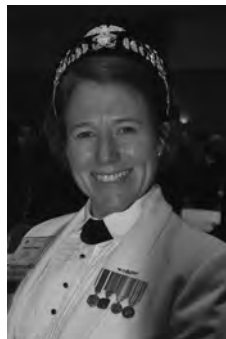


Honors Night, Reception, and After Party



PAST PRESIDENT GIFTS--(Top) Incoming President Philip J. Scarpa, Jr., presents outgoing President James Webb with a past president's gift of a clock. (Above) Fran Laue, wife of outgoing president Jame Webb pins him with the past president's pin.



Arrangements Chair--Deborah White models her tiara.



RECEPTION AND AFTER PARTY--The Honors Night Reception was held on the terrace and foyer of the Sapphire Ballroom at the Hilton San Diego Bayfront, May 15, 2014. Afterwards, the Charlie Arbelaez San Diego Jazz Quartet played as members danced and socialized. Pictured here are just a few of the 400 members and guests that attended the gala event.

AsMA Fellows Group Jeffrey R. Davis and AMSRO Scholarships

The Jeffrey R. Davis Scholarships, sponsored by the AsMA Fellows Group and Jeffrey R. Davis, were presented to four very deserving and outstanding students and residents in aerospace medicine.

James Pattarini

Dr. James Pattarini is Chief of Service and Assistant Professor in the Department of Internal Medicine at the University of Texas Medical Branch in Galveston, TX. Originally from Utica, NY, his educational background includes a B.S. in Evolutionary Biology with a minor in Chemistry from Syracuse University and an M.D. from the State University of New York at Buffalo, NY. He was accepted into the combined Aerospace Medicine/Internal Medicine residency program at UTMB in 2010, where he completed his M.P.H in 2013. Here he was chosen amongst his peers to serve as Chief of Service of internal medicine, and is continuing to pursue a career in aerospace medicine as he enters his final year of the aerospace medicine residency in 2014. During his residency training he served as one of the medical support crewmembers for the Red Bull Stratos Project under the supervision of Dr. Jonathan Clark, and has contributed to ongoing commercial space flight research at UTMB as part of the FAA's Center of Excellence in Commercial Space Transportation initiative.



ogy from the University of Washington, medical school at the University of Michigan, and Emergency Medicine residency at Stanford.



She has worked at NASA-Ames in astrobology, JPL in Planetary Protection for the Mars Exploration Rovers, Goddard in the Office of Higher Education, and JSC and KSC as an aerospace medicine clerk. Natacha also has international and wilderness medicine interests, having served as a Ski Patroller, a Peace Corps Volunteer (Turkmenistan, 2003-2005) and as a travel medicine clinician in Nepal. She is a Fellow of the Academy of Wilderness Medicine.

Nevine Mahmoud

Dr. Nevine Mahmoud, a second year resident, received her pre-medical and medical education at Cairo University, School of Medicine in Cairo, Egypt. After receiving her medical degree, she completed a residency in pediatrics in the Ministry of Health Hospitals, Cairo, Egypt. Subsequent to this, she continued her studies with a focus on medical treatment of childhood epilepsy and earned a master's of science degree.



She immigrated to the United States and became a visiting research fellow at Thomas Starzl Transplant Institute and the Gastrointestinal Institute at the University of Pittsburgh Medical Center. She continued her medical training in two residencies, Pediatrics

at Arnold Palmer Hospital in Orlando Regional Medical Center, Orlando, and Family Practice Residency at West Penn Forbes Regional Campus, prior to coming to Wright State.

Dr Mahmoud has been an avid teacher and has been an adjunct faculty member at Everest University, Tampa, FL, and Chatham University, Pittsburgh, PA. She taught Medical Law and Ethics, Anatomy and Physiology and Microbiology. Subsequently Dr. Mahmoud practiced as a civilian contractor in family medicine at remote sites of Elmendorf Air Force Hospital in Anchorage, AK, the Indian Health Services and Kwajalein Military Army Base in the Marshall Islands. There she provided medical care for pilots and studied hyperbaric medical emergencies and dive accidents. She has served as Chairperson for several committees including Morbidity and Mortality. Dr. Mahmoud has multiple oral and written presentations on topics focused on diet and disease as well as colon cancer risk. This was published in *Journal of Nutrition* during her research activities at the University of Pittsburgh.

She is an advanced and a rescue scuba diver and holds instructing medical certifications in Advanced Cardiac Life Support, Pediatric Advanced Life Support and Neonatal Advanced Life Support. Most recently, during her Aerospace Medicine Residency, she is the lead researcher in a project focused on advanced robotic prostheses in amputee pilots at the Civil Aerospace Medical Institute division of the FAA in Oklahoma City, OK. She gave a power point presentation during this AsMA meeting in May. She is scheduled to graduate in the summer of 2014.

Eric Blacher

Capt Eric S. Blacher, MD, MPH will be completing his Family Medicine Residency at Columbia University this June and will begin the Residency in Aerospace Medicine at the University of Texas Medical Branch this July. He is also proud to be serving in the United States Air Force Reserve as a residency trained flight surgeon with the 44th AMDF at Tyndall Air Force Base, Panama City, FL. Dr. Blacher recently participated in the AsMA panel discussion Tolerance of Acceleration Exposure for the Commercial Spaceflight Participant presenting his abstract entitled "Tolerance of Centrifuge-Simulated Suborbital Spaceflight in a Subject with Cardiac Malformation." Dr. Blacher looks forward to a long and fulfilling career in the field of Aerospace Medicine, and is extraordinarily grateful to be chosen as a recipient of the Jeffrey R. Davis MD Aerospace Medicine Endowed Scholarship.



Natacha Chough

Dr. Natacha Chough is a first-year UTMB aerospace medicine resident. Prior to this, she completed an undergraduate degree in biol-



DAVIS SCHOLARSHIPS--The Jeffrey R. Davis Scholarships, sponsored by the AsMA Fellows Group and Jeffrey R. Davis, were presented to four very deserving and outstanding students and residents in aerospace medicine. Pictured here are Drs. Jeffrey R. Davis (left) and James T. Webb (right) with recipients (center) Drs. James Pattarini, Natacha Chough, Nevine Mahmoud, and Eric Blacher.

Sirek Receives Davis International Scholarship

Adam Sirek, Dip. H.E. (Med. Sci.), B.Sc. (Hons.), M.D., M.Sc., was the 2014 winner of the Jeffrey R. Davis, M.D., International Aerospace Medicine Scholarship. Dr. Sirek is

currently a Resident Physician at St. John Hospital and Medical Center in Detroit, MI, and serves as an Officer in the Royal Canadian Air Force Reserves in Ottawa. He earned a B.Sc. (Hons.) in 2007 and then an M.Sc. in 2009 from the University of Toronto, Toronto, Ontario, Canada. He then earned a Diploma in Higher Education



(Medical Sciences) in 2010 from Northumbria University, Newcastle-Upon-Tyne, UK, and then his M.D. at St. George's University in Grenada, WI, in 2013. He served a Residency in Family Medicine at St. John Hospital and Medical Center, Detroit, MI, in 2013 after a year in an Aerospace Medicine Clerkship at NASA Johnson Space Center, Houston, TX, in 2012. He also served two Obeserverships, one in Rural Family Medicine and one in Rural Internal Medicine, in 2010 and 2011.

Dr. Sirek is an author or co-author of 18 papers and presentations. He has undertaken other medical training, including basic first aid and CPR instructor training, ITLS Basic Certification, ACLS Certification, American Heart Association Instructor and ACLS Instructor, and basic International Trauma & Life Support Instructor.

Dr. Sirek is a member of the Canadian College of Family Physicians, the American Academy of Family Physicians, the Canadian Medical Association, the Space Medicine Association, the Aerospace Medicine Students and Residents Organization (AMSRO), and the Aerospace Medical Association. His awards and honors include the Royal Canadian Legion Cadet Medal of Excellence, the Charles Hollenberg Summer Studentship and the Novo-Nordisk Scholarship from the Banting and Best Diabetes Centre, two Physiology Fellowship Awards and a 1st Place Research Award in Physiology from the University of Toronto, the International Peace Scholarship from St. George's University, two Operation Aquilus Flying Scholarships, a 1st Place Research Award from AMSRO, the Young Investigator of the Year from the Space Medicine Association, and a Fellows Scholarship from the Aerospace Medical Association.

Khpal receives AMSRO Travel Scholarship

Dr. Muska Khpal has received the Aerospace Medicine Student and Resident Organization (AMSRO) Travel Scholarship for 2014. Dr. Khpal plans to use the scholarship to attend the ECAM meeting in Bucharest, Romania, this fall.

Dr. Khpal is an Anaesthetics and Critical Care trainee at the North Central School of Anaesthesia in London. She graduated in Medicine from St George's University of London in 2010. Muska has a specialist interest in human physiology in extreme environments which she has pursued by completing



several rotations including the NASA Aerospace Research Rotation and the UTMB Aerospace Medicine Short Course. She has presented at UTMB on the subject of 'Psychiatry in Space' and has taken part on several research projects including

'Identification of Medical Training Methods for Exploration Missions' in collaboration with the NASA Human Exploration Program, and 'Tissue Oxygen Monitoring in Reduced Gravity' in collaboration with Oxford University. She has volunteered as a medical doctor on projects increasing her exposure to extreme human physiology including the London Marathon and Wings Over Houston Air Show. Muska has also volunteered on medical missions to Afghanistan and Columbia she she provided anaesthetic support under supervision and practiced resource limited medicine.

The Space Medicine Association Jeffrey Myers Young Investigators Award

The Space Medicine Association Jeff Myers Young Investigators Award (SMA JM YIA) is a competition intended for those making their first major efforts into Aerospace Medicine Research. To compete for this award, contestants must be making their first presentation of a scientific paper or poster at an AsMA meeting (excluding cases presented at Grand Rounds as a student resident); they must appear as first author on the paper; and they must prepare and submit a manuscript for judging. Finalists compete in a second phase of competition at the AsMA Meeting involving further evaluation of their presentation and interviews. The potential applicability of the findings to Space Medicine and the degree of involvement of the student in the project are major considerations. The finalists in this years' competition, selected from a near record 205 potential contestants, are richly talented and diversified (listed later in this article).

The winner of the 2014 SMA JM YIA is Robert A. Mulcahy, M.D. His paper, entitled

"Subject Anxiety and Psychological Considerations for Centrifuge-Simulated Suborbital Spaceflight," underscores the importance of addressing psychological concerns at an early stage of the flight preparation as well as early in the program itself. Robert, who has the nickname 'Father Mulcahy' from the MASH TV series, began his interest in space exploration at a young age when his grandparents took him to the Kennedy Space Center. Later he attended Rice University, the site of president Kennedy's famous speech challenging us to 'go to the moon,' there he graduated with a degree in chemical engineering. Robert then went to UTMB medical school and is now a resident in the combined Aerospace Med/Internal Med program at UTMB. The UTMB research team, under the guidance of Drs. Vanderploeg, Jennings, and now Castleberry, have taken the bold step of including subjects with a wide range of underlying pathophysiologies in their study populations to better predict and quantify the risks of spaceflight in a broader range of spaceflight participants. This has provided a valuable development opportunity for a number of Young Investigators in recent years.

The first runner up is Jessica Cruit, a Ph.D. candidate with degrees in Psychology and Human Factors from both Embry-Riddle Aeronautical University, Daytona Beach, FL, and the University of Central Florida in Orlando. Her paper, entitled "An Analysis of Past Mishaps to Consider Live-Virtual-Constructive Safety," was written in collaboration with the Naval Air Warfare Training Systems Division in Orlando, FL. The second runner up is Alicia Chacon, a third year Optometry student from the Rosenberg school of Optometry in San Antonio, TX. Her paper was entitled "Quantification of Color Vision on Windows 8 Tablet Displays." Young Hyo Kim, M.D.,

Ph.D., of Inha University in Incheon, South Korea, received Honorable Mention for his paper entitled "Acute Exposure to Hypergravity Could Induce Allergic Immune Response in a Murine Model of Allergic Asthma." I would like to thank the members of the YIA committee: John Darwood, Lloyd Tripp, Smith Johnston, Julie Sundstrom, Dwight Holland, and Cathy Dibiase.

As another memorable meeting draws to a close, former YIA winner Phil Scarpa assumes the office of AsMA President, former YIA runner up Charles Mathers becomes the deputy director of the UTMB Aerospace residency program, and a new generation of Young Investigators begins to make their mark toward the challenges of Space Exploration. Remember, if you want to do more than just exist, you must have a dream.

K. Jeffrey Myers, M.D.



JM YIA AWARD WINNER—Robert Mulcahy (center) receives the Jeff Myers Young Investigators Award from Jeff Myers (left) as Scott Parzynski, SMA President (right) looks on.



YOUNG INVESTIGATORS—(Left to right) Alicia Chacon (2nd runner-up); Jessica Cruit (Runner-up); Jeff Myers; James Pattarini (last year's Runner-up) standing in for Winner Robert Mulcahy, and Young Kim (Honorable Mention).

Space Medicine Association Awards 2014



DAVIS SCHOLARSHIP—Jeffrey R. Davis, M.D. (left), presents the plaque for the scholarship to Nevine Mahmoud (center) while Scott Parazynski, M.D. (right), SMA President, looks on.

Jeffrey R. Davis Scholarship

The Space Medicine Association Scholarship sponsored by Jeffrey R. Davis is awarded each year to a college, medical school, residency, or fellowship student. The purpose of the Scholarship is to encourage students who have demonstrated academic achievement and shown an interest in Space Biology and Medical Operations to further pursue a career in Space Medicine.

The winner of the 2014 Jeffrey R. Davis Scholarship is **Nevine Mahmoud**. She received her M.D. from Cairo University in Egypt, has completed residencies in Pediatrics and Family Medicine, and is now graduating from the Wright State University Aerospace Medicine Residency program. She presented research at the meeting on robotic neuro-prosthesis for pilot amputees.

Wyle Scholarship

The Space Medicine Association Wyle Scholarship is established in honor of Bob Ellis and in gratitude to the long-standing support of Wyle Laboratories. The Scholarship is awarded each year to an applicant in one of the disciplines supporting space medicine, such as biomedical engineering, spaceflight physiology, human factors re-



WYLE SCHOLARSHIP—Scott Parazynski, M.D. (left), SMA President, with the SMA Wyle Scholarship award winner, James Pattarini (right).

search, or nursing. The purpose of the Scholarship is to encourage interest in space biology and medical operations by individuals in these disciplines and to encourage those individuals to further pursue a career in or in support of space medicine.

The winner of the 2014 Wyle Scholarship is **James Pattarini**. He received his M.D. from the State University of New York at Buffalo and his M.P.H. degree from the University of Texas Medical Branch. He is currently an Internal Medicine/Aerospace Medicine resident at the University of Texas Medical Branch. He has published research papers on a variety of physiology problems related to the Red Bull Stratos Free Fall Project and Commercial Spaceflight.

Award for Journal Publication

The Space Medicine Association Award for Journal Publication is presented to an individual who is the first or primary author of an outstanding article on space medicine published in the official journal of the Aerospace Medical Association, *Aviation, Space,*



ACHIEVEMENT AWARD—Scott Parazynski, M.D. (right), SMA President, presents the President's Achievement Award to Steve Vander Ark (left).

and Environmental Medicine, during the previous calendar year.

This year's Journal Publication award goes to **Adam Sirek** for his article, "Doppler ultrasound of the central retinal artery in microgravity." The full citation is: Sirek AS, Garcia K, Foy M, Ebert D, Sargsyan A, Wu JH, Dulchavsky SA. Doppler ultrasound of the central retinal artery in microgravity. *Aviat Space Environ Med* 2014; 85:3-8.

President's Achievement Award

The President's Achievement Award is presented each year for contributions to space medicine and/or contributions to the Space Medicine Association. It is chosen solely by the current President of the Space Medicine Association.

This year the award goes to **Steve Vander Ark**. He has been the Secretary of the Space Medicine Association for the last 2 years, working tirelessly to keep the organization not only running smoothly but adapting to the many changes that continuously occur in a modern professional association. Steve is now the Space Medicine Association President-Elect.



HILTON SAN DIEGO BAYFRONT--Site of our 85th Annual Scientific Meeting.



ASMA STAFF--Gloria, Sheryl, Pam, Gisselle, and Rachel.



BANANAS OR PINEAPPLES?--The Dole ship from Honduras, moored next to our hotel, provided hours of amusement as we watched it being offloaded.

SoUSAFS & USAAMA 2014 Awards

The Society of U.S. Army Flight Surgeons (SoUSAFS) presented its awards at the U.S. Army Aviation Medical Association (USAAMA) luncheon on May 12, 2014, at the 85th Annual Aerospace Medical Association Scientific Meeting in San Diego, CA.

Theodore Lyster Award

MAJ John Gartside
3rd CAB BDE SURG, Hunter AAF, GA

The Theodore C. Lyster Award is named for BG Theodore Lyster, the Father of Aviation Medicine, who created the occupational specialty of the flight surgeon, the first aeromedical research laboratory, and promulgated the first military aeromedical standards while serving as the first Chief Surgeon of the Aviation section of the Army Signal Corps. The Society of U.S. Army Flight Surgeon's annual Theodore C. Lyster award is given to the flight surgeon or aeromedical physician assistant who has made the most outstanding contributions toward Aviation Medicine.

Spurgeon Neel Award

CPT Charles Ussery
3rd CAB, 2-3 GSAB SURG, Hunter AAF, GA

MG Spurgeon Neel laid down the foundation for medevac operations and was the Army's first aviation medical officer. He designed and was the first recipient of the Aviation Medical Officer badge. The Spurgeon Neel award is given annually to the most outstanding operational flight surgeon or aeromedical physician assistant.

Aerospace Medicine Specialist of the Year

COL Mark McPherson
USACRC - Safety Center - SURG, Ft Rucker, AL

Order of Aeromedical Merit

COL Andre Pennardt
Special Operations Command South, Homestead Air Reserve Base, FL

Outstanding Achievement Awards

COL Regina Curtis; MAJ Massimo Federico; MAJ Ronnie Holmes; MAJ Theresa Raposo; CPT Esther Benson



Lyster & Neel Awards—LTC Joseph Puskar presents the Theodore Lyster and Spurgeon Neel awards to LTC David Cole, who was accepting on behalf of the award winners from 3rd CAB.

Haley Award

USAAMA recognizes the most outstanding contribution to rotary wing aeromedical literature through the Haley writing award. This year's award went to **LTC Kristen J. Casto**, who could not be there.



Aerospace Medicine Specialist—LTC Joseph Puskar presents the Aerospace Medical Specialist of the Year award to COL Mark McPherson.



Aeromedical Merit—LTC Joseph Puskar presents the Order of Aeromedical Merit to COL Luis Rivero, accepting on behalf of COL Andre Pennardt.



President's Gavel—Outgoing USAAMA President LTC Nicole Powell-Dunford passes the gavel to Dr. John S. Crowley, incoming USAAMA President.

Aerospace Human Factors Association Awards

Stanley N. Roscoe Award

Torin K. Clark, Ph.D., was awarded the 2014 Stanley Roscoe Award for the best doctoral dissertation in the field of aerospace human factors. He received a B.S. in

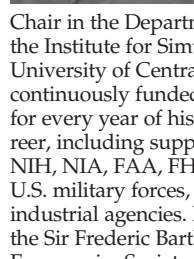


Aerospace Engineering from the University of Colorado at Boulder in 2008 and a M.S. and Ph.D. in Aeronautics and Astronautics from MIT in 2010 and 2013, respectively. His Ph.D. thesis was entitled "Human Perception and Control of Vehicle Roll Tilt in Hyper-

Gravity." He is currently a National Space Biomedical Research Institute (NSBRI) First Award Postdoctoral Fellow at the Jenks Vestibular Physiology Laboratory at the Massachusetts Eye and Ear Infirmary, part of Harvard Medical School. He is interested in the challenges humans encounter during space exploration missions. This includes bioastronautics, space human factors, and all things related to the vestibular system. His current research focuses on understanding individual differences in ability to adapt to altered gravity environments.

William E. Collins Award

Peter Hancock, Ph.D., received the 2014 William E. Collins Award for his paper, "In search of vigilance: the problem of iatrogenically created psychological phenomena," published in *American Psychologist*, Feb-Mar 2013, Vol. 68 (issue 2), pp. 97-109. Peter Hancock is Provost Distinguished Research Professor, Pegasus



Professor, and Trustee Chair in the Department of Psychology and the Institute for Simulation and Training at the University of Central Florida. He has been continuously funded by extramural sources for every year of his 30-year professional career, including support from NSF, NASA, NIH, NIA, FAA, FHWA, each of the major U.S. military forces, and numerous state and industrial agencies. In 2000, he was awarded the Sir Frederic Bartlett Award of the Ergonomics Society of Great Britain for lifetime achievement. In 2001, he won the Franklin Taylor Award from the American Psychological Association, and in 2003 he received the Liberty Mutual Medal of the International Ergonomics Association. He also holds the Jastrzebowski Medal of the Polish Ergonomics Society for the contributions to world ergonomics. Additional information concerning Dr. Hancock and his research program, especially his most recent work on human-robot trust relationships, can be found at <http://mit.ucf.edu>.

See *AsHFA*, p. 893.

Life Sciences and Engineering Branch Awards 2014

A. Howard Hasbrook Award

Phillip E. Whitley

This award, presented to Phillip E. Whitley, Ph.D., Criterion Analysis, Inc., recognizes an individual who has provided noteworthy data or design with respect to safety, survivability, or crashworthiness relevant to aircraft or space vehicles. It is sponsored by Sage Cheshire Aerospace, Inc.

Dr. Whitley developed a methodology to calculate a hazard severity score for spinal injury that incorporated the failure probabilities from structural element probabilistic failure analysis into a metric correlated to the standard hazard severity categories of negligible, marginal, critical, and catastrophic. The hazard assessment score is predicated on weighting the failure probability of the key structural elements involved in failure with respect to their impact on spinal cord function. The first area of application was in minimizing the injury potential and severity and maximizing the capability to escape and evade after aircrew ejection with helmet-mounted displays. In this operational hazard domain, Dr. Whitley confirmed the calculated hazard scores and severity category thresholds by comparison to historical ejection injury data as well as ejection tower and high speed sled test data with added head weight. He then generated an allowable center of gravity and weight limitation for added head weight that was based on a marginal hazard severity risk rather than test manikin injury assessment values. This hazard assessment methodology has been incorporated into a hazard assessment tool for neck injury that is being expanded into an assessment tool for total spinal injury from ejection and in the future for helicopter crash.

Professional Excellence Award

Brian T. Musselman

This award, presented to Lt. Col. Brian T. Musselman, who is currently the USAF 9th Physiological Support Squadron Commander, recognizes an individual who has produced outstanding research accomplishments or technical and/or research management achievements important to life sciences and/or biomedical engineering over a number of years. It is sponsored by the Life Sciences and Bioengineering Branch (LSBEB).



Hasbrook Award—Dr. Whitley (left) receives the Hasbrook award from LSBEB Past President CDR Deborah White (right).

Lt. Col. Musselman is a recognized expert in aerospace physiology, human performance, safety, and accident investigation. He led the U-2 full pressure suit and aircrew flight equipment operations; developed a series of fatigue management programs; established the U.S. Air Force Air National Guard Human Factors Safety Division; implemented the DoD Human Factors Analysis and Classification System (DoD HFACS) in USAF investigations; and was key to creation of the USAF Safety Center's Human Factors Division, including an additional aerospace physiologist.

There were several examples of Brian's role as a recognized investigation expert in his nomination package that would take too much space to relate here. Here's one highlight: The Air Combat Command (ACC) Director of Operations (DO) hand selected Lt. Col. Musselman to assist with the USAF reply to the DoD Inspector General for a fatal F-22A mishap. His aerospace physiology experience was paramount to the team's analysis, which he briefed to the Air Force Chief of Staff.

Research and Development Innovation Award

Ilaria Cinelli

This award, presented to Ms. Ilaria Cinelli, is given to an individual who has demonstrated innovative life sciences and/or biomedical engineering research as related to the design or development of aerospace medical equipment or systems. This award is sponsored by the David Clark Company, Inc.

Ms. Cinelli developed a model of cephalic (headward) fluid shifts associated with changes in orientation in zero gravity. While these fluid shifts are typically associated with minor subjective discomfort, recently a number of astronauts upon return from long-duration ISS missions have been identified to have ocular damage indicative of increased intra-ocular pressure (IOP) and suggestive of intracranial pressure (ICP) elevation. These issues must be understood and addressed before ISS missions can be extended in preparation for exploration class missions. This has led to NASA's instigation of the Visual Impairment/Intracranial Pressure (VIIP) project.



Professional Excellence—Lt. Col. Musselman (left) receives the Professional Excellence award from LSBEB Past President CDR Deborah White (right).

Ms. Cinelli and her colleagues at King's College sought to test the hypothesis that non-invasive (infrared) recording of nasal mucosa blood volume may act as a predictor of ICP and IOP. She modeled pressure-flow-volume relationships in various head compartments utilizing multiple five-element Windkessel models developed in MATLAB and within Simulink. She created a model that was consistent with published data and tested its validity in estimating nasal blood volume changes associated with rapid 60° head-up tilt and 10° head-down tilt from concurrent arterial blood pressure, stroke volume, cardiac output, and total peripheral resistance. She was able to validate non-invasive recording of nasal mucosa blood volume as a potential proxy of IOP and ICP within a constrained cephalic fluid shift model.

LSBEB Ross McFarland Student Award

Marc Studer

This award is given to the author of the best student research paper accepted by the AsMA Scientific Program Committee that reports on a significant achievement in biomedical engineering. There are no nominations for this award. The best abstract from those submitted by students each year is selected by a committee who rate the scientific merit, clarity of presentation, application of the findings, and scope of interest in research outcome. The McFarland Award is sponsored by Gentex Corporation.

The 2014 winner is Dr. Marc Studer of the Swiss 11th Fighter Squadron, Unterbach, Bern, Switzerland, for "Impact of adding 5% CO₂ to the respired gas on cerebral oxygenation [cerebral oximetry (NIRS)] and cognition (King-Devick Test) in hypobaric hypoxia." He presented his abstract on the afternoon of Wednesday, May 14, during the Aerospace Medical Association's 85th Annual Scientific Meeting in San Diego, CA.

Dr. Studer and colleagues previously demonstrated that the addition of 5% CO₂ to respired air in hypobaric hypoxia benefits motor coordination and vigilance. In their follow-up study, they examine the effect of added CO₂ on cognition at two different altitudes using the King-Devick Test (KD-test).

Six Swiss Air Force Pilots performed the KD-test in the hypobaric chamber. After a KD-

See *LSBEB*, p. 893



R&D Award—Ms. Cinelli (middle) receives the R&D award from Jack Bassick (left), representing the David Clark Company, and LSBEB Past President CDR Deborah White (right).

LSBEB, from p. 892.

Test baseline at ground level (1,440 ft), the test was carried out after three minutes hypoxia at 18,000 ft and at 24,600 ft. At both altitudes, each subject performed the test once breathing 21% O₂ and 79% N₂ and once adding 5% CO₂ in a randomized sequence. Tissue oxygenation index (TOI) was continuously measured by NIRS with a NIRO 300 (Hamamatsu Photonics).

KD-Test times were significantly shorter with CO₂ at 24,600 ft compared to the normal breathing mix. At 18,000 ft, there was no significant KD test time difference between the

two gas mixtures. TOI decreased to a greater extent with the normal breathing mix compared to adding CO₂ at 24,600 ft. This study showed mitigation of cognitive impairment during rapid hypoxia by adding 5% CO₂ at different altitudes. Carbon dioxide addition partially mitigated cerebral tissue oxygen desaturations during hypoxia objectively measured by NIRS, hence providing an objective physiologic measure that appears to correlate well with the observed performance improvements.

AsHFA, from p. 891.

Henry L. Taylor Founder's Award

Anthony P. Tvaryanas, M.D., D.Sc., was the winner of the 2014 Taylor Award. He has been active in Aerospace and Occupational Medicine for 16 years. He entered the Uniformed



Services University of the Health Sciences (USUHS) in 1993 following a year of work in industry as a research chemist. He was designated an Air Force Flight Surgeon in 1998 and completed his Residency in Aerospace Medicine in 2003 and Occupational and Environmental

Medicine in 2004. He served as a Squadron Medical Element flight surgeon with a KC-135 squadron during the air campaign over Kosovo and Serbia.

Dr. Tvaryanas has been active in human systems integration (HSI) and human performance research since his residency training and completed a Ph.D. in Modeling and Simulation in 2010 with a dissertation on HSI. A longstanding research interest over the past decade has been unmanned aircraft systems, including human-machine interface design, personnel selection, safety, and shiftwork and fatigue. He is presently involved in the development and fielding of a system to allow one pilot to control multiple MQ-9 unmanned aircraft during the transit phase of the mission. Other current work has focused on application of HSI to health information technology and process re-engineering of Air Force flight medicine workflows. He co-authored and is the first program manager for the Air Force Medical Service's (AFMS) Human Performance CONOPS, which outlines the health systems for understanding and sustaining the health and performance of subpopulations served by the AFMS. He also continues a small research portfolio exploring big data approaches to examine AFMS health outcomes.



Student Award—Dr. Studer (right) receives the McFarland Award from Paul Ninesfeldt (left), the Gentex Corporation representative.

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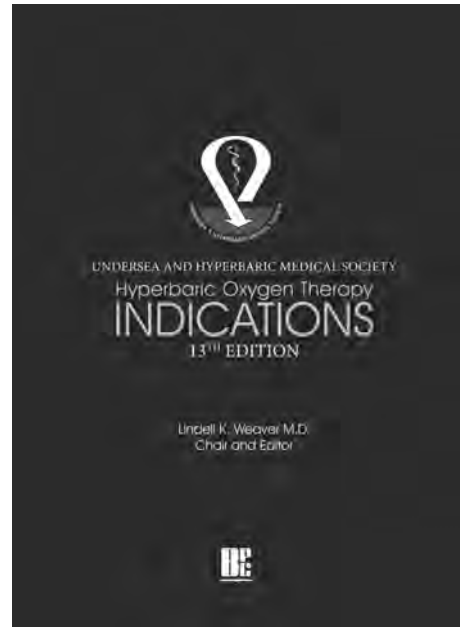
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Aerospace Physiology Society 2014 Award Winners

The Aerospace Physiology Society (AsPS) is proud to announce the 2014 winners of the Society's annual awards for excellence in operational aerospace physiology, aerospace physiology research, aerospace physiology leadership, and its Partnership in Education Award. The award recipients were announced during the 85th annual Aerospace Medical Association Annual Scientific Meeting in San Diego, CA, during the AsPS luncheon. The Society would like to acknowledge each of its award sponsors. Because of their generosity, each recipient is presented with a plaque and an honorarium. Additionally, the winner of the Fred A. Hitchcock Award is presented with a hardbound copy of "Barometric Pressure." This perpetual trophy is passed down to all Fred A. Hitchcock Award winners.

Paul Bert Award for Physiological Research

The award is presented annually for outstanding research contributions in the field of aerospace physiology. It is sponsored by Wyle.



This year the Paul Bert Award for Physiological Research is awarded to **Capt. Maggie Coppini, USAF, BSC.** Maggie's research study addressed the question of how onset rate affects subjective symptom identification and physiologic response using the Reduced Oxygen Breathing Device. The results indicated that 50% of the population sample experienced different subjective symptoms and objective signs of hypoxia, depending on onset rate. Maggie's research has been vital to the maturation of aviation hypoxia training for both military and civilian aviators.

Fred A. Hitchcock Award for Excellence in Aerospace Physiology

The award is presented annually for excellence in either operational physiology or physiological research. This award is sponsored by International ATMO, Inc.



This year the Fred A. Hitchcock Award for Excellence in Aerospace Physiology is awarded to **Capt. Matthew Hebert, USN, MSC,** in recognition of his contributions to international aerospace physiology, especially in 2013. Matthew was

hand-selected by BUMED Surgeon General as Specialty Leader for Naval Aerospace and Operational Physiology Programs 2011-2013, managing 288 aviation survival training systems and 285 personnel at 8 CONUS Training

sites. Additionally, he is a key member of 5 major DoD/Joint/US Navy working groups producing tangible products to fleet war-fighters. He has been an active member and Associate Fellow of the Aerospace Medical Association and Aerospace Physiology Society for over 20 years, and is previous President, Vice President, Secretary and Senior Journal Editor for the Society of United States Naval Aerospace Physiologists.

Wiley Post Award for Operational Physiology

The award is presented annually for exceptional service and achievements in operational physiology, including education and physiological support. It is sponsored by Gentex Corporation.



This year the Wiley Post Award for Operational Physiology is awarded to **Maj. Shawnee Williams, USAF, BSC.** Shawnee established one of the first operational

Reduced Oxygen Breathing Device hypoxia training courses incorporating airframe specific simulator based refresher training. During the Consolidated Unit Inspection, Shawnee was awarded a 'best practice' for the CV-22 aircrew enhanced ROBD program and her Wing's Aerospace Physiology program was rated 'excellent'. Additionally, Shawnee received the AETC Brigadier General Wilma Vaught Leadership and Biomedical Specialist of the Year award.

Partnership in Education Award

The Partnership in Education Award is awarded to a teacher in a school district of the

host city for the AsMA Annual Scientific Meeting. The winner is recognized as an individual who has brought a unique approach to teaching science in the classroom and has inspired his or her students to an interest in science. It is sponsored by the Aerospace Physiology Society.

This year the Partnership in Education Award was presented to Mr. Scott Swaaley. Scott teaches 9th grade Physics and Engineering at High Tech High in the San Diego Unified School System. He teaches physics and engineering principles through complex interdisciplinary projects and leads his students to discoveries that will enable them to be the leaders in science in the future. During the projects, students develop perseverance and grit as they work to propose, design, and fabricate complex engineering systems.

Through Scott's class projects, students develop skills like programming, carpentry, and electrical engineering while studying concepts including buoyancy, circuit design, and aeronautical engineering. During an exploratory session, Scott led a group of 28 students through the complete fabrication of radio controlled aircraft, including flight training and learning to deal with physiological stress response during tense airborne maneuvers.

Join AsPS!

Benefits include outstanding network potential; the chance to gain knowledge from the field's top minds; the opportunity to take part in forums for the integration and utilization of experts in many diverse professional fields; the opportunity to recognize scientific achievement in the field of aerospace physiology; and the chance to contribute to the success and quality of the annual AsMA conference. Membership is only \$15. For more information, please visit the website at: <http://aspsociety.org/>.



Partnership in Education—Mr. Scott Swaaley poses, holding the plaque, with one of his classes.

Send information for publication on this page to: **Corporate News**
Aerospace Medical Association
320 S. Henry Street
Alexandria, VA 22314-3579

NEWS OF CORPORATE MEMBERS

Exhibitors at AsMA's 85th Annual Scientific Meeting in San Diego, CA

The Welcome Reception was held in the Exhibit Hall. AsMA would like to sincerely thank all those who exhibited at our annual meeting. Pictured on these pages are some of our loyal corporate members who exhibited during the meeting.

All photos are by Pamela Day.



NEWS OF MEMBERS

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pday@asma.org

Cdr. Walter W. Dalitsch, III, M.D., M.P.H., USN, has been transferred from Naval Air Station North Island, San Diego, CA, to Great Lakes in North Chicago, IL. His new position is Assistant Director of Specialty Care at Lovell Federal Health Care Center.

Virginia Wotring, Ph.D., was recently named Scientist of the Month for May 2014 at Universities Space Research Association's (USRA) Division of Space Life Sciences. She was honored for her poster entitled "Effects of radiation exposure and dietary iron on liver metabolic gene expression." The poster explored the effects of spaceflight on liver enzymes. The announcement can be found at <http://www.dsls.usra.edu/> and the poster can be seen at <http://www.dsls.usra.edu/science/posters/Wotring0614.pdf>.

New Members

Alabdulkarim, Ali, Dr., Isa Town, Bahrain
 Anderas, Per R., Dr., Green Bay, WI
 Annamalai, Saravanan, Lt. Col., USAF, Southampton, PA
 Boucher, Jeromy, LT, USN, MC, Pensacola, FL
 Braunecker, Stefan, M.D., Cologne, Germany
 Carvil, Philip A. T., London, UK
 Criales, Angela, Bogota, Columbia
 Doubrava, Matthew, LCDR, USN, M.D., Pensacola, FL
 Fischer, Stephen, LCDR, USN, Sebastopol, CA
 Hall, Blaine, PA-C, Pittsboro, NC
 Harris, Cindy, Lt. Col., USAF, M.D., Peoria, AZ
 Harris, Tyler E., LTC, USA, M.D., Vass, NC
 Haughton, Valni, M.B., Ch.B., Lantau, Cathay City, Hong Kong
 Hoffman, Roy, M.D., Pensacola, FL
 Laryea, Joseph, M.D., Accra, Ghana
 Luby, Michael, Maj., USAF, B.A., Fairborn, OH
 Mears, Kristian, Wg. Cdr., MSC, RAF, Lyneham, UK
 Mine, Masataka, M.D., Wright-Patterson AFB, OH
 Mohiuddin, Sohaib A., M.D., Bel Aire, KS
 Newbold, Paul R., Lt. Col., USAF, M.D., Charleston, SC

Palmer, Barbara, M.S., Dayton, OH
 Pingali, Sravan, Ballarat, Victoria, Australia
 Rampen, Melissa, Ms., Depok, Indonesia
 Robinson, Jacob, CPT, USA, Pensacola, FL
 Saehle, Terje, M.D., Oslo, Norway
 Schick, Rafael, Dr. med., Fuerstenfeldbruck, Germany
 Schultheiss, Christopher, LCDR, USN, Pensacola, FL
 Sonetti, Sara, Dr., Sorocaba, Brazil
 Suzuki, Go, Dr., Tsukuba Ibaraki, Japan
 Varga, Abigal, M.D., APO AE
 Wadell, Franklin D., Lt. Col., USAF, M.D., O'Fallen, IL
 Wang, Yawei, Beijing, China

MEETINGS CALENDAR

August 22-24, 2014; 54th Annual Conference of Indian Society of Aerospace Medicine (ISAM); IAM, IAF, Bangalore, India. For more information, please visit <http://www.isam.in/>.

August 25-28, 2014; The 9th Asia Pacific Congress of Aerospace of Medicine in conjunction with the 10th Chinese Conference of Aerospace Medicine; Beijing, China. For more information, please contact Prof. Wang Zhixiang or visit <http://www.apfama.org/2014>.

September 5-7, 2014; European Conference in Aerospace Medicine (ECAM) 2014 - "Mind the Gap"; Novotel Bucharest City Center Hotel, Bucharest, Romania. For more information, please see <http://www.esam.aero/ecam2014/info>.

October 12-16, 2014; 62nd International Congress of Aviation and Space Medicine (ICASM 2014); Mexico City, Mexico. For more information, please visit <http://www.icasm2014.org>.

October 27-31, 2014; Human Factors and Ergonomic Society's (HFES) International Annual Meeting 2014; Hyatt Regency Chicago, Chicago, IL. For more information, please visit <http://www.hfes.org/web/HFESMeetings/2014annualmeeting.html>.

November 3-5, 2014; 52nd Annual SAFE Symposium; Caribe Royale Hotel & Convention Center, Orlando, FL. Please see the Call for Papers - deadline for abstract submission is July 25, 2014. For more information, please visit <http://www.safeassociation.com/index.cfm/page/symposium-overview>.

November 11-13, 2014; International Air Safety Summit (IASS) 2014; Abu Dhabi, UAE. Sponsored by the Flight Safety Foundation and hosted by Etihad Airways. Please see the Flight Safety Foundation's website for more information.

February 25-28, 2015; Preventive Medicine 2015, the annual meeting of ACPM; Atlanta, GA. For more information, please visit <http://www.acpm.org/event/id/424092/Preventive-Medicine-2015.htm>.

COUNCIL, from p. 882.

that the President-elect has the authority to name committee chairs at whim. It was determined that the P&P manual needs to reflect what is in the bylaws. Many new committee chairs were appointed by the incoming president.

The complete list of chairs follows:
 Aerospace Human Factors Committee-- Stephen Veronneau, M.D.; Air Transport Medicine Committee--Paolo Alves, M.D.; Aerospace Safety Committee-- Eduard Ricaurte, M.D.; Awards Committee--Jeff Myers, M.D.; Bylaws Committee--Denise Baisden, M.D.; Communications Committee--James DeVoll, M.D.; Corporate and Sustaining Membership Committee--Peter Lee M.D.; Education and Training Committee--Alex Garbino, M.D., Ph.D.; Finance Committee--Hernando "Joe" Ortega, M.D., M.P.H.; History and Archives Committee--Walter W. Dalitsch III, M.D., M.P.H.; International Activities Committee--Philip Buys, M.B.; Membership Committee--Joseph P. Dervay, M.D.; Nominating Committee--P. Glenn Merchant, M.D., M.P.H.; Resolutions Committee--Chuck DeJohn, D.O.; Science and Technology Committee--Bill Fraser, M.Sc.; Program Committee--Justin Woodson, M.D.; Arrangements--John Darwood, M.D.; Registration--Jay Phelan, M.D.

An ad hoc committee for social media will be chaired by Dan Buckland.

ABSTRACT SUBMISSION SITE OPENS SEPTEMBER !

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AOHC 2015 Call for Papers May 3-6, 2015; Baltimore, MD

ACOEM is accepting concurrent session proposals and abstract submissions for the 2015 American Occupational Health Conference (AOHC 2015).

Submission deadlines are as follows:
 Concurrent session proposals are due by **August 3, 2014, 11:59 PM CT**
 Scientific abstracts are due by **November 9, 2014, 11:59 PM CT**
 Resident abstracts are due by **February 15, 2015, 11:59 PM CT**

For more information, please visit <http://www.acoem.org/aohc2015-abstracts.aspx>.