

# President's Page

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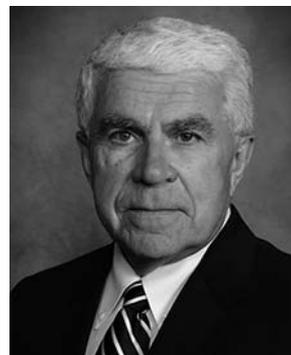
I open this message on a sad note. Many of you already know that Mrs. Ludy Rayman, wife of our Executive Director Russell Rayman, passed away in February after an 18-month battle with a progressive blood disorder. When I first joined AsMA, I met Russell and Ludy Rayman. They welcomed me and taught me and were gracious hosts to my wife and me. We became good friends and I will keep cherished memories of many happy moments together. We will miss Ludy, and we will remember her. I know that I speak for all of us in telling Russell that we in this organization, this Aerospace Medical Association that Russell and Ludy have served and loved, want him to know that we grieve with him, that we offer our support, our love, and we are there for him.

When Professor Mike Bagshaw was president of AsMA he emphasized the importance of communications in the work that we do. Communications is the lifeblood of AsMA, the circulatory system that reaches us all. Surface and air mail are not timely and no longer suffice. With over 70 countries, many time zones, and the oft encountered "please leave a message" recording, the telephone has significant limitations as well. So it is that we have come to rely on email as a primary means of communication among members.

I have listened to pleas from the leadership of AsMA's constituent and affiliate organizations urging members to provide current email addresses. Given 11 constituent and 31 affiliate organizations, this is a difficult task. Similarly, I have listened to the pleas of committee chairs urging committee members to provide current email addresses. I have seen the relocation of both military and civilian members of the Association which makes up-to-date email data an elusive target. The work of the constituent and affiliate organizations, the committees, the governing Council, and the Executive Committee depends upon email communications.

At the Council meeting in New Orleans, then Communications Committee Chair Dave Sarnow presented an entity called Vyew. This is an electronic format for conducting "meetings" by a committee via email. Committee members can contribute to a discussion by commenting on items that are on the "table," allowing an evolution of the committee product. Dave is now stationed in Korea, adding emphasis to this discussion.

Also at the New Orleans Council meeting Robyn Chase presented the idea of a "universal email" for each AsMA member, such as [robynchase@asma.org](mailto:robynchase@asma.org). We have explored this concept, and expense is a consideration. Additionally, many members do not want



**John D. Hastings, M.D.**

to add to their individual email address or their stable of email addresses.

The reason I want to revisit this issue relates to current discussions at the home office regarding a web-based database and association management solution. We have identified shortcomings in the integration of our current database with the website and the Internet. We are working hard at identifying the essential requirements of a web integrated database/association management system that will serve our membership needs.

We would like to have an all-in-one system that would allow individual member profile updating by the member, dues paying, meeting registration, home office contact, committee interaction, awards selection, nominations, voting, survey capability and other functions. We are identifying essential requirements (needs) and a wish list for the future (wants).

Finding a user friendly and functional system that serves our database/web-host/website needs at an affordable price has proved challenging. Carol Manning and her ad hoc committee are looking at the matter very carefully. We want to make the right decision that will serve the Association for years to come. We also hope that we can more easily coordinate our communications with the communication arms of constituent and affiliate organizations. A prime requirement will be full functionality through the website, where a member can log on and fill all or his or her needs.

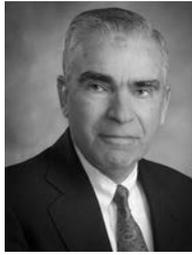
We are a global community and we need efficient and accurate global communications. We are working on that, and we will keep you posted.

It is not too late to make your plans for the Annual Scientific Meeting in Boston. If you have been on the fence, give it some thought. We are looking forward to a great meeting.

See you next month.

# Association News

## Executive Director's Column



Rayman

## Ludy Rayman

On February 15, 2008, Ludy Rayman succumbed to an illness that had ravaged her for 1½ years. She was laid to rest in Arlington National Cemetery. Ludy leaves behind her husband, Dr. Russell B. Rayman, three sons (Joseph, David, and Ariel), and four grandchildren. Many were unaware of her illness as she preferred to keep this only within the immediate family.

Ludy was born and raised in the Philippines and, as a little girl, witnessed the destruction of Manila during World War II. She came from a family of diplomats, dentists, and architects. Ludy eventually attended Santo Tomas University in Manila and the University of Michigan, earning degrees in pharmacology and laboratory technology. (Ironically, Russell was a medical student at the University of Michigan at the time Ludy was studying there although they never met.) She then returned to the Philippines, serving as the pharmacist at USAF Hospital, Clark Air Base, where she met her husband, Russell, who was assigned there as a flight surgeon. After a 7-year courtship, they married and subsequently celebrated 38 anniversaries.

Her first priority was always her three boys. On this there was no compromise. Nevertheless, she found time to participate actively in the Wing and always accompanied Russell to AsMA meetings. At home it was playing the piano and doing genealogy research on her family whose roots were originally in Egypt.

Russell extends his deep appreciation to everyone for their condolences and for supporting him in his hour of greatest grief.

## Continuing Medical Education

In order for our Association to accredit our Annual Scientific Meeting and our Journal-based program for continuing medical education (CME) credits, we must be in compliance with the rules of the Accreditation Committee for Continuing Medical Education (ACCME). Since I have been your Executive Director, I have been through three inspections (we are customarily inspected every 4 years) by the ACCME to ensure that we are in compliance. Our next inspection is scheduled for the latter part of 2008, for which I am now preparing.

Prior to the inspection, the ACCME asks that we prepare an application for accreditation. It consists of a large number of questions that must be answered as well as supporting documentation. Normally the package runs about 100 pages so one can understand that many hours are spent in its preparation. For our upcoming inspection, I have formed a Study Group, the members of which are Drs. Jon Jordan, Bob McMeekin, and Terry Lyons, to assist me during the coming months as we prepare the application.

Briefly, the application requires an historical description of our program as well as our organizational structure for the planning and execution of our CME activities. We must also document our objectives, how we conduct our needs assessment, how we plan (and peer-review) for the Annual Scientific Meeting, and how we measure outcomes. Furthermore, in

## Aerospace Medical Association Seeks Executive Director

The Aerospace Medical Association (AsMA) is seeking applicants for the position of Executive Director. The Executive Director serves as the chief operating officer responsible for all management, administration and professional activities of the Association. Applicants should possess a doctoral degree and be familiar with the AsMA. Major responsibilities include membership services, planning and conducting an annual scientific meeting, publishing a scientific journal, and conducting liaison with related national and international organizations. Salary will be commensurate with these responsibilities and the experience of the applicant. Applications should include a 1- to 2-page narrative describing interest, professional qualifications, and vision for the Association. Also include a professional resume, salary history, and salary requirements. A position description may be obtained by calling (301) 469-5461. Mail applications to: Robert R. McMeekin, M.D., Chair, Search Committee, 7435 Arrowood Road, Bethesda, MD 20817-2822.

recent years, there has been added emphasis on commercial support and conflict of interest policies. The ACCME is very strict about conflict of interest and any influence by commercial supporters on the academic agenda itself. In our case, we are very clean on both accounts in that we require all presenters to declare a conflict of interest prior to the meeting as well as prior to their presentation. And for good measure, we excuse any peer-reviewer from reviewing abstracts at our Science Program Committee meeting if there is any conflict of interest. In addition, we have very little commercial support - only the Bauer and Armstrong Lectures sponsored by Wyle Laboratories and Environmental Tectonics Corporation, respectively. Neither has any input into the selection of our speakers. This is done solely by the President.

As stated above, there is greater emphasis in documenting how the meeting itself improves physician competence and performance. We will do this through surveys as well as metrics.

The intent of the ACCME is to ensure that accredited medical associations/societies provide quality academic programs that are free of commercial influence and conflicts of interest. All of this must be documented. Consequently, I'll be asking you over the coming months to complete several survey forms.

This is only a brief synopsis of what goes into the application process. It requires a lot of thought and is an inducement to think through our entire CME program to basically ensure that we meet the needs of our attendees and that the meeting itself has a positive impact on our respective practices.

## AsMA Foundation Donors

The AsMA Foundation would like to thank the following initial donors who have demonstrated a generous financial commitment to advancing the field of Aerospace Medicine.

**Individuals:** George K. Anderson, G.J.A. Bayliss, David K. Broadwell, Daniel J. Callan, James G. Cushman, Jeffery R. Davis, Roy Dehart, John D. Hastings, Donald Hudson, Robert H. Hutchinson, Richard T. Jennings, William B. Kruyer, Marlene K. Lambiaso, George Landsman, Gottfried F. H. Lehmann, Richard Levy, Wolfgang Lindauer, Lawrence Marinelli, Bryant D. Mauk, Robert E. Mitchell, Jeb S. Pickard, Kakarala J. Rao, Russell B. Rayman, John Riccitello, Chiharu Sekiguchi, Jeffery Sutton, Eugene W. Sweeney, George Peach Taylor, Thomas J. Tredici, James M. Vanderploeg, and Carl V. Weiss.

**Companies:** Virtual Flight Surgeons, Inc. and Wyle Laboratories, Inc.

The AsMA Foundation has made every effort to assure that this list is complete, but we acknowledge that errors may occur. Please report any errors to the Foundation.

For further information on the AsMA Foundations, Please go to the AsMA website: [www.asma.org/pdf/asma\\_foundation.pdf](http://www.asma.org/pdf/asma_foundation.pdf)

## Annual Lecturers Announced

### 54th Bauer Lecturer:

**Irwin M. Braverman, M.D.**  
*"Art and the Art of Medicine"*

Irwin M. Braverman, M.D., will deliver the 54th Louis H. Bauer lecture on May 12 as part of Opening Ceremonies for the AsMA 79th Annual Scientific Meeting. Dr. Braverman is Professor of Dermatology at Yale University in New Haven, CT. A native of Boston, Dr. Braverman received his undergraduate degree summa cum



laude from Harvard in 1951 and went on to Yale to receive his M.D. in 1955. After an internship at Yale-New Haven Medical Center, he served as a Captain in the U.S. Army Medical Corps at the Pentagon from 1956-58. He returned to Yale and been with

the Section of Dermatology there ever since, reaching full professor in 1973. He became Vice Chair of the Department of Dermatology in 1980.

He has often been an invited lecturer, having presented the First Annual Herbert A. Luscombe Lecture in Dermatology at Jefferson Medical College of Thomas Jefferson University in Philadelphia, the Sulzberger international Lectureship of the American Academy of Dermatology, and the Philip W. Felts Lecture in the Humanities at Vanderbilt Medical School. Other honors include the Everett C. Fox, M.D., Memorial Lecturer awarded by the American Academy of Dermatology and a Career Recognition Award from the Medical Dermatology Society.

Dr. Braverman has served on the Board of Directors for the American Academy of Dermatology and the Society of Investigative Dermatology; he was President of the New England Dermatological Society and the Society for Investigative Dermatology.

He is a prolific author with over 60 research reports and 80 clinical papers and chapters to his credit. In addition, he has published nearly 25 abstracts. He is the author of "Skin Signs of Systemic Disease", now in its third printing.

Dr. Braverman is a Diplomate of the National Board of Medical Examiners and is certified by the American Boards of Dermatology and Dermatopathology.

### 43rd Armstrong Lecturer:

**Roger D. Launius, Ph.D.**

*"One Hundred Years of Flight and Counting: What the Past May Tell Us About the Future"*

Roger D. Launius, Ph.D., will deliver the 43rd Annual Harry G. Armstrong Lecture on May 15, during the AsMA 79th Annual Scientific Meeting. Dr. Launius is senior curator in the Division of Space History at the Smithsonian Institution's National Air and Space Museum in Washington, DC. Between 1990 and 2002 he served as chief historian

of the National Aeronautics and Space Administration. A graduate of Graceland College in Lamoni, IA, he received his Ph.D. from Louisiana State University, Baton Rouge, in 1982.

He has written or edited more than 20 books on aerospace history, including "Robots in Space: Technology, Evolution, and Interplanetary Travel" (Johns Hopkins University Press, 2007); "Critical Issues in the History of Spaceflight" (NASA SP-2006-4702, 2006); "Space Stations: Base Camps to the Stars" (Smithsonian Books, 2003), which received the AIAA's history manuscript prize; "Reconsidering a Century of Flight" (University of North Carolina Press, 2003); "To Reach the High Frontier: A History of U.S. Launch Vehicles" (University Press of Kentucky, 2002); "Imagining Space: Achievements, Possibilities, Projections, 1950-2050" (Chronicle Books, 2001); "Reconsidering Sputnik: Forty Years Since the Soviet Satellite" (Harwood Academic, 2000); "Innovation and the Development of Flight" (Texas A&M University Press, 1999); "Frontiers of Space Exploration" (Greenwood Press, 1998, rev. ed. 2004); "Spaceflight and the Myth of Presidential Leadership" (University of Illinois Press, 1997); and "NASA: A History of the U.S. Civil Space Program" (Krieger Publishing Co., 1994, rev. ed. 2001).

He served as a consultant to the Columbia Accident Investigation Board in 2003 and presented the prestigious Harmon Memorial Lecture on the history of national security space policy at the United States Air Force Academy in 2006. He is frequently consulted by the electronic and print media for his views on space issues, and has been a guest commentator on National Public Radio and all the major television network news programs.



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## Remember!

Council Meetings are open to all members of the AsMA. Your input and attendance are always welcome. Our next meeting will be on Sunday, May 11, 2008, in Boston, MA.

## AsMA Future Meetings

May 11-15, 2008  
Sheraton Hotel  
Boston, MA

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

May 9-13, 2010  
Sheraton Hotel  
Phoenix, AZ

## MEETINGS CALENDAR 2008

**Postponed until 2008.** Human Performance, Situation Awareness, and Automation (HPSAA III) Technology Conference. Info: Mustapha Mouloua, Conference Chair, 407-823-2910, mouloua@pegasus.cc.ucf.edu, or visit <http://faculty.erau.edu/hpsaa/>.

**April 4-6, 2008; Chipping Norton, Oxfordshire, UK.** Annual Scientific Meeting of the Association of Aviation Medical Examiners. For more information, please visit [www.aame.co.uk/sd.aspx?pg=smeeting](http://www.aame.co.uk/sd.aspx?pg=smeeting).

**June 22-28, 2008; Angers, France.** Annual Meeting of the American Society of Gravitational and Space Biology. Visit <http://asgsb.org/index.php> for more info.

**August 4-7, 2008; 27th Annual Cryogenic Engineering Training; Boulder, CO.** Sponsored by the University of Colorado's Center for Advanced Engineering and Technology Education. CEUs are available. For more information, visit [www.cryoco.com](http://www.cryoco.com) or e-mail [thomasmflynn@comcast.net](mailto:thomasmflynn@comcast.net).

**August 22-24, 2008; Wairekei Hotel, Taupo, New Zealand.** Annual Conference of the Aviation Medical Society-New Zealand. Held in combination with ANZSOM. For more information, visit [amsanz.org.nz/conference/confindex.htm](http://amsanz.org.nz/conference/confindex.htm).

**August 20-23, 2008; EASST/4S Conference, "Acting with Science, Technology and Medicine"; Rotterdam.** For more information, please visit <http://www.easst.net/node/1646>.

**October 27-29, 2008; SAFE Association 2008 Annual Symposium; Reno, NV.** For more information, please phone 541-895-3012, e-mail [safe@peak.org](mailto:safe@peak.org), or visit [safeassociation.com](http://safeassociation.com) or [safeassociation.org](http://safeassociation.org).

## SAFE Call for Papers Deadline June 27, 2008!

The SAFE Association 2008 Annual Symposium will be held October 27-29 at the Grand Sierra Resort, Reno, NV.

The SAFE Symposium is the premier international showcase for professionals, inventors, equipment, and systems shaping safety in aviation, space, land, and military disciplines.

Please consider submitting papers, panels, workshops, briefings, demonstrations, and forums. All abstracts must be submitted electronically in MS Word to the SAFE Office at [safe@peak.org](mailto:safe@peak.org). Please contact SAFE for a complete Call for Papers form so that your entry is properly formatted and contains the necessary information: SAFE, PO Box 130, Creswell, OR 97426-0130; (541) 895-3012; [www.safeassociation.com](http://www.safeassociation.com)

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# This Month in Aerospace Medicine History-- April 2008

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

## Seventy-five Years Ago

*The nature and origin of motion sickness.* (Consulting Specialist in Aviation Medicine to and formerly Medical Director of the Aeronautics Branch, U.S. Department of Commerce): "For many years the illnesses termed train sickness, swing sickness and seasickness have been known to the medical profession. Of recent years a new one has been added, known as air-sickness.

"Associated with all forms is some unusual type of motion. Hence, rather than differentiate them by the above names it would perhaps be better to term them all 'motion sickness.'

"First of all, let us consider the physiological background of this group of motion sickness. Our sense of equilibrium, which includes our senses of motion and position in space, is derived from several sensory factors, namely vision, the vestibular mechanism, the visceral sense, tactile sense, and sensations from our bones, joints and muscles. Vision, of course, is highly important and in the flyer probably most important. The sense of turning is derived from our vestibular mechanism as well. Straight up and down motion is derived from our eyes, our vestibular mechanism and the viscera, bones, joints and muscles. For example, you are all familiar with the sudden sinking sensation in the pit of the stomach when as a passenger in an elevator it drops suddenly...

"The flyer depends largely on vision for maintaining his balance. That this is so is evidenced by the fact that when he is flying in a fog or above the clouds he is unable to maintain his ship on an even keel, unless he is trained to fly solely by instruments, disregarding his sensations.

"Vision tends to increase the tendency to air-sickness, for if the slightly ill passenger watches the horizon he will become more acutely ill. If he fixes his eyes on some definite point in the cabin of the ship he will be less apt to be sick. This is probably largely psychological as it is the movement of the ground and the horizon that seems to accentuate the sickness...

"The vestibular mechanism is the chief physical factor responsible for air-sickness.

"Its frequency is perhaps about 5 per cent.

"Its prevention lies in properly ventilated cabins; in taking the passenger's mind off of himself; in eliminating any causes of fear; and prompt treatment. If the individual is susceptible to motion sickness he should fly only in good weather and in smooth air" (1).

## Fifty Years Ago

*Simulating zero gravity.* "The problem of 'weightlessness' has shown itself to be one with which it is remarkably difficult to come to grips. The arrangement of the experimental conditions for the study of weightlessness, even for seconds of time, is costly, technically difficult to achieve, and subject to the criticism that such physiologic measurements as can be made in a given zero G ellipse represent re-

sponses not to a simple experience, but rather to the entire complex of accelerative change demanded by the flight profile.

"In casting about for some method for study of the physiologic effects of prolonged weightlessness, our consideration inevitably was arrested by the similarities and differences to be observed between the condition of a body floating in space and that of a body floating in water. A comparison of the two states requires a brief examination of the forces acting in each case. It is particularly important that a distinction be observed between the kinds of forces involved, determined by the way they act on a given body.

"H. Haber has classified mechanical forces as gravitational, inertial, and external. He points out that gravitational and inertial forces are, by the general theory of relativity, two sides of the same coin. Certainly they have this in common: they both behave as field phenomena. The action of these field forces is in sharp contrast to that of external forces. External forces act at the surface of matter and are transmitted from molecule to molecule through the mass. Because they are non-uniform with respect to the mass as a whole, external forces produce inequalities of pressure within the mass. In non-rigid bodies the external forces thus become forces of deformation: The measure of the deformation which a body produces in a restraining medium when acted upon by a field of force is what we call weight. The restraining medium is an external force. Weightlessness, therefore, is simply the absence of any external forces acting...

"Although it is not claimed that the condition of the body floating in water is identical to that of the body floating in space, the theoretical similarities are such that the physiologic study of human subjects under water may be of value. The condition may represent the nearest approach to prolonged weightlessness capable of close study until the day of the manned satellite" (4).

*New book: Human Factors in Air Transportation.* "The Aero Medical Association is faced today with the problem of the aging pilot. This is the experienced airline captain who was in his twenties when commercial air transportation developed twenty-five years ago. He is one of at least 200 men over fifty years of age among the 8,000 airline pilots in the United States who are actively flying

"In his new book, McFarland has written a practical and thought-provoking chapter in which he seeks to prolong the usefulness of these older pilots by placing emphasis on the positive approaches to the maintenance of health and the utilization of their experience and judgment in critical situations. The volume, 'Human Factors in Air Transportation,' is a significant contribution to the literature of aviation medicine. It is timely in context and broad in scope. Every phase of human safety in aviation is discussed and documented from the selection of the candidate for flying training to the completion of his career in well-earned retirement. Ground crews and passengers are also included in this compendium of practical preventive medicine in aeronautics...

"McFarland proposes that the retirement of commercial pilots be given adequate planning and preparation both by the employer and

the pilot himself. He urges that retirement be made a simple and natural climax to a career; that a pension plan be established to insure the dignity and self-respect of the pilot; and that every effort be made to utilize his training and experience in a non-flying capacity. Various airlines in this country have established sixty as the retirement age for pilots whereas the suggestion is made, based on data presented, that age fifty with a five year deviation be accepted. 'But in each case,' the author states, 'functional age or fitness to perform the required duties efficiently and safely should be made the basis for retirement from active flight rather than chronological age'" (3).

## Twenty-five Years Ago

*Means of increasing +Gz tolerance* (Aviation Medicine Institute, Warsaw, Poland): "Investigations on +Gz acceleration tolerance were carried out in pilots using various values of positive pressure breathing (PPB) during centrifugation. The greatest improvement of +Gz tolerance - 2.2 +Gz - was achieved while applying PPB=45 mm Hg and using a counter-pressure suit. PPB prolonged the time at +5Gz from 2 min 35 s under control conditions to 6 min 53 s at PPB=45 mm Hg...

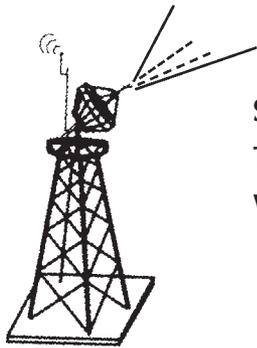
"A +Gz acceleration causes marked stress to the cardiovascular system. Hemodynamic disturbances cause a fall in the arterial blood pressure at head level—with subsequent development of the visual symptoms which are the main criteria of acceleration tolerance. In these experiments, arterial blood pressure was not measured. It is known, however, that PPB combined with chest counterpressure causes a rise in the arterial blood pressure by 60-100% of the applied PPB. This rise is a reaction to the effect of hemodynamic disturbances developing during exposure to +Gz acceleration.

"The application of counterpressure to the entire body decreases the volume of the capacitance vessels thus causing a shift of blood from the peripheral vascular regions to the central vessels. In the lower part of the body, the counterpressure increases the vascular resistance while preventing accumulation of blood leading to yet another reflex rise in arterial pressure. Thus, PPB is a method of furnishing additional assistance to the organism in its attempt to maintain a hemodynamic equilibrium—in this case, a normal arterial blood pressure.

"Changes in heart rate in the present experiments showed that the response of the organism during PPB takes place at a lower activity level compared with control conditions. This may provide a functional reserve which could lead to increased acceleration tolerance" (2).

## REFERENCES

1. Bauer LH. J Aviat Med 1933; 4(2):41-4.
2. Domazuk J. The application of positive-pressure breathing for improving +Gz acceleration tolerance. Aviat Space Environ Med 1983; 54(4):334-7.
3. Editorial comment: Human factors in air transportation. J Aviat Med 1958; 24(2):99-100.
4. Knight LA. An approach to the physiologic simulation of the null-gravity state. J Aviat Med 1958; 24(2):283-6.



## Science & Technology Watch

### Keeping You Informed Of The Latest Advances In Science And Technology

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*This month we present a review of drug assays using hair that detect use significantly later than those testing urine.*

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### The Use of Novel Hair Testing Techniques to Detect Highly Labile Components Documenting Heroin Abuse and Single Dosage Use of Other Opiates

*John Soper, Ph.D., DABFT, DABCC (TC,CC), FAAFS, FAIC, FACB  
Bioaeronautical Sciences Research Laboratory, Civil Aerospace Medical Institute, Oklahoma City, OK*

One of the most widely performed chemical testing procedures screens for abused drugs in human urine, as carried out in federally mandated employment drug testing programs. While the urine testing program has been well established for almost 20 yr, procedures for drugs testing using hair have been in a developmental stage for almost the same time period.

Easily the biggest challenge in the early urine testing program was determining the correct procedures to call a sample positive for morphine. The reason for this dilemma is that there are four means by which morphine may be found in human urine: a) innocent ingestion of morphine from dietary poppy seeds; b) metabolism of codeine; c) ingestion of a morphine-containing compound; and d) ingestion of heroin. The initial National Institute of Drug Abuse drug testing menu was limited to only two opiates: morphine and codeine. This test menu has been retained by the current program, administered under the auspices of the Substance Abuse Mental Health Service Administration.

The rationale for testing for morphine and codeine was primarily to detect heroin use. Current procedures to determine a positive morphine sample is to quantify the unique heroin metabolite, 6 Acetyl-Morphine (6-AM), in urine. Unfortunately, this metabolite has an extremely short half-life, and is detectable in urine for only about 8 h after a single dose (1). Two novel testing procedures, both involving hair analysis, may allow detection of heroin use with a much longer time window.

Scalp hair grows at a relatively constant rate of 1 cm per month (1). The general theory governing the utility of hair testing is that drugs are primarily incorporated into the hair shaft by diffusion from the capillary bed supplying each follicle into the growing keratin proteins making up each hair. Two novel hair studies were conducted using known heroin users after obtaining their informed consent, housed in a closed research unit of the Addiction Research Center, National Institute on Drug Abuse, located in Baltimore, MD.

The first study (1) involved an attempt to establish a dose and time profile for morphine and codeine after a single dose administration of the two drugs in human volunteers. Subject "O" (56 kg) was given single sequential intramuscular (IM) doses of 20 mg, 10 mg, and placebo morphine, respectively. Subject "T" (78.6 kg) was given IM doses of 120 mg, 60 mg, and placebo codeine. Both subjects were taken through a drug-free "washout" phase of 6 d prior to beginning the study at the highest level of drug, followed by 1-week periods before the next injection. Immediately following each injection, drug concentrations were measured in plasma, urine, and hair. In addition, the meiotic effect of the opiates on subjects' pupils was assessed. Since beard hair grows at approximately the same rate as scalp hair, concentration measurements were uniquely determined by daily collection of all cheek and neck hair from each individual subject, following use of an electric razor (mean collection amounts were 10-25 mg hair per day).

Morphine levels in plasma peaked early (0.25-0.5 h), at concentrations of 150 and 66 ng/ml, respectively, as determined by Gas Chromatography/Mass Spectroscopy (GC/MS). Thereafter, levels declined rapidly, and reached the limit of assay sensitivity (0.6 ng/ml in plasma) by 24 h. Meiotic effects were seen immediately (0.25 h, peaked within 0.5-2.0 h, and declined slowly to near baseline within 24 h). Morphine levels in urine rose from nondetectable levels before drug administration to peak concentrations of 2423 ng/ml and 1060 ng/ml, respectively, in the first urine void (approximately 1 h after drug). Levels then declined rapidly and fell below the 300 ng/ml administrative cutoff level for the immunoassay procedure employed within 24-36 h. The morphine value for subject "O" was 3.1 ng/mg in the initial control period, immediately prior to injection of the 20-mg dose. Values then slowly declined over a 6-d period to a "background level" of approximately 0.5 ng/mg. Morphine concentrations held at this level for 2 d, then slowly increased to a "total" value of 1.3 ng/mg over the next 3 d (11 d after initial injection), and finally began declining over the next 3 d. The morphine concentration in hair rose again to a peak value of approximately 0.8 ng/mg by days 16-18, then returned to the original base line of 0.5 ng/mg. For a 10-mg sample of hair, an arbitrary lower limit of sensitivity was established as 0.2 ng/mg for morphine.

Relative codeine levels and time lines for Subject "T" were comparable to those of morphine. Following the 120-mg injection, codeine levels for plasma peaked in 0.3 h at 272 ng/ml and urine concentration was 3251 ng/ml at the second void (3.5 h) and hair peaked at 7.6 ng/mg after approximately 9 d. One extremely significant result was that, while codeine metabolizes extensively to morphine, none was found in the hair in this protocol. This indicates that unmetabolized codeine incorporation into the hair shaft was quite rapid. Both the morphine and codeine hair assay results suggest that drug is incorporated into the follicle or proximal portion of the hair shaft almost immediately, but cannot be measured in hair until it emerges above the scalp to a sufficient length for razor collection. A second proposed method of incorporation of drug into hair is through drug carried in sweat from the sebaceous glands surrounding the follicle, and then entering the hair shaft externally.

A second important paper dealing with the use of hair analysis to detect heroin abuse involves testing for heroin and 6-AM in the hair itself (2). Hair samples were obtained from subjects enrolled in a 180-d maintenance and detoxification study at the Addiction Research Center. During this period subjects had no access to heroin and were maintained on methadone or buprenorphine. Following completion of the study, subjects returned to their former life styles and were asked to return at a later date for further hair sampling. Twenty heavy heroin users were selected from this group. Intervals between completion of the detoxification study and subsequent return to give samples ranged from 3-13 months, with a mean of 9 months.

Approximately 100 mg of random distal hair trimmings from all over the scalp were collected from each donor and analyzed by GC/MS. 6-AM and morphine were found in all 20 donors, while codeine was found in 15, and heroin itself was found in 7 of the cases. The average concentrations were: 6-AM = 0.9 ng/mg; morphine = 0.26 ng/mg; codeine = 0.18 ng/mg; and heroin = 0.17 ng/mg. It is extremely interesting that these drug concentrations were found in the distal ends of the donor's hair samples, and therefore reflect the oldest hair samples for each of the subjects. This data also suggests that the proteinaceous components of hair provide a significant stabilizing effect on these very labile compounds, and that heroin use may still be documented even a year after last use.

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*The AsMA Science and Technology Committee provides the Watch as a forum to introduce and discuss a variety of topics involving all aspects of civil and military aerospace medicine. Please send your submissions and comments via email to: barry.shender@navy.mil. Watch columns are available at [www.asma.org](http://www.asma.org) in the AsMA News link under Publications.*

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## National Space Biomedical Research Institute and Space Medicine

Jeffrey P. Sutton, M.D., Ph.D.  
Director, National Space Biomedical Research Institute

Founded in 1997 through a NASA competition, the National Space Biomedical Research Institute (NSBRI) is a non-profit organization dedicated to advancing biomedical research and space medicine to ensure a safe and productive long-term human presence in space. NSBRI serves a unique role for NASA by engaging and coordinating outstanding investigators and clinicians from across the country to participate in team-based approaches to address high-priority biomedical issues and problems associated with human space missions.

NSBRI leverages the nation's investment in biomedical research and supports projects at approximately 70 universities in 26 states. The Institute also has a nationally acclaimed education and outreach program that provides curriculum guides at the elementary through high school levels, develops web-based resources for teachers and faculty, and coordinates excellent programs at the undergraduate, graduate, postdoctoral, and early-investigator levels. There is also a Continuing Medical Education (CME) program in space medicine sponsored by Baylor College of Medicine, one of the twelve consortium institutions involved in the governance of NSBRI. The CME program operates primarily at NASA-Johnson Space Center, where NSBRI has close ties to NASA scientists, engineers, flight surgeons, astronauts, and management. Activities interfacing NSBRI and NASA are coordinated through a Steering Committee, as well as through other groups involving space medicine personnel.

The science and technology portfolio, education and outreach projects, and other information pertinent to NSBRI can be found at [www.nsbri.org](http://www.nsbri.org). Proposals that engage the academic community, incorporate aerospace physicians and individuals with flight experience, and that address operationally relevant problems are particularly important to NSBRI. These science and technology projects are often interdisciplinary and yield deliverables that mature through a pipeline spanning research, development, testing, evaluation, and operational integration.

To help ensure that NSBRI meets its missions to 1) lead a national effort for accomplishing the biomedical research necessary to support the long-term human presence in, and development and exploration of space, and 2) enhance life on Earth by applying the resultant advances in human knowledge and technology, the Institute has an active User Panel comprised of current and former astronauts and flight surgeons. Leroy Chiao, Ph.D., a veteran of four space missions, including the command of Increment 10 of the International Space Station, chairs the Panel. Jonathan Clark, M.D., past president of the Space Medicine Association, is also on the



Panel and additionally serves the Institute as NSBRI/NASA Space Medicine Liaison.

The majority of science and technology projects and educational opportunities are solicited through open announcements, released either by NSBRI alone or jointly with NASA. The solicitations typically occur annually and are posted on the NSBRI and NASA websites. Some projects are acquired through directed tasks, generally from NASA. All projects, regardless of acquisition mechanism, undergo peer review and are vetted through oversight councils prior to selection.

Funded science and technology projects are assigned to 1 of 10 teams in the following areas: Bone Loss; Cardiovascular Alterations; Human Performance Factors, Sleep and Chronobiology; Muscle Alterations and Atrophy; Neurobehavioral and Psychosocial Factors; Nutrition, Physical Fitness and Rehabilitation; Radiation Effects; Sensorimotor Adaptation; Smart Medical Systems; and Technology Development. Each team is under the leadership of a nationally recognized expert in science, medicine, and/or engineering. NSBRI management and NSBRI/NASA liaisons work with investigators, team leadership, and NASA to facilitate progress and maturation of deliverables. Projects are often funded for 4 yr and are competitively renewable.

In addition to supporting top-tier academic investigators and teams to work on high-priority biomedical problems, and to develop countermeasures to reduce risks



**BED REST STUDY**--Through an NSBRI bed rest study, an amino acid and carbohydrate supplement is being studied to determine its value as a nutritional countermeasure to muscle loss.

inherent with human spaceflight, NSBRI has expanded its connections to industry and the international community. Approximately 40 companies are now strategically linked to the Institute, and there has been considerable growth in science and education efforts through international collaborations. The Institute is a success story for NASA and a model for how a national translational research program can run in a productive and cost-effective manner.

NSBRI welcomes inquiries and suggestions from the Aerospace Medical Association membership and affiliates. The Institute adds demonstrable value to the NASA Human Research Program and is well positioned to make further positive contributions in important areas interfacing aerospace and medicine. For more information, visit us at [www.nsbri.org](http://www.nsbri.org) or contact us at [info@www.nsbri.org](mailto:info@www.nsbri.org).

### Space Medicine Association Scholarship Fund

The Executive Committee of the Space Medicine Association has established a scholarship fund by contributing \$10,000.00 from the general funds into an account that already contains \$5500.00 contributed over the years by individual members. We have also made the commitment to continually add to that account all of the interest and dividends from our invested funds (about \$400.00 yearly). We will be encouraging the membership of the Space Medicine Association to make on-going contributions to this account. Several individual members have made the commitment to contribute to this account on a regular basis. Disbursements from this account will be used to fund the award for the Jeffrey K. Myers Young Investigators Award, which we have increased from \$100.00 to \$250.00 and the newly established Jeff Davis Scholarship (not to be confused with the Jeffrey R. Davis, M.D., Aerospace Medicine Endowed Scholarship sponsored by UTMB). We have made the decision to name this new scholarship after Jeff Davis for his lifelong achievements in space medicine and his past support for the scholarship process. This scholarship will be awarded annually beginning in May 2009. The application and selection process for the scholarship award is in the process of being established.

# ASSOCIATE FELLOWS GROUP NEWS

Send information for publication on this page to: **Chris Borchardt**  
**102 Sevendales Dr.**  
**Goldsboro, NC 27534**  
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## Message From the Chair

*Peggy Matarese*

Greetings Associate Fellows. This will be my last message to you as your Chair. Brian Funke will be taking the reins at the Annual Breakfast meeting held Tuesday 13 May. Tickets are \$25 but the fee is for breakfast; anyone can attend the meeting at NO cost. We will be announcing our new Officers – look for ballots at the AFG table. Please join us to hear what we've been working on on your behalf and have a say in what we'll accomplish next year.

On that note, if you would like to be active in the Association, please contact me. We are currently selecting committee chairs and will soon be selecting committee members. Serving on a committee is the most straightforward way to participate, but there are other opportunities. Just let me know what your interests and talents are and we'll put you to work!

It has been very rewarding to serve as your Chair this past year. While we have accomplished quite a bit, there is still much to do. The team has mapped out our priorities and we'll need a lot of volunteerism to keep the momentum going. I hope you'll join us.

### Nominations- Lance Annicelli

Ballots for electing the next AFG Chair-Elect and Secretary will be available on the AFG website. Please email your vote to

lance.annicelli@us.af.mil. Electronic ballots must be received no later than Friday, 9 May 2008. Also, to ensure that all ballots are counted prior to the Tuesday Breakfast/Business Meeting, a hard copy ballot will be available at the AFG table in Boston on Monday the 12th of May. Hard copy ballots will only be counted from those collected on Monday. There will be no last minute ballots counted on Tuesday morning. So, please vote early via electronic ballot. This will save us from scrambling to count votes prior to announcing the new elected officers. Additional information can be found at the AFG website (<http://www.asmaafg.org>).

\*Note: Both the Secretary and Treasurer positions are 2-year term obligations with biennial elections occurring on alternating years. Nominations are being accepted for Secretary for the period of 2008 - 2010. Nominations for Treasurer will be accepted next year for the period of 2009 - 2011. The Chair-Elect office will remain a 1-year term with an annual election.

### Reception/Breakfast- Deb Hinkley

This year's reception is planned for Monday evening 12 May. For those who remember last year's event, we are planning to combine with the Flight Nurses again this year and have enough food to allow folks to have a good basis to join up and explore the town later in the evening. Beware, the following morning is the Associate Fellows Breakfast, so remember to pace yourselves! This meeting

promises to be exciting and educational while allowing for networking and renewing old friendships. I look forward to seeing you all in Boston!

\*The hotel hosting the meeting will charge the Federal Government rate so plan to stay onsite and take advantage of the fantastic offer.

### Programs- Genie Bopp

This year, for the first time ever, the AFG will endorse a scientific panel. Look for "Patient Validation for Aeromedical Evacuation" at the Annual Meeting and show your solidarity by filling the room. Additionally, five Associate Fellows selected as presenters will receive an honorarium which will be presented at the Business Meeting. Show your support by attending. As a reminder, all are welcome to the business meeting – while tickets are required for the breakfast, admission is open and free to the meeting immediately following.

### Treasurer- Ken Knight

As of 19 Dec 07, the current balance for the AFG account is \$23419.33. New expenditures include an honorarium for the Scientific Panel participation and a planned website enhancement. Financially the AFG remains strong.

For current AFG news and to update your bio check in at: [www.asmaafg.org](http://www.asmaafg.org)

# AEROSPACE NURSING SOCIETY NEWS

Send information for publication on this page to: **Cathy DiBiase**  
**Mail code: BIO-1**  
**Kennedy Space Center, FL 32899**  
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## A Message from the President

I hope all of you are doing well. As I write this we are already 2 months into this New Year. There are many things being planned for the upcoming conference in Boston this coming May. I hope to see many of you there this year. We have some very loyal members who cannot make it every year, but support the organization where they can. So any of you who can make it, we look forward seeing you and getting reacquainted.

There are several conference events which I would like to highlight for you, the first being our Monday night reception. We will be partnering with the Associate Fellows Group again but not the first time attendees or new members as in past receptions. The reception may be smaller but should allow for some beneficial networking. The food will be local cuisine and our reception planner (Eileen) says that the menu will be well worth it. You will find information on where the reception will take place in the information packet that you receive at the conference registration. You can buy a reception ticket when you pre-register,

at the conference or at the reception. But it would be best to purchase tickets in advance, at the time of pre-registration.

Wednesday May 14th will be our business day. Our ANS luncheon will be at noon. Please see the flyer for details on location of the luncheon. You must purchase tickets in advance for this event. If the cost of a ticket is an issue for you please contact me – email or call. I would like to see all members attend the luncheon and will help make arrangements accordingly.

All the officers will be present at the luncheon. If you have not met us, we would like to get to know you. We do our best to represent each of you at the parent organization meetings and conference planning sessions, but we have to know what the needs of the group are in order to do a good job.

While our luncheon speaker has not yet been confirmed I am sure that the presentation will benefit us all. Also at the luncheon, we will honor those who have been selected to receive our annual awards.

We close out Wednesday with our annual business meeting. This meeting is open to anyone. If you are a nurse or technician,

member or non-member, we would like you to attend. We will discuss issues current to our organization, vote on new officers, discuss our finances and plan for upcoming events. This is an important meeting that benefits us all greatly, especially when as many of us attend as possible.

For those of you who have attended the annual scientific meeting in the past, you know that there are far more activities and events than those I have listed. There are many other receptions held by other constituent and affiliate organizations and AsMA that are also worth attending. The sessions and special presentations will offer you knowledge in topics you may have not considered before or add to knowledge you already have. As in the past, this year there will be pre-conference workshops which may provide topics of interest to you.

You will be getting notices soon that organization dues are due. Please be proactive and get those in. You will also be receiving information on the conference itself.

See you in Boston!

**Cathy DiBiase**  
**President, ANS**

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## Remembering Ludy Rayman

by Susi Bellenkes, President

(Portions of this article were taken from the May 1997 article by Nonja Bisgard.)

One of the WING's most active and beloved longtime members, Ludy Rayman, died on February 15, after a protracted illness. We of the WING remember Ludy not only as a colleague, but also as our dear friend.



Ludy belonged to a vanishing breed of spouses in a very old-fashioned traditional marriage--Mom stayed home while Dad went to work. She gave up her profession as a Pharmacist and Medical Technologist when she and her husband, Russell, started a family.

Ludy was raised in a very strict family in the Philippines, cloistered in a convent school from kindergarten through high school, then attended a college run by Dominican priests. While she was growing up, only married children left home. However, she was able to leave her home in Manila by coming to the U.S. as an exchange student. After her training in Medical Technology in Hamilton, OH, and the University of Michigan, she worked at the University Hospital, Ann Arbor, the Johns Hopkins Hospital, Clark Air Force Base in the Philippines, the American Medical Enterprises and Westside Hospital in Los Angeles, and the Lutheran General Hospital in San Antonio.

Ludy's most important and rewarding job was as stay at home mom. The compensation was priceless. Their eldest son Joe is doing central nervous system research in a post-doctoral program at Columbia University. He, his wife, and twin girls live in Manhattan. David, a graduate of the USAF Academy, Colorado Springs, CO, is an A10 pilot stationed in Afghanistan. David's wife and two children are currently staying in the DC area. The youngest son, Ariel, is an attorney in Washington, DC. The grandchildren were also Ludy's pride and joy.

Ludy served the Wing in many roles including Advance Registration Chair, Co-Arrangements Chair, Treasurer, Registration Chair, Reception Chair, Vice President, and President in 1998. Her superb leadership in WING activities was an inspiration to us all. As its President, Ludy was instrumental in shaping the WING from a social group into one of AsMA's core organizations, with its own unique activities, functions, and roles. A mentor and vibrant spirit, her always wise counsel proved invaluable.

Now, our Ludy is gone, and we all greatly feel the pain of this loss. It is not possible to think of WING activities taking place without her. Still, as we mourn her passing, we will remember how she selflessly gave of her time and herself, and we will always recognize the legacy she has left to those who come after.

We of the AsMA WING wish to convey our deepest and heartfelt condolences to the Rayman family, especially to her sons and her husband of 38 years, Russell. We will greatly miss our dear friend.

In lieu of flowers please consider a donation to: SKCCC/JHU Development Office, Attention to: Dr. Gore--MDS research, Johns Hopkins Kimmel Cancer Center, One Charles Center, 100 North Charles Street, Suite 234, Baltimore, MD 21201; Phone (410) 516-4203.

## The Wing's 2007-08 Honorary President: Fonda Hastings

The 2007-2008 Honorary WING President is Fonda Hastings. Fonda hails from Seneca, SC, and is the oldest of four children. During her first year in high school, Fonda and her family pulled up stakes and headed West to Tulsa, OK. She was, at first, somewhat loathe to let on that Tulsa was her destination, especially since Fonda's Dad--indeed, all of his side of the family--were devoted Clemson 'Tigers'. But in Tulsa, Fonda quickly found herself to be a proud OSU 'Cowgirl' and, most importantly, was able to remain close to her family.

Being with her family has always been very important to Fonda, and she continues to spend as much time with them as possible. Fonda and Jack have three children: one son races all year round at the famous Indianapolis speedway, another son is a student at Fonda's alma mater, OSU, and a daughter attends Rogers State University, both in Tulsa.

Fonda is also a wonderful role model who shows selfless concern for those in need. She devotes much time to caring for all the elderly in her neighborhood. Fonda has served as a volunteer in the cardiac catheterization waiting room where her positive attitude and kind heart were instrumental in calming the patients down during their moments of fear.

In her spare time, Fonda also has a number of hobbies that keep her very busy indeed. She has a passion for cooking and loves to sew. She is also a dedicated dog-lover and truly enjoys the many moments out of doors with them.

Fonda's unshakeable cheerfulness, her willingness to think the best of all people, and her ever kind heart have resulted in her forming many wonderful friendships during her two



**THREE FIRST LADIES---**Fonda Hastings, Susi Bellenkes, and Issy Jennings at the ICASM meeting in September 2007.

years as a WING member. We are delighted to recognize her as the 2007-2008 Honorary WING President.

## Boston, We Are Coming!!!

This year has gone by so fast, and our May meeting is very close at hand. During the last few months I educated myself about Boston and its history. I read books, looked at travel guides and went through a myriad of folders offering tours of Boston. Don't we all know some bits and pieces, remember famous names, battles, and places from our history classes? However, I never realized how much of America's founding took place in Boston.

An important part of Boston's heritage is its much beloved cuisine; a host of north-eastern coastal delicacies that remain deeply connected with and woven throughout its history! We will be able to taste some of this city's world-famous foods at our welcome reception, luncheon, and during our tours.

Monday's welcome reception will be our own version of a "Boston Tea Party"! We will welcome new WING members and visit with many old friends when we meet in the Club Lounge overlooking the city on the 29th floor of the Sheraton Boston Hotel.

The Tuesday tour promises to be a fantastic voyage through "360 years of Boston history". With the help of professional city guides, we will travel on foot and by bus to the most important historical places of this city. Achtung: Wear good hiking shoes!

Wednesday's luncheon and business meeting will be held in the Old English club-style Apropos Restaurant of the Sheraton.

On Thursday, we will explore yet another of Boston's great landmarks. I would not want to leave this lovely city without having visited the oldest University of the United States--Harvard! We will first comfortably ride by bus to the beautiful city of Cambridge, which lies right on the outskirts of Boston. Special tour boats will then take us for a leisurely cruise along the scenic Charles River for a unique perspective of historic Boston and Cambridge, highlighting over two hundred years of American history. We will next visit Harvard Yard, Brattle Street, and pre-revolutionary Federal homes on our way to Harvard Square, where we have the opportunity for a lunch in one of the charming old cafes.

As you can see, your Wing Board members have spent many an hour and lots of hard work to make this a most memorable meeting. All this is like a ballet, a lot of work behind the scenes; you, the spectators are supposed to see only the beauty and enjoy the performance! However, the most important part of it all is the bond that we share: our friendship. As WING President, I welcome you all to join in the fun. Please register before April 11th to secure a place on the tours. For concerns or problems I shall be available for you at the hospital room, and if I can make your sojourn more pleasant in any way, I shall be happy to do so.

With a happy "Yodluhi!" I shall greet you in Boston!

**Your President, Susanna Bellenkes**

Send information for publication on this page to: **Corporate News**  
**Aerospace Medical Association**  
320 S. Henry Street  
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## Archinoetics Becomes AsMA Corporate

Archinoetics, a Hawaii-based high-tech company, recently became AsMA's newest Corporate Member. Archinoetics focuses on research and development of human-centered technologies, including functional brain imaging systems, human fatigue and performance monitoring devices, intelligent algorithms based on genetic programming and biometric sensors, remote sensing, and neurobiologically inspired computing platforms.

The company is currently developing 'Brain Painting' applications that allow people to paint on a digital canvas using only their thoughts. This is part of research conducted under a National Science Foundation grant to create brain-computer interfaces. Recently, this work was featured at the University of Virginia in Oscar as well as in India in the Mumbai Mirror.

— Taken from <http://www.archinoetics.com/news.php>. For more news and information on this company, please visit [archinoetics.com](http://www.archinoetics.com)

## ETC's NASTAR® Center Hosts Inaugural Space Agent Forum

Environmental Tectonics Corporation's (ETC's) National Aerospace Training and Research (NASTAR®) Center recently hosted 50 Virgin Galactic Accredited Space Agents (ASAs) from 14 countries for a 2-day Forum designed to update them on the Virgin Galactic project and to give them in-depth knowledge of the new NASTAR Center Air and Space Adventure Programs. These exciting new programs are designed to be a "try before you buy" for prospective travelers onboard Virgin Galactic's suborbital spaceflights. NASTAR Center is the official training provider for Virgin Galactic, who last month released the designs of the WhiteKnightTwo and SpaceShipTwo at an event in New York City. Virgin Galactic will be the world's first commercial spaceline and provider of private suborbital spaceflights.

Virgin Galactic ASAs are now taking reservations for NASTAR Center's new Air and Space Adventure Programs that include aerial combat and space launch simulations, both with sustained G forces, real-world visuals, and authentically modeled cockpits and space cabins. For a comprehensive list of ASAs around the world including contact details, please visit [www.virgingalactic.com/htmlsite/asa.php](http://www.virgingalactic.com/htmlsite/asa.php).

— Taken from a news release found at <http://pm.fwdto1.com/e.html?a=uPx&j=8ad&u=EA967y7A&format=html>

## Kelsey-Seybold Unveils New Program

Kelsey-Seybold Clinic recently unveiled its Tobacco Free for Life program, designed to assist employers in providing employees an effective way to quit using tobacco. Smoking alone is estimated to cost the American

economy \$150 billion annually in medical expenses and lost productivity. The Centers for Disease Control and Prevention estimates that each smoking employee costs his or her employer an additional \$3,391 each year in decreased productivity, increased absenteeism and extra health care costs.

The confidential program is designed to support employees who want to stop smoking or using other tobacco products, such as chewing tobacco. Tobacco Free for Life is led by certified tobacco cessation specialists who conduct on-site meetings for employees interested in learning ways to successfully quit tobacco. Sessions include coaching and the opportunity for participants to discuss their struggles within a group setting.

Kelsey-Seybold Clinic, through the Tobacco Free for Life program, has also teamed with the American Cancer Society's Quitline® to provide telephonic counseling services to those individuals who want additional support to live a tobacco-free lifestyle. Tobacco Free for Life is part of Kelsey-Seybold's Wellness For Life product line and is offered to Houston-area employers.

— From a news release found at [http://www.kelsey-seybold.com/Whats\\_New/Tobacco\\_Free\\_for\\_Life.cfm](http://www.kelsey-seybold.com/Whats_New/Tobacco_Free_for_Life.cfm)

## Mayo Clinic Finds Capsule Endoscopy Detects Intestinal Damage from Celiac Disease

Mayo Clinic researchers have found that capsule endoscopy can provide a magnified view of the intestinal damage caused by celiac disease. This new information can help physicians detect and diagnose celiac disease, as well as measure intestinal healing following treatment. These findings are published in this month's issue of *Clinical Gastroenterology and Hepatology*.

The capsule is approximately the size of a large vitamin, and it includes a miniature color video camera, light, battery, and transmitter. The patient swallows the capsule, which takes approximately 8 hours to move through the small intestine. As the capsule moves through the digestive tract, images recorded by the video camera are transmitted to a number of sensors attached to the patient's torso and recorded digitally on a device worn around the patient's waist. Then, the recording device is removed and its contents are downloaded to a computer for examination.

This study, the first of its kind, used capsule endoscopy to view intestinal damage in 37 patients with untreated, biopsy-proven celiac disease. There were 92% who had visible damage detected by capsule endoscopy. There were 22 patients who had extensive damage in the duodenum (first portion of the small intestine) and patchy damage throughout the jejunum (the small intestine's middle portion). There were 12 patients who had damage limited to the duodenum, and 1 patient had only patchy damage throughout the jejunum. However, no association was shown

between the extent of intestinal damage and the patients' symptoms. Capsule endoscopy showed improvement, or decreased intestinal damage, in most patients 6 months after a gluten-free diet was implemented.

— Taken from a news release found at <http://www.mayoclinic.org/news/2008-rst/4669.html>

## Sanofi-Aventis Responds to Yellow Fever Epidemic

Sanofi Pasteur, the vaccines division of the Sanofi-Aventis Group, announced today that six million doses of Stamaril™ yellow fever vaccine have been shipped upon UNICEF's request to respond to the yellow fever epidemic in Latin America. Brazil received four million doses of Stamaril™ vaccine early February and an additional two million doses were shipped to Paraguay over the weekend in response to urgent requests from Health Authorities.

The yellow fever vaccine that was provided to Brazil and Paraguay is part of the UNICEF vaccine stockpile which is reserved for outbreak responses. Sanofi Pasteur is currently the only vaccine supplier to the UNICEF yellow fever vaccine stockpile. Sanofi Pasteur is the largest provider of yellow fever vaccine worldwide with 200 million doses of vaccine provided to 150 countries over the past 20 years.

— Taken from a news release at [http://en.sanofi-aventis.com/Images/080226\\_FIEVRE\\_JAUNE\\_AMERIQUE\\_LATINE\\_ENG\\_tcm24-20449.pdf](http://en.sanofi-aventis.com/Images/080226_FIEVRE_JAUNE_AMERIQUE_LATINE_ENG_tcm24-20449.pdf)

## USRA Sponsors Summer Radiation School

Universities Space Research Association (USRA) is one of the sponsors of the 2008 NASA Space Radiation Summer School, which is set to take place May 28-June 20, 2008, at the Brookhaven National Laboratory on Long Island, NY. The 3-week program was designed to provide researchers to tackle the challenges of harmful radiation exposure to humans who will travel on space exploration missions. The course is taught by leading university and national laboratory biologists and physicists actively engaged in NASA space radiation research and Brookhaven National Lab experts in heavy ion experimentation and methods. Both U.S. citizens and foreign nationals are eligible to apply. For more information, please see [www.dsls.usra.edu/spacerad/](http://www.dsls.usra.edu/spacerad/)

## Become a Corporate Member of AsMA!

For information on becoming a Corporate Member, please call Gloria Carter at (703)739-2240, ext. 106, [gcarter@asma.org](mailto:gcarter@asma.org); or Dr. Marian Sides at [mbsides3@myexcel.com](mailto:mbsides3@myexcel.com)

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**pday@asma.org**

**Melissa M. Mallis, Ph.D.**, formerly the Director of Scientific Affairs at Alertness Solutions in Cupertino, CA, is now serving as Chief Scientist, Operational and Fatigue Research, for the Institute for Behavior Resources, Inc., in Baltimore, MD.

## Véronneau Aids Fellow Passenger

**Dr. Stephen Véronneau** was on a flight from Chicago's O'Hare to Newark Liberty when a passenger seated behind him stopped breathing. When the plane's crew called for medical assistance, he volunteered. Not only had the passenger stopped breathing, she had no pulse. With the assistance of the flight crew and the use of the plane's automated external defibrillator, Dr. Véronneau got the passenger breathing and her heart beating again.

Dr. Véronneau works for the FAA as a medical researcher. He is a Diplomate, American Board of Preventive Medicine, certified in Aerospace Medicine. He is a member of the American Society of Aerospace Medicine Specialists, and a member and Fellow of the Aerospace Medical Association.

More information on this story can be found on the FAA's website: <https://employees.faa.gov/news/focusfaa/story/index.cfm?newsId=55578>.

## Focus on Members:

### William B. Albery

**William B. Albery, Ph.D.**, Dayton, OH, Deputy Branch Chief, AFRL/RHPG, Wright-Patterson AFB, OH, has retired after 36 years at Wright-Patterson. He has accepted a position with the San Antonio-based company SpecPro and will serve as the Dayton, OH manager. He plans to stay active with AsMA and is the SAFE Association president for 2008.

Dr. Albery received the AsMA 2006 Kent Gillingham Award for his research into spatial disorientation (see ASEM 2006; 77:774-5). He



was considered the Air Force's top expert in spatial disorientation (SD) and has been a researcher, lecturer, technical leader, prolific author, and presenter of SD research. He has developed the pilot attitude perception technology, called the spatial orientation retention

device (SORD), which will save millions of dollars lost to spatial disorientation. SORD combines multi-sensory cues with helmet-mounted symbology to increase aircraft attitude information to the pilot when it is needed.

Dr. Albery is a Fellow of the Aerospace Medical Association (AsMA), and a member of the SAFE Association. Within AsMA, he has served on the Scientific Program and Awards Committees. He is a member of the Aerospace

Human Factors Association and the Aerospace Physiologists Society, a past president of the Life Sciences and Biomedical Engineering Branch, and the organizer of an International Acceleration Research Workshop. His other awards include the Harry G. Moseley Award from AsMA, the Harry G. Armstrong Award for Scientific Excellence, and the Outstanding Alumni Achievement Award from Wright State.

## ERRATUM

In June 2007, p. 641, we mistakenly listed Vicente Ciancio as President of the Federation Argentine of Cardiology (FAC). He is, in fact, President of the Scientific Committee of Aerospace Cardiology of the FAC. We apologize for the error.

## In Memoriam

### Jack H. Bates

AsMA has learned that Col. Jack H. Bates of East Stroudsburg, PA, died in early February. After graduating from high school in Richfield Park, NJ, he joined the U.S. Navy where he served until the end of WW II. He then attended Fairleigh Dickinson University in New Jersey, where he earned an A.A. degree in 1948, and Bethany College, WV, where he earned a B.S. in 1950. Upon graduation, he attended the University of West Virginia, where he studied medicine, earning an M.S. He graduated from the University with a Ph.D. in 1951. He then joined the Air Force, where he worked in the field of space physiology. During his distinguished career, he became Chief of Physiology in the Air Force Surgeon General's Office in 1971.

He joined AsMA in 1959 and presented several papers at annual scientific meetings during the 1960's. His awards included the Legion of Merit and the 1976 Wiley Post Award from the Aerospace Physiology Society. He was a former executive director of the Pocono Mountains Chamber of Commerce from 1978 to 1987, an active Rotarian, and served on many local not-for-profit boards.

### Randall M. Chambers

Randall M. Chambers, Ph.D., died suddenly in December 2007. A native of Indiana, he earned a B.A. degree from Indiana University in 1948, an M.A. from the University of Missouri in 1951, and his Ph.D. from Western Reserve University in 1954. From 1951-1953, he was a Personnel (Research) Psychologist at Western Reserve University in Cleveland, OH; from 1953-1955, he served as a Physiological Psychologist at Roscoe B. Jackson Memorial Laboratory in Bar Harbor, ME. After that, he served as Chief, Training Devices Branch, at Lackland AFB's Air Force Personnel and Training Research Center in Texas from 1955 until 1956. In 1956, he became Officer in Charge, Perceptual and Motor Skills Unit, at Randolph AFB, San Antonio, TX, and served there for a year. In 1957, he became an Associate Professor of

Psychology at Rutgers University in New Brunswick, NJ. In 1958, he transferred to the Aviation Medical Acceleration Lab at the U.S. Naval Air Development Center in Johnsville, PA, where he served as Head of the Human Factors Branch. From 1968-1972, he was Chief, Life Scientist, at the NASA Langley Research Center in Hampton, VA, and also taught at nearby universities. In 1972, he joined the Georgia Institute of Technology in Atlanta.

Dr. Chambers was a member of the Aerospace Medical Association (AsMA), the American Psychological Association, the Society for Psychophysiological Research, the Human Factors Society of America, and others. He was also a Fellow of the American Psychological Association, the Human Factors and Ergonomics Society, the American Association for the Advancement of Science, and the American Institute of Aeronautics and Astronautics. He was the 1969 winner of AsMA's Arnold D. Tuttle Award and was President of AsMA's Life Sciences and Biomedical Engineering Branch from 1977-1978. His other awards included the Fitness of Freedom Award in 1961, the Distinguished Service Award in 1966, and the Key to the City Award in 1967. He held over 20 other awards and honors.

During his lifetime, Dr. Chambers published more than 90 scientific and technical papers, co-authored a book, worked on two other books, presented more than 30 papers at scientific seminars, and served on at least 9 panels or professional committees. He specialized in human factors research and life science studies on aerospace medical problems. His major research was on the effects of environmental stresses on human responses, with emphasis on the effects of acceleration, noise, vibration, and simulated weightlessness on the performance capabilities and psychophysiological limitations of pilots, astronauts, and other human operators within aerospace flight systems.

### Richard Oswald, Jr.

The Home Office recently learned that Dr. Richard Oswald, Jr., D.O., M.P.H., MBA, FaSMA, FACFE, died in November 2007 of a pulmonary embolism. Born in Toledo, OH, in 1955, Dr. Oswald earned a B.S. in 1977, an M.S. in 1979, and a B.A. in 1980 from the University of Toledo. He then attended the Chicago College of Osteopathic Medicine, where he completed his D.O. degree in 1983. His initial residency was at Chicago Osteopathic Hospital. He became a Navy Lieutenant in 1984, completed flight surgeon and advanced flight training at N.A.S. Pensacola, and became a Naval Flight Surgeon in 1985.

Dr. Oswald earned an M.P.H. in 1989 from the University of Hawaii in Manoa, after which he returned to N.A.S. Pensacola and served a residency in Aerospace and Preventive Medicine at the Naval Aerospace Medical Institute. He earned a Masters in Business Administration in 1992 from the Golden Gate University. In 1993, he

See OSWALD, p. 457.

OSWALD, from p. 456.

transferred to NASA's Johnson Space Center in Houston, TX, where he served as Senior Flight Surgeon and Mission Controller for Space Shuttle and International Space Station Operations. While at NASA, he was the lead flight surgeon for the group that designed the Advanced Life Support Medical Kit used aboard the International Space Station.

Later in his Naval career he was assigned as Director Central Measurements and Signatures Intelligence Organization, Weapons of Mass Destruction Counterproliferation Programs at the Defense Intelligence Agency. Upon completion of his duties there, he was assigned to the National Reconnaissance Office's Advanced Science and Technology Directorate where he served as Director of AS&T, Advanced Concepts Group R&D programs and was promoted to the rank of Captain in 2001 and assigned to the Chief of Naval Research as special Assistant for Intelligence Community Liaison. At the time of his death, he lived in Virginia and was still active in the Naval Reserves. He was board certified in Aerospace, Preventive, and Forensic Medicine, as well as Family Practice. He was a designated Senior Aviation Medical Examiner for the FAA and a Certified Forensic investigator.

Dr. Oswald was an Aerospace Medical Association Life Member and was elected a Fellow of AsMA in 2003. He had served as Chair of the Associate Fellows Membership Committee and was on the AsMA Membership Committee for many years.

## New Members

- Bramble, William J., Ph.D., B.S.,  
Washington, DC
- Brazile, Gerard I., Lt.Col., USAF, MC,  
San Diego, CA
- Brighton, Kevin M., E-4, USN, Pensacola, FL
- Campbell, Jessica M., Paris, TX
- Cole, David, MAJ, MC, USA, Galveston, TX
- Cravey, Russell S., M.D., Kerrville, TX
- Esguerra, Toefredo T., M.D., Manila,  
Philippines
- Genik, Richard, Ph.D., Livonia, MI
- Hansen, Tor Are, B.Sc., M.Sc., Oslo, Norway
- Hogue, Bruno, Sherbroke, QC, Canada
- Holloway, Nathan J., B.S., Rockville, MD
- Janelle, Gregory M., M.D., Gainesville, FL
- Johnson, Jon M., Maj., USAF, MC,  
San Antonio, TX
- Karunaharan, Paranjothy, Sunningdale,  
Ascot, UK
- Koester, Fred, B.Sc., M.S., Annandale, VA
- Lam, Tack, M.D., Ph.D., Los Angeles, CA
- Mathew, Thomas C., M.D., Utica, NY
- May, Stephen A., M.D., Paris, TX
- Mooney, Richard L., Lt.Col., USAF, MC,  
San Antonio, TX
- Mork, Michael R., M.D., M.P.H.,  
Sioux Falls, SD
- Onnouw, Eric, M.D., Vught, Netherlands
- Osinga-Meek, Maria J., M.D.,  
Deventer, Netherlands
- Palmer, Michael A., M.D., Princeton, NJ
- Rasmussen, Christian E., M.D., Ph.D.,  
Charlottenlund, Denmark
- Soper, John W., Ph.D., Yukon, OK
- Vegers, Janis, M.D., Riga, Latvia
- Wheeler, Robert E., M.D., Amherst, NH
- Wild, Morne, B.A., Sydney, Australia
- Zanella, Dennis, M.D., M.P.H., Mullica Hill, NJ

## CLASSIFIED ADS

### POSITIONS AVAILABLE

#### MAYO CLINIC Executive Health Physician

Mayo Clinic is known nationally and internationally for outstanding achievements in patient care, research, and education. In Arizona, Mayo Clinic is a 360-physician integrated practice, focusing on high quality, compassionate medical care delivered in a multi-specialty academic environment. Education and research are an integral part of the Mayo Clinic Model of Care.

The Division of Preventive, Occupational, and Aerospace Medicine is seeking a physician to provide clinical services to executives in the Mayo Clinic Executive Health Program. Candidates must be board eligible or board certified in Internal Medicine. Board certification or eligibility in a Preventive Medicine specialty or a related clinical specialty (e.g., Cardiology, Endocrinology) and/or several years working experience in Executive Health are highly desirable. Experience or a special interest in women's health issues and an interest in expanding a growing women's executive health program is highly desirable.

This position includes an academic appointment with the Mayo Clinic College of Medicine and offers competitive compensation and comprehensive benefits, including a relocation package. Our desirable location in the beautiful Sonoran Desert of Arizona offers every opportunity for a rewarding lifestyle.

For more information about Mayo Clinic and Arizona, please visit our Web site at: [www.mayoclinic.org/physician-jobs/](http://www.mayoclinic.org/physician-jobs/)

For consideration, please forward a letter of interest and curriculum vitae to: Michael A. Covalciuc, M.D., Chair, Division of Preventive, Occupational and Aerospace Medicine Mayo Clinic - MCB CC 13400 E. Shea Boulevard Scottsdale, AZ 85259

#### AsMA VOLUNTEER DAY 2008 Saturday, May 10

The AsMA service project this year will be conducted to support **The Greater Boston Food Bank (www.gbfb.org)**. We will work in two shifts to assist the GBFB at their distribution center; inspecting, sorting, and packaging food.

Shift 1: 8:45am - 12 noon

Shift 2: 12:45pm- 4pm

Sign up for the event by emailing Dr. Matt Hoefer at [usbatory@hotmail.com](mailto:usbatory@hotmail.com) and signifying your preference for a morning or afternoon shift.

Thank you for volunteering your time and continuing this great tradition of service to our communities. For more information please visit: [www.asmavolunteers.org](http://www.asmavolunteers.org).

Volunteers must be 16 years old. Please bring work clothes and closed-toed footwear (Open-toed shoes are not permitted in the warehouse).

#### CRESE FACULTY POSITION

The School of Medicine and Biomedical Sciences at the University at Buffalo is recruiting for a Professor or an Associate Professor and Director or an Associate Director of the Center for Research and Education in Special Environments (CRESE). The successful candidate must have a M.D., qualify for licensure in NY, have a demonstrated successfully extramurally funded research program in Undersea and/or Hyperbaric Medicine and provide leadership in the development of a HBO treatment program. The position will be available in the fall of 2008 and the salary is dependent upon qualifications. Applications will be considered until the position is filled.

Interested candidates can get further information or send a letter of application and curriculum vitae to:

Dr. David R. Pendergast  
Professor of Physiology and Biophysics  
and Adjunct Professor of Mechanical and  
Aerospace Engineering  
Director, CRESE  
124 Sherman Hall  
University at Buffalo  
3435 Main Street  
Buffalo, NY 14214  
716-829-3830  
[dpenderg@buffalo.edu](mailto:dpenderg@buffalo.edu)

#### POSTDOCTORAL FELLOWSHIP

The Center for Research and Education in Special Environments in the School of Medicine and Biomedical Sciences at the University at Buffalo is recruiting for a Postdoctoral Fellow with interest in one or more of the following fields: undersea and hyperbaric medicine, environmental physiology, gravity or exercise physiology. This is a three year Office of Naval Research funded fellowship. The successful candidate must have a Medical Degree or Ph.D. or equivalent. The position will be available in the fall of 2008 and the salary is dependent upon qualifications. Applications will be considered until the position is filled.

Interested candidates can get further information or send a letter of application and curriculum vitae to:

Dr. David R. Pendergast  
Professor of Physiology and Biophysics  
and Adjunct Professor of Mechanical and  
Aerospace Engineering  
Director, CRESE  
124 Sherman Hall  
University at Buffalo  
3435 Main Street  
Buffalo, NY 14214  
716-829-3830  
[dpenderg@buffalo.edu](mailto:dpenderg@buffalo.edu)

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