

President's Page

Colleagues and Friends,

I recently began clearing clutter and organizing possessions in preparation for a permanent move to Europe later this year. In doing so, I came upon some of the older journals of our organization, some going back to when Dr. Rolly Shamburek was our Executive Director. Seeing Dr. Shamburek's name, I was reminded of my introduction to AsMA back in 1977. I had only been a student member in the organization for a short time when I requested a meeting with Dr. Shamburek at AsMA headquarters, which was, at that time, located in some upper deck offices at the Washington National Airport. The meeting was one that I shall always remember; indeed, it was the focal point for my decision to remain with and become active in the association.

I recall climbing a thin claustrophobic set of stairs up to the AsMA offices, not quite certain what to expect upon reaching the summit. Any apprehensions were soon dispelled; Dr. Shamburek was most gracious, friendly, and patient, greeting me as if an old friend. We sat in his office for at least an hour, asking and answering questions of one another about our backgrounds, experiences, and my seemingly endless questions about careers in aeromedicine.

Near the end of our meeting, Dr. Shamburek asked me if I wanted some back issues of the AsMA journal. I readily and eagerly agreed, not thinking about where I would store them in my already over-cluttered miniature efficiency apartment. Dr. Shamburek instructed me to back my old rickety Toyota to a door at the side of the building and, after taking me to a basement storage locker, proceeded to have me load a copy of almost every back issue of the AsMA journal, from the 1950s up to 1977, into my automobile's trunk. Eventually, the trunk bulged with decades of collective aeromedical wisdom, strewn about into every unoccupied niche and corner, burying my safety and first aid gear as well as my almost treadless spare tire. Our goodbyes were short, but I was hooked; I knew I would become part of the AsMA family and remain so from then on.

The rear springs supporting the car groaned as I drove off; I noticed that the two working cylinders of the four onboard were having even a more difficult time keeping the car in motion. I somehow managed to arrive safely at home, grateful that I did not experience a tire blowout on



Andrew H. Bellenkes, Ph.D.

the way. The 200+ issues of the AsMA journal that would have had to be removed for access to the spare and maintenance tools would have been a sight to behold that day blowing about on the gray windy New Jersey Turnpike.

I tell this tale not only for the sake of pleasant nostalgia, but also to remind you all how important you can be in guiding the future of our young and new members. A single act of mentorship, of good will toward a young member, can literally change that person's life. It is our group of new and young members, young scientists, nurses, graduate and undergraduate students, our AMSRO members and medical school students, officers and enlisted personnel just entering medical and medical service careers, all of these individuals whose futures you can help shape, guide, and develop. Doing so takes neither a great deal of effort, nor extensive periods of time to make such a life-changing impact on our young members; just an hour or two, merely a friendly, helpful few moments is all that is necessary to make that young member eternally grateful. Doing so would create a legacy about which you could be rightfully proud.

It is remarkable when one thinks that since those heady times more than 30 years ago, when I first met Dr. Shamburek, one is now able to place an even larger treasury of back issues onto a single DVD, weighing but an ounce or two, and will soon be available online through LibrarySmart. A critical development indeed, as no longer will the young member have to worry about access to his or her spare tire.

Thank you, Dr. Shamburek! I shall always be deeply grateful for your wisdom, guidance, and friendship.

Association News

Aviation Space and Environmental Medicine Seeks New Editor in Chief

The Aerospace Medical Association (AsMA) is seeking applicants for the position of Editor in Chief of the Association's journal, *Aviation Space and Environmental Medicine* (ASEM). The Editor in Chief should be someone with a breadth of experience in research and a substantial number of journal publications. The ideal applicant will possess a doctoral degree (MD or PhD), have published in peer-reviewed journals, and be familiar with the AsMA (examples: member for several years, attended/presented at multiple meetings, active in Committees or Constituents). Major responsibilities, a position description, and other information are available via the Announcements section at www.asma.org. This is a part-time position that will not require relocation, but will require high-speed internet access. Salary and benefits will be discussed as part of the applicant evaluation process.

Applications should include a 1- to 2-page narrative describing interest, professional qualifications, and a vision for the future of ASEM. A current CV is also required. The application deadline is 31 March 2008. If invited, applicants must be available for interview during the next Annual Scientific Meeting, Los Angeles, CA, May 3-7, 2009.

Email completed applications (as PDF attachments) to the Search Committee Chair, Dr. James Webb, at jwebb.asma@swbell.net.

New Members

Abbott, Eric E., D.O., Colorado Springs, CO
Aguirre, Jose C., M.D., Goodyear, AZ
Alexander, Bruce R., M.B., B.Ch., D.Av.Med., Canterbury, UK
Alford, Kevin D., B.A., M.D., Lebanon, IL
Anderson-Doze, Elizabeth R., M.D., FAAFP, Bossier City, LA
Andrus, David E., M.D., APO, AE
Anuligo, Neka F., M.D., Tucson, AZ
Baldovich, Kevin J., M.D., Reading, PA
Baldwin, Peter A., M.D., Clovis, NM
Barnes, Scott S., M.D., APO AE
Bevan, Charles A. III, M.D., MPH., Abilene, TX
Bremer, Justin M., D.O., Monument, CO
Carter, Shawn S., B.S., M.D., Fayetteville, NC
Chase, Eric G., Lt., USAF, BSC, Converse, TX
Chen, Benjamin M., M.D., Del Rio, TX
Cheng, Ian C., B.Med., M.P.H., Mascot, Australia
Cowley, Bradley C., B.S., D.O., Goldsboro, NC
Cromar, Jason W., M.D., Rapid City, SD
David, Stephanie M., M.D., D.V.M., Ft. Walton Beach, FL
DeCastro, Alexei, M.D., Haughton, LA
DeMola, Philip M., D.O., Cocoa Beach, FL
Doyle, James J., M.D., Towson, MD
Edwards, Oliver L., B.A., M.D., Alamogordo, NM
Erdmann, Rolf W., Ph.D., League City, TX
Faibisoff, Isaac J., M.D., Belleville, IL

Fitzpatrick, Brendan M., M.D., Mt. Pleasant, SC
Fowler, Joshua S., M.D., APO AP
Franzos, Marc A., M.D., Pensacola, FL
German, Ruth A., D.O., Wichita Falls, TX
Hamer, Jodie K., D.O., B.S., Lees Summit, MO
Hipple, Robin, Oakford, PA
Hoffman, Zachary T., M.D., Navarre, FL
Howard, Charles T., M.D., Cannon AFB, NM
Jersey, Sean L., B.S., M.A., M.S., M.D., Davis, CA
Kujansuu, Stephen A., M.D., Enid, OK
Kummer, Nicolas T., M.D., Valhalla, NY
Kundrot, Craig, B.A., M.Phil., Ph.D., Houston, TX
Landsteiner, Pamela B., M.D., Grand Forks AFB, ND
McClendon-Coker, Dixie A., M.D., Bossier City, LA
Mount, Charles E., M.D., Goldsboro, NC
Nicoe, Paul A., B.B.A., M.D., Papillion, NE
Owens, Justin M., M.D., Bossier City, LA
Owens, Sean M., D.O., Silver Spring, MD
Pascucci, Daniel I., M.D., Norman, OK
Peake, Dwight E., M.D., Universal City, TX
Pugh, David B., M.D., Midvale, UT
Riis, Jacob F., M.D., Navarre, FL
Rimanso, Marion P., M.D., Livingston, NJ
Selensky, Mitchell W., A.D., B.S., Oklahoma City, OK
Simmons, David J., M.D., APO, AP
Smith, David, D.O., Warner Robins, GA
Solemanni, Nazi A. K., Dr., Edinburgh, UK
Spinelli, Carlos A. Jr., 1Lt., West Covina, CA
Stewart, Gregory E., B.M.Sc., Stratford, ON, Canada
Thayer, Kristine J., M.D., Palmetto, FL
Thissen, Robert, M.D., Arnhem, Netherlands
Tran, Christy M., M.D., Wichita Falls, TX
Washington, Theressia L., M.D., M.S., West Hollywood, CA
Wiles, Benjamih, B.S., D.O., Fayetteville, NC

Pennsylvania U. Awarded Grant for Study of Space Radiation

The University of Pennsylvania School of Medicine has been awarded \$10 million over a 5-year period from the National Space Biomedical Research Institute (NSBRI). The grant establishes an NSBRI Center of Acute Radiation Research (CARR) studying the acute effects of space radiation. Crafts orbiting Earth, like the International Space Station, are better protected from space radiation by Earth's magnetic field. However, astronauts traveling to and living on the moon will run the risk of exposure to dangerous bursts of solar radiation, known as solar particle events. The radiation dose received will vary depending on whether the crew is inside the spacecraft or outside doing a spacewalk or moonwalk. These exposures can cause immediate effects, called acute radiation sickness. Reactions to this type of exposure include early symptoms, known as prodromal syndrome, characterized by nausea, vomiting, and fatigue, followed by potential skin injury and changes to white blood cell counts and the immune system.

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.

The research team will assess the acute effects of radiation exposure from solar events, better define the risks, and develop and test methods to protect astronauts. The CARR will consist of five focused research projects that will require the use of proton facilities located at University of Pennsylvania, Loma Linda University Medical Center, and the NASA Space Radiation Laboratory at Brookhaven National Laboratory.

In addition to radiation risks, NSBRI projects address other space health concerns, including bone and muscle loss, cardiovascular changes, neurobehavioral and psychosocial factors, remote medical care and research capabilities, and habitability and performance issues such as sleep cycles and lunar dust exposure. Research findings will also impact the understanding and treatment of similar medical conditions experienced on Earth.

NSBRI is a NASA-funded consortium of institutions studying the health risks related to long-duration spaceflight and developing countermeasures to mitigate the risks. The Institute's science, technology and education projects take place at more than 60 institutions across the United States. University of Pennsylvania Health System is a member of the NSBRI consortium.

— Release available at: www.nsbri.org/NewsPublicOut/Release.epl?r=113

SPACE MEDICINE ASSOCIATION NEWS

Space Life Sciences – NASA Johnson Space Center – Innovation and Integration

Jeffrey R. Davis, MD, MS, Director, Space Life Sciences, NASA Johnson Space Center

The Space Life Sciences Directorate (SLSD) at the NASA Johnson Space Center is implementing some exciting new changes in the integration and innovation of a complex technical body of work. The SLSD is comprised of professionals with a wide-variety of degrees from MDs and PhDs to engineering and business. Many technical disciplines are required as is experience with project and program management to provide services to all of our customers. In addition to the three major spaceflight programs of the Space Shuttle, International Space Station (ISS), and Constellation, SLSD is also the host to the Human Research Program (HRP). SLSD truly functions as a team with members from multiple NASA centers, Wyle Integrated Science and Engineering (and several subcontractors), Baylor (as host to the National Space Biomedical Research Institute), and the Universities Space Research Association. The team is comprised of approximately 160 civil servants and 900 contractors.

Short and especially long-duration human spaceflights are challenging to the human system and the professionals noted above that are responsible for maintaining the health and well-being of space travelers. Maintaining health and well-being requires not only medical services but also biomedical research to mitigate the hazards of spaceflight and technologies and services for environmental monitoring, habitability and human factors.

Integration

The SLSD has taken some recent steps to better integrate all of these professional services for human spaceflight and to focus our efforts on the highest priority human health and performance risks for various missions. We first started by viewing the human in spaceflight as a human system that had to be optimally integrated with vehicle systems. While the definition of the human system will vary with organizations outside NASA, for our purposes it means the risks to the human from a medical, physiological, performance, environmental (including radiation, fractional gravity, toxicology, and microbiology), human factors, and habitability standpoint. We have developed a comprehensive standards driven, risk-based system that focuses all our work on the highest priority human health and performance risks during spaceflight.

Our next step was to form an integrated Human System Risk Board and forum (HSRB). The JSC Chief Medical Officer chairs this HSRB but the HRP managers and managers from all SLSD divisions are active voting members. This board structure permits the integration of medicine and research as well as all technical disciplines in a decision-making board. The board focuses on the risks of human spaceflight; to have a comprehensive discussion many disciplines are usually required as well as the expertise from medicine

and research. Since forming this board in April 2008, we have made several timely decisions to rebalance the research portfolio, accept a risk with operational mitigation, and accept new risks based on new evidence. The board is open to many who cannot attend in person using telecon and Webex support.

Innovation

The SLSD leadership team also recognized the need to accelerate and diversify innovative strategies to solve short- and long-duration spaceflight problems. We recently placed a renewed emphasis on flying commercially available hardware that can be adapted to spaceflight and this year flew a commercial automatic external defibrillator (AED). We have plans to fly a commercial treadmill next year along with a gas chromatograph/ differential mobility spectrometer for air quality monitoring.

The SLSD is exploring techniques of open or distributed innovation as well. In April 2008, we collaborated with the Rice Business Alliance to offer the first-ever NASA Earth/Space Life Sciences prize. This prize is for a technology developed for terrestrial uses that may also have applications in spaceflight. The teams competing in the Rice Business Plan Competition have to demonstrate a solid technology and business plan to compete; 36 team finalists compete in Houston each spring. The winner of the 2008 NASA prize was the team HeartSounds from the University of Illinois, Chicago. Their technology is a wireless patch that can diagnose heart sounds and pressures and transmit the data to a small storage device for later downloading. This team recently visited NASA JSC on October 24, 2008. In the April 2009 competition, engineering will join with life sciences to expand the prize offerings.

Another innovative technique that SLSD is exploring is an open source approach to further develop a computational physiological model of the human body – the Digital Astronaut (DA). The rationale for using open source is the potential to accelerate the development of the DA in a cost effective manner. The use of open source allows for easier incorporation of previously developed sub models from the broader national/international community of model developers, and facilitates participation of interested model developers from inside and outside the NASA community. This approach has the potential to enrich the global knowledge base for computational physiological modeling. SLSD will be releasing the initial version of the Digital Astronaut mid 2009.

Other initiatives in open or distributed innovation included sponsoring workshops on open innovation with professors and material from the Harvard Business School in August 2008. These workshops focused on community based design and SLSD is now exploring various techniques to tap a larger community of expertise perhaps through national prizes.

These exciting changes in integration and innovation will truly position SLSD to be a

valuable provider of services for the human system for the ISS but also for future flights to the Moon and Mars.

SMA Jeff Myers Young Investigator Award

The SMA's Jeff Myers Young Investigator Award is presented to the primary author of an outstanding presentation in the area of Aerospace Medicine presented at the current Annual Scientific Meeting of AsMA. The work must be original and the young investigator must a first-time presenter. The applicant must submit a draft manuscript of their presentation to the chair of the Jeff Myers Young Investigator Award sub-Committee by March 15, 2009 to:

K. Jeffrey Myers, M.D.
Space Medicine Association
Young Investigator Award Chair
P.O. Box 540305
Merritt Island, Florida 32954
jmyers@chsmedical.com

New SMA Awards

The Space Medicine Association will introduce two new awards in 2009:

1) The Space Medicine Association Award for Journal Publication will be presented to a member of the SMA who is the first author of an article published during the previous calendar year in *Aviation Space and Environmental Medicine*. The Awards Committee will nominate candidates to the SMA Executive Committee who will select the recipient by a majority vote. The award will be presented at the SMA Annual Business Meeting.

2) The Space Medicine Association Scholarship, sponsored by Jeffrey R. Davis, has been established to support students who are pursuing educational objectives relative to space medicine. It will be awarded for the first time in 2009. The Scholarship will include a check for \$500 and a free registration for the recipient to attend the AsMA Scientific Meeting in May 2009. Application forms are due March 1, 2009. Forms and instructions can be found at the SMA website: www.asma.org/Organization/SMB/smb.htm

We look forward to supporting space medicine with these two new incentive programs beginning in 2009. Our thanks to the generous sponsors of our educational programs including individual contributors: Jeffrey Davis, Jeffrey Myers, Mark Campbell, Jon Clark, and Bob Ellis of Wyle Integrated Science and Engineering who have enabled support to the "Jeffrey Myers Young Investigator Award", and the new "SMA Scholarship sponsored by Jeffrey Davis".

Send information for publication on this page to:

Kim Barber
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Colleagues...Friends,

Happy 2009! I trust you all had a wonderful and blessed holiday. January is always difficult for most as winter is upon us, but before we know it, summer will be here and with it the 2009 AsMA scientific meeting. I am looking forward to hearing all the rich presentations, gaining new insights, and seeing old and new colleagues.

I thought I would take this month's column to discuss something somewhat unfamiliar, but vitally important to our patients and our practices. As we begin 2009, the economic crisis we face is having global implications for all. The unrest and instability is readily apparent as one cannot pick up a magazine or listen to television without reading or hearing about some type of violence or terrorist-related story. The sudden appearance of cases of anthrax following the terrorist attacks of the World Trade Center and the Pentagon on September 11, 2001, raised for the first time the very real and frightening possibility of bioterrorism on U.S. soil. Indeed, terrorist-related attacks have been documented worldwide.

Following the September 11, 2001 events, the threat of bioterrorism has become a practical concern for health care workers. These bioterrorism events caused by infectious agents will be challenging because healthcare workers will need to recognize unfamiliar infections and work long hours with limited resources in stressful conditions. During a bioterrorism event caused by biologic agents, hospitals, doctors, nurses, and public health professionals will be on the front lines of any attack providing care to infected patients. Are we as professionals prepared to face this kind of onslaught and survive? Do we know what to do to protect ourselves so we can protect others? Do we know what symptoms to look for and what steps to take initially to prevent the crisis from spreading to infect others?

There are several important issues to consider in addition to the actual diagnosis and management of patients infected with biological agents. Since nurses are the backbone of the healthcare system, initial recognition of bioterrorism-related events may be the role of nurses who are at the bedside, primary or specialty care clinics, schools, community/home health agencies, and other settings. Most likely, a bioterrorism attack would begin causing symptoms among people in an unsuspecting community. Nurses may be among the first to encounter such individuals infected by biological agents and must be knowledgeable regarding signs and symptoms as well as adequate history and circumstances that could lead to suspicion and diagnosis of bioterrorism infection. Rapid recognition and diagnosis is paramount in potentially saving thousands of lives, so nurses must know what to look for and how to respond accordingly.

Once you suspect a bioterrorism agent, who should you notify when an infection is suspected? It is crucial for rapid incident management and mitigation of public risk for every healthcare professional to know the appropriate individual to contact in such an emergency as well as the importance of following an established chain of command. Know your chain of command within your organizations for such an emergency including infection control and administration. In the U.S., once notified, the organization should in turn notify the State Health Department followed by the CDC and the FBI. Again, to allay damage and save lives, it is vital to know your organizational chain of command and be able to respond rapidly and successfully.

Education and training is peremptory if we are to respond effectively and efficiently. Proactively seek and participate in educational courses that provide a basic awareness of mass casualty management and provide the basic knowledge needed to respond to biological agents like small pox or anthrax. Cultivate a habit of being alert to unusual patterns developing, such as if you begin to see clusters of people with flu-like symptoms outside the flu season or unexplained skin rashes.

The Association for Professionals in Infection Control and Epidemiology Bioterrorism Task Force has identified the following as potential signs of a bioterrorism attack:

- A rapidly increasing disease incidence in a normally healthy population
- An epidemic curve that rises and falls during a short time
- An unusual increase in patients seeking care, especially those with fever, upper respiratory, or gastrointestinal complaints
- An endemic disease presenting uncharacteristically rapidly, at an unusual time, or in an unusual pattern
- An increased incidence of illness among patients who frequent the outdoors as compared to those who usually remain indoors
- Clusters of patients arriving from a single location
- Large numbers of rapidly fatal cases (Nevada RNformation, 2002)

The time to think about bioterrorism response is now, before another attack. Nurses chances of surviving a bioterrorism attack-- and the chances of their patients surviving-- will improve if you know what you do!

Kim Barber, MSN, MBA/HCM, RN
ANS President, 2008-2009

Join the Aerospace Nursing Society Today!

Dues are just \$10 (\$5 allied health professionals). For further information, contact:
Diane Fletcher, ANS Treasurer; 7401 Salem Dr., Columbus, MS 39705;
diane.fletcher@columbus.af.mil or
Fletcher4@charter.net

Aerospace Nursing Section Garrecht Award Information

The Brig. Gen. Claire Garrecht Award honors an ANS member for the best scientific paper presented during the Annual Scientific Meeting of the Aerospace Medical Association. This award, sponsored by Educational Enterprises, Inc., consists of a plaque and honorarium.

Criteria: Membership in the AsMA and ANS. Abstract must be submitted and accepted for presentation.

Procedure: Five hard copies (or a Word document) of the paper following the prescribed format (contact the committee chair for format) must be submitted to the Chairperson, Aerospace Nursing Section Scientific Program Committee by **April 15, 2009**:

Col. Charles Tupper
2326 Blue Shutter Rd.
Edisto Island, SC 29438
charles.tupper@gmail.com

MEETINGS CALENDAR 2009

January 11-15, 2009. D. Eugene Strandness Jr. Symposium: Diagnostic and Therapeutic Approaches to Vascular Disease; Wailea, Maui, HI. Info: www.strandness-symposium.com; strandness@administrare.com; 978-744-5005
March 24-26, 2009; 2009 International Conference on Fatigue Management in Transportation Operations: A Framework for Progress; Boston, MA. Hosted by the U.S. Department of Transportation's Human Factors Coordinating Committee under its Operator Fatigue Management Program. Info: http://hfcc.dot.gov/ofm/

April 26-29, 2009; American Occupational Health Conference; Manchester Grand Hyatt, San Diego, CA. For more information: www.acoem.org; e-mail: education@acoem.org.

May 3-7, 2009; AsMA 80th Annual Scientific Meeting; Westin Banaventure, Los Angeles, CA. Info: www.asma.org

June 25-27, 2009; Undersea & Hyperbaric Medical Society Annual Scientific Meeting; Crowne Plaza Los Cabos Grand Faro Beach Resort, Mexico. Info: Lisa Tidd/Stacy Rupert uhms@uhms.org; www.uhms.org

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