

President's Page

It is almost unbelievable that one year has gone by already. In an organization such as ours, one year is not very much to post significant accomplishments. That is why a few years ago some of my predecessors modified the association structure so that it lends itself more to continuity and, hopefully, consistent and valuable accomplishments.

The next step was to establish practical objectives in a fashion that also supports continuity. This year's leadership worked very hard on that project and I believe succeeded in setting the process in motion. The principle is to develop short, medium and long term objectives from a customer standpoint. I submit that if we keep our eyes on the ball (the customers and their needs), we cannot fail. Let's see how we did.

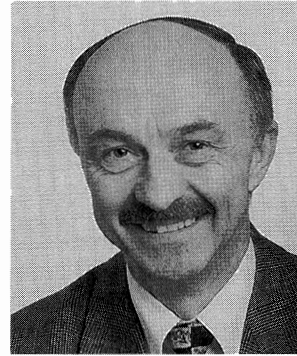
What have we done for the membership? We recognized that the Association's web site is a very important part of our communication system with our members as well as with our other customers. On the long term, we committed to continuously work and improve the web site. On the short term, we directed our knowledgeable webmaster to research the available market and make proposals for a renewed, more flexible and more active web site. A recommendation is in the work and will be presented at the May Council meeting.

The Education and Training committee put a great deal of effort into the educational activities of the association. We will definitely make arrangements to approve ABPM (American Board of Preventive Medicine) Modules for Lifelong Learning for some parts of our annual meeting. While this is medium term objective, we will most likely be able to begin part of the process at this year's meeting, which would be quite an accomplishment. The committee is also conducting a needs survey regarding the membership wish to obtain CME credits from our journal. The results will dictate our future activities in that area.

This year, your Executive Committee has also requested an audit of our internal procedures and processes to make sure we are doing business according to recognized practices and in the more efficient way for the benefit and protection of all concerned. The good news is, and I quote the auditor: "It is important to note that AsMA appears to be a well run organization at this time." However, some excellent recommendations came out of the audit and they will be implemented progressively in the order of priority directed by the Finance And Executive Committees.

Finally, we are looking at the possibility of putting the "Blue Journal" on line to significantly improve the service, particularly for our international members, but also for all our members. This activity should also give us a lot more visibility and, hopefully, more revenue and more members.

For the flying public, we have finalized the



Claude Thibeault, M.D.

Guidelines for Air Travel directed at passengers and they are already on the web site. The Guidelines directed at physicians are now also complete and you may even have seen the journal supplement by the time you read these lines. They will also be on the web site and, therefore, amendable with much less effort. Indeed, some of these guidelines change frequently and we must use the available technology to have current information.

The Executive Committee has directed the Communications Committee to work in conjunction with the webmaster on an active page that would update the public and the members on the current scientific developments of hot topics such as Travelers' Thrombosis, Cosmic Radiation, Cabin Air Quality, etc.

What about the flyers? For our commercial aviation customers, we are now in the final stage of the position paper on the use of Selective Serotonin Reuptake Inhibitors (SSRI) in flight crew. This paper is excellent and I am sure will help shape the new direction for the use of those medications. The paper also presents a new philosophy to approach questions of the same nature. This, in itself, is a significant advancement and brings us much closer to reality and credibility. I know you must be tired of hearing me talk about credibility. Well folks, if we are not credible, we are totally ineffective. I see it all too frequently: pure and perfect solutions, but useless from the operation standpoint, are proposed regularly. What do you think is the operator impression in those circumstances? Will he come back for more? Probably not.

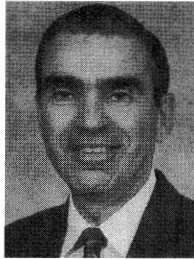
The position paper on Age 60 has taken forever for a number of reasons. The Safety Committee will it have ready for Council this May.

On the longer term, the position paper on the periodicity of medical examinations for airline crew is off the start line. We realize there is a lot of controversy on the subject, and that is why our role is critical. As in the SSRI paper, I believe we are best positioned to remove emotions from the issue and inject the necessary evidence-

See President's page, p. 588.

Medical News

Executive Director's Column



Rayman

DVT Revisited

On February 26, a meeting was called in Washington, D.C. under the auspices of the American Public Health Association (APHA) and the Centers for Disease Control and Prevention (CDC). The subject was deep vein thrombosis (DVT). In attendance were over 100 of the country's most outstanding DVT clinicians and scientists.

A number of papers were given revealing stark evidence that this illness is common and causes a significant number of deaths annually. The speakers believe that there is a national epidemic, but there is no national effort to combat it as you would for any other epidemic. A major problem is the dearth of information on DVT available to the public. In addition, prevention is not well appreciated by the health care community. It was argued that DVT should be a health care priority and that there should be a national effort to educate the public and to ensure that physicians are made more aware of its high incidence, its treatment, and, more importantly, its prevention.

Although the exact number of cases of DVT in the U.S. is not known, it is estimated at 2 million annually with 600,000 developing pulmonary embolism and 100,000 dying. It is believed that the majority of these deaths are preventable. DVT is mainly a disease of hospitalized patients or nursing home patients with serious illnesses such as stroke, congestive heart failure, and cancer as the major risk factors.

Many of the complications of DVT could be avoided simply by prescribing prophylaxis such as heparin or thrombolytics. Unfortunately, there is a failure to do so by many clinicians. Prophylaxis is under used, yet it can greatly reduce morbidity and mortality.

Although most of the meeting was concerned with DVT in hospitalized and nursing home patients, a portion was given to its association with commercial flight. (I would add, parenthetically, that there was a great amount of interest in this subject by the audience.) Our aviation medicine concerns were addressed by the various experts on the agenda. To summarize, they were in agreement with AsMA that Economy Class Syndrome is a poor term and should be discarded once and for all. There was also agreement that immobility is most likely the

major causal factor for inflight DVT, although underlying factors including blood disorders, coronary artery disease, cancer, and others would increase the risk. It was recommended that passengers periodically walk about the cabin, particularly during long haul flights. Low molecular weight heparin should be administered preflight to some high risk air travelers.

The remarks of the experts were very consistent with AsMA's position paper on Travelers Thrombosis, published in our journal. (See: Traveler's thrombosis: a review of deep vein thrombosis associated with travel. *Aviat Space Environ Med* 2001; 72:848-51.)

APHA and the CDC plan to prepare a white paper based upon these deliberations and will look for ways and means to further educate the public and the medical profession on DVT with particular emphasis on its prevention.

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based data to come up with a more realistic recommendation. Much time and effort seem to be wasted doing things the way we do just because it has always been done that way.

For general aviation, I must admit that we have not gone very far. We do remain with the same objective of providing a web-based information/education system, but no action has taken place. At the last Executive Committee meeting, the Safety Committee was tasked to move this objective forward.

In the space arena, our research workshop on astronaut safety and health during long duration missions beyond Earth orbit was turned down by the Rockefeller Foundation on the first go around. However, on the positive side, the same foundation has recommended that we resubmit with some specific additions. The Corporate and Sustaining Membership Committee has initiated that process and will, hopefully, be successful next time.

Finally for the military flyers, we provide our military medical colleagues with a forum to exchange and disseminate information through our journal and our annual meeting. Recently we were also able to provide them with our position and support regarding the controversial subject of the so-called "go pills". We will also be participating in their upcoming aeromedical summit.

The above is the scorecard of this year's leadership. You are the judges. Tell us how we did. Give us your opinion and participate. That is the only way to change and improve things. I know the incoming president, Dr. David Schroeder, is very open and will accept and value your input. It is also a great satisfaction for me to know that the successors will not only pick up where I left off, but will do better.

In closing, I wish to sincerely thank the Home Office and the Executive Committee that provided me with strong support and advice throughout the year. I also wish to thank all of you on Council and the different committees that in the end do the critical work and make

the officers look good. And last but not least, thank you to all the members for giving me the honor and the privilege to serve as your president. I have never been so proud in my life and I will cherish this past year forever.

Taïeb Chérif Appointed New Secretary General of ICAO

The Council of the International Civil Aviation Organization (ICAO) has appointed Dr. Taïeb Chérif (Algeria) as the new Secretary General of the Organization for a 3-yr term, beginning 1 August 2003.

Mr. Renato Cláudio Costa Pereira (Brazil), who has overseen successfully the implementation of major global programmes as well as critical aviation safety and security measures since 1 August 1997, recently indicated he would not stand for reappointment to a third term as Secretary General of the Organization.

Taïeb Chérif

Dr. Chérif, whose aviation career spans three decades, has been Representative of Algeria on the ICAO Council since 1998. In that capacity, he was active in the Air Transport and Finance Committees of the Council as well as various specialized working groups.

From 1971, Dr. Chérif has held various positions of responsibility with the civil aviation authorities of Algeria, where he was involved in the full range of airport, airline and air navigation operations, from regulatory and policy work to government relations and technical projects. He also worked in close cooperation with the aviation industry on a number of technical and commercial initiatives.

In the diplomatic arena, Dr. Chérif represented his country at various international meetings, in particular within the framework of the Arab Civil Aviation Council. He led the Algerian Delegation to the 91st Interparliamentary Conference (Paris, March 1994) and the EuroArab dialogue (Paris, April 1994).

Dr. Chérif holds a diploma in civil aviation engineering from the École nationale de l'aviation civile in Toulouse, France and a doctorate in air transport economics from the Cranfield Institute of Technology, United Kingdom. He has taught air transport economics at the Institute of Economic Sciences in Algiers.

Renato Cláudio Costa Pereira

During his tenure, Mr. Costa Pereira led the Secretariat of ICAO in several major undertakings such as the Global Aviation Safety Plan (GASP), the Universal Safety Oversight Audit Programme (USOAP) and the communications, navigation surveillance and air traffic management (CNS/ATM) systems, and the successful transition of international civil aviation to the Year 2000 through the Organization's Y2K global coordination programme.

Highly significant was the ICAO Plan of Action for Strengthening Aviation Security and other aviation security measures endorsed

See ICAO, p. 589

ICAO, from p. 588.

by the 33rd Session of the ICAO Assembly in the wake of the events of 11 September 2001 in the United States. Another landmark achievement was the establishment of the International Financial Facility for Aviation Safety (IFFAS) to assist Contracting States of the Organization in financing aviation safety-related projects identified through USOAP.

Overall, Mr. Costa Pereira was instrumental in fostering the implementation of ICAO's Strategic Action Plan, promoting greater efficiency in management processes, improving considerably the financial situation of the Organization and the activities of the Technical Cooperation Programme, and increasing the effectiveness of ICAO through the greater use of information technology.
(ICAO Press release, Montreal, 3 March 2003)

This Month in Aerospace Medicine History-- May 2003

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

Introduction

May has for the history of the Aerospace Medical Association been the traditional month of the Annual Scientific Meeting. I have had the pleasure of attending several of these since joining, in such interesting cities as Chicago, Detroit, Seattle and Montreal. Of course this year we will converge on the beautiful city of San Antonio, and next year we will leave the Lower Forty-Eight for Anchorage. The annual meeting has given the opportunity for prominent scientists, as well as obscure newcomers, to present their research and observational findings. Particularly since the advent of aerospace medicine as a recognized medical specialty in 1953, these meetings have been the recognized site to share the latest findings and theories, many of which have contributed to mankind's ability to attain further scientific achievements despite the rigors of extreme environments.

As we round out our first hundred years of experience in the age of powered flight, we will look forward with great anticipation to the next hundred, and the countless physiologic and environmental challenges that await. As we continue in our quest for greater heights, we build upon the work of all those that came before us.

Seventy-five Years Ago

The first flight between the continents of North America and Australia occurred in May of 1928. Departing from Oakland, CA, and stopping in Hawaii and the Fiji Islands en route, Australian World War I ace Sir Charles Kingsford-Smith and a crew of three took a full week on their 7,300-mile journey to Brisbane, Australia. This was an international crew, as he had fellow Australian Charles T. P. Ulm, along with two American navigators, Harry W. Lyon and James Warner. Their aircraft was a Trimotor Fokker (6, 9).

Fifty Years Ago

The 24th annual meeting of the Aero Medical Association held at the Biltmore Hotel in Los Angeles, CA, on May 11, 12 and 13, 1953, and chaired by Dr. Barry G. King of Washington, DC (3).

The current state of rotary wing aircraft in

the U.S. military was reviewed: "Not much more than an experimental idea in World War II, the rotary-wing plane has developed into a messenger of mercy whose rescues of downed pilots behind enemy lines and evacuation of wounded fighters are now legion... Before 1944, transfer of personnel from ground to helicopter in flight by ropes or rope ladders had been done many times. But often the hurt or nearly exhausted individual could not make the physical effort required. The solution was found in the power-driven rescue winch and harness, originated by the U. S. Coast Guard. The Navy has used carrier helicopters since 1947... The Army reports that 97.25% of their wounded men have survived, and that 85% of these have returned to duty. A fair share of credit for this goes to the helicopters... Early in the Korean war, the Air Force experimented with carrying a parachute-equipped medical man, or paramedic, in its helicopters. If the helicopter could not land in the rugged mountains or over water, the paramedic would jump to attend the wounded below. The Marines were the first to have helicopters doing rescue work in Korea... Marine helicopters were the only ones flying at night on rescue missions." (7).

Cosmic radiation was a concern: "When man flies into the stratosphere in the northern part of the world, it will be impossible to protect him from the heavy nuclei in primary cosmic radiation, unless you think in terms of a space platform where tons of fuel or other materials are stockpiled and placed around the crew compartment... [There] is no protection until several centimeters of aluminum are reached. These are discouraging figures for any engineer trying to construct a ship with walls thick enough to protect the crew. Protection would be possible only by limiting the number of hits per day below the permissible level. What this permissible exposure is cannot yet be guessed." (8).

Twenty-five Years Ago

The 49th Annual Meeting, held at the New Orleans Hilton, ran from Monday 8 May through Thursday 11 May and featured CAPT James A. Lovell, Jr., USN (Ret), Gemini and Apollo astronaut, as the guest speaker for the Louis H. Bauer Lecture, entitled, "Space perceptions - past, present, and future" (1).

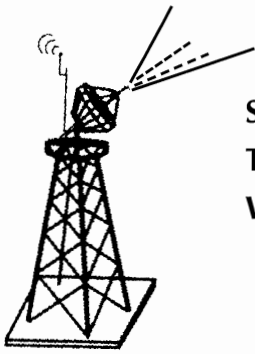
The Department of Systems Design at the University of Waterloo, Ontario, Canada compared adapted and non-adapted monocular pilots: "The performance of static visual identification tasks and simulated operational flying tasks, by nine binocular pilots and nine adapted monocular pilots, was measured in a unique operational visual simulator. It was hypothesized that, with head free to move, an adapted monocular pilot would perform as well as a binocular pilot, while an unadapted monocular (simulated by covering an eye) would perform less well. Other hypotheses were advanced. The static primary central task required sequential identification of dial readings. The dynamic primary central task involved simulated aircraft landing operations. During each set of primary tasks, a set of secondary peripheral visual tasks was performed. Results of the primary tasks and times of execution of the secondary tasks were subjected to analysis of variance. Factors included head position (fixed or free), stimulus location in peripheral field, eye state (seeing eye, blind eye), and type of central task (static, dynamic). All hypotheses were validated." (4).

The Civil Aeromedical Institute in Oklahoma City found that the air traffic control environment was perhaps not as stressful as previously believed: "Stress and anxiety levels were measured in 10 air traffic control specialists (ATCS) at two low traffic-density towers in Fayetteville (FYV), AR, and Roswell (ROW), NM, and in 24 flight service (FS) specialists at those airports and at Oklahoma City (OKC), OK. Physiological measurements consisted of heart rate and urine biochemical analysis for 17-ketogenic steroids, epinephrine, and norepinephrine. On-duty arousal in ATCSs and FS specialists was evident both physiologically and psychologically; such arousal was within psychologically normal limits and was generally low physiologically compared to other air traffic control (ATC) facilities studied in the past. Physiological stress levels at these low density towers and flight service stations were also low compared to other ATC facilities studied previously. Therefore, it is inappropriate to describe all air traffic control work, as is commonly done in the popular press, as unusually stressful. Such accounts in the popular press tend to deal with the exceptional, rather than with the typical, controller or facility." (5).

The Departments of Ophthalmology and the Psychophysiology at the Central Military Hospital I in Helsinki, Finland, studied the relation of heterophoria and stereopsis, as well as the need for the cycloplegic examination: "Heterophoria, its influence on stereopsis, and the importance of cycloplegia in refraction testing of pilot applicants were studied. Distant heterophoria was found in 94.5-100% while near heterophoria was found in 86.9-98.1% of the cases, depending on the test used. Hyperphoria of over 1 prism diopter was extremely rare. No statistically significant correlation between distant heterophoria and the degree of stereopsis could be demonstrated at a range of up to at least 6 prism diopters. Cycloplegia induced a mean difference of +0.75 diopter in refraction before and during cycloplegia. Eight percent of the applicants failed because of refractive errors (spherical extremes, -0.75 diopter and +4.50 diopters; cylindrical extreme, 1.25 diopters). It is concluded that stereopsis does not seem to be affected much by heterophoria within moderate limits, and that cycloplegia in refraction testing of young pilot applicants must be considered relatively important." (2)

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Science & Technology Watch

Keeping You Informed Of The Latest Advances In Science And Technology

Dr. Barson introduces us to the world of visual biometrics as he describes the basics of automated facial recognition technology. He also provides us with a number of useful links for interested readers to further explore this fascinating new field.

Facial Recognition Technology (FERET)

John V. Barson, D.O., M.P.H.
Federal Occupational Health Law Enforcement Medical Programs, Atlanta, GA

Introduction

Since the airline hijackings of September 11, 2001, there has been a significant increase in programs to prevent terrorist attacks through the pre-event identification and apprehension of terrorist suspects. Unfortunately, terrorists tend to select venues (targets) where large numbers of people are involved in order to achieve the maximum effect of their terrorist act. The large numbers of people make it easy for the terrorists to hide and difficult for the law enforcement authorities to detect them.

In the past, suspected individuals were identified by law enforcement officers using copies of pictures or drawings of the suspects.

This required the officer to compare the printed image with the faces of numerous individuals entering a venue and try to match enough of the characteristics of the image to a passing face. While this may work in low volume venues such as entry to a security facility, in large volume venues such as sporting events, airports, and large buildings, the amount of manpower required would be enormous and there would be no guarantee that the suspect did not turn his head at the wrong moment causing the officer to miss the optimal view. Trying to slow down the people entering the venue would also not be acceptable in that it would so severely limit access, that the terrorist's objectives of disrupting society would be achieved by the system trying to stop him.

To aid law enforcement officers in the pre-event identification of terrorist suspects, technology has been enlisted through the use of systems that are designed to identify suspected individuals through Facial Recognition Technology (FERET) which would allow the rapid screening of groups of individuals either entering a venue or would scan them once they were already in the venue.

Facial Recognition 101

Face (facial) recognition is the identification of humans by the unique characteristics of their faces and is one of several types of biometric systems. A "biometric system" is an automated method of recognizing someone from their physiological or behavioral characteristics. In general, biometric devices can be explained with a three-step procedure.

1. A sensor takes an observation and creates a "Biometric Signature" of the individual.
 2. A computer algorithm "normalizes" the biometric signature so that it is in the same format (size, resolution, view, etc.) as the signatures on the system's database. The normalization of the biometric signature gives us a "Normalized Signature" of the individual.
- Many different types of computer algorithms exist that utilize different parts of the image.

These range from two and three dimensional algorithms to gray scale analysis to combinations of several methods.

3. A matcher compares the normalized signature with the set (or sub-set) of normalized signatures on the system's database and provides a "similarity score" that compares the individual's normalized signature with each signature in the database set (or sub-set). The next step depends on the biometric system's application.

This Biometric Methodology establishes the analysis framework with tailored algorithms for each type of biometric device. Face recognition starts with a picture, attempting to find a person in the image. This can be accomplished using several methods including movement, skin tones, or blurred human shapes. The face recognition system locates the head and finally the eyes of the individual. A matrix (Fig. 1) is then developed based on the characteristics of the individual's face. The matrix is a rectangular array of numbers of the image using binary units of "0" and "1" to represent the features of the face.

The method of defining the matrix varies according to the algorithm (the mathematical process used by the computer to perform the comparison). This matrix is then compared to matrices that are in a database and a similarity score is generated for each comparison which is used for recognition and identification.

For face recognition, as well as other biometric systems, there are two types of comparisons.

1. Verification: This involves comparing who the individual says they are with the identity provided by the biometric system. This results in a yes/no decision. The face is used as a type of Personal Identification Number (PIN) or password to allow access to restricted areas or information.

2. Identification: In this case, the biometric system compares the scanned individual to all individuals in the database and gives a ranked list of matches. For example, this can be used by the system to match known suspect faces stored in the database by comparing their features to scans of large numbers of individuals either passing through an area/entry or in a crowd.

A more detailed explanation of how facial recognition works can be found at the following web sites:

Facial Recognition 101:

<http://www.frvt.org/DLs/FR101.pdf>

How Facial Recognition Systems Works:

<http://www.howstuffworks.com/facial-recognition.htm>

Facial Scan Technology: How it Works:

http://www.facial-scan.com/facial-scan_technology.htm

Evaluation of Facial Recognition Technology

Many claims as to how well facial recognition systems work have been made by the industry and by the news media. These claims range from very positive to very negative, thereby elevating the importance of evaluation systems to assess performance.

The National Institute of Standards and Technology (NIST) provides a summary report of NIST Standards for Biometric Accuracy, Tamper Resistance, and Interoperability. This is available on the internet at http://www.itl.nist.gov/iad/894.03/NISTAPP_Nov02.pdf. Part of this report is based on the results of the Facial Recognition Vendors Test (FRVT) 2002.

See SciTech Watch, p. 591.

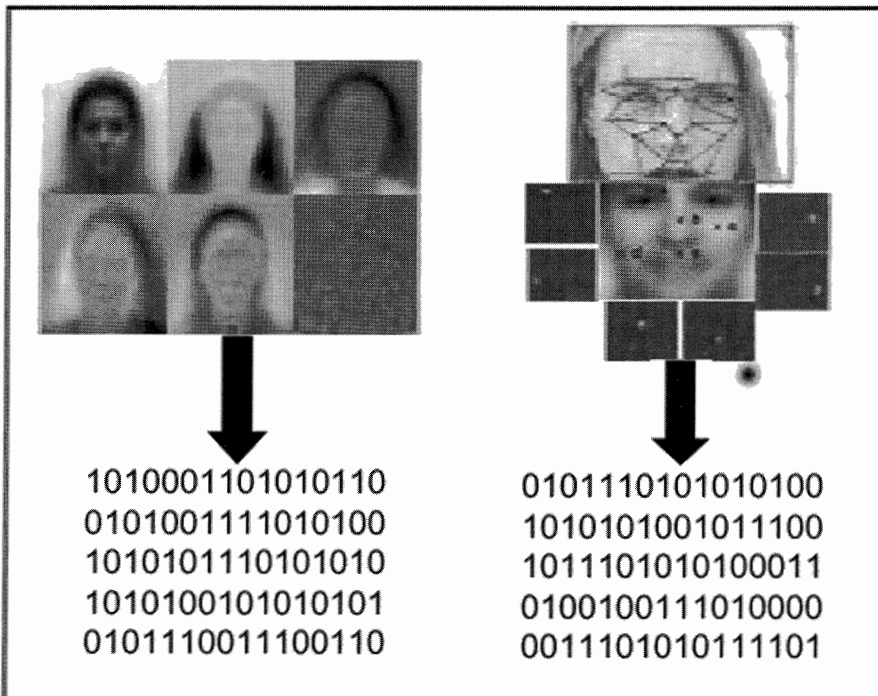


Fig. 1. Facial Recognition Matrix.

SciTech Watch, from p. 590.

The report looks at the effectiveness of facial recognition and fingerprint recognition technology as it would be used to verify identity and to perform identification of a person in a group. All tests conducted by NIST used image-based biometrics, rather than proprietary templates from biometrics system vendors. This was done to ensure interoperability of the systems between agencies.

The results of tests performed show that while fingerprints provide a higher accuracy rate than face imagery for identification, under controlled conditions, both have comparable accuracy for verification.

A summary of facial recognition results show that the best packages available (based on FRVT 2002) provide a 90% probability of true verification with a 1% probability of false verification. This would make face recognition an excellent choice as an alternative to fingerprints for verification, for situations where fingerprints are not available, and where high quality face images with good illumination control are available. However, under less constrained outdoor conditions face recognition accuracy for the best system falls to 47%. Another factor affecting accuracy is the size of the sample scanned. The best available face recognition technology identification can provide 90% accuracy for a gallery size of 100. The identification rate drops to 83% for a gallery size of 1,000 and to 77% for a gallery size of 10,000. These numbers demonstrate that for identification, fingerprints are the preferred technology. However, existing fingerprint technology still has a 2% failure to acquire rate. Furthermore, within the intelligence community, facial data is often the

only biometric data that has been and is currently being captured, so that facial recognition technology may be the only practical means to make an identification.

The NIST concluded that based on the real world environment and other considerations, and their test measurements, in situations such as securing national border entry points, a dual approach that employs both fingerprint and facial recognition technology is the best option for a biometric system that would make the nation's borders more secure.

Summary

Facial Recognition Technology has made great strides in recent years in its ability to provide quick and accurate identification of individuals and verification of identity. However, due to the wide range of systems available and the wide variety of conditions under which they would be required to operate, the user community needs to evaluate the capabilities of each system with regards to their requirements, both for today and for the future. They should also take into account interoperability requirements in that each system requires a database of faces for comparison. That database may only be available in a specific format, therefore if the system cannot utilize data from agencies such as the State Department or the Federal Bureau of Investigation (FBI), it would be very limited in its capability.

Further Reading on the Internet

Facial Recognition Vendors Test 2002:

<http://www.frvt.org>

NIST Information Technology Laboratory:

<http://www.itl.nist.gov/>

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: ShenderBS@navair.navy.mil

Call for Papers: 41st Annual SAFE Symposium

The 41st Annual SAFE Symposium will be held September 22-24, 2003 at the Adam's Mark Hotel, Jacksonville, FL. The SAFE Symposium is the premier international showcase for the professionals, inventors, equipment and systems that have shaped safety in aviation, space, land and marine disciplines. They invite you to participate in this symposium by submitting abstracts or proposals for panels or workshops. Tentative areas of discovery include: commercial and military crashes; safety; rescue; NBC protection; acceleration; altitude; ejection; biodynamics and physiology; human factors; hearing protection and many others.

The deadline is June 20th for abstract submission and proposals. Camera-ready copy of accepted papers will be due August 15. For further information and presentation guidelines contact: SAFE Association, P.O. Box 130, Creswell, OR 97426; Phone: (541)895-3012; e-mail: safe@peak.org.

Award Nominations Sought for 2004

The Awards Committee of the Aerospace Medical Association, which is responsible for selecting the annual winners of special awards, has set a December 15 deadline for receiving nominations for awards to be presented at the 2004 Annual Scientific Meeting in Anchorage, AK.

The committee chair emphasizes, however, that the names of prospective award winners should be submitted as far in advance of the deadline as possible. Lots of time is needed to review all of the names and select the winners.

Nominations can be made by any member of AsMA.

The nominations must be submitted on forms available from the AsMA Home Office, and printed in the journal.

Nomination forms should be mailed to:

Chair, Awards Committee

Aerospace Medical Association

320 South Henry Street

Alexandria, VA 22314-3579

e-mail to: lpgross@home.net; jcarter@asma.org

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. Winners may receive only one award in any year and may receive additional awards only at 7-year intervals, except for the Sidney D. Leverett, Jr. Environmental Science Award.
4. Employees of a company sponsoring an award are eligible to receive the award.
5. Awards involving a published paper will be made only to the senior author.
6. Unsuccessful nominees for an annual award will be retained in the active file through three award cycles.

UNDERSEA & HYPERBARIC MEDICAL SOCIETY ANNUAL SCIENTIFIC MEETING

JUNE 19-21, 2003

QUEBEC CITY, CANADA
HILTON HOTEL

JUNE 18: Pre-courses

1. Diving Medicine, Dr. James Francis
2. Marketing Hyperbarics and Wound Care (Associates/BNA)

For more information on our meeting
visit our website: www.uhms.org
or call 301.942.2980



The 3rd International Summer School: "Space Biology And Medicine", June 23 - July 6, 2003, Moscow, Russia

The Faculty of Medicine of the Lomonosov Moscow State University, The Institute of Biomedical Problems of the Russian Academy of Sciences, and the Contemporary Educational Programmes will present a jointly developed academic program entitled "Space Biology and Medicine." This is the first time the basics of this subject will be introduced for senior medical and graduate students. The course is also of interest for biologists and medical doctors. It is based on the unique observations from the past 40 years of Soviet and Russian space programs. Practical training will be conducted at the base of State Scientific Centre of Russian Federation - the Institute for Biomedical Problems. It will include demon-

strations of the medical supplies provided onboard spaceships such as "Vostok," "Voshod," "Soyez," and space stations "Salut" and "Mir." During lectures and workshops students will have the opportunity to compare basic biomedical results obtained in the course of Russian and American space projects. A considerable part of the course is devoted to new technology research, currently under way at the Russian segment of the International Space Station.

The program, taught in English, is designed for 2 weeks, 40 academic hours of lectures and training, supplemented by 16 hours of extra class visits. The course is limited to 30 participants, so please register early.

Further details: <http://www.ccp.ru>
For all questions concerning the School, please, contact: Dr Mikhail A. Grafov, Tel. +7(095)9560094; Fax +7(095)9567864 or 9329828; gr

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

AUSTRALIAN CERTIFICATE OF CIVIL AVIATION MEDICINE

16 to 27 June 2003



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Email shortcrs@med.monash.edu.au
www.med.monash.edu.au/epidemiology/accam

Department of Epidemiology & Preventive Medicine



MEETINGS CALENDAR

June 6-13, 2003, San Antonio, TX.
Annual Meeting of Association for Professionals in Infections Control & Epidemiology. info: www.apic.org; (202) 789-1890.

June 8-12, 2003, Reno, NV. Annual Meeting of the National Environmental Health Association. Info: www.neha.org; (303)756-9090.

June 14-15, 2003, Helsinki, Finland.
7th Nordic Aerospace Medical Association (NAMA) Scientific Meeting. Contact the Chair: Olavi.Hamalainen@finnair.com.

September 17-19, 2003, Catania, Italy. 2nd International Conference--The Impact of Environmental Factors on Health: Environmental Health Risk 2003. Organized by Wessex Institute of Technology, and University of Catania, Italy. Info: www.wessex.ac.uk

September 22-24, 2003, Jacksonville, FL. 41st Annual SAFE Symposium, Adam's Mark Hotel. Dedicated to ensuring personal safety and protection in land, sea, air and space environments. Info: e-mail safe@peak.org; www.safeassociation.com;

October 5-9, 2003, Madrid, Spain.
51st International Congress of Aviation and Space Medicine. Organized by The Spanish Society of Aerospace Medicine under the auspices of the International Academy of Aviation and Space Medicine. Info: Viajes Vie-Congresos. Hermosilla 30, 28002 Madrid, Spain; 34-914264750; icasm03@vie.es.

October 8-11, 2003, Seattle, WA.
Civil Aviation Medical Association Annual Meeting. Info: Jim Harris (405) 840 0199; JimLHarris@aol.com.

October 22-25, 2003, Mexico City, Mexico. XX International Meeting of Aerospace Medicine, Gala Hotel and Resorts, Playa del Carmen, Q.R., sponsored by the Mexican Association of Aviation Medicine. Theme: Medical And Surgical Therapeutics Of The Modern Medicine ; Its Application In Aviation. Info: Grupo Destinos, attn: Claudia Palomeque, (52-55) 55-75-18-60; cpalomeque@grupodestinos.com.mx.

Civil Aviation Medical Association Annual Scientific Program, October 8-11, 2003, Seattle, WA

The theme for the 2003 annual scientific meeting will be neuropsychiatric issues in aviation. The tentative program is as follows:

Introduction

Speaker: Robin Dodge, M.D., President, Civil Aviation Medical Association

Neuropsychiatric Issues In Aviation Accidents

Speaker: Mitchell Garber, M.D., National Transportation Safety Board
Neuropsychiatric Issues In Aviation Accidents—FAA Perspective

Speaker: Alex Wolbrink, M.D., FAA, Civil Aerospace Medical Institute
Fatigue In The Cockpit

Speaker: Captain Bruce Forbes, United Air Lines Captain And Check Airman
Fatigue In The Cockpit In The Healthy Aviator—Aeromedical Perspective

Speaker: Virgil Wooten, M.D.
Flight Time And Duty Requirements—Airline Perspectives

Speaker: Thomas Bettes, M.D., American Airlines Medical Department
Sleep Apnea And Other Sleep Disorders

Speaker: Virgil Wooten, M.D.
Operation Homecoming: 30th Anniversary

Speaker: Russell Rayman, M.D., Executive Director, Aerospace Medical Association

Human Factors In Aviation Accidents

Speaker: Dr. Curtis Graeber (or Other Boeing Representative)

ADHD—Diagnosis, Misdiagnosis, Treatment, And Aeromedical Implications

Speaker: Gary Kay, Ph.D., Georgetown University, Washington, D.C.

ADHD—FAA Perspectives

Speaker: Barton Pakull, Chief Of Psychiatry, FAA (Retired), FAA Consultant
SSRI Use—Cognitive Effects

Speaker: Gary Kay, Ph. D., Georgetown University, Washington, D.C.

SSRI Use—Psychiatric Perspective

Speaker: Don Hudson, M.D., Air Line Pilots Association

SSRI Use—Canadian Perspective

Speaker: Marvin Lange, M.D., Ottawa, Canada

SSRI Use—Australian Perspective

Speaker: Graeme Maclarn, Frenchs Forest, NSW, Australia

SSRI Use—FAA Perspective

Speaker: Fred Tilton, M.D., Deputy Federal Air Surgeon

Historical Developments In Aerospace Medicine

Speaker: Clayton Cowl, M.D., Mayo Clinic, Rochester, MN

Panel Discussion (1.5 Hours) Selected Topics

Speakers: Panel Of Speakers

AEROSPACE PHYSIOLOGY REPORT

U. S. Naval Aerospace Physiology Program

The mission of the Naval Aerospace Physiology Program (NAPP) is to support operational readiness by identifying and minimizing physiological threats, thereby enhancing combat effectiveness. This is accomplished through education, training, aeromedical support, and research, development, testing and evaluation (RDT&E). The NAPP initially grew out of training programs started in the early 1940s, with emphasis on the physiologic threats associated with flying aircraft on long missions at altitudes where extreme cold, hypoxia, decompression sickness, and loss of consciousness occur. Since the 1940s, the Aviation Physiology Training Program has evolved into the Naval Aviation Survival Training Program (NASTP) and is only one of five major programs [the NASTP; the Fleet Air Introduction/Liaison of Survival Aircrew Flight Equipment (FAILSAFE) Program; and the Research, Development, Test and Evaluation (RDT&E) Program, the Aeromedical Safety Officer (AMSO) Program and the Quality Assurance and Revalidation (QA&R) Program] that comprised the NAPP today.

Naval Aviation Survival Training Program (NASTP)

The Naval Aviation Physiology Training Program (NAPTP) was from the outset a medical department function, while the Naval Aviation Water Survival Training Program (NAWTP) was considered a "Line" function. Over the years the program has matured and transformed to meet the new challenges of a now very diverse military; more emphasis has been placed on aircraft community-specific curricula in both physiology and water survival training. The current mission of the NASTP is to familiarize personnel who fly in naval aircraft with the physiological aspects of flight, aviation life support systems (ALSS), rescue procedures, and water survival techniques. In 1994, the Navy Bureau of Medicine and Surgery (BUMED) assumed Program Manager/Training Agent responsibility for all Aviation Survival Training Programs, bringing the two separate and diverse programs (i.e., NAPTP and NAWSTP) under one cognizance. These courses, 21 in all, are presently being taught universally at Aviation Survival Training Centers (ASTCs) located at Naval and Marine Corps Air Stations throughout the country.

Fleet Air Introduction/Liaison of Survival Aircrew Flight Equipment (FAILSAFE) Program

Through a shared interest in survivability issues, the NAPTP and NAWSTP provide training to aircrews on the proper use of ALSS developed by the Naval Air Systems Command (NAVAIRSYSCOM). A relationship developed between aerospace physiologists and NAVAIRSYSCOM that resulted in

the establishment of the Fleet Air Introduction/Liaison for Survival Aircrew Flight Equipment (FAILSAFE) program. The program, formalized with a memorandum of understanding (MOU) between NAVAIRSYSCOM and the Bureau of Medicine and Surgery (BUMED), is staffed by Aerospace Physiologists, Enlisted Aerospace Physiology Technicians, and a few key Aviation Survival Equipmentmen (Parachute Riggers). The personnel mentioned are charged with introducing new and modified ALSS to both the aircrew and maintenance personnel. Additionally, the Aeromedical Safety Officer (AMSO) program was developed to help address the many survival, safety, and human performance issues affecting Naval Aviation in the aftermath of the Vietnam conflict.

Aeromedical Safety Officer (AMSO) Program

The program was initially conceived using teams consisting of a flight surgeon (FS), an aerospace experimental psychologist (AEP), and an aerospace physiologist (AP) to assist squadron aviation safety officers. Due to a shortage of FSs and AEPs, the AP's role expanded and the program is now almost exclusively staffed by APs. Every AMSO is a Naval Postgraduate School, Aviation Safety Officer (ASO) Course graduate and is thoroughly acquainted with and participates in operational flights to obtain first hand knowledge of their assigned aviation unit's aircraft, personnel, equipment, and mission. The AMSO serves as safety program advisor on matters pertaining to ALSS, emergency escape systems, physiological threats and survival training and assists the Aviation Safety Officer in monitoring initiatives designed to promote safe operation of aircraft. They are also the main point of contact to implement local FAILSAFE program by establishing liaison with squadrons, monitoring usage of ALSS, identifying problems, serving as coordinator and point of contact for ALSS fleet assessments, developing operational requirements, and providing feedback to NAVAIRSYSCOM via FAILSAFE Tiger Team interactions. The AMSO is instrumental in organizing and coordinating local Aircrew Systems mini-Operator Advisory Group (OAG) meetings, which provide feedback to NAVAIRSYSCOM via their type commander's (TYCOM) representatives.

The AMSO develops and maintains an effective Aeromedical Brief Program by establishing a liaison with intelligence and operations personnel in conjunction with safety and NATOPS personnel to ensure state-of-the-art, mission-specific and relevant physiological threat briefs. They serve as instructors/supervisors for Instrument Ground School, Night Imaging and Threat Evaluation (NITE) Labs, LASER Safety, and other applicable training evolutions. The

AMSO supports aircraft mishap investigations, as required, and deploys when it is necessary to provide specialized aeromedical support during actual shipboard or contingency/combat operations.

Research, Development, Test and Evaluation (RDT&E) Program

RDT&E is supported by the NAPP's efforts in both human performance and survival equipment arenas. Aerospace Physiologists have the opportunity to participate in this program and facilitate research required to meet operational requirements when they are assigned to medical research laboratories and NAVIRSYSCOM. The research laboratories (i.e., Naval Aerospace Research Laboratory and the Naval Health Research Laboratory) focus on human performance while those assigned to NAVAIRSYSCOM focus on survival equipment. Operational, Test and Evaluation (OT&E) is conducted through the AMSOs and ASTCs.

Quality Assurance and Revalidation (QA&R) Program. The QA&R program establishes a process for inspecting and testing the training devices and equipment utilized in the NAPP. The process confirms accurate device performance and ensures the technical acceptance criteria are adhered to. This evaluation of the technical and integrated logistics support elements is required to ensure the training devices and equipment perform in accordance with the standards, as well as safely and effectively. A trainer management team (TMT) is chartered to prioritize resources to meet Fleet/ Fleet Marine Forces (FMF) training requirements.

In addition to the growth of the program, the oversight of the NAPP has also transitioned from the School of Aviation Medicine to the Naval Survival Training Institute (NSTI), both in Pensacola. The personnel who comprise the NAPP are a diverse group of dedicated and motivated individuals who are part of an aeromedical team that is committed to ensuring Naval aircrew are adequately trained for and supported in their mission.

AsPS WEBSITE

Visit us online at our website, www.aspsociety.org, where you can register for membership, update membership information, contact society officers and committee chairs, learn about certification in Aerospace Physiology, vote for society officers, read about society awards and more.

Send information for publication on this page to:
Elina Takahashi
40 Wallford Way
Ottawa, Canada, K2E-6B6
elinatakahashi@sympatico.ca

Farewell Message from Malibu

It has been a wonderful year for me as President of the Wing. How quickly time has come and gone. My board has been and still is fabulous. I have very much enjoyed the comradery of the Wing. Of course, it has always been a fantastic, diverse, and interesting group. The longer I am a member, the more I realize this and appreciate it. Many thanks to all of you who have contributed so much to the Wing this year.

My special thanks to Elina Takahashi for making the Wing Page possible this year and for doing such an excellent job of publicity. Thanks also to Harriet Hodgson for pitching in when Elina had a personal emergency and had to move cross country to help her mother.

I would like to thank the San Antonio contingent; Terri Ireland, Yona McNish, and Jo Ivan. They have done an outstanding job. Thank you Susi Bellenkes for organizing advance registration, to Florence Coriat and Harriet Hodgson for Registration. We certainly all appreciate Mitzi's efforts as secretary and for putting together the newsletter Trish's for keeping the budget from such a distance as Korea. Thanks also to Joan Marinelli for her efforts with the honorary member; to Elizabeth Breuder for Hospitality and Dale Orford for favors; to our board members at large and especially Judy Waring for keeping track of our members and her efforts in getting out the Wing Directory.

Doris Miller, our second past president gave me a book of quotations written by women from a wide spectrum of society. I would like to share some of these quotes with you. Some of them inspire me, and others just make me smile.

When I think of the time we spend on trivial matters, I then think there really are more important issues in life. This quote comes to mind: "So many of us define ourselves by what we have, what we wear, what kind of house we live in and what kind of car we drive... If you think of yourself as the woman in the Cartier watch and Hermes scarf, a house fire will destroy not only your possessions but your self." (Linda Henley, American writer).

Many times when we ask a person "What do you do?" We are really asking "Who are you?" I had the honor recently of meeting the author of "A Woman's Path" who has explored the subject of a woman's path in life. Her husband is a doctor and she often wondered why she was so impressed by crisp career plans of people who declared a major and then went on to a job in that field. She pondered, as have many of us, why her path was so ill defined and winding. Most women do follow a different path, a path that zigs and zags, twists and turns and then comes about. It's often not a linear path, but unique to each woman. As we step onto a path for the first or twentieth time, we each find the way, our way. Many of us in the Wing have followed such a path, either moving with the military or following our spouse's career. Now many of

us are engaged in undertakings we could not have previously imagined. When things get crazy, it helps to remember what Margot Fonteyn, the English dancer said: "The one important thing I have learned over the years is the difference between taking one's work seriously and taking one's self seriously. The first is imperative and the second disastrous."

The year has flown by. How quickly our lives rush by. My work has too often kept me from fully enjoying the opportunities for friendship and just getting together to talk. It has been a year of turmoil at home and abroad. We are all wondering what will happen next. A possible war is looming or even under way with all that it implies for the aviation, medical, and military communities. Of uncertainty and danger it has been said: "The only thing that makes life possible is permanent, intolerable uncertainty; not knowing what comes next." (Ursula K. Guin, American writer). "We all live in suspense, from day to day, from hour to hour, in other words, we are the hero of our own story". (Mary McCarthy, American writer.) But sometimes I would like to know what is coming, but usually only if the outcome is what I want to hear. "Avoiding danger is no safer in the long run than outright exposure. The fearful are caught as often as the bold." (Helen Keller, American writer).

"I think that wherever your journey takes you, there are new gods waiting there, with divine patience and laughter." Susan M. Watkins (American writer). Thank you all again for the honor of serving as your President. Love and best wishes.

A Message from the New President

This message will appear in the May issue of the AsMA Publication but had to be written before 12th March. It would therefore be remiss of me to ignore the fact that some of our countries are in a pre-conflict situation. I sincerely hope that the problems have been resolved and that any of your family members who have been involved are now safe at home.

Lady Baird, Braeburn, Barway, Ely, Cambs CB7 5UA, England; sirjbaird@ukonline.co.uk

The Journey from UK to Alaska

I am thrilled to be writing this first stage of my travels as a member of 18 years standing, having served as International Member on the Board, Liaison to AsMA, Favors and now, I believe, the first British President of the Wing of AsMA. I am extremely proud and privileged to have been elected to this office. I hope I serve you well.

My introduction was in Nashville where I met up with a number of ladies I had known previously during John's tour of duty at Edward's Air Force Base, CA (70-73). Since that time the friendships I made in the Wing are now long standing and very precious. Each year our "pilgrimage" to North America is eagerly anticipated not only for the happy re-unions but for enabling us to see other

friends, to visit old haunts, and to add a few more birds to the list!!! Anaheim, Toronto, San Antonio, Montreal, Chicago, and Detroit to mention but a few cities we have visited en route to Alaska.

The Anchorage team is almost complete and I know that we will put together a great programme for this the first AsMA meeting in Alaska. Our plans for the site visit are confirmed and John and I have the great pleasure of celebrating 4th July with friends in Seattle. (He insists on being my chaperone, but I feel a strong ornithological pull is more likely!)

At this early stage, I would like to encourage Wing members to submit articles for THE WING page, Publicity is an onerous task which can be relieved by contributions from us all. I also appeal for our younger members to "buddy up" with us older ladies if they would like to learn how the machinery behind the Wing works.

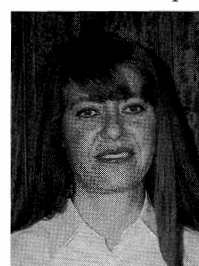
I truly look forward to this year as President.

Keep well and happy,
Mary Baird

Getting to Know Florence Coriat

After one of the tours in Montreal, I had the great pleasure of sitting next to Florence during lunch. We had a pleasant chat and I learned a little about her and what an interesting work she does.

Florence has a Bachelor's degree in law from the University Sorbonne in Paris and a Master's degree in film production from UCL. She works at Air France in the Inflight Entertainment department, and is in charge of



film and video programs on board long haul flights. Florence negotiates the selection of films and TV programs and buys content, languages and technical specifications to load film programs on board each month. The in-house information film produc-

tion includes arrival [airport], welcome on board, and relaxation videos. Florence has been on this job for 5 years. Prior to this she was in film production for 8 years as film director for 110 films, also for Air France. These films included commercial products in videos shown on board, teaching films [for pilots] and news for TV journalists.

Florence has been an active Wing member for many years, taking part in many roles, including Hospitality Chair and International Board Member at Large. As one of our roving photographers, she has taken many pictures for our Wing page and scrap book. This year she is our Registration Chair, and has come up with the wonderful idea of asking everyone to bring a post card showing a picture of something typical about the area where we live. She plans on displaying these at the San Antonio meeting. Good work Florence!

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

NEWS OF MEMBERS

Patricia C. Ravella, Ph.D., Woodstock, MD, formerly Family Nurse Practitioner Program Director and Assistant Professor, University of Maryland School of Nursing, Baltimore, MD, is now a nurse practitioner with the VA Medical Hospital, Dept. of Medicine-Dermatology, Washington, DC.

Tsujimoto Tetsuya, M.D., has been assigned to the Department of Cardiology, Japan Self Defence Force Central Hospital, Tokyo, Japan.

Garrett W. Duckworth, Jr., M.D., has been appointed the Senior Medical Officer of the Puget Sound Naval Shipyard Branch Medical Clinic. PSNS is the Pacific Northwest's largest Naval shore facility and one of Washington State's largest industrial installations. The clinic provides the primary care for active duty military service members at PSNS and Naval Station Bremerton and the occupational medicine services for thousands of civilian workers at these military facilities and others in the Pacific Northwest Region. Along with an extensive hazards-based medical surveillance program at the clinic, the Navy's largest radiation health program is also located at PSNS. Dr. Duckworth is a member of the American College of Occupational and Environmental Medicine, a Fellow of the American Academy of Family Physicians and an Associate Fellow of AsMA.

New Members

Al Thwanay, Mohammed S., LT, USN, Pensacola, FL
 Bearss, Rollin W., CDR, MC, USNR, Green Cove Springs, FL
 Bock, Gerald W., CAPT, MC, USNR, Germantown, TN
 Bozzuto, Thomas M., D.O., Jacksonville, FL
 Galceran-Garcia, Ivonne, BSN, Kennedy Space Center, FL
 Hancock, Courtney M., Albion, MI
 Harrell, Thomas W., Maj., USAF, MC, San Antonio, TX
 Hinkle, Jeannemarie D., Maj., USAF, MC, Brooks AFB, TX
 Hitchcock, Kathryn E., LT, USN, Edgewater, MD
 L'Esperance, Francis A., M.D., New York, NY
 Ratliff, Duane, M.P.H., Kennedy Space Center, FL
 Rogers, David M., Maj., USAF, MC
 Tate, Janet, BSN, Kennedy Space Center, FL
 Unger, Benjamin D., Capt., USAF, MC, Philadelphia, PA

International New Members

Borwick, Alastair G., MBChB, Devonport, Auckland, New Zealand
 Cunningham, Brendan G., MBChB, Hamilton, Queensland, New Zealand
 Drane, Michael, MBBS, Masterton, New Zealand
 Fox, Michael J., MBBS, DRCOG, Dhahran, Saudi Arabia
 Garand, Linda, Maj., CAF, MC, Belleville, ON,

Canada
 Herbert, Peter A., MBChB, Mooloolana, Queensland, New Zealand
 Horoszowski, David, M.D., Shoham, Israel
 Human, Pieter B. F., MBChB, Dhahran, Saudi Arabia
 Lam, Wai Yip, M.D., Hong Kong
 Mabuya, Nb, B.Sc., Johannesburg, South Africa
 Ogieglo, Lissa M., B.Sc., Saskatoon, SA, Canada
 Roberts, Stephen D., Oxbridge, United Kingdom
 Tapia, Jose R. Hernandez, M.D., Pedro De Los Pinos, Mexico
 Vanden Bergh, Anton, MBChB, Howick, Auckland, New Zealand
 Warnock, Andrew, CPT, RNZAMC, Waiouru, New Zealand

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They're back!!!

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T-Shirts \$10.00

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Ties \$20.00

The tie is navy blue polysilk with "Aerospace Medical Association" printed as a gold stripe.

Portfolios \$10.00

This 16" x 12" x 3" black canvas portfolio features two carrying handles, a shoulder strap, and a zippered top. It has the AsMA winged logo on one side printed in white.

Membership Pins \$6.00

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To order please contact: Sheryl Kildall at (703) 739-2240, ext. 107 or Gloria Carter, Ext. 106; or write to the Aerospace Medical Association, 320 S. Henry Street, Alexandria, VA 22314-3579; or fax (703) 739-9652.

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Reminder for Prospective Associate Fellows

The Chair of the Associate Fellows Group reminds prospective Associate Fellows that their applications must be received by August 1 each year in order to be considered for the annual selection.

Update forms are available from the Home Office and on the Associate Fellows Website: www.homestead.com/ASMA/AFGHOME.html.

These forms should also be used to update information for Fellowship. (Fellows are nominated and voted upon by active Fellows.) Fellows Policy is online at: www.asma.org/2002_asma_policy_manual (Section 5).

Membership Directory is now ONLINE!!!

Go to the website at www.asma.org and click on MEMBERS ONLY!

The site is secure and requires a password. Contact Gloria Carter to receive your password or change your information in the Directory: gcarter@asma.org.

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51^e Congrès International de Médecine Aéronautique et Spatiale

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*Under the auspices of:
The International Academy of Aviation & Space Medicine*



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Web Site: www.icasm2003.org

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Call for papers information can be found on the web site.

Deadline for abstracts submissions: **15 June 2003**

Registration and Hotel bookings can also be submitted on line.



Congress Secretariat:

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