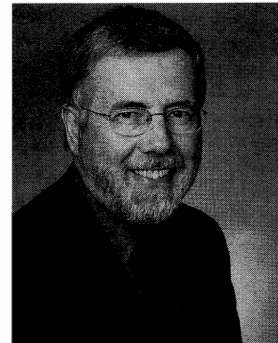


President's Page

One of the many elements of the aging process is that there appears to be less time available to complete all of the items on your "to do" list, both at work and at home. Another element is the continuing need to adapt to new technologies and procedures. Consider that, while the *New England Primer* lasted from 1690 to 1790 before its first revision, today most textbooks are outdated after 3-4 years. Likewise, while AT&T Canada indicated that it took 41 years before 10 million customers had purchased pagers and 25 for cable TV to catch on, it took only 7 years before we all started buying personal computers and a mere 2 years before the Internet became a way of life for many of us. A third element is the rapid increase in the amount of scientific and other information available, through publications, texts, and the Internet. The Gartner Group (1999) reported that U.S. companies produce in excess of 5.5 billion documents each year. In a global society, think of how many documents are produced! I recently read that 90% of what we knew about the brain in 1980 was learned after 1970. The odds are that in the last two decades we have seen an even greater increase in knowledge. Some estimate that 90% of all scientists are alive today. It was Will Rogers (an Oklahoma humorist, for our international audience) who once said, "Even if you're on the right track, if you don't keep moving, you'll get run over by the next train."

So, how do we keep up in the specialized areas in which we operate? In his book *The 7 Habits of Highly Effective People*, Stephen Covey emphasized the need for lifelong learning and renewal by calling the 7th habit "sharpen the saw," the basis for all of the other habits. Internationally, the "European Lifelong Learning Initiative" and WILL (World Initiative on Lifelong Learning) also focus on this concern. Our annual scientific meeting is one avenue for lifelong learning. We are in the process of becoming more involved in helping physician members maintain their proficiency. To address this important issue, I have asked Dr. Richard Jennings, the AsMA vice president for education and research to share with you what we are planning in support of the Maintenance of Certification (MOC) programs. His comments are below:

There is a growing concern in the U.S. about maintaining the quality of physician practice after formal training ends and following initial specialty board certification. The 24 medical specialty boards under the American Board of Medical Specialties (ABMS) originally offered time unlimited certifying examinations, but began moving to time-limited certification that required periodic recertification. In order to better assess core competencies and assure continuous quality improvement, the ABMS member boards are moving to more comprehensive Maintenance of Certification (MOC) programs. The MOC process involves four elements: 1) evidence of professional standing, such as an unrestricted license to practice; 2) evidence of a commitment to life-long-learning (LLL), and involvement in periodic self assessment to guide continued learning; 3) evidence of cognitive expertise based on performance on an appropriate examination; and 4) evidence of an evaluation of performance in practice that includes medical care, communication, and professionalism.



David J. Schroeder, Ph.D.

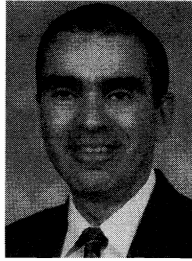
While aerospace medicine practitioners certified by the American Board of Preventive Medicine (ABPM) before 1998 hold unrestricted certificates, additional pressure from the state medical boards may make periodic recertification mandatory for maintaining licensure. Likewise, while states may also offer a recertification examination, most specialists will prefer to maintain certification in their chosen specialty. The ABPM has developed a plan to help aerospace medicine practitioners remain clinically current and recertify through the MOC process. The MOC program is called "Enhancing Professional Improvement and Quality" (EPIQ) and includes the four components required for the ABMS MOC process. AsMA has been working with the American College of Preventive Medicine, the American College of Occupational and Environmental Medicine, and the ABPM as a quadrad to help provide one of the four components of MOC, life-long learning, for our members. LLL material is essentially Category I CME that covers appropriate content from the ABPM study guide, has a self-assessment component (3 questions per session hour), and provides feedback about performance.

As a service to our physician members, AsMA has agreed to provide at least 20 nonconcurrent hours of MOC at the Anchorage meeting. It is hoped that this service will solidify attendance at the annual meeting while serving our membership. Since the meeting is one of AsMA's principal sources of revenue, there is a benefit for all of us. While scientific slide presentations may not work well for MOC, the panel sessions and workshops should be an excellent fit. Drs. Carol Manning, program committee chair for the Alaska meeting, and Dan Van Syoc from the education and training committee have already started making plans for implementing this program in Anchorage.

In keeping with my attempt to blend a bit of history with my column I found it interesting that the dues for the first year or two of the Aero Medical Association were \$5.00. Of that amount, \$4.00 was allocated to the journal. We have come a long way from the days when our predecessors had to search around to find a place to mimeograph information, to having our own headquarters, web site, and electronic communications. The good news is that AsMA is still a bargain for aerospace professionals.

Medical News

Executive Director's Column



Rayman

North, to Alaska!

Anchorage, Alaska, is going to be an outstanding venue for our 2004 Annual Scientific Meeting. The Alaska Team (Convention and Visitors Bureau or CVB, and Hotel Reps) is looking forward with great enthusiasm to our meeting and has guaranteed us that they will provide the very best of services. I have been dealing with the Alaska Team for a number of years and I believe what they say. They have been to the Home Office a number of times and promised us that Anchorage would be our town the week of May 3 - 6, 2004. The Alaska Team is just that -- a real team working exceptionally well together. They are a formidable group.

Interestingly, the first time I met the Team, I was introduced to the President and CEO of the Anchorage Convention and Visitors Bureau. Before I could say a word, he said, "Don't you remember me doc?" As it turned out, this individual was Col. Bill Elander who was shot down over North Vietnam and held in captivity for several years. I was one of the physicians on the C-141 air evacuation aircraft that picked him up in Hanoi. I did not remember him since there were about 150 returning POW's on that flight. Needless to say, we formed a very close relationship. He was very grateful to the Medical Corps of the Armed Forces because of the medical care he received at Clark Air Base, Republic of the Philippines, to which I was assigned at that time. I remember Bill telling me, "if AsMA needs a building, we will build it." That's the attitude of the Alaska Team. Although Bill is now retired, I am hoping he will attend our meeting as our guest.

During my Air Force days, I made a number of stops in Anchorage (Elmendorf AFB is just outside the city) and I think you will find the city similar to small town USA a la 1950's. A good four-iron shot with a little roll would get you across the downtown area. Everything in downtown Anchorage is readily accessible on foot including the Egan Convention Center, the hotels, shops, and restaurants.

We have contracted 4 hotels: the upscale Captain Cook, the Hilton, the Marriott, and the Westmark. The hotels are just a few minutes walk (1 to 3 short blocks) from the Egan Center where our academic sessions will be held. Food functions including luncheons and

banquets will be split among the hotels. For example, The Captain Cook will host the Sunday Night Welcome Reception and the Fellows Dinner; the Hilton will host Honors Night. (You may want to keep this in mind when you select your hotel.)

Let's dispel the myth that Alaska is expensive - not true. Prices, in general, are reasonable. Let me give you a few examples.

- 1) Hotel rooms will run between \$74.00 and \$130.00. This is not only reasonable, but it is cheap (These rates are well below per diem.)
- 2) Lunches and banquets will run approximately \$25.00 and \$45.00, respectively. Again, reasonable rates.
- 3) There is no state tax.
- 4) Shuttle from the airport to the hotels is \$5.00.
- 5) The Egan Convention Center is being given to us free of charge.
- 6) Costs for coffee are \$19.00 per gallon (as compared to \$45.00 - \$52.00 per gallons at previous meeting sites).
- 7) Although the Alaska tourist season begins May 1, the city is extending to us pre-season rates which constitutes as much as a 50% savings -- costs will be below US per diem.

Certainly airfare will be a bit more expensive than flying in the lower 48, but, I believe that the cost will be more than offset by the very reasonable hotel/food rates in Anchorage. As an example, a round trip ticket today (and this is high season) from Washington, D.C. to Anchorage is \$522.00.

And finally, we are looking into postmeeting cruises, the details of which are not yet known, but will be passed on in the coming months. Alaska is a frontier and a unique place to visit. Be there.

This Month in Aerospace Medicine History-- October 2003

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

Introduction

One hundred years ago this month, the Wright Brothers began construction of the flyer that would eventually make aviation history two months later. On a sandy hill in North Carolina, near a hut that served as their quarters, they set to work in the only other building in the area, a small workshop and storage shed. Building on several years worth of gliding experiments, these bicycle experts were soon to become the Founding Fathers of modern aviation.

At that time the medical world was at least peripherally aware of the potential dangers of altitude, particularly of hypoxia and hypothermia. Powered aviation was soon to expand these concerns, as well as introduce new physiologic challenges to the human body. Thanks to innovators such as the Wright Brothers, the specialty of Aerospace Medicine is now a necessity.

Fifty Years Ago

Training techniques for hypoxia utilized the decompression chamber during World War II: "Queer things happen when you don't get enough oxygen. It's like being a little tight, in the early stages. You become exhilarated, giggly and over-confident; at the same time your judgment becomes unreliable, you become somewhat irresponsible and you may even have hallucinations... [Training consisted of] all the crew [wearing] oxygen masks except the pilot. As the 'altitude' increased, the effect on the pilot became more and more noticeable. At 5,000 feet the effect was negligible. At 10,000 feet, a mild facetiousness became apparent. At 15,000, if he were playing cards with the crew, the odd mistake crept in. At 20,000, his game became absurd, he couldn't do simple addition and subtraction and his speech slurred. Not long after that he would collapse, unconscious, in the middle of trying to write his name in a scarcely decipherable scrawl. A few moments after his mask was put on and connected to the oxygen supply, he would be his normal self" (4).

Early studies in hearing loss were not considered conclusive: "There is a general acceptance that very intense noise can produce permanent hearing impairment, but there is considerable disagreement as to the degree of intensity required to produce such impairment, as well as to the cumulative effect of continued exposure to noise of moderate intensity, 75-120 db. The purpose of this investigation was to study the effect [on hearing acuity] of continuous noise.... For 5 years, semi-annual audiographic and regular otological examinations were done on...employees testing jet engines.... None of the fifty-nine subjects showed change in hearing acuity in the frequency 1024 and 2048. About half the changes occurred at 4096 and half at 8192. All the changes were unilateral, and the maximum loss was 25 db from the zero threshold level. It is too early to describe the progressive character of any of these hearing changes.... It is concluded that none of the hearing changes in subjects in this study can definitely be attributed to exposure to jet-engine noise. Subjective hearing loss and tinnitus were rarely encountered and were not related to the occupational noise being investigated" (7).

Aviation and preventive medicine were

See HISTORY, p. 1115.

**// ICASM 2003
CIMAS //**

**51st International
Congress of Aviation and
Space Medicine**

**5 to 9 October 2003,
Madrid, SPAIN
www.icasm2003.org**

HISTORY, from p. 1114.

considered important in combating communism: "The importance of preventive medicine and its close relationship to modern aviation medicine has been a subject of significant discussion by the highest medical authorities of this country for the past few years... [T]he identical objective of preventive medicine and aviation medicine to keep men 'Fit to Fly' can best be gained by integrated utilization of the principles and practices of these two important and interrelated medical sciences. This is especially necessary in view of the communist world menace confronting America and our United Nations allies. It is doubly important in view of the overwhelming manpower advantages held by the Iron Curtain countries over the 'still free' world. For the end result of the successful application of preventive and aviation medicine will be to conserve our all too scarce working, fighting, and flying manpower" (6).

Target fixation was found to be prevalent among student aviators at Naval Air Station, Pensacola, FL: "Fascination (or target fixation) is a term which is well known to student pilots and their instructors. However, like vertigo, it covers a fairly wide variety of experiences. Therefore, the term as used by pilots and in this report is not a single, clear cut entity with a well-defined etiology.... [It] is defined as a condition in which the pilot fails to respond adequately to a clearly defined stimulus-situation in spite of the fact that all of the necessary cues are present and the proper response is well known to him... Ninety-two per cent of the Advanced Students and 88 per cent of the Basic Students [of 502 total Naval Flight Students surveyed] indicated that they had experienced it in one form or another. Fascination appeared to be fundamentally a matter of heightened attention but some experiences also included compulsive types of behavior and blocking.... [F]ascination occurs in all types of flight and should be considered to be a normal phenomenon which can be reduced by the use of proper procedures" (3).

Twenty-five Years Ago

The Naval Medical Research Institute in Bethesda, MD, performed this hyperbaric study on rats: "The evidence provided by laboratory-animal experiments is unanimous in suggesting that there is an asymmetry between gas-exchange time following a compression and a decompression.... Before this information on gas-exchange asymmetry can be put to practical use, we must know something about the magnitude of the gas-exchange difference and the factors that affect it.... This question was explored by exposing 895 female albino rats to pressures of 20, 30, and 40 ATA for a time sufficient to bring them into equilibrium with the ambient pressure environment. Following this exposure a two-step, single-stage decompression was conducted to a point where 50% of the animals displayed signs of decompression sickness. By varying the time of the single decompression stop, the authors were able to determine the time necessary for the animals to reestablish equilibrium following the initial decompression. Results confirm that gas uptake during compression is much faster than gas elimination during decompression. In addition, it is suggested that the time for gas elimination is an inverse function of saturation exposure pressure. Finally, there is evidence suggesting there is an optimum time

to spend at a decompression stop for maximizing the rate of gas elimination" (1).

The U.S. Army Aeromedical Center at Fort Rucker, AL, had this to say regarding medevac of decompression sickness patients: "Rapid movement of a patient with decompression sickness sometimes poses problems when the site of the hyperbaric treatment facility is located a considerable distance away. Six cases of aviator decompression sickness [including one central nervous system case]... were transferred by low-level helicopter flight. No complications were noted when the helicopter stayed within 200 ft (61 m) AGL of the take-off point. Symptoms of decompression sickness did worsen however, when this altitude was exceeded. This study shows that movement of patients with decompression sickness by low-level helicopter flight is both safe and effective, especially when pressurized aircraft is neither available nor practical" (5).

Cosmonaut post-flight physical examinations were reported out of Moscow, USSR: "The longest-ever, 96-d space flight by Soviet cosmonauts Yuri Romanenko and Georgi Grechko in the Salyut-6 orbital station has brought world science a number of basically new scientific and technological findings. This expedition is also a tangible contribution to space medicine.... Specialists paid particularly great attention to the medical examinations and physical exercises of the cosmonauts during the crew's preparation for return from orbit. The intensity of physical exercises grew. A day before landing, the cosmonauts began to take special salt additions to make up for the reduction of blood amount in the body.... The preliminary medical examination on the

landing site showed that the crew had well endured the long orbital flight. Nevertheless, it took some time before the cosmonauts could restore their pre-flight physical health.... Specialists devoted much attention to the after-flight medical examinations of the cosmonauts. In particular, a number of new methods, such as the ultrasound investigation of the work of the heart, and biochemical and other analyses were used. But they identified no alterations basically different from those previously known. The examinations continue. Specialists believe that they will undoubtedly enrich our idea of the impact of weightlessness of man" (2).

REFERENCES

1. Berghage TE, Dyson CV, McCracken TM. Gas elimination during a single-stage decompression. *Aviat Space Environ Med* 1978; 49(10):1168-72.
2. Chernyshov M. Science news note: In the fight against weightlessness. *Aviat Space Environ Med* 1978; 49(10):1235-6.
3. Clark B, Nicholson MA, Graybiel A. Fascination: A cause of pilot error. *Aviat Med* 1953; 24(5):429-40.
4. Denver M. Oxygen lack. *Flying* 1953; 53(4):33, 60.
5. Reddick EJ. Movement by helicopter of patients with decompression sickness. *Aviat Space Environ Med* 1978; 49(10):1229-30.
6. Rizzolo J. Importance and relation of preventive medicine to aviation medicine. *Aviat Med* 1953; 24(5):412-22.
7. Sataloff J. Effect of prolonged exposure to intense noise on hearing acuity. *Current M. Digest* 1953; 20(10):81-2.

MEETINGS CALENDAR

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; icsm03@vie.es.

October 8-11, 2003, Seattle, WA.

Civil Aviation Medical Association Annual Meeting. Theme: Neuropsychiatric Issues in Aviation. Info: Jim Harris (405) 840 0199; JimLHarris@aol.com.

October 13-18, 2003 Denver, CO.

HFES 47th Annual Meeting. Info: HFES, P.O.Box 1369, Santa Monica, CA 90406; info@hfes.org, <http://hfes.org>.

October 16-17, 2003, London, UK.

International Aviation Conference: Air Quality in Passenger Aircraft, sponsored by the European Commission and Royal Aeronautical Society Aviation Medicine Group. Info: BRE Events, www.bre.co.uk/aviation. e-mail: events@bre.co.uk.

October 18-19, 2003, Houston, TX.

Wings Over Houston Airshow Festival. Info: www.wingsoverhouston.com; (713) 266-4492.

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.

October 24-25, 2003, Perrysburg, OH.

3rd Annual Hyperbaric Medicine Conference Sponsored by The Toledo Hospital and the Undersea & Hyperbaric Medical Society, Midwest Chapter. Holiday Inn French Quarter, Perrysburg, OH. Contact: Linda Bueno (419) 291-4649; e-mail: linda.bueno@promedic.org.

November 20-22, 2003, Bangalore, India.

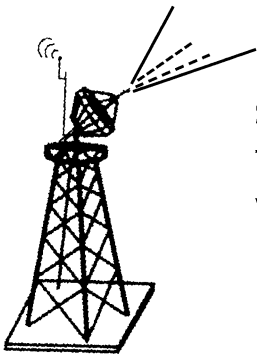
44th Annual Meeting of the Indian Society of Aerospace Medicine. Institute of Aerospace Medicine. Info: Secretary, Indian Society of Aerospace Medicine (ISAM), Directorate General Medical Services, Air HQ (RK Puram), West Block 6, RK Puram, New Delhi 110066, India; Phone 11-26190645; Fax 11-26168098; email: isam@vsnl.in; www.isamindia.org

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; <http://faculty.erau.edu/vincenzd/hpsaa>.

May 2-6, 2004, Anchorage, AK. 75th Aerospace Medical Association Annual Scientific Meeting. Egan Convention Center. Info: www.asma.org

August 8-13, 2004, Beijing, China. XXVII International Congress of Psychology. Info: 86-10-6485-5830; icp2004@psycy.ac.cn, <http://www.icp2004.org>.



Science & Technology Watch

Keeping You Informed Of The Latest Advances In Science And Technology

Processing large datasets is always a challenge, even though we use ever more powerful computers. Algorithms are required for efficiently determining "good" from corrupted data. In this month's Watch we learn about new techniques to analyze biological datasets for the purpose of forensic toxicology research.

New Data Analysis Approach in Functional Genomics and Proteomics

*Lit-Hsin Loo, Leonid Hrebien, Moshe Kam
Data Fusion Lab, ECE Department, Drexel
University, Philadelphia, PA.*

The term functional genomics refers to the assessment of gene function and how sets of genes interact in an organism in times of health and disease. Recent advances in DNA micro-array technology (7) enable the monitoring of expression levels of thousands of genes under a variety of conditions. Closely related to functional genomics is proteomics, the study of identities, quantities, structures, and biochemical and cellular functions of all proteins in an organism, organ, or organelle, and how these properties vary in space, time, and as a function of physiological state (4). Common proteomics tools include two-dimensional gel electrophoresis and mass spectrometry.

Genomics and proteomics tools generate a large amount of data with high dimensionality. Various computational analysis (bioinformatics) techniques have been developed for identifying similarities in gene or protein expression under similar conditions. Commonly used bioinformatics techniques include hierarchical clustering algorithms (2) and various supervised learning algorithms (1,8). However, relatively little attention was given to the preprocessing of raw data. Quite often, the quality of preprocessing represents the major bottleneck on the performance of the analysis techniques, and errors in preprocessing cannot be corrected later.

Biological data, such as mass spectra and gene expression images, can be modeled as a combination of signals of interest, common characteristics, and noise (5). Signals of interest are responses correlated with the condition of interest (such as toxicological or pathological conditions); common characteristics are responses uncorrelated with the condition of interest but still correlated with other conditions of little interest (such as environmental circumstances and subject variations); noise is

often low intensity additive component of the data, largely uncorrelated to external conditions (e.g. instrumentation noise). Methods of removing common characteristics and noise before attempting feature extraction and data classification have the potential to increase the computational speed of feature extraction, and to dedicate the resources to the search on discriminatory patterns rather than waste efforts on patterns of no interest.

Loo et. al. (5) have proposed a new common characteristics and noise filtering (CCN) algorithm for high dimensionality indexed data, such as data obtained from mass spectrometry and DNA microarray imaging. In mass spectrometry datasets, the data are indexed by molecular weights; while in DNA microarray datasets, the data are indexed by genes. The CCN filter employs a two-step analysis of ensemble statistics to remove undesirable indices which express common characteristics and noise. During the first ensemble statistics analysis, the filter assumes that a control group is always available for study of the common characteristics. The basic idea is that if an index exhibits relatively strong ensemble variance among the control group samples, this index provides little discriminatory information and can be removed by a threshold. During the second ensemble statistics analysis, the filter removes all indices that have low ensemble variances in both control and non-control samples by another threshold.

A general pattern recognition system has been developed employing the CCN filter (5). Most biological datasets tested by this architecture possess more than 1000 data points per spectrum/image. Under these circumstances, conventional exhaustive search for discriminative patterns can be computationally prohibitive. In order to overcome this difficulty, the proposed system uses a genetic algorithm to extract discriminatory patterns. A multi-layer neural network is then trained to recognize these patterns. The system has been tested on real mass spectrometry data and DNA microarray data. In a recent study using surfaced enhanced laser desorption/ionization (SELDI) time-of-flight mass spectrum of serum samples obtained from 322 prostate cancer patients and normal people, the system was able to obtain about 87% sensitivity and 77% specificity in prostate cancer detection, even though the CCN filter had removed more than half of the molecular weight indices from the spectra and hence improved processing speed greatly (5). Besides mass spectrometry, initial results show that CCN filter is applicable to DNA microarray and flow cytometry data (6).

This CCN filter and the subsequent pattern recognition system may be useful for several areas of aerospace forensic toxicology research. It is hypothesized that the gene expression changes in leukocytes may be correlated to various environmental stresses (such as hypoxia, radiation, pharmaceutical and toxic agents, environmental stress factors, and gravitational forces). The FAA's Aeromedical Research Division has started a toxicogenomics project to develop toxicogenomics technologies in support of pilot medical certification, aerospace environmental stress research, and accident/incident investigation (3). Detection of an altered gene expression linked to physiological function may serve as an early warning for potential compromise of human safety in the National Airspace System. The CCN filter and the associated pattern recognition system have the potential to identify such

gene expression changes more efficiently than existing unfiltered pattern recognizers.

References:

1. Brown MP, Grundy WN, Lin D, et al. Knowledge-based analysis of microarray gene expression data by using support vector machines. *Proc Natl Acad Sci USA* 2000; 97:262-7.
2. Eisen MB, Spellman PT, Brown PO, Botstein D. Cluster analysis and display of genome-wide expression patterns. *Proc Natl Acad Sci USA* 1998; 95:14863-8.
3. Jordan JL. FAA Works to Ensure Safety in the air. *US Medicine* 2001 (Jan).
4. Kenyon GL, DeMarini DM, Fuchs E, et al. Defining the mandate of proteomics in the post-genomic era: workshop report. Washington DC: National Academy of Sciences Press; 2002.
5. Loo LH, Quinn J, Cordingley H, et al. Common characteristics and noise filtering and its application in a proteomic pattern recognition system for cancer detection. *Proceedings of the IEEE EMBC 2003; 2003 Sept 17-21; Cancun, Mexico.* Warrendale, PA: IEEE, 2003.
6. Quinn J, Loo LH, Achuthanandam R, et al. Determining regions of interest in flow cytometric data. *Proceedings of the IEEE EMBC 2003; 2003 Sept 17-21; Cancun, Mexico.* Warrendale, PA: IEEE, 2003.
7. Ramsay G. DNA chips - states-of-the-art. *Nature Biotechnology* 1998; 16: 40-4.
8. Tamayo P, Slonim D, Mesirov J, et al. Interpreting patterns of gene expression with self-organizing maps: methods and application to hematopoietic differentiation. *Proc Natl Acad Sci USA* 1999; 96:2907-12.

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

Submit your 2004 Scientific Meeting Abstract on the Internet!

75th AsMA Annual Scientific Meeting: "Frontiers in Aerospace Medicine"
May 2-6, 2004
Anchorage, AK

Submission deadline:
October 29, 2003

Go to our home website at www.asma.org and click on "Submit Abstract Online." Online step-by-step instructions will guide you through the process. You will receive immediate confirmation with a control number for online submissions.

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Three Scientists Earn 2003 Aerospace Physiology Board Certification

Congratulations to the three outstanding scientists for taking that extra step to demonstrate professional excellence within the aerospace physiology field. These individuals earned their 2003 aerospace physiology board certification in San Antonio, TX. They joined an exclusive consortium of 112 fellow aerospace physiology board certified scientists of the Aerospace Medical Association.

Each sat for and successfully completed an in-depth, 5-hour test session that covered 15 subject areas, 5 professional texts, and articles from the last 3 years of the *Aviation, Space, and Environmental Medicine* journal. Subject areas included, but were not limited to, basic physiology, decompression physiology, acceleration physiology, atmospheric physics, hyperbaric physiology, decompression sickness, human factors, vision, lasers, fatigue, aviation physiology, spatial disorientation, and space physiology. Successful attainment of board certification is not the end of study, but the beginning! The exam was given on Sunday, 4 May 2003, prior to convening of the 74th Annual Scientific Meeting of the Aerospace Medical Association, (AsMA). Following approval by the AsMA Council, Wg.Cdr. Sudanshu Mishra, Indian Air Force; Capt. Ryan Maresh USAF; and Capt. Nereyda Sevilla, USAF, were granted Certification in Aerospace Physiology. The three scientists' achievements were recognized during the Aerospace Physiology Society's luncheon and business meeting on Wednesday, 7 May 2003 at the Menger Hotel. Each received a certificate signed by the President of AsMA and Chair of the Certification Board, and a gold "pO₂" pin signifying their accomplishment. CAPT Vince Musashe, USN, President of the Aerospace Physiology Society and CDR Dave Service, USN, Chair of the Certification Board made the presentations.

Individuals interested in meeting the challenge of board certification in aerospace physiology may read more about the application process in the November issue of *Aviation, Space, and Environmental Medicine* journal. Please contact CDR Dave Service, Chair of the Admissions Committee for further application information at (858) 577-4455, DSN 267-4455. Questions regarding board certification can also be addressed to the Chair of the Aerospace Physiology Certification Board, Lt. Col. Tim Byrne, USAF, BSC at (501) 987-7389 DSN 987-7389.

Sudhanshu Shekhar Mishra

Wg. Cdr. Sudhanshu Shekhar Mishra, IAF, MC, obtained his Bachelor of Medicine and Bachelor of Surgery (MBBS) degree from Medical College, University of Jabalpur, MP (India) in 1981. He obtained his Doctor of Medicine (in Physiology) from the same institution in 1985 and was a post doctoral junior faculty in the Dept of Physiology, Medical College Jabalpur from May 1985 to Sep 1986.

He joined the Indian Air Force in Oct 1986, and was appointed Assistant Professor of Physiology at the Institute of Aerospace



Medicine, Bangalore, India, with the rank of flight lieutenant. He was involved in the joint Indo-Russian space program from 1987 to 1992 and worked mainly on the skeleto-muscular de-conditioning in simulated microgravity, both in animal and human

models. He was appointed Associate Professor of Physiology in 1992 and promoted to Professor of Physiology in 1996 at the Institute of Aerospace Medicine, Bangalore, India, an appointment which he holds presently.

From 1998 to 2000, he served as officer-in-charge of High Altitude Medical Research Center, situated at Leh, in the Western Himalayas. During this period, he mainly worked on high altitude pulmonary edema and coagulation disorders due to high altitude exposure. In 2000, he was posted back to the Institute of Aerospace Medicine, Bangalore, and place in charge of the space experimentation laboratory, where he remains today.

He has contributed significantly in the space and high altitude physiology teaching at the Institute of Aerospace Medicine. He also has seven research papers, six scientific presentations, and completed eight Armed Forces Research Projects to his credit.

He is also a member of several professional associations, including Indian Society of Aerospace Medicine, ASMA, AsPS, and Association of Physiologists and Pharmacologists of India, as well as Indian Medical Association.

Ryan W. Maresh

Capt. Ryan Maresh, USAF, BSC is currently an Assistant Professor in the Department of Biology, United States Air Force Academy (USAFA), where he is the course director for Aerospace Physiology, as well as an instructor in the Introductory Biology and corresponding laboratory course. In addition to teaching, he serves as the Department of Biology Executive Officer and USAFA Biomedical Sciences Corps Advisor. As the BSC Advisor, he assists cadets desiring to enter the BSC career fields of Aerospace Physiology, Bioenvironmental Engineering, Physical Therapy, and Health Physics. In April 2002, Capt. Maresh brought on-line the General Aviation Trainer II (GAT-II) and was responsible for integrating spatial disorientation training into numerous courses and research protocols.

Upon graduation from the U.S. Air Force Academy in 1996 with a B.S. in Biology, Capt. Maresh entered the AF Aerospace Physiology

career field and took over as officer-in-charge, Survival, Evasion, Resistance, and Escape (SERE) Element and Wing Aerospace



Physiologist at the 9th Physiological Support Squadron, Beale AFB, CA, where he managed the SERE portion of the DoD's only High Altitude Life Support Systems and Survival Course which included all U-2/SR-71 life support and SERE initial and continuation train-

ing. In 1997, he took over as the 9 PSPTS Support Flight Commander and oversaw the DoD's full pressure suit technician training program and helped formalize the course under the USAF School of Aerospace Medicine. Following his assignment at Beale, Capt. Maresh earned an M.S. in Physiology from Colorado State University with an emphasis on high altitude physiology before returning to the USAFA Department of Biology in the summer of 2001.

Nereyda L. Sevilla

Capt. Nereyda L. Sevilla, USAF, BSC, entered the Air Force in 1997 after attending the United States Air Force Academy. After selection to the aerospace physiology career field, she graduated from the AFSC granting course at Brooks Air Force Base as the honor graduate. Her first assignment was Holloman AFB, NM, working with centrifuge training and altitude chamber training, in addition to working with the F-117, F-4, and T-38 aircrew.

Her second assignment was the Aerospace Physiology Management Fellowship in the Office of the Surgeon General, Bolling AFB, DC. As part of that Fellowship, Capt. Sevilla completed a Masters in Public Health with a 4.0 average. The assignment also included reviewing and accepting international aerospace physiology programs, revisions of aerospace physiology specific AFIs, coordination of Human Performance Training Team documentation and implementation, and support to the Aerospace Physiology career field and the Chief of Aerospace Physiology.

Currently, Captain Sevilla is assigned to
See PHYSIOLOGISTS, p. 1119.



ERRATUM

In the August issue, the photos of Jim Webb and Kent Magnusson were reversed. We apologize for this error.

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ANS President's Message

I wanted to take this opportunity to introduce myself and tell you about some of the exciting initiatives we have planned for the Aerospace Nursing Society (ANS). First and foremost I am pleased to represent the Aerospace Nursing Society and I hope this will be a very productive year. Our next meeting should be very momentous. We will be celebrating the 40th anniversary of the ANS and we hope to focus on the history of flight nursing and the many significant contributions flight nurses and technicians have made through the years. We hope to have a great program with excellent presentations. Our plan is to have nursing continuing education credits for the all sessions of the scientific program next year.

As this president's message goes to press I learned of the death of Brig. Gen. E. Ann Hoefly, a member of AsMA and ANS. She was the first Air Force Chief of the Nurse Corps to achieve the rank of Brigadier General. The ANS presents the Brig. Gen E. A. Hoefly Award annually and will continue to recognize her many contributions to nursing through this award. Our sympathy goes out to her family and the many people who have been influenced by Gen Hoefly through her leadership.

We also need to let our colleagues know about our organization. The Aerospace Nursing Society is a dynamic professional organization that needs to share information with all civilian and military flight nurses and technicians. In an effort to increase awareness about the AsMA and the ANS and let others know about the benefits of our organization we plan to publish a quarterly newsletter. I need your help to spread the word and encourage others that are seeking a forum to share medical transport experiences to join this Society. If each one of us encourages just one individual to become a member of AsMA and the ANS we will have a 100 percent growth rate in our membership and a stronger organization to address clinical aerospace issues. Besides AsMA offers a great membership incentive. AsMA members who recruit 3 new members during the calendar year earn 1 FREE membership at the end of their current membership. NEVER PAY DUES AGAIN by continuing to recruit three new members annually. ANS membership of \$10 for nurses and \$5 for Allied Health Personnel is in addition to the membership of AsMA.

Over the next year we would like to create a new logo for the ANS and Charlie Tupper has had information published in previous issues of Aerospace Nursing Society News in the journal. We plan to have a coin to help celebrate our 40th anniversary. In addition we will be working on criteria for educational scholarships for deserving members. We are also developing a web page to increase communication with our constituents and those potentially interested in our organization. I would love to hear your thoughts on how we could improve the Aerospace Nursing Society or if you wish to serve on any of the ANS

committees. Please feel free to send me an e-mail at vschneid@visi.net.

GINNY SCHNEIDER
President, Aerospace Nursing Society

Aerospace Nursing Society Announces 2003 Award Recipients

by Lt Col Charles R. Tupper, USAF (Ret)
Chair, ANS Awards Committee

BG A. E. Hoefly Award: Tammy L. Smith

The BG E.A. Hoefly Award (named for BG E.A. Hoefly, AF/SGN from 1968-74) recognizes AsMA/ANS member for significant contributions to, or achievements in, the field of nursing (other than flight nursing). This year's BG E.A. Hoefly Award recipient is, Capt. Tammy L. Smith of the 48th Medical Group, RAF Lakenheath, United Kingdom. The following is an excerpt of the narrative provided by the 48th MDG leadership.

Captain Smith has made outstanding contributions to Air Force health care through her role as Chief, Infection Control at United States Air Forces in Europe's largest medical treatment and referral center. Her comprehensive knowledge and leadership ensured safety of patients through education of medical, nursing, and ancillary support staff.

Her singular efforts to actively engage five geographically separated units assigned under the 48th Medical Group (MDG) umbrella was a benchmark practice, which is being included in the USAFE supplement to the Air Force Instruction guiding Independent Duty Medical Technicians. She educated the units on current infection control practices, which allowed them to implement crucial programs and comply with regulatory agency standards in minimal time.

A meticulous researcher, she brought groundbreaking information to the hospital frontline that was incorporated into the Wing Disaster Response Plan. This plan was subsequently incorporated into the Wing Disaster Plan.... She actively trained over 300 medics on critical wartime skills.

An ardent advocate of patient and staff ed-



HOEFLY AWARD--2003 ANS President Lt.Col. Ginny Schneider presents the E.A Hoefly Award to Captain Tammy L. Smith during the ANS Annual Luncheon

ucation, she routinely stayed late to explain disease processes and clinical infection control issues to hospital staff. She presented vital information to clinical nursing units and professional staff ensuring their understanding of new Centers for Disease Control practice mandates. Through educational efforts alone, the bloodborne pathogen exposure rate decreased 60% in 1 year, ensuring safer, more confident health care workers. Her vast clinical knowledge was sought by colleagues from multiple disciplines from within the Medical Group as well as the community at large.

Her innovative computer skills were put to use when she created an infection control website for the Medical Group Intranet. Important clinical information was made available in real time to over 750 hospital personnel. Captain Smith extrapolated infection control surveillance data from a complex computer system and was able to increase medical case reviews by 70%.

A dynamic nurse, Captain Smith suggested many process improvements. She led the Safer Medical Device Working Group and coordinated with USAFE TRICARE Utilization managers to implement a needleless intravenous infusion system at the 48 MDG. Captain Smith is an all in one, nurse, educator, and leader; an outstanding candidate for the BG E.A. Hoefly award.

Edward R. Iversen Sr., Allied Health Professional of the Year: John W. Hammer

The Edward R. Iversen Sr., Allied Health Professional of the Year Award (technician level award), is named for Mr. Edward R. Iversen Sr., a WWII enlisted Navy member in appreciation of EMT/Paramedic assistance he received. The Award recognizes AsMA/ANS member (technician member) for significant contributions to, or achievements in, the field of in-flight medical care and is currently sponsored by the Iversen Family.

This year's Edward R. Iversen Sr., Allied Health Professional of the Year Award recipient is Technical Sergeant John W. Hammer of the 459th Aeromedical Evacuation Squadron, Andrews AFB, MD. The following is an excerpt from *NURSING AWARDS*, p. 1119.



IVERSEN AWARD--2003 ANS President Lt.Col. Ginny Schneider presents the Iversen to CMSgt Arthur Bradley on behalf of award recipient TSgt John W. Hammer during the ANS Annual Luncheon.

NURSING AWARDS, from p. 1118.

cerpt of the narrative provided by the 459th AES leadership.

TSgt Hammer provides unequivocal commitment and support to mission accomplishment of the 459th Aeromedical Evacuation Squadron and the 459th Airlift Wing as an Aeromedical Evacuation Technician (AET) and Non-Commissioned Officer in Charge of Aircrew Training for the most dynamic Aeromedical Evacuation unit in the Air Force Reserve Command.

TSgt Hammer is responsible for educating all new aircrew members to the unit by providing the best introduction to the medical flying career field. He introduces new flight nurses and AETs to the Aeromedical Evacuation system and the intricacies of all component and related parts. He plans, coordinates and implements ground training classes and prepares lesson plans and instructs students on fundamentals of care in the air, aircraft systems, emergency equipment and emergency procedures. TSgt Hammer's ground training program boasts a 100% pass rate for the past 3 years!

Extremely perceptive and hard working, he takes charge and makes positive things happen. He was named the 459th AES NCO of the Year for 2002!

Through his leadership, the Training Section has made significant improvements to all aspects of the training program. He developed a continuity binder for all processes and lesson plans and established a computer-based training module for self-paced review of lessons. He formalized the graduation process, which is now the benchmark for other squadrons.

The C-141 Starlifter certification program was cited by 21st Air Force as a benchmark program, he received special recognition for

Aerospace Nursing Section Call for Papers

The members of the Aerospace Nursing Section's (ANS) Scientific Program and Education and Training Committees are planning next year's meeting, to be held in Anchorage, AK, May 2-6, 2004. The overall theme is "Frontiers in Aerospace Medicine." There are many topics related to aerospace nursing and general nursing practice, and case studies are welcome.

Nurses, technicians, and physicians—get your abstracts together and submit them online. (Please ensure that your presentation has all necessary clearances prior to submission.) The submission criteria are as follows:

1. Membership in the Aerospace Medical Association and the ANS.
2. Use the format as published in *Aviation, Space, and Environmental Medicine* for submission of abstracts online at www.asma.org.
3. The deadline for submission is October 29, 2003.
4. Attach your biography or c.v via the website.
5. E-mail a copy of the abstract, objectives, two test questions, and an outline in accordance with ANA CEARP/ USAF guidelines to Colleen Morrisette, flicum@aol.com, Acting Chair of the ANS Scientific Program Committee.

his efforts during a 2002 visit by the Standardization and Evaluation Inspection Team.

He helped shape the AE of the future by volunteering to participate in the Air Mobility Command pilot program for a proposed universal checklist. He is active in his community as a CPR and National Emergency Medical Technician instructor. He continues to strive for improvement with his studies in Allied Health Science.

The Aerospace Nursing Society sponsors two other annual awards, neither of which had nominees for this year. The Garrecht Award is named for BG Claire Garrecht, AF/SGN from 1974-78. The Garrecht Award recognizes AsMA/ANS member for the best scientific paper submitted at the Annual Meeting and is sponsored by Educational Enterprises, Inc. The Hans Krakauer, Junior Flight Nurse of the Year Award is named for Dr. Hans Krakauer recognizing his appreciation of flight nurses caring for patients. It honors an AsMA/ANS member for outstanding professional accomplishments in aerospace, clinical practice, education management, and/or research by a company grade military officer or civilian equivalent.

Award submissions are due no later than 15 March 2004 for the next meeting. Award information is published in this journal in the November issue.

In Memoriam A. E. Hoefly

Ethel Ann Hoefly, the first woman general in the USAF medical corps, died August 3, 2003 at the age of 84. She was born in Long Island, NY, in 1919. She attended Methodist Hospital School of Nursing, Brooklyn, NY and received her B.S. from Florida Southern



College and a master's degree in nursing administration from Columbia University, NY. She also attended Air War College and the Industrial College of the Armed Forces.

During WW II, Hoefly joined the U.S. Army Nurse Corps and was assigned to

England General Hospital, Atlantic City, NJ. She later served in the European Theater of Operations, first as a general duty nurse and later as a neuropsychiatric nurse.

Upon her return to the U.S. she was assigned as a general nurse at Halloran General Hospital, Staten Island, NY, and later as a neuropsychiatric nurse at Valley Forge General Hospital in Pennsylvania. In July 1949, Hoefly transferred to the newly established U.S. Air Force Nurse Corps.

In 1950 she completed a postgraduate course in neuropsychiatric nursing at the Medical Field Service School, Ft. Sam Houston, TX and was assigned as a psychiatric nurse to the 306th Medical Group at MacDill AFB, FL. During this tour she completed the Flight Nurse Course at the USAF School of Aviation Medicine in 1952 and obtained a bachelor of science degree in 1953.

Next she became an instructor in the Department of Psychiatry of the Medical Field Service School. She next attended Columbia

University under the Air Force Institute of Technology program where she received her master's degree. Next she was assigned as a flight nurse with the 1734th Air Transportation Squadron, Brooks AFB, TX. In November 1956 she became a flight nursing instructor and later was Chief of the Psychiatric Nurse Section at the 3883d School Group at Gunter AFB, AL. During this assignment, she attended a course in Medical Management of Mass Casualties.

She was assigned to the Office of the Surgeon General, Headquarters USAF, as Deputy Chief of the U.S. Air Force Nurse Corps. She next served a Chief Nurse of the Fifth Air Force and Chief of the Nursing Division at USAF Hospital, Tachikawa AB, Japan.

In 1967 she was assigned as Chief Nurse of the Air Force Systems Command at Andrews AFB, MD, and attended the Air War College.

From 1968-74 she held a position of great responsibility as Chief, Air Force Nurse Corps. Under her guidance the Air Force Nurse Corps became a more an integral part of the medical service team and made outstanding progress in supporting the health and welfare of the USAF. She oversaw innovative programs in nurse-midwifery, pediatric and obstetrical/gynecological nurse practice, aerospace nursing and primary care nurse practice, and pioneering studies in the effective utilization of health care personnel. She travelled extensively in an effort to visit every one of the more than 180 USAF hospitals, dispensaries and aeromedical stages areas around the world.

In 1972 she became the first woman in the Air Force medical service to reach the rank of Brigadier General. Upon her retirement from the Air Force in 1974, she receive the Distinguished Service Medal. Her other military decorations and awards include the Legion of Merit and the Air Force Outstanding Unit Award with oak leaf cluster.

As well as the Aerospace Medical Association, she was a member of the American Nurses Association, National League for Nursing, Association of Military Surgeons, The Air Force Association.

[Note: The AsMA Home Office has several press releases relating to Brig. Gen Hoefly's career. If interested, please contact Pam Day.]

PHYSIOLOGISTS, from p. 1117.

the Human Performance Training Team at Whiteman AFB, MO. As the Human Performance Expert, she has integrated herself throughout the entire Wing. She is working on the B-2 Crew Comfort Working Group and is implementing the Air Force Surgeon Generals Fatigue Management Program across the base. As the Human Performance Team Training Officer in Charge, she instructs warfighters on physiological stresses and human performance implications of military aviation, space operations, and worldwide deployment environments. She provides consultation for all wing personnel on human performance issues. She is part of Team Aerospace and works closely with aerospace medicine, life support, wing safety, and other agencies to provide just-in-time human performance training needed to safely and effectively accomplish the mission.

Capt. Sevilla's awards include the Air Force Achievement Medal and the Air Force Commendation Medal.

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Message from "Lady B"

"Congratulations and Celebrations"

With so many sad things going on in the world at large and closer to home, ill health and misfortunes which affect our families and friends in our daily lives, I thought that my article this month should look ahead to "clan gatherings" for celebrating anniversaries.

We are off this weekend to join the Baird relatives on the occasion of John's uncle and aunt's Diamond Wedding Anniversary. Gosh-- 60 years together is indeed a reason to celebrate. The great thing is that members of the family will be attending from all over the world, some of whom we haven't seen in years. I wonder how many of our WING members have reached this amazing milestone in their marriage---we would love to hear from you about the way it was celebrated and what you have found to be the secret of still being together?

We are off to California in September for John's medical class reunion in Carmel. Some years ago it was decided that the 5 yearly get together in Scotland should have an intervening one in North America where a number of his friends have practiced medicine since the British "brain drain" of the mid sixties. We were at Whistler in British Columbia, Canada 4 years ago. One of the high points of the Carmel visit, because of our friendship with Mike and Jeanne Adams is that he has arranged for the group to have a private viewing (with a cheese and wine reception) at the Ansell Adams Gallery on Cannery Row in Monterey. We also have the added pleasure of visiting Andrew and Susi Bellenkes who will be preparing to pack up their home in Monterey and head for Washington DC. By the time this article is printed we hope that they have had an uneventful move and are settling in to the very different life style in the east.



HONORARY PRESIDENT--Nevonna Schroeder, wife of AsMA president, David Schroeder, poses at Honor's Night 2003.

We know that Shannon and Michael Laughrey, their girls and Michael Jr., have been relocated and hope that they too had a safe trip to Georgia from San Antonio.

If you have had a recent change of scenery, we would like to hear about it--so contact Dale Orford with a story, warts and all, that we can share.

You will be reading this in the October issue of the Journal, and some may have already left for the ICASM meeting in Madrid. I am unable to attend but JAB will be there with many of our AsMA friends. I do hope that you all have a great trip. There are so many beautiful places to visit there, in particular the Palacios Reales and the Prado, with it's collection of amazing paintings.

I am sure that Dale will welcome news of Spain after the conference.

And for your information I will be celebrating our 40th Wedding Anniversary in my "humble home" in Barway by myself! Perhaps I will be planning the surprise party for when John gets home-----remember it's a secret !!!!

My November article will refer to Remembrance and Thanksgiving.

**All good wishes,
Mary Baird**

Meet our New Honorary President: **Nevonna Schroeder**

A native Oklahoman, Nevonna grew up on a farm just outside the small town of Fairview. She and Dave have lived in a number of small towns and small cities across the nation, but definitely are enjoying the more urban setting of their current location, Oklahoma City. They have been very busy of late renovating an old Tudor cottage which they bought a few years ago. Built in 1936, the house had fallen on sad times and was in need of some major improvements and lots of TLC. So far, the Schroeders have installed central air and re-done the master bedroom so as to have their own space at the end of the day. Says Nevonna, "We are not knocking down walls or anything like that, but Dave has put in all new windows upstairs in the bedrooms. We've put in a new kitchen. We've repaired plaster, and replaced plaster when it couldn't be repaired. I've learned that tearing out plaster and lath can be quite cathartic! Currently we're working on the laundry room. We still have the second living area, which we're calling the library, to complete as well as finishing touches in most every room - then at the end, we'll need to have the hardwood floors re-done. It has been enjoyable, but I must admit - I'm tired of the dust!!" Added to that, Nevonna has taken a firm hand to the landscaping. She says, "when we bought the place, the backyard was nothing but weeds, old tires, etc. The front was badly overgrown, and there were volunteer trees at some very odd locations. I have started with a plan, but things don't always survive the Oklahoma heat/lack of rain, etc. So, the plan changes. I think it will end up being an eclectic variation of a cottage garden. I have found that I love lilies! They are easy to

grow, and so exotic looking. I plan to add some each year."

Nevonna has not spent all of her time on home and garden, though. As a clinical nurse specialist in psychiatry/mental health, Nevonna has enjoyed a very rewarding career at the Oklahoma City VA Medical Center where she has worked as a staff nurse, program director, and as an instructor/associate professor. She has derived a great deal of satisfaction from her work in the area of clinician-patient communication in health care, and as a qualified faculty member of the Bayer Institute for Health Care Communication. Another area which has been particularly rewarding has been her involvement in the development of a palliative care program, currently as a faculty member providing training in ELNEC (End of Life Nursing Education Consortium) and as nurse coordinator for developing a program in her medical center.

It is her family, however, which has provided Nevonna with her greatest joy. She and Dave have recently celebrated their 39th wedding anniversary, and they both enjoy spending as much time as possible with their two married daughters and five little granddaughters. A tradition she began several years ago has become very special to her. As all five girls are from the same family, it has sometimes proven difficult to spend time individually with them, so starting at the age of six, Nevonna takes each child on her own little adventure during the summer. So far, they have explored the Silver Dollar City in Branson, Tampa-St. Petersburg, Colonial Williamsburg, as well as Cancun and San Diego. This year, she and six-year-old Bridget will head off to Great Wolf Lodge (an indoor water park) in Kansas City. Says Nevonna, "this has given me a wonderful opportunity to learn to know each child as an individual - away from her parents and sisters - and we've always had a wonderful time.

Travel has also been a source of fun and relaxation for the Schroeders, and Nevonna says that she particularly enjoyed visiting Singapore last year, as well as their trips to visit their daughter and son-in-law who are stationed in Germany. They are hoping to attend the ICASM meeting in Madrid this year, and says Nevonna, "I am really excited about that - I have always wanted to go to Spain." And, of course, Nevonna is eagerly anticipating our meeting in Alaska. "I enjoyed attending several functions in San Antonio, and I'm looking forward to renewing acquaintances in Anchorage." We'll see you there, Nevonna.



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Wing!**

Dues are \$20 per year. For further information, contact: Judy Waring, 4127 Kenyon St., Seattle, WA 98136; (206) 933-0884; e-mail: judymikewaring@msn.com

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NEWS OF CORPORATE MEMBERS

Coreg® Drug Receives FDA Approval; Patients Live Longer on Carvedilol

GlaxoSmithKline has announced that the U.S. Food and Drug Administration (FDA) approved Coreg® (carvedilol) for patients who have had a heart attack (myocardial infarction) and who have left ventricular dysfunction, a reduction in the pumping ability of the heart's main chamber. Coreg is the only beta-blocking agent approved to reduce the risk of death in mild, moderate and severe heart failure. It is now the only beta-blocking agent with an approved indication to reduce the risk of death among patients who have had a recent heart attack and have impaired cardiac function, whether or not they have symptoms of heart failure. Coreg is also indicated for essential hypertension.

The FDA granted marketing approval for Coreg based on data from the landmark CAPRICORN (CARvedilol Post InfaRction SurvIval COntRol in Left Ventricular Dysfunction) trial, which showed that when Coreg was initiated within 21 days following a heart attack in patients with left ventricular dysfunction, the risk of dying was reduced by 23% when Coreg was maintained long term.

CAPRICORN, a placebo-controlled, randomized trial designed to evaluate the effect of Coreg compared with placebo in patients with left ventricular dysfunction following an acute MI, enrolled more than 1,900 patients at more than 160 sites in 17 countries. Clinically stable patients were randomized to receive either long-term treatment with Coreg or placebo following a proven MI with left ventricular ejection fraction of less than or equal to 40%. Patients were required to have been taking ACE inhibitors and were followed for a mean of 15 months (up to a maximum of 2.7 years from time of randomization to time of last visit). Treatment with Coreg was shown to reduce the risk of death for any reason by 23 percent (p=0.031).

In other news, results from the longest and largest trial ever conducted in heart failure — the Carvedilol or Metoprolol European Trial (COMET) — showed that carvedilol reduced all cause mortality by 17% (p=0.0017), cardiovascular mortality by 20% (p=0.0004) and prolonged median survival by 1.4 years more than metoprolol tartrate, a traditional selective beta-blocking medication. Carvedilol is marketed as Coreg® in the U.S. and Dilatrend® in Europe.

The COMET investigators wanted to determine whether carvedilol, which has properties beyond those of traditional beta blockers, would reduce mortality and morbidity more than a beta-one selective blocker in patients with heart failure. They concluded that carvedilol has a significantly greater beneficial impact on survival than metoprolol.

The results of the COMET study add even

Note: The articles in this section were compiled and edited by Jenessa Kildall as part of an internship.

more weight to what is already a wealth of data demonstrating the important benefits of carvedilol. Marketed by GlaxoSmithKline in the U.S., Coreg is the only beta-blocking agent FDA approved to improve survival in mild to severe heart failure. Coreg is also approved for use in left ventricular dysfunction following a heart attack (with or without symptomatic heart failure), where it also significantly improves survival. Coreg is indicated for the treatment of essential hypertension. In Europe, Dilatrend is marketed by Roche and is approved for congestive heart failure, angina pectoris and hypertension.

In Europe, metoprolol tartrate, which was used in the COMET study, is approved for indications that include the following: hypertension, angina pectoris, arrhythmias, myocardial infarction, migraine, hyperthyroidism, and is marketed by AstraZeneca as Betaloc and by Novartis as Lopresor.

COMET was initiated in 1996, with 3,029 patients from 15 European countries and 317 centers enrolled in a multi-center, double-blind, and randomized parallel group trial. In the study, 1,511 patients with chronic heart failure were assigned carvedilol and 1,518 to metoprolol.

Patients were required to have chronic heart failure, a previous hospital admission for a cardiovascular reason, an ejection fraction of less than or equal to 0.35 and to be treated optimally with diuretics and angiotensin converting enzyme inhibitors unless not tolerated. The co-primary endpoints were all-cause mortality and the composite endpoint of all-cause mortality or all-cause hospital admission. All patients were followed up for more than 45 months (175,447 patient months) following the trial, and follow up was concluded on November 15, 2002. The trial accumulated over 1,000 deaths.

About GlaxoSmithKline

GlaxoSmithKline — one of the world's leading research-based pharmaceutical and healthcare companies — is committed to improving the quality of human life by enabling people to do more, feel better and live longer. [Source: GSK Press Release, 28 March and 3 July 2003; www.gsk.com.]

Fluvastatin Reduced Risk of Serious Cardiac Events for Patients With Several Blocked Coronary Arteries

A new analysis of data from the landmark Lescol Intervention Prevention Study (LIPS) indicates that administering the cholesterol-lowering medication fluvastatin 80mg at time of first angioplasty reduced the risk of fatal and serious nonfatal cardiac events in high-risk patients with blockages in more than one artery by 34% (p=0.01), reducing their risk to the level of patients with only a single blocked artery.

Overall, the LIPS data showed that beginning fluvastatin therapy after patients undergo their first percutaneous coronary intervention (PCI) procedure to open blocked

coronary arteries helped prevent future cardiac events, including heart attacks and bypass surgery.

In a separate analysis, researchers reported that fluvastatin therapy significantly reduced the subsequent MACE risk in patients who received either balloon angioplasty or stents compared to patients who received placebo. The fluvastatin balloon group experienced a significant 39% risk reduction, while the stent group saw their risk decline by 28%. Because the stent is designed to keep the blocked artery open following the procedure, it is to be expected that the group who received balloon angioplasty might experience greater benefit from the fluvastatin therapy than the stent group, according to the researcher.

LIPS was the first prospectively designed, double-blind, placebo-controlled study to evaluate the effect of a statin, specifically fluvastatin, exclusively in patients who had undergone their first PCI. The four-year study followed 1677 patients recruited from 57 centres in 10 countries. Major adverse cardiac events were defined as cardiac death, non-fatal heart attack, coronary artery bypass grafting, or repeat PCI. The overall findings of LIPS demonstrated fluvastatin 80mg (40mg twice daily) reduced the risk of fatal and serious nonfatal cardiac events by 22% (p=0.013) in patients with average cholesterol levels after undergoing a first angioplasty. LIPS was sponsored by Novartis Pharma AG, manufacturers of fluvastatin.

[Source: Internet Wire, 30 March 2003]

Harvey Watt & Co.'s Jeff Nalley Dies

Harvey Watt & Company has lost a most valued member of their organization. Jeff Nalley was a Claims Administration / Pilot Support professional. Mr. Nalley received his B.S. from Middle Tennessee State University. He had more than 27 years of experience in the insurance industry, principally in the area of employee benefits administration, underwriting and claims. Prior to joining Harvey Watt & Co., he worked for 10 years at a major aircraft manufacturer managing self-funded health and disability programs. For the last 10 years he has been Director of Claims and Underwriting for Harvey Watt & Co., working exclusively in the area of pilot disability loss of license. His responsibilities included FAA recertification programs, management of airline Loss of License Programs and individually insured plans.

Harvey Watt & Co. has been a consistent supporter of AsMA and the Airline Medical Directors Association for many years, as an AsMA corporate member and award sponsor.

This publication is available in microform from ProQuest
300 N. Zeeb Rd, PO Box 1346, Ann Arbor, MI 48106-1346; 1 800-521-060; www.proquest.com.



Aerospace Medical Association

Corporate and Sustaining Members

The financial resources of individual members alone cannot sustain the Association's pursuit of its broad national goals and objectives. Its more than half-century history is documented by innumerable medical contributions toward flying health and safety that have become daily expectations by the world's entire flying population—commercial, military, and private aviation. However, support from private and industrial sources is essential. The following organizations, who share the Association's objectives or have benefitted from its past or current activities, have affirmed their support of the Association through Corporate Membership.

- | | |
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Sarah A. Nunneley, M.D., M.S., has moved to Lexington, VA. In addition to continuing as Editor-in-Chief of *Aviation, Space and Environmental Medicine*, she has accepted a part-time appointment as Adjunct Professor in Biology and English at the Virginia Military Institute. Her editorial activities will be supported as part of the Undergraduate Research Initiative at VMI. However, correspondence regarding journal articles should still be directed to the Editorial Office in San Antonio as indicated in the journal's masthead and on its web site.

John Pope, Tallahassee, FL, has begun residency training in family practice. He also joined the USAF in April as a captain in hopes of becoming a USAF flight surgeon. He has been elected as a member of the Residency Selection Board and the Florida Academy of Family Physicians Residency Representative.

Lt. Col. Charles S. Tedder, USAF, MC, former resident in aerospace medicine at Brooks AFB, TX, has been assigned as Chief, Aerospace Medicine/Flight Commander, Flight Medicine, 4th Medical Group, Seymour Johnson AFB, NC.

Col. David E. Geyer, USAF, MC, O'Fallon, IL, was previously Commander, 55 Medical Dental Group, Offutt AFB, NE. He has been reassigned to Headquarters AMC, Chief of Aerospace Medicine and Readiness Division, Scott AFB, IL. He recently received the Legion of Merit, First Oak Leaf Cluster.

New Members

Andreotti, Dina M., Maj., USAF, MC
Andronico, Kenneth C, LCDR,MC,USNR,
Wesley Chapel, FL
Birchfield, Patrick T., CPT, MC, USA,
Galveston, TX
Branch, Stacey L., Capt., USAF, MC,
Shertz, TX
Burgess, John B., Jr., CDR, MC, USN,
Pensacola, FL
Guliuza, Randy J., Maj., USAF, MC,
San Antonio, TX
Hoerauf, Klaus, M.D., Ph.D., Vienna, Austria
Kane, Paul D., CDR, MC, USN, Pensacola, FL
Kim, David K., M.D., Rochester, MN
Mancuso, James D., CPT, MC, USA
Manns, Robert L. M.D., Canton, OH
McClellan, Scott F., CPT, MC, USA,
Galveston, TX

Narut, Noel F., M.D., Lake Geneva, WI
Patri, Shamim B., M.D., Sugarland, TX
Salmon, Scott A., MAJ, MC, USA,
Galveston, TX
Samarin, Frank M., Capt., USAF, MC,
Valdosta, GA
Summers, Mark A., Maj., USAF, MC,
San Antonio, TX
Windhorst, Dana J., Maj., USAF, MC,
Quincy, IL

International New Members

Calder, Alyson, M.B.,Ch.B., B.Sc., Sutherland,
Scotland, UK
Oltovgyi, Csongor G., B.Sc., Bowen Hills,
Qld., Australia
Rifai, Muhammad, Col., IAF, MC, Jakarta,
Indonesia

ASMA Membership Committee Report

You may recall that, at the meeting in San Antonio last May, your Membership Committee began its "Recruit a Member" effort whereby I asked each of the attendees to recruit at least one new member before the meeting next May. A number of you have already generously responded, and our lists continue to grow. Here is our progress to date*:

At the time of the AsMA scientific meeting in San Antonio, our total membership was 3,053 (not including April and May delinquent members).

June 2003	July 2003
New Members: 74	New Members: 11
Reinstated: 9	Reinstated: 1
Deceased: 1	Deceased: 1

A Recruiting Tip: Many of us belong to more than one professional organization. Indeed, the AsMA scientific program meeting each year is but one of many such meetings we attend. Each current AsMA member is a recruiter (you were all drafted into service at the meeting in San Antonio!). You will certainly be meeting colleagues who may not yet be AsMA members, but who you know would benefit from membership and, in turn, help AsMA continue to grow.

I urge all of you attending other meetings to talk about AsMA with your colleagues whenever possible. Describe the many invaluable benefits of membership, and how AsMA may have helped you with your career or professional efforts. Be sure to note that the Aerospace Medical Association is the international leader for excellence in Aerospace Medicine; the premiere voice for our field throughout the world. Our members are considered to be the experts, constantly being sought out by policymakers at all levels of government and commerce for the answers to the many vexing and challenging issues we continue to face in Aerospace Medicine.

It would also be helpful to provide these prospective members with application forms. They can be found in each issue of the AsMA

Journal, on the AsMA web site, or can be obtained directly from AsMA HQ. If you have any questions about recruitment or obtaining recruitment materials, please contact me.

Finally, AsMA HQ is providing a free one-year membership to current members who recruit 3 new members per year. This is a wonderful "win-win" opportunity designed to help both your organization as well as yourself. I urge you, therefore, to help us with this aggressive membership recruitment effort.

A Problem: Not only does AsMA seek to increase membership, but we are at the same time, urging all of our active members to stay current. This is done best by sending dues to AsMA HQ promptly. Each member is sent an invoice 1 month in advance of their expiration date, followed by a second invoice the expiring month of their membership. Despite this, there still remain those members who have (for whatever reasons) failed to send their annual dues to AsMA HQ, or have decided not to renew their membership.

Dr. Silberman and I have lists of those whose memberships are in jeopardy or have lapsed. A major part of our recruitment effort is to bring these members back into our organization. We have therefore commenced a major letter and e-mail campaign designed to find out why these former members left the organization and, hopefully, to convince them to return.

For those of you who may be contemplating not continuing your membership in AsMA: The AsMA Membership Committee is dedicated to not only ensuring that AsMA remains a dynamic, growing organization, but also an organization that serves its members well. When we see that there are those who (for whatever reasons) fail to maintain their membership, we must wonder what we can do to better serve our members.

Please know that I am greatly concerned that AsMA may in some way have not met your personal expectations or professional needs. If I can answer any questions, concerns or comments you may have about AsMA and your membership status, please do not hesitate to contact me (see information below) or my Co-Chairman, Colonel Silberman at warren.silberman@faa.gov. If you would prefer to contact AsMA HQ directly, please do so by writing Dr. Russ Rayman at rrayman@asma.org or Ms Gloria Carter @ gcarter@asma.org. We look very much forward to hearing from you!

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* Many thanks to Membership Committee member Ms Gloria Carter (AsMA HQ staff) for compiling and providing membership statistics used in these reports.

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

In Memoriam

Frank Samuel Preston, OBE

Frank Preston, M.B.,Ch.B., OBE, VRD, CStJ, retired Director Health Services British Airways, died on August 15, 2003. A native of



Scotland, he qualified in medicine from the University of Glasgow, Scotland.

During WW II he served in the Royal Navy. After completing medical school in 1947 he rejoined the Navy as a Surgeon Lieutenant. He went on to specialize in aviation medicine

at the RN Air Medical School and the RAF Institute of Aviation Medicine, Farnborough, where he helped develop the naval immersion suit and later served as flight surgeon with fleet air carriers in the Mediterranean and the Far East.

In 1950 he returned to civilian life, remaining in the RN Reserves. He spent 4 years specializing in Anesthesiology at the University of Glasgow. In 1954 he began his long and distinguished career with British Airways, where he played a significant part in the development of the aeromedical standards for the Concorde supersonic transport aircraft. This was recognized by his receipt of the AsMA Walter M Boothby Award in 1979.

He also studied pilot workload, sleep and circadian rhythms, and produced aviation medical manuals for aircrew. He published over 40 papers as well as chapters in three textbooks on aviation and occupational medicine.

Dr. Preston was a Fellow of the AsMA, the Royal Aeronautical Society, and the Royal Society of Medicine. He served as President of the International Academy of Aviation and Space Medicine and of the Society of Occupational Medicine. Following his retirement from British Airways in 1987, Dr. Preston served as Medical Director (aeromedical) of the St John Ambulance Brigade, as a Surgeon Captain in the Royal Navy Reserve, and was Honorary Physician to Her Majesty the Queen.

Gerrit L. Hekhuis

Brig. Gen. Gerrit L. Hekhuis, USAF, MC, Gulf Breeze, FL, died in June. He was born in Vellore, India in 1917 and attended Yale



University in New Haven, CT, where he received a B.A. in chemistry. He received his M.D. from the University of Kansas Medical School in Kansas City, KS, in 1944. From there, he went on to complete an internship in 1945 and a year of residency in radiology in 1955 at Grasslands

Hospital in Valhalla, NY.

Commission in the U.S. Army Medical Corp in 1946, he was assigned to the U.S. Army Air Forces as Chief of Roentgenology in the hospital at Wright Field, OH. He continued his education by studying radiobiology and biophysics at the University of Chicago, then

attended the Radiation Hazard Course at Los Alamos, NM. In 1948, he was transferred to Keesler Air Force Base, MI, and became the Chief, Radiobiology Defense Course. He also participated in several atomic field tests. In 1949, he transferred to the U.S. Air Force.

During his long military career, he also served as Chief, Biological Defense Branch, office of the Air Force Surgeon General; associate clinical professor of medico-military science and tactics; Commander, 7373d USAF Hospital; Chief of Radiobiology at the School of Aviation Medicine, Brooks AFB; Deputy Chief of Staff for Operations within the Aerospace Medical Division, Brooks AFB; surgeon and Director of the Medical Division at the Defense Atomic Support Agency; and Deputy Director of Plans and Hospitalization, and later Deputy Director of Professional Services, in the office of the Air Force Surgeon General. He became Director of Professional Services in 1970.

After 31 years of service, Dr. Hekhuis retired from the Air Force and went to work with the Kelsey-Seybold Clinic, NASA-Lewis Research Center, Cleveland, OH.

He was President of USAF Flight Surgeons from 1972-1973 and was elected a Fellow of the Aerospace Medical Association in 1971.

Robert E. Williams

Robert E. Williams, D.O., M.P.H., Salem, OH, died last January at the age of 67. He was a native of Payette, ID. He always loved to fly and received a pilot's license while still a teenager. He began his military career at age 18 and served 3 years in the USAF as an aviation mechanic. He then attended pharmacy school and went on the Kirksville College of Osteopathic Medicine, Kirksville, MO, where he received his D.O. in 1968. In 1976 he returned to the Air Force and in 1978 he went to reserves to pursue private practice.

Williams headed the Washington National Guard 116th Armored Cavalry Attack Helicopter Company Medical team. When Mt. St. Helens erupted in 1980, Dr. Williams was the first and only flight surgeon with his team for 3 days, during which time they rescued 300 people. He performed several daring rescues. For his heroic efforts, he became 92nd person to be awarded Valley Forge Cross, the National Guard equivalent of the Medal of Honor. His name was placed on the Smithsonian National Air and Space Museum Udvar-Hazy Center Aviators Wall of Honor at Dulles Airport.

In 1981 he transferred to regular active duty in the U.S. Army. After officer training in San Antonio he assumed Clinic Commander of the 18th Medical Detachment in Schwabach Hall Germany and was Aviation Medical Advisor to European ATC Battalions. He went into his Aerospace Residency at Brooks AFB, and received his M.P.H. from Harvard

In 1986 he became Director of Army Aerospace Medical Activity at Ft. Rucker. Later, he moved to Marana, AZ, as Chief of Aviation Medicine and then to New Mexico in 1993 as the State Flight Surgeon.

He retired from the military in 1996 after 32 years of service, including 20 years of active duty in the USAF and Army. He later served as a consultant to Theiss Aviation, specializing in Unmanned Aero Vehicles.

Tammy Nguyen

Tammy Nguyen, M.A., Moffet Field, CA, died tragically after a diving accident off the Central Coast of California in August. She was 42 years old. She had come to the U.S. as a refugee from Vietnam when she was a teenager. She received both her B.A. (Psychology) and M.A. (Experimental Psychology) degrees from San Jose State University with an emphasis in stress-related factors and quality of sleep.

She joined the NASA-Ames Research Center's Fatigue Countermeasures Group as a Research Associate. Tammy provided support in statistical analysis and technical writing. Recently she was the Co-Investigator for the Pilot Fatigue Countermeasures and Scheduling Survey.

CLASSIFIED ADS

POSITIONS AVAILABLE

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 or call (937) 276-8338.

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

Remember!

Council Meetings are open to all members of the AsMA. Your input and attendance are always welcome. Our next meeting will be on November 19, 2003 in Alexandria, VA.

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