, rats, and humans following steady-state exposures. From the gelatin studies, a model has been developed in which bubble formation is initiated by spherical gas nuclei stabilized by surface-active skins of varying gas permeability. We demonstrate that the model is also in good agreement with data on rats and humans over a wide range of pressures and that the model parameters assume sensible values in each case. This suggests that cavitation theory can provide a rationale for current diving practice and can serve to secure, consolidate, and extend this practice" (7).

*Pilot centrifuge training.* USAF School of Aerospace Medicine, Brooks Air Force Base, TX: "Everyone is susceptible to +Gz-induced loss of consciousness (LOC) upon exceeding his G tolerance. With more operational high-performance aircraft having high-G onset rates, one can anticipate a greater likelihood of LOC during aerial combat maneuvers. Estimates of the time of incapacitation caused by pure +Gz are particularly important in aiding accident investigation teams, who have been tasked to recreate aircraft incidents and accidents, and also to aeromedical clinicians investigating alterations in aircrew consciousness for unknown reasons. LOC due to pure +Gz on the USAF School of Aerospace Medicine (USAF-SAM) centrifuge causes a mean time of incapacitation of 15.0 s with a range from 9.0 to 20.5 s. This represents the minimum or lower limit of incapacitation under the ideal conditions of returning immediately to a +1 Gz environment. In an operational multistress aircraft, conditions may not be nearly so ideal, requiring longer periods before a pilot can initiate the recovery sequence. Loss of consciousness was found to occur very suddenly, and even experienced subjects were sometimes unable to recognize either its onset or overall occurrence. The rationale for training pilots on a centrifuge is discussed" (5).

### REFERENCES

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2. Cooley JC, et al. Clinical triad of massive splenic infarction, sicklemia trait, and high altitude flying. *JAMA* 1954; 154(2):111-3.
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## Science & Technology Watch

Keeping You Informed Of The Latest Advances In Science And Technology

### Fly-Eye Collision Avoidance for Unmanned Aerial Vehicles

Lt. Col. Dave Bossert, USAF, Department of Aeronautical Engineering, U.S. Air Force Academy, Colorado Springs, CO

The Air Force Scientific Advisory Board is concluding a study on how the Air Force will use Unmanned Aerial Vehicles (UAVs). One of the key requirements identified in this study is a "see and avoid" capability for UAVs to fly in the same airspace with manned vehicles. Moreover, for UAVs to fly cooperatively, they must avoid each other. Beyond that, UAVs must avoid objects while maintaining an overall vector toward a waypoint. Ultimately, a UAV sensor that can see, avoid, and identify objects is the goal.

The USAF Academy UAV Research Group is actively pursuing this problem. Dr. Mike Wilcox from the Biology Department, working with Lt. Col. (Ret) Cam Wright from the Electrical Engineering Department, have developed a sensor on an integrated circuit (IC) chip that mimics the biological pathways of a common fly. This "fly eye" sensor has demonstrated exceptional performance in the first prototype testing, achieving sub-pixel resolu-

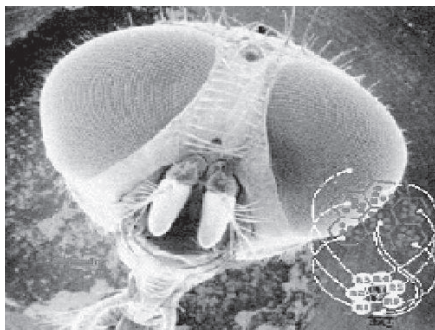


Fig. 1. Fly-Eye Sensor for UAV Collision Avoidance.

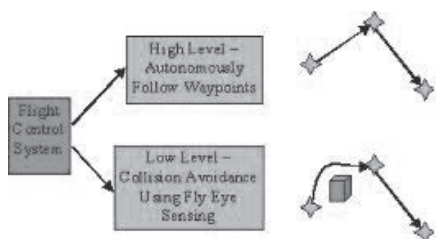


Fig. 2. High-Level and Low-Level UAV Control.

tion. By using side-lobe information from the electrical circuits on the IC chip, Dr. Wilcox can actually determine location more precisely than the real fly! Fig. 1 shows a picture of the photocell portion of the Fly Eye sensor and the biological inspiration for the circuit.

How can UAVs use this capability? By placing the sensor on a UAV, an object's location relative to the sensor can be discerned. A UAV must complete its mission by flying to multiple waypoints. Objects can appear randomly as the UAV executes its mission, the UAV must be "smart" enough to avoid the unexpected, the unforeseen, and the overlooked. Fly-eye technology delivers this capability. Fig. 2 shows a schematic of how this works.

How is this implemented conceptually using a fly eye sensor? Visiting researcher Lt. Col. (Dr.) Kelly Cohen from Israel developed an initial scheme based on fuzzy logic control. Before attempting the algorithm in three dimensions, the approach is first to develop and test the algorithm on a two-dimensional platform. The University of Wyoming, with funding secured by Dr. Wilcox, has developed a working model of the fly eye and placed it on a remote control car. The sensor, essentially an array of photo detectors with conical lenses, is shown in Fig. 3.

The control algorithm is essentially a fuzzy controller, which takes the inputs from the sensor and steers the vehicle clear of the obstacle for the low-level collision avoidance algorithm. An outer high-level heading - hold loop is used to keep the vehicle oriented toward a waypoint. In other words, even if the UAV must make a short-term course correction to avoid an obstacle, it still retains its focus on the next waypoint. This way, no matter what unexpected object may appear, the UAV "keeps its eyes on the prize."

Once the algorithms are developed and proved for the 2-D case, then the 2-D fly-eye sensor array will be used for a 3-D UAV application. The ultimate application would make use of an algorithm being developed by Dr. Daniel Pack from the Electrical Engineering Department. Not only will the sensor detect an

#### Fly Eye Sensor

- 2-D - use 1-D photo diode array (develop algorithm)
- 3-D - use integrated circuit with 2-D focal plane array (already built)



Fig. 3. 1-D Sensor for 2-D Applications.

#### Collision Avoidance Using Fly Eye Sensing - Phase 3

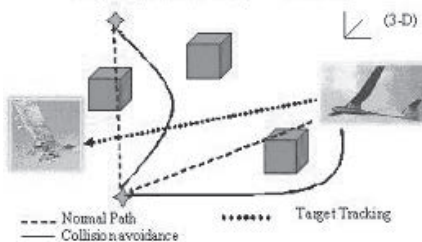


Fig. 4. Collision Avoidance with Target Identification.

object, but it will also be able to identify the target. There are many applications for this type of sensor-software combination, from passing target information to actually engaging a target of opportunity. The target identification algorithm uses eigenvector identification to rapidly identify targets from the sensor inputs. The UAV application making use of this sensor is shown in Fig. 4.

Clearly, this is an exciting area of research at USAFA for the UAV Research Group. It addresses an Air Force need and new and relevant research combining biological and engineering sciences. \*\*\*\*\*

The AsMA Science and Technology Committee provides this Science and Technology Watch Column as a forum to introduce and discuss a variety of topics involving all aspects of civil and military aerospace medicine. The Watch can accommodate up to three columns of text, which may include a figure or picture to illustrate your concept.

Please send your submissions via e-mail to: len.goodman@drdc-rddc.gc.ca

### AsMA Future Meetings

May 2-7, 2004  
Egan Convention Center  
Anchorage, AK

May 9-12, 2005  
Kansas City, MO  
Hyatt Regency Crown Center

May 14-18, 2006  
Caribe Royale Hotel  
Orlando, FL

### MEETINGS CALENDAR

**January 14-15, 2004, Brooks City-Base, San Antonio, TX.** Military Aviation Fatigue Countermeasures. Info: Charlie Dean, charlie.dean@brooks.af.mil.

**February 17-20, 2004, Galveston, TX.** The University of Texas Medical Branch, Department of Preventive Medicine Residency and the U.S. Army School of Aviation Medicine will host "Pushing the Envelope V--Medicine in Challenging Environments", at the Moody Gardens Hotel in Galveston. For information see the website at [www.utmb.edu/pte](http://www.utmb.edu/pte).

**February 18-22, 2004, Orlando, FL.** The American College of Preventive Medicine (ACPM) presents Preventive Medicine 2004. Caribe Royal Suites and Villas. Info: [www.preventivemedicine2004.org](http://www.preventivemedicine2004.org); or Ginger Walters, ACPM Education Manager, (202) 466-2044, ext. 111.

**March 22-25, 2004, Daytona Beach, FL.** Human Performance, Situation Awareness, and Automation Technology Conference II. Info: Dennis A. Vincenzi: (386)226-7035; [dennis.vincenzi@erau.edu](mailto:dennis.vincenzi@erau.edu); <http://faculty.erau.edu/vincenzd/hpsaa>.

**May 25-26, 2004, Sydney, Australia.** Workshop on Remote Management of Mild DCI. Info: Undersea and Hyperbaric Medical Society (UHMS): (301) 942-2980; email: [uhms@uhms.org](mailto:uhms@uhms.org); websites: [www.uhms.org](http://www.uhms.org) or [www.iceaustralia.com/uhms2004/](http://www.iceaustralia.com/uhms2004/).

## XX International Meeting of the Mexican Aerospace Medicine Association

Playa del Carmen, Quintana Roo, México  
22-25 October 2003

By Dr. Silvio Finkelstein

This year's meeting location can best be described as "Paradise on Earth".

An outstanding program was arranged by the Mexican Association of Aviation Medicine under the Presidency of General (MC) Victor Manuel Rico-Jaime, the Scientific Committee under Dr. Luis A. Amezcua G., and the local arrangements under Dr. Edmundo Guerrero Sotres. The meeting took place 65 km south of Cancun in a place called Playa del Carmen, where the sand is baby-powder soft and the sea is the bluest I have ever seen in Mexico.

A five star, all inclusive hotel was the headquarters where the sessions took place. Delegates and accompanying persons were able to enjoy not only the socio-cultural benefits of the meeting but also the excellent Mexican food served. The local organizing committee took advantage of the magnificent scenery and the congenial atmosphere always present in México.

Concerning the scientific aspect of the program, ten working sessions were held as originally planned, in addition to the traditionally held Dr. Luis A. Amezcua G. Lecture, given this year by Retired General (MC) Bernardo A. Bidart Ramos. This year's main lecture covered a historical perspective on Myths and Realities of the 1847 Mexican-North American War, a subject that was treated objectively in a splendid manner by General Bidart, an historian by nature.

The attendance, in addition to the regular contingent of Latin American physicians, was augmented by representative of the Royal U.K. Air Force, the USAF, and the FAA. Simultaneous interpretation Spanish-English was provided throughout.

As part of the Opening Ceremony, the presentation of the Colors and the Mexican National Anthem took place. High level officials representing Federal, State and Local authorities welcomed us.

The general theme for this year's meeting was: "Medical and Surgical Therapeutic Advances as Applied to Aviation" and it proved to be outstanding with prominent clinicians providing updates in their different disciplines which were complemented by operationally related comments.

In addition to the scientific and technical sessions held, a significant event took place: the signing of an agreement between the Mexican Aviation Medicine Association and the Mexican Air Line Pilots Association in the sense of complementing each other on relevant aspects of their objectives thereby obtaining mutual benefits.

Captain Octavio Amezcua Pacheco, M.D., took over the Presidency for the next 2-year period. He announced that next year's meeting will be held in Acapulco, 27-30 October; the theme will be "Human Factors in Aviation."

For the Acapulco meeting, in addition to the already appointed (or soon to be invited)

international experts, the Scientific Committee will welcome papers from the attendees.

In this respect, I wish to recommend colleagues to take a multi-tiered approach as follows:

- 1) Mark the dates in your calendar;
- 2) Start preparing an abstract (details and deadlines will be announced soon);
- 3) Plan to attend with "significant others" or any friends and/or colleagues. It will really worth your while!!!!

All in all, the time spent in this paradisaical place was very worthwhile; a good scientific program was available to attendees and great social and cultural opportunities were enjoyed by all.

Kudos go to Dr. Amezcua who, in spite of all difficulties, continues to be a major stalwart of Aviation Medicine in his native México and is fully respected and appreciated throughout the world.

### Focus on Members:

## Dodd is Command Surgeon for NORAD and USNORTHCOM

The United States and Canada have been partners in defense through numerous defense agreements dating back to the 1940's. In 1958 the two nations formalized an agreement establishing the North American Air Defense Command (NORAD), headquartered in Colorado Springs, CO, as a binational command, centralizing operational control of continental defenses. The name was changed to the North American Aerospace Defense Command in 1981. During the renewal process in 1996, NORAD's missions were redefined as aerospace warning and control for North America, including a consultative mechanism for issues concerning aerospace defense cooperation and a provision for the review and management of environmental practices related to NORAD operations. As part of its aerospace control mission NORAD civil authorities in the detection and monitoring of aircraft suspected of drug trafficking.

A strength of the NORAD Agreement and testimony to the close cooperation between Canada and the U.S. is the on-going adaptation of NORAD's mission and capabilities to meet the challenges posed by ever-changing threats. The events of September 11, 2001 provide evidence of the responsiveness and continued relevance of NORAD, as these two nations address homeland defense requirements including threats originating in North American airspace.

There are nine strategic sites in the NORAD system: Elmendorf AFB, AK--Alaskan NORAD Region; McChord AFB, WA--Western Air Defense Sector; Peterson AFB, CO--NORAD Headquarters; Rome, NY--Northeast Air Defense Sector; Washington, DC; Tyndall AFB, FL--Continental U.S. NORAD Region/Southeast Air Defense Sector; Winnipeg, Manitoba, Canada--Canadian NORAD Region; and North Bay, Ontario, Canada--Canadian Air Defense Sector.

In Canada, the North Warning System is

a chain of 47 unmanned radar sites, supported by 5 Logistics Support Sites that provide aerospace surveillance of Canada and North America. They are an essential part of NORAD in guarding Canada's sovereignty. These unmanned sites are equipped to gather information about any airborne activity within their range. The information is then automatically sent to the Canadian Air Defence Sector at the 22 Wing, CFB North Bay, over a long-haul satellite communications network.

Brigadier General Lloyd E. Dodd, Jr., is the Command Surgeon for both the North American Aerospace Defense Command (NORAD) and the United States Northern Command (US-



NORTHCOM). In these roles he serves as principle medical advisor to his commander and staff and is responsible for the integration of DoD medical assets internally and with other agencies in support of the military response to civilian

disasters...combating terrorism and protecting Americans.

In his previous assignment at Brooks City-Base, TX, Gen. Dodd was responsible for defining, developing, fielding and training all elements of operational aerospace medicine for the U.S. Air Force.

The general earned a B.S. in Psychology, with a minor in Chemistry from the University of Southern California, Los Angeles, CA, where he graduated Magna Cum Laude and Phi Beta Kappa in 1969. After receiving his M.D. degree from the Baylor College of Medicine in Houston, TX, in 1973 and completing a rotating internship at the Kern General Hospital in Bakersfield, CA, he began his Air Force career in 1976 as a General Medical Officer at Hickam AFB, HI.

Gen. Dodd is board certified in Aerospace Medicine, Family Practice, Emergency Medicine, and Medical Management. He is a Chief Flight Surgeon with over 1250 hours logged in over 35 different USAF aircraft.

An AsMA Fellow, Gen. Dodd served as the President of the Society of USAF Flight Surgeons for 2002-03. He has received numerous commendation medals including: Defense Superior Service Medal, Legion of Merit with Oak Leaf Cluster, Meritorious Service Medal with Oak Leaf Cluster, Air Force Commendation Medal, Armed Forces Service Medal, Air Force Recognition Ribbon, National Defense Service Medal, Humanitarian Service Medal, Marksmanship Ribbon with Bronze Star, Outstanding Unit and Organization Ribbons, and Longevity Ribbon with Silver Oak Leaf Cluster.

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## AEROSPACE PHYSIOLOGY REPORT

Send information for publication on this page to:  
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### The History of the Aerospace Physiology Society---Part II

By Donald C. Choisser, Colonel, USAF, BSC (Ret)

#### The Society's Emblem

Some months following the creation of the Aerospace Physiology Section, members of the Board of Directors were asked about the creation of a distinctive insignia or lapel pin; ideas for its design were solicited. The candidate designs were evaluated and discussed by members of the Board until a final symbol was chosen. The pO<sub>2</sub> design, representing the partial pressure of oxygen, was selected as the emblem or lapel pin. It was considered unique and appropriate as the essential element common to all animal physiological functions. The President of the Section, who was the pin's designer, pursued sponsors for production of several hundred of these unique pO<sub>2</sub> pins that would be used as a lapel pin, tie tack or fashioned into a ring or charm. Through the efforts of Bob McLaughlin and M. R. "Jim" Kaletta, President of Scott Aviation, the pO<sub>2</sub> pin was produced in sterling silver. The pO<sub>2</sub> pins were presented with a membership card to all members attending the following general meeting in New Orleans, LA in 1978. The generous grant from Scott Aviation made sufficient sterling silver pO<sub>2</sub> pins available for distribution to all members of the Aerospace Physiology Section for several years. The advent of certification in aerospace physiology again raised the question of recognition and identification. Thus, the pO<sub>2</sub> pin turned to gold for those certified in aerospace physiology beginning in 1978 and remains today as a badge of achievement with an accompanying handsome and distinctive wall certificate.

#### Aerospace Physiology Certification

There are more than 120 Board Certified Aerospace Physiologists that are representative of the general membership of the Society in education, background, areas of interest, employment and, to some degree, goals. This represents about 2/3 of the Society membership. They include the leaders in Aerospace Physiology, both present and past. Certification has become a significant step in the intellectual growth, development and career patterns for professional and peer recognition.

The broad and specific knowledge in aerospace physiology is the common thread within the group as they function in a variety of civil, military and academic areas that include life support, flight operations, hyperbaric medicine, the human factor spectrum of interests, and the space program. These varied activities, backgrounds and specialties are primarily seen in the Society's members from the United States, but includes some international members.

The subject of peer recognition in aerospace physiology was initially explored in the late 1960s by Maj. Richard B. Trumbo with Dr. Smith W. Ames of the Air Force Surgeon General's office and Commander Kenneth Coburn, USN of the Bureau of Medicine, U.S. Navy. As AsPS President in 1974, Maj. Richard Trumbo, worked with CDR Don Reid and Dr. Sidney Leverett, President-Elect, to introduce the certification concept to the Society and, in turn, AsMA Council. Conceptual discussions and interactions with the AsMA Education and Training Committee and Council proceeded into 1975. Capt. Frank Austin, USN, supported by Dr. Douglas Busby, championed the Board Certification efforts from its inception, seeing the potential value to the Society and Association. After considerable deliberation, Dr. Sidney D. Leverett, Jr., President of the Aerospace Physiologist Section in 1975 formed a committee for the preparation of the necessary materials to be presented to the parent organization. Dr. Leverett enlisted the significant assistance of Lt. Col. Richard D. Sinclair to chair the committee for development of a comprehensive examination and mechanism for certification of aerospace physiologists. The committee included Lt. Col. Richard D. Sinclair, Maj. Richard B. Trumbo, CDR Donald Reid and Lt. Col. Donald C. Choisser.

Board certification was intended for persons who had an abiding interest and demonstrated productivity in aerospace physiology. Eligibility requirements included a Baccalaureate in physiology, or a closely related science, with significant formal training in physiology. Normally, one would be considered ready for examination with five years of professional experience in aerospace physiology.

By the spring of 1976, the committee had drafted the components of the Aerospace Physiology Certification Program, including eligibility, grading procedures, award specifics and the value of certification to the Aerospace Medical Association programs, such as Fellowship and the potential for increased membership. AsMA Council approved the program in May 1976. Dr. Leverett, President of the Aerospace Physiologist Section, presented the President's Award for that year to Lt. Col. Richard D. Sinclair in recognition of his work in developing the certification program.

An essential part of the certification program was the establishment of the Aerospace Physiology Certification Board. The first chairman of the Board was Lt. Col. Bruce E. Bassett. They also included the 10 Past Presidents of the Aerospace Physiologist Section. The Board administered the first examination in 1977 and six examinees were Board Certified. The first Aerospace Physiologists to be Board Certified are listed in Table I. Additionally, the previous Aerospace Physiologist Section Presidents who assisted in the development of the Aerospace Physiology Certification Program were awarded honorary certifications that year as shown in Table II.

The AsMA Council oversees the activities of the Aerospace Physiology Certification Board through representation on the Board by a Council Member. The representative acts in an advisory capacity to the Board and reports the results of the Board's activities as well as the names of persons who pass the examination to the Council each year. Past Council Advisors to the Aerospace Physiology Certification Board have included Douglas E. Busby, M.D., Royce Moser, M.D., Rufus M. DeHart, M.D., Richard D. Heimbach, M.D. and Col. Jeffrey Sventek.

Certified Aerospace Physiologists represent a diversity of academic backgrounds. The fundamental goal of certification is to confirm and recognize the certificate holders' general knowledge of aerospace physiology and their ability to support military, space and civilian flight operations at the highest level of expertise. Over time the certification examination has evolved to reflect parallel changes in aerospace physiology. A great deal is owed to Dick Trumbo, Sid Leverett, Richard Sinclair and Bruce Bassett for initiating and developing the Aerospace Physiology Certification Program through previously uncharted waters. This work has successfully served Aerospace Physiologists for many years.

It is helpful to look at the philosophical background that is involved with certification. Successful applicants are approved by the Executive Council of the Aerospace Medical Association (AsMA), acting upon the recommendations of the Aerospace Physiology Certification Board. The Certification Board consists of nine members plus a chairperson and a representative from the AsMA Council. Activities of the Board were published in the December 1985 issue of *Aviation, Space and Environmental Medicine*.

Throughout the years of certification, meaningful revision activities for the examination have been managed by Arthur H. Smith, Donald C. Choisser, Emerson L. Besch, Kent E. Magnusson and James T. Webb. In 2002, a major examination rewrite took place by Lt. Col. Tim Byrne, Chair, Aerospace Physiology Examination Committee. The examination was revised, updated and integrated with new software. The overall test structure and ethical policies were examined during the period of revision and rewriting. Ideas were presented to the past Chairs of the Examination Committee, the RAND Institute (who construct medical and legal board exams), and the United States Air Force Academy's Educational Excellence office. What developed was an improved professional exam that could withstand outside scrutiny.

The Aerospace Physiology Certification Board administers the 250 objective-type question certification examinations at the Annual Scientific Meeting of the AsMA. The 5-hour examination covers various areas relevant to aerospace physiology in the general flight environment including: physiology, acceleration physiology, decompression physiology, impact, hypoxia, vibration and noise, operational aspects, space physiology, spatial orientation and the various aspects of human factors, etc. The examination is given in English and a calculator may

See *PHYSIOLOGY HISTORY*, p. 95.

*PHYSIOLOGY HISTORY, from p. 94.*

be used. The examination is fair and challenging. The target audience is aerospace physiologists with five year's experience who have studied the reference materials.

Each year the Chair of the Aerospace Physiology Board Certification Examination Committee assembles a new examination. Other members of the Examination Committee provide input. A certain percentage of the questions remain on subsequent exams to ensure continuity from year to year. These questions have answer choices rearranged along with a mix of items in each topical area. The annual exams are updated and contain new information related to the field of Aerospace Physiology by including items related to articles in the recent journal issues of the Aviation, Space, and Environmental Medicine.

In the future, the areas considered for questions will undoubtedly add more contemporary problems to the classic areas of today and the past. The overall development, implementation and continued success of the Aerospace Physiology Certification Program is a testimony to the sustained dedication of the many talented members of the Aerospace Physiology Society and their advisors on the AsMA Council.

**TABLE I. FIRST AEROSPACE PHYSIOLOGISTS BOARD CERTIFIED BY EXAMINATION (1977).**

1. Donald C. Choisser, Col., USAF, BSC
2. Mary F. Foley, Col., USAF (Ret)
3. Billy Joe Pfoff, Maj., USAF, BSC
4. Robert M. Shaffstall, Capt., USAF, BSC
5. Paul J. Sheffield, Maj., USAF, BSC
6. Arthur H. Smith, Ph.D.

**TABLE II. HONORARY CERTIFICATION OF THE PAST PRESIDENTS OF AEROSPACE PHYSIOLOGY SOCIETY WHO CONTRIBUTED TO THE PREPARATION AND GRADING OF THE FIRST EXAMINATION (1977).**

1. Smith W. Ames, PhD
2. Richard W. Bancroft, PhD
3. Bruce E. Bassett, Lt. Col., USAF, BSC
4. Edwin P. Hiatt, PhD
5. Mary F. Keener, CAPT, USN (Ret)
6. Sidney D. Leverett, PhD
7. Charles F. Lombard, PhD
8. Martin Passaglia, CAPT, MSC, USN
9. Donald H. Reid, CDR, MSC, USN
10. Richard B. Trumbo, Lt. Col., USAF, BSC

**Society Presidents**

Each year a new group of officers are elected to the Aerospace Physiologist Society. The Society has been fortunate; some say blessed, to have many talented, industrious officers who have served with distinction in their various positions.

A brief bio sketch of the first three presidents is memorable and appropriate; not just for the formative years, but also as an indication of the quality of the individuals who have managed the Society.

**Charles F. "Red" Lombard, PhD**, a physiologist/pharmacologist, began as a Cum Laude in physics. As the first president of the Aerospace Physiologist Society in 1966, he was a remarkable researcher in several industries and universities for 40 years, including University of Southern California, Protection, Inc., and Northrop Space Laboratories. He did original pioneering research and development in



**FIRST CERTIFICATION**--Undergoing examination May 8, 1978, for certification in the specialty of aerospace physiology are, left to right front--Paul J. Sheffield and Mary F. Foley; rear--Robert M. Shaffstall and Donald C. Choisser.

**TABLE III. AEROSPACE PHYSIOLOGY SOCIETY PAST PRESIDENTS.**

1966-67 -- Charles F. Lombard	1985-86 -- Emerson L. Besch--For Jimmy D. Adams due to illness
1967-68 -- Mary F. Keener	1986-87 -- Billy J. Pfoff
1968-69 -- Smith W. Ames	1987-88 -- Douglas W. Call
1969-70 -- Thomas H. Allen	1988-89 -- Wilbur T. Workman
1970-71 -- Richard W. Bancroft	1989-90 -- W. Carter Alexander
1971-72 -- Edwin P. Hiatt	1990-91 -- Kenneth N. Ackles
1972-73 -- Bruce E. Bassett	1991-92 -- William J. Cairney
1973-74 -- Donald H. Reid	1992-93 -- Roberta L. Russell
1974-75 -- Richard B. Trumbo	1993-94 -- James T. Webb
1975-76 -- Sidney D. Leverett, Jr.	1994-95 -- Ronald D. Reed
1976-77 -- Martin Passaglia, Jr.	1995-96 -- Curtis G. Armstrong
1977-78 -- Donald C. Choisser	1996-97 -- Kent E. Magnusson
1978-79 -- Paul J. Sheffield	1997-98 -- Jeffrey C. Sventek
1979-80 -- John A. Vaughn	1998-99 -- Britton L. Marlowe
1980-81 -- Paul A. Furr	1999-00 -- Susan E. Richardson
1981-82 -- Mary F. Foley	2000-01 -- Donald A. Diessel
1982-83 -- Russell R. Burton	2001-02 -- Robert A. Matthews
1983-84 -- Roger W. Page, Jr.	2002-03 -- Vincent W. Musashe
1984-85 -- Emerson L. Besch	

acceleration, altitude and crash protection, including energy absorbing materials (vs. sling suspension) for aircrew "crash" helmets. His work led to the development and marketing of the "Lombard helmet" and its successors worn in the 1960s and thereafter by many jet fighter and test pilots. This work significantly benefited the USAF, USN, and civilian fliers and evolved into much of the present day headgear. Although remembered by many senior fliers and astronauts for the Lombard helmet, his somewhat unrewarded contributions to oxygen equipment, restrain research with Dr. John Paul Stapp, auto seat belts, football helmets, accident investigation, are only a few of his firsts. For those who knew him and worked with him, he will be remembered as a quiet, gentle, methodical man who did truly outstanding work.

**Capt. Mary F. Keener, MSC**, entered the Navy in October 1942 after receiving a BA degree from the University of Alabama for her work in zoology. She attended the first midshipman school for women at Smith College, Northampton, MA. Commissioned an Ensign in January 1943, she was assigned to the office of the Chief of Naval Operations, Department of the Navy, Washington, DC. In 1944, she was ordered to the Naval School of Aviation Medicine (later the Naval Aerospace Medical Institute), Pensacola, FL, for training as an aviation physiologist. Her career included the Naval Medical Research Institute in Bethesda, MD and various Naval air stations. She spent most of her career in teaching naval aviators and air crewmen how to meet the emergencies they may encounter in flight. She was widely known among Navy, Marine Corps and Air Force personnel, as she had probably trained more aviation personnel in oxygen equipment, and with low-pressure chambers than any other aviation physiologist in the armed forces. At the time of her AsPS presidency, Capt. Keener was head of the Aviation Physiology Training Branch, and head of the Aviation Physiology System's Requirement Section in the Bureau of Medicine and Surgery Department of the Navy, Washington, DC. In those spe-

*See AsPS HISTORY, p. 96.*



**FIRST PRESIDENTS**--The first three presidents of the Aerospace Physiology Society are, left to right, Dr. Smith W. Ames, CAPT Mary F. Keener, USN, and Dr. Charles F. Lombard.



**PASSING THE GAVEL**--At the 2003 meeting in San Antonio, outgoing president, Vince Musashe passed the gavel to incoming president Donna Murdoch.

*AsPS HISTORY, from p. 95.*  
 alities, she planned, directed and coordinated the Aviation Physiology Program for Naval aviation personnel. Capt. Keener was the first woman officer to obtain the rank of Captain in the USN Medical Service Corps, the first Chief of Naval Aviation Physiology Programs and the first female President of the AsPS.

**Dr. Smith W. Ames** received his BA and MA in Physiology from the University of Maine. He was directly commissioned as a Second Lieutenant in the US Army Air Corps in 1942 and was assigned as an aviation physiologist to the Santa Ana Army Air Base Physiological Training Unit. He subsequently served as Chief of the Mobile (railroad) Physiological Training Unit stationed at Goodman Field, KY. Later moving to Freeman Field, Seymour, IN and then to McDill Air Force Base, Tampa, FL. He left the service when World War II ended in 1945 and combined teaching Life Sciences with part-time research work at the University of Southern California Medical School, Department of Physiology. He later devoted full-time to research work on the human centrifuge, which was operated under an Office of Naval Research contract. While at the University of Southern California, he completed the work for a PhD degree in Aviation Physiology. In April 1951, he was recalled to active duty by the US Air Force and was assigned as Chief of the Survival Training and Equipment Branch Office of Flight Safety Research at Norton AFB, San Bernadino, CA. From February 1954, Dr. Ames was employed by the USAF Surgeon General as Senior Aviation Physiologist to manage the USAF Physiological Training Program. His many innovations include establishing an aerospace physiology unit in Panama to train US and our South and Central American allies. Also, in the early 1960s, he established Personal Equipment Mobile Training Teams (PEMTT) that provided cutting-edge life support equipment training and problem solving for the continental United States and selected overseas bases. Dr. Ames was instrumental in guiding several generations of Air Force aerospace physiologists for almost 20 years and in the formative steps of the Aerospace Physiologist Section in 1965-1967. As with other Society presidents, his long service, achievements and dedication to productivity for the Aerospace Physiologist Society will be remembered as monumental by many of the senior members of the Society.

The Presidents of the Aerospace Physiology Society are listed at **Table III**.

\*\*\*\*\*

*The Final Chapter of the History of Aerospace Physiology Society will appear next month, in the February issue.*

## Aerospace Physiology Award Nominations Due April 2, 2004

The members of the Aerospace Medical Association and the Aerospace Physiology Society are encouraged to recognize those valuable individuals who are performing extraordinary work within the Aerospace Physiology Community. The time has come to start planning for this year's Aerospace Physiology Society Awards, to be presented at the Aerospace Medicine Association's 75th Annual Scientific Meeting, held in Anchorage, Alaska.

The AsPS presents three awards at its annual luncheon. These awards are presented for outstanding achievement in all areas of aerospace physiology-operational support, training, research, and leadership. Recipients receive a certificate, wall plaque, and an honorarium. The following are brief descriptions of each award:

**The Paul Bert Award**, recognizes outstanding research contributions in aerospace physiology. This award was established in 1969, and was originally given for achievement in operational physiology. It is named in honor of the famous French physiologist, Paul Bert, the "Father of Pressure Physiology." Research contributions may vary from basic science to research in highly applied areas of aerospace physiology. The award is sponsored by NTI, Brooks City-Base, TX. Last year's recipient was James T. Webb, Ph.D.

**The Wiley Post Award** recognizes outstanding contributions in the areas of direct operational physiology and/or aeromedical training and education. In 1972, the Wiley Post Award replaced the Paul Bert Award for Operational Physiology. It is named in honor of the pioneer aviator Wiley Post, representing all who have benefited from the efforts of operational aerospace physiologists. The Wiley Post is presented for exceptional service and achievement in operational physiology, including education and physiological support of Dept. of Defense, FAA, NASA, allied or civilian aircrew. The Gentex Corporation, Carbondale, PA, sponsors the award. Last year's recipient was Sean P. Lando LT, MSC, USNR.

**The Fred A. Hitchcock Award** recognizes career contributions of senior aerospace physiologists for excellence in either operational aerospace physiology or aerospace physiology research. The award was established in 1972, and is named in honor of Fred A. Hitchcock Ph.D., co-translator of Paul Bert's classic work, "Barometric Pressure". The award is sponsored by International Atmo. Last year's recipient was Kent Magnusson, COL, BSC, USAF.

The standard format for award submissions shall be the same as the Aerospace Medical Association Awards, to include a citation to be read at the time of presentation (80 words or less) and a list of significant accomplishments in bullet format (maximum of 300 words). Please include the time interval over which the nominee's contributions were made. A current one-page biography, CV, or resume should also be included.

Society and Association members are strongly encouraged to nominate and recognize the outstanding contributions by professionals within the aviation scientific community.

Award nominations are due no later than 2

April 2004. Nomination package and Bio/CV must be in Microsoft Word. Please send nominations to:

c/o Commander, Naval Air Systems Command (PMA-202)  
 Attn: (CDR Wheaton, AsPS Awards)  
 47123 Buse Rd, Suite 347  
 Patuxent River, MD 20670-1906  
 Phone: (301)342-8445

## Aerospace Physiology Certification

The Aerospace Physiology Certification Board of the Aerospace Medical Association will administer the certification examination at the 75th Annual Scientific Meeting in Anchorage, AK on Sunday, May 2, 2004.

Individuals interested in certification should refer to the November 2003 issue (p. 1218) for more information.

Application must be made prior to March 1, 2004, to assure consideration for the 2004 examination. Applications received after that date cannot be guaranteed consideration for the 2004 exam. Any late applications not considered for 2004, will automatically be held in abeyance for consideration for the 2005 exam.

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

**CDR David Service, MSC, USN**  
 4881 East Alder Drive  
 San Diego, CA 92116  
 ServiceDB@miramar.usmc.mil

## SPACE MEDICINE BRANCH YOUNG INVESTIGATOR AWARD

The Space Medicine Branch's Young Investigator Award is presented to a young investigator who is the primary author of an outstanding presentation in the area of Aerospace Medicine presented at the current Annual Scientific Meeting of the Aerospace Medical Association. In addition to being the primary author, the work must be original and the young investigator must be presenting at the Annual Scientific Meeting for the first time. The Award is intended to encourage young investigators new to the field of Aerospace Medicine.

The applicant must submit a draft manuscript if their presentation to the chair of the Young Investigator Award sub-Committee. To be considered for the 2004 award, manuscripts must be submitted by March 15, 2004 to:

K. Jeffrey Myers, M.D.  
 Space Medicine Branch  
 Young Investigator Award Chair  
 P.O. Box 540305  
 Merritt Island, Florida 32954  
 Phone: (321) 867-2026  
 jeffrey.myers-1@kmail.ksc.nasa.gov



## AEROSPACE NURSING SOCIETY NEWS

Send information for publication on this page to: **Eileen Hadbavny**  
**1266 Merton Rd,**  
**Charleston SC, 29407-3317**  
**e-mail: hadbavny@usit.net**

### Greetings from the ANS President

I hope everyone had a wonderful holiday and you are ready to begin the New Year with renewed energy. As the President of the Aerospace Nursing Society (ANS), I would like everyone to mark their calendar for the annual AsMA meeting 2-6 May 2004, Egan Convention Center, Anchorage, AK. Yes, we are going North to Alaska, and the ANS will celebrate its 40th anniversary as an AsMA organization. We want as many of our members and past members to join in this celebration.

In addition, we would like to make this a hallmark year for increasing our membership and introducing more nurses and medical technicians in the many aerospace disciplines to the benefits of our organization. Remember the recruitment incentives of AsMA: AsMA members who recruit 3 new members earn 1 FREE membership at the end of their current membership. Continue to recruit members and never pay for your own membership.

May's meeting "Frontiers in Aerospace Medicine" in America's "last frontier" -Alaska promises to be great event. Please join us for an outstanding program.

**Virginia Schneider,**  
**President**  
**Aerospace Nursing Society**

### ANS Annual Meeting Minutes

1. ANS Annual Business Meeting called to order on Wednesday 7 May 2003 at 1410 by ANS Vice President Virginia Schneider, at the Convention Center, San Antonio, TX. A quorum was present.
2. 2001 ANS annual business meeting minutes approved.
3. President's Report: Submitted by ANS President, Jill Newlands and reported on by Vice President/President Elect, Virginia Schneider. Report filed. Also determination made to have the ANS President represent ANS on the AsMA Council. Priorities for the year determined to be as follows:
  - a. Web site (find a web master to assist in building)
  - b. Improve the CEU process (tie CVs to the abstracts)
  - c. Establish a tie between the FN Trauma course and a large drawing event
  - d. Establish criteria for Louise Marshall scholarship
  - e. Develop user friendly form for CEUs and critiques
4. Treasurer's Report: Diane Fletcher-report filed for audit.
5. Nomination Committee Report: Diane Fletcher-report filed (previously published on this page).
6. Scientific Program Report: Joyce Rosenstrom Chair - deployed. Colleen Morissette reported that DMRTI (Lorie

Greer) provided CEUs this year when previous CEU provider no longer held provider status. Discussion on who will continue the nursing CEUs versus CME done by the parent organization. Laura Alvarado will meet with L. Greer to work on how to best utilize DMRTI in future years by finding a way to tie the CVs to abstract submission.

7. Constitution and Bylaws Report: no report.

8. Awards Committee Report: Charlie Tupper- Report filed. Only gave 2 awards this year-Hoefly and Iversen. The Committee will be communicating information on the Beard Award for all honor graduates of the Flight School at Brooks-City Base. No applications for this sponsored membership in AsMA and the ANS were submitted this year to the ANS treasurer from among the honor graduates.

9. Education and Training Committee Report: not submitted. No Trauma Flight Nurse Course this year due to insufficient number of participants resulting from increase in deployments. Question raised as to whether it should be attached to a program other than AsMA (ex. AMSUS).

10. History and Archives: Judy Kincaid- report on file.

11. Convention Arrangements Report: none submitted.

12. Membership and Marketing: Diane Fletcher (membership)-see report. Nora Taylor (marketing)-not submitted. AdHoc Committee:

- Louise Marshall Scholarship. ANS received donation of \$11,000 to use for educational purposes. Awards committee to take on building the criteria (how much, criteria, process for review). Charlie Tupper and Eileen Hadbavny to accomplish via e-mail and have proposal finalized by next Business Meeting.

13. Unfinished Business:

Honorarium-ANS has lost two sponsors: Hoefly and Krakauer. No longer have lunch honorarium sponsor. There will still be a \$150 toward the Iversen Award (membership fees of \$85 for parent organization and \$5 for ANS with the balance presented to award recipient).

Garrecht Award (\$150 honorarium and cost of plaque). In years when there is no Garrecht Award, Marian Sides with Education Enterprises, Inc. will provide funds for the Hoefly and Krakauer plaques. See memo from Marian Sides.

14. New Business:

a. CEUs. DMRTI will be the provider for future ASMA meetings. We will work to have available for d for nursing CEU credit, and will work to streamline the process.

b. Web page. Need ANS site on AsMA parent page or at the very least a link to the parent page. ANS needs a web master.

c. Newsletter. Virginia Schneider and Gayle Quick will create and edit.

d. 40th Anniversary. Need to develop an ad hoc 40th Anniversary Committee.

e. Program expansion for Aerospace Nursing. Need to seek out feedback to de-

velop panels. Call for papers. Need to target leadership for support.

f. Coin. Want to develop for the 40th Anniversary.

g. Membership Committee. Capt Roper and Sgt Bradley to head up, and be a representative on ASMA membership committee.

h. Nursing Reception. Decision made not to participate in the Associate Fellows/ANS/ and New Member Reception. ANS disappointed once again with the quality of this years reception. Will have a location separate from the convention with a sign up sheet at the ANS reception desk. The sponsorship wo;; pccur n Anchorage in recognitions of the 40th Anniversary.

i. Luncheon Speaker. There will be an Ad Hoc Committee to determine. Need to keep travel expenses to Alaska in mind.

j. Constituent dues. There was a proposal from another constituent group at AsMA Council for parent organization to collect dues. We support this, and will get back to you with status. In the meantime, dues paid to AsMA do not include dues for the ANS.

15. Next Meeting: Annual Business meeting will be held in Alaska, 5 May 2004. Incoming President Virginia Schneider accepted the gavel and announced the ANS Executive Committee Meeting: Thursday, 8 May 2003 @ 1300. All are welcome to attend.

Meeting adjourned at 1545.

*Submitted by Martha A. Stowe,*  
*ANS Secretary*

### Attention All AsMA Nurses and Technicians! ANS MEMBERSHIP INFORMATION

You must send change of addresses and ANS dues to:

Diane Fletcher, ANS Treasurer  
 3104 Stonewood Drive  
 Ocean Springs, MS 39564

ANS Dues for Registered nurses: \$10 and \$5 for technicians or Allied Health Professionals. ANS is a Constituent organization of AsMA and in accordance with AsMA Bylaws all ANS members must also be AsMA members. Send your dues and any change of name or address to Diane today.

### Join the Aerospace Nurses Society!

Dedicated to the advancement of aerospace nursing...  
 Dues are just \$10. Membership is open to allied health professionals for \$5 a year. For further information, contact:

Diane Fletcher, ANS Treasurer  
 3104 Stonewood Drive  
 Ocean Springs, MS 39564  
 (228) 818-0281  
 gregordi@cableone.net

# WING NEWS & NOTES

Send information for publication on this page to:  
**Dale Orford**  
 15516 E Acacia Way,  
 Fountain Hills, AZ 85268  
 480-837-7919; dorford@cox.net

## Message from Lady Mary "Auld Lang Syne"

*(Former Days and Friends)*

As I write I know that many/most of you may well have sung these words a few nights ago on the 31<sup>st</sup> of December. In Scotland we call that Hogmanay (the last day of the year).

You will have sung it at midnight as a ritual to the party gatherings with friends and family. But, what does it mean?

There are two verses normally sung in Scotland along with the chorus:  
 "Should auld acquaintance be forgot,  
 And never brought to mind?  
 Should auld acquaintance be forgot,  
 And days o' lang syne?"

\*\*\*\*\*

For auld lang syne, my dear,  
 For auld lang syne,  
 We'll tak a cup o' kindness yet  
 For auld lang syne!

\*\*\*\*\*

And here's a hand, my trusty friend,  
 And gies a hand o' thine;  
 And we'll tak a cup o' kindness yet,  
 For auld lang syne".

My interpretation is that former days and friendships are to be remembered, but also to look forward to days ahead, for although we remember "former days" some may be very sad memories.

The words of this poem/song are attributed to the great Scottish Poet Robert Burns. Robert was born in the year 1759 and died in 1796. There is a wealth of poetry written by him, and it is so very sad that by dying at the young age of 37 years, he deprived us of some very beautiful prose. (Some would suggest otherwise!)

Every year on the night of 25<sup>th</sup> January throughout the world celebration dinners are held in memory of the Scottish Bard. I have been privileged on numerous occasions to speak at "Burns Nights" replying to the toast of "The Lassies". In days gone by it would have been sacrilegious to have women present at such a celebration, and to this day many groups exclude the female presence!!!

All dinners start with "The Selkirk Grace" attributed to Burns, but it was current in the southwest of Scotland before the poet's time, and known as "The Covenanter's Grace".

*"Some hae meat that canna eat,  
 And some wad eat that want it;  
 But we hae meet, and we can eat,  
 And sae the Lord be thankit."*

### A TYPICAL BURNS DINNER

Cockie Leekie Soup (chicken and leek)  
 Haggis, bashed neeps and tatties  
 Scottish Beef  
 Atholl Brose

\*\*\*\*\*

Atholl Brose (Originally recorded as early as the year 1457)

Beat one and a half teacupfuls of double cream to a froth; stir in one teacupful of lightly toasted oatmeal; add half a cup of thin heather honey and just before serving, two wine-

glasses of Scottish whisky. Mix thoroughly and serve on small shallow glasses.

[\*Then stagger home. MB]

When the clock strikes midnight on Hogmanay, I will raise a glass to all my friends in the WING and "tak a cup o' kindness for auld lang syne", wishing everyone good health and happiness for 2004.

Marybaird

## Forget Me Not

This article would have missed this month's Wing Page had it not been for the friendly reminder of Publicity Chair, Dale Orford. Russ and I became first time grandparents on October 28<sup>th</sup>, and I have been on cloud nine ever since, so things more mundane like the Wing, took a back seat.

Though it is only October as I write, and it is still looking very much like autumn with summer weather, by the time this message reaches you, the Holidays shall have been over. I would like to take this opportunity therefore, to wish you a very Happy, Healthy, and Peaceful 2004. I trust that you all had a very lovely Thanksgiving, Hanukkah or Christmas, and an exciting New Year's Eve's celebration.

The contributing writers to the Wing page and Newsletter have done a great deal in keeping you abreast with Anchorage related news, so I am left with very little to say except for a few additional items which may be of interest to you.

In case of emergency, the health care facilities to contact are the Alaska Native Medical Center at 907-563-2662, Alaska Regional Hospital at 907-276-1131, and the Providence Hospital at 907-562-2211.

City maps and brochures will be available at the Hospitality Room for those who wish to do more independent exploration of Anchorage on foot. There is also the People Mover which will take you on all routes, all day, for a nominal fee of \$2.50 per day. For more information on what to see and do in Anchorage, visit the Anchorage Convention Center's web site at [www.anchorage.net](http://www.anchorage.net).

There are two places of worship in downtown Anchorage: the Holy Family Cathedral at 800 W. 5<sup>th</sup> Avenue and the Presbyterian Church at 616 W. 10<sup>th</sup> Avenue. Other religious institutions include the Congregation Beth Shalom, the Islamic Center of Alaska, and the Orthodox Church, though these are located quite some distance from downtown. Please consult the city phone book for addresses and telephone numbers.

The Wing functions discussed during our teleconference last September have been finalized, and the Arrangements Committee is looking forward to welcoming and entertaining you with another memory making meeting in Anchorage four months from now. Your Advanced Registration form will arrive in your mailbox next month, but you may also use the one in the journal. Remember, tours are limited. Therefore, early registration is strongly recommended.

Alaska says, "Forget-me-not". Remember the dates, May 2 - 6<sup>th</sup>, 2004 and please join us in Anchorage.

Ludy Rayman  
 Arrangements Chair

## News from the Membership

Judith Donaldson reports that AsMA and Wing members enjoyed an excellent ICASM meeting in Madrid. We were represented with approximately 24 Wing members attending who enjoyed two side trips - to Segovia and Toledo - "with the most wonderful sights to behold, and marvelous luncheons where we dined on the finest of Spanish fare. For the Welcome Cocktail Party we were fortunate to be entertained in the very beautiful Air Force Headquarters. The Academy Dinner at the Casino was superb, and as if this wasn't enough, for the Gala Dinner we were wined and dined at the Hotel Palace where singing waiters (opera singers) provided the most beautiful music."

Paula and Roger Landry have bought a new home in Falmouth and are slowly transitioning to living there full time. They have also become grandparents for the second time welcoming Dylan Landry Trenaman to the clan in September. Says Paula, "We are definitely groupies and stalkers where our grandsons are concerned!"

## Update on Tracy Anzalone

After almost nine months at the NRH, Deb and Fanancy Anzalone were able to take their daughter, Tracy, home in October. A nurse's aide will assist with Tracy's care for four hours each day, and she will be treated as an outpatient at the NRH, continuing with both physical and speech therapy. Tracy's sister, Tiffany, continues to post daily up-dates at the following web site: [www.prayersfortracy.com](http://www.prayersfortracy.com). She has posted the following request for help. "I would like to ask our DC friends for some help" If anyone has some spare time and would like to either stay with Tracy for a few hours, take my Mom on a sanity shopping spree, or cook us a few meals, it would be greatly appreciated! It's really tough trying to take care of Tracy while maintaining some sort of normalcy. I'm sure it will get easier as time goes by once we have a routine." And adds Deb, "Thanks for keeping in touch and please tell everyone that we are very grateful for their continued prayers." The Anzalones can be reached at 703-413-0187.

## Web Page Update

Our Web-mistress, Shannon Laughrey reports that our web page has been up-dated and that she is eager to receive submissions for posting. You can access our page at [www.thewing.freesevers.com](http://www.thewing.freesevers.com). Shannon can be reached at [babydollandjammer@msn.com](mailto:babydollandjammer@msn.com). Visit our page for the latest information on the Anchorage meeting.

## 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**

**Col. Lee E. Payne, USAF, MC**, formerly Commander 39th Medical Group, Incirlik Airbase, Turkey, has been reassigned as Commander, 31st Medical Group, Aviano Airbase, Italy.

**LTC Monica B. Gorbandt, MC, USA**, formerly Director, U.S. Army Aeromedical Activity, USAARL, Ft. Rucker, AL, has been reassigned as Deputy Commander for Clinical Services (Chief of Staff), Fox Army Health Center, Redstone Arsenal, AL.

**CDR Andy Bellenkes, MSC, USN**, recently completed his tour of duty at the School of Aviation Safety, Naval Postgraduate School in Monterey, CA. CDR Bellenkes has now been assigned as Deputy Director, Acquisitions Program Branch at the office of the Deputy Chief of Naval Operations in Washington, DC.

### Obituary Listing

**Antoinette V. O'Brien, M.S., B.S., R.N.**, of Dunedin, FL, has died at the age of 87. A native of Windber, PA, she had received her R.N. from the Windber Hospital School of Nursing in 1939 and a B.S. in Nursing Education from the University of Akron, Akron, OH, in 1954. She received a Masters in Counseling from San Francisco State University in 1969. She served as a 2nd lieutenant in the Regular Army US-ANC during World War II. She was a member of American Society of Professional and Executive Women and of the American Congress of Rehabilitation Medicine, as well as the Ohio, Florida and California State Nurses Associations. She joined AsMA in 1982.

**Brig.Gen. Ravindra F. Shah, NY-ANG, MC**, Fulton, NY, has died at the age of 64. He received his MBBS from MP Shah Medical College and BJ Medical College, India, in 1961. He was Chief Resident in Urology at Bellevue Hospital in New York in 1968 and was board certified in Urology. He became Assistant Clinical Professor of Urology at Upstate Medical Center, Syracuse, NY and was President of the Oswego County Medical Society. He served as a Colonel in the New York Air National Guard and became a certified Aviation Medical Examiner with the FAA in 1980. He joined AsMA in 1988.

### New Members

Tara R. Heintz, San Antonio, TX  
 Laura L. Staton, D.O., MPH, Arlington, VA  
 Scott A. Stevens, Erie, PA  
 Bruce J. Witmer, Fresno, CA

### International New Members

Maruyama Satoshi, Tokyo, Japan  
 Roope Sovelius, Kauhava, Finland  
 Franziska G. Veit, London, United Kingdom

**JOURNAL IS NOW ONLINE!**  
**You must register via**  
**www.ingenta.com, AND pay**  
**AsMA an additional \$20 fee.**

#### \*\*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."

### Home Office Information

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### CLASSIFIED ADS

#### POSITIONS AVAILABLE

**ENDOCRINOLOGY, HYPERTENSION, AND DIABETES DIVISION, DEPARTMENT OF MEDICINE, BRIGHAM AND WOMEN'S HOSPITAL, HARVARD SCHOOL OF MEDICINE**--Research Fellow position is available for participation in human physiologic studies, evaluating cardiovascular and hormonal effects of simulated microgravity. Anticipated start date is June, 2004. Interested applications (MD required) should submit curriculum vitae and three letters of reference to Professor Gordon H. Williams, M.D., Endocrinology, Hypertension, and Diabetes Division, Brigham and Women's Hospital, 221 Longwood Ave., Boston, MA 02115; [mgrenon@partners.org](mailto:mgrenon@partners.org).

**WORKSHOP ON REMOTE MANAGEMENT OF MILD DCI--MAY 25, 26, 2004, SYDNEY, AUSTRALIA.** The management of DCI in remote locations where hyperbaric facilities are not available is complicated by the need for costly and logistically demanding evacuations. There is a growing body of expert opinion that mild or marginal cases may be as well served by local treatment with surface oxygen, fluids, and drugs followed by non-emergent evacuation. These issues will be discussed during this UHMS Workshop by a body of experts with the objective of developing consensus guidelines for managing mild DCI in remote locations. Co-chairs Drs. Simon Mitchell and Richard Vann. Co-editors Dr. David Doolette and Chris Wachholz, R.N. Continuing Medical Education Units have been applied for in the U. S. and Australia. Attendance fees for the two-day workshop is AUS \$350. For further information, contact the Undersea and Hyperbaric Medical Society (UHMS): Phone +301-942-2980; e-mail [uhms@uhms.org](mailto:uhms@uhms.org); [www.uhms.org](http://www.uhms.org) or [www.iceaustralia.com/uhms2004/](http://www.iceaustralia.com/uhms2004/).

**ACGME AEROSPACE MEDICINE RESIDENCY/MASTER'S PROGRAM** accepting applications for two-year program starting July, 2004. Wright State University, Dayton, Ohio. ACGME PGY-1 year required. Salary, fee remission, health insurance, and training travel expenses provided. The Master's degree is open to both U.S. and international physicians. EOE/AA. Visit/Apply: [www.med.wright.edu/asm/res/asmhome.html](http://www.med.wright.edu/asm/res/asmhome.html) or call (937) 276-8338.



*The Aerospace Medical Association would like to thank its Corporate and Sustaining Members for their valuable support over the last year and wish everyone a peaceful and prosperous new year.*

*All the best for 2004!*

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