



# Ever Upward: July 2015

## 2015 Award Winners of the Aerospace Medical Association

Honors Night Ceremonies of the 86th Annual Scientific Meeting of the Aerospace Medical Association were held May 14, 2015, at the Walt Disney World Dolphin Resort Hotel. Nineteen awards for outstanding contributions in aviation and space medicine were presented. The presentations were made by Philip J. Scarpa, Jr., M.D., M.S., President of the Aerospace Medical Association, assisted by the chair of the Awards Committee, Dr. Jeff Myers, Cathy DiBiase, R.N., and Al Parmet, M.D. The winners were recommended by the Awards Committee and approved by the Executive Committee of the Aerospace Medical Association.

### LOUIS H. BAUER FOUNDERS AWARD

#### David J. Schroeder, Ph.D.

*This award was established to honor Louis H. Bauer, M.D., founder of the Aerospace Medical Association. It is given annually for the most significant contribution in aerospace medicine. It is sponsored by the Mayo Clinic.*



David J. Schroeder, Ph.D., was the 2015 recipient of the Louis H. Bauer Founders Award for his significant contributions to the field of aerospace medicine as a leader, scientist, and mentor. He is recognized worldwide for his seminal research on the effects of alcohol and vestibular physiology. He has also contributed significantly to the understanding of stress and fatigue associated with air traffic controllers. Additionally, he has influenced a generation of scientists and leaders in aviation medicine and psychology.

Dr. Schroeder's list of more than 25 awards portrays a leader whose significant contributions to aerospace medicine have been recognized by colleagues and peers within the community. While his leadership credentials are without peer, his scientific contributions reveal a consummate scientist within aerospace medicine.

Dr. Schroeder spent most of his formative years in a small Mennonite community in central Kansas. He attended Tabor College and graduated with a degree in psychology in 1964. He then obtained a master's degree from what was then called Emporia State Teachers College in 1967. While attending the University of Oklahoma for his doctoral degree, he worked as a research assistant for a contractor at the FAA's Civil Aeromedical Institute (CAMI), after which he served as a psychology technician and research psychologist. He completed his dissertation and received his doctorate in psychology in 1971. In 1972 he moved to Norfolk, NE, where he completed a post-doctoral internship at the Norfolk Regional Center. Dr. Schroeder then moved to Murfreesboro, TN, where he worked as a clinical psychologist at the VA Medical Center for 2 years. He then accepted a clinical position at the VA Medical Center in Topeka, KS, from 1975-1980. In 1980, he returned to CAMI as a clinical research psychologist, remaining there until his retirement in 2008.

Throughout the 70s and early 80s it was his groundbreaking investigations of the effect of alcohol and prescription drugs on vestibular function that contributed to flight standards within aviation. While Dr. Schroeder's work within vestibular physiology may represent a career for many, his significant work was far from done. Shifting his focus to air traffic controller (ATC) performance, Dr. Schroeder's efforts throughout the 90's led to new ATC screening tools and an understanding of the role of stress and fatigue in controllers. From 1990-1994, he had the opportunity to serve as a member of the U.S.-Russia (USSR) Aviation Medicine Human Factors Working Group. With support from Dr. John Stern at Washington University in St. Louis and the Russian scientists, they completed investigations of the relationship between eye movements and performance on a vigilance task. From 1991 to 2008, Dr. Schroeder served as manager of the Aerospace Human Factors Division. As manager, he helped direct several high profile projects that were initiated in response to Congressional actions. These included research associated with the Age 60 Rule, fatigue in air traffic controllers, and fatigue in flight attendants.

Still, the measure of any scientist is how he influences succeeding generations in the field. Perhaps this is Dr. Schroeder's crowning achievement as he has mentored scientist/leaders (Presidents, Vice-presidents, and numerous other offices) in aviation, medicine, and psychology and has instilled the heart of aerospace medicine in countless others. His contributions are also evident in the expansion of the Aerospace Human Factors Research program

within CAMI: initiation of a program of research on general aviation human factors that included a computer-based simulator, a reconfigurable advanced general aviation simulator as well as a vertical flight general aviation simulator. Expanded efforts in other areas included the introduction of the human factors analysis and classification system to assess general aviation accidents, an ATC simulator, research addressing commercial unmanned aerial vehicles, the capability to re-create air traffic control incidents (SA TORI) that was implemented in each of the FAA's en route centers.

Throughout his career, Dr. Schroeder has maintained active involvement with several professional organizations. He served on the Board and as President of the Oklahoma Psychological Association in 1992. A Fellow of the American Psychological Association, he served as President of the Continuing Professional Development Section of the Division of Clinical Psychology from 1981-1982. Additionally, he was their representative to the Division 12 Board of Directors from 1984-1986. In 1984 he served as Director of the Division 12 Post-Doctoral Institutes. In 2002-2003, he served as President of the Division of Applied Experimental and Engineering Psychology. From 1994-1995, he served as President of the Aerospace Human Factors Association.

A Fellow of AsMA Dr. Schroeder has served on Council, as Vice-President, and as President in 2003-2004. He has served on 11 committees, including more than 30 years on the scientific program committee, which he chaired in 1990/1991. He also served as chair of the Aerospace Human Factors Committee (97-2000). He is author/coauthor of numerous scientific presentations, including over 60 at annual meetings of the Aerospace Medical Association.

Although he retired in 2008, he has remained active in the Aerospace Medical Association, the International Academy of Aviation and Space Medicine, and the American Psychological Association. He has also continued to review books for PsychCRITIQUES and manuscripts for the journal Aerospace Medicine and Human Performance. His awards include the Henry L. Taylor Founders Award from the Aerospace Human Factors Association in 2001, the Raymond F. Longacre Award from the Aerospace Medical Association in 1997, and the 2011-2012 edition of Who's Who in Science and Engineering.

### BOOTHBY-EDWARDS AWARD

#### Nomy Ahmed, M.B.,Ch.B., M.Av.Med., MRCGP, DOccMed, DRCOG, DFFP

*Established in memory of Walter M. Boothby, M.D., pioneer aviation medicine researcher, and Howard K. Edwards, M.D., clinical practitioner of aviation medicine, this award is presented annually for outstanding research and/or clinical practice directed at the promotion of health and prevention of disease in professional airline pilots. (The separate Boothby and Edwards Awards were given annually 1961-73, and then alternately until 1985.) Sponsored by Harvey W. Watt and Company.*



Nomy Ahmed, M.B.Ch.B., M.Av.Med., MRCGP, DOcc.Med., DRCOG, DFFP, was the recipient of the 2015 Boothby-Edwards Award for his outstanding contributions to the promotion of commercial pilots' health through his work as Senior Aeromedical Examiner with Emirates Airline Group Medical Services. He is an active member of the international aeromedical community and has presented many papers at international forums.

Dr. Ahmed is a UK-born and trained doctor and, before joining Emirates in 2006, he was Principle GP and co-owner of Bulwell Medical Health Centre in Nottingham, UK, where

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he was part of a three-doctor team. He completed his Masters in Aviation Medicine in 2008 following his Diploma in Occupational Medicine and Family Practice training in the UK.

Dr. Ahmed has researched areas of commercial aviation medicine and presented locally in the Middle East and at international conferences such as AsMA, ICASM, IATA, CAPSCA, and UK CAA seminars. For example, he was involved in assessing and relicensing pilots with mood disorders. In conjunction with the GCAA and local Psychiatrists and Psychologists, he developed protocols to safely allow return to flying for aircrews stable on medication having suffered from mood disorders which has resulted in improved productivity, saving at least 3000 pilot days without compromising safety since its introduction. He was the project manager regarding the use of in-flight telemetry for medical ailments on board commercial aircraft. Emirates Airline has been the leading user for on-board telemetry and telemedicine. The processes for the multi-million dollar program has been enhanced and audited and aided in several high profile cases. The systems involve negotiating with five external global communications and logistics companies, and internal departments covering engineering, legal, in-flight services, training and maintenance. He provided medical FRMS assessments and the effects of Pandemic viruses like MERS and Ebola on commercial operations having a consultancy role for Emirates Airline group regarding pandemic planning covering aircrew health, prevention strategies, education, communication, assessment processes and aircraft hygiene. This resulted in successful management of H1N1 pandemic influenza outbreak; the recent Middle East Coronavirus (MERS CoV) cases and the on-going Ebola risk. Local, national and international expertise was sought and developed into the airlines operations plans to ensure compliance with federal and international travel requirements without disruption to the airline's operations.

Some of Dr. Ahmed's other key areas of achievement have been: researching the effects of aging on pilot health; developing fatigue risk management strategies and assessing sleep apnea; licensing of pilots with color vision deficiencies; initiating a weight management program to counter the health effects obesity among pilots; assessing cosmic radiation exposure rates in commercial aircrews. He is also particularly proud to have helped set up a HIMS type program for substance use issues for his airline and continues to research how to improve performance among commercial pilots.

Dr. Ahmed's awards include the Emirates Group Najm Award (Bronze in 2009, Appreciation in 2012, and Silver in 2012) and four awards from the General Civil Aviation Authority: an Appreciation Award in 2009, an Appreciation Award for Occupational Aspects of Aviation Medicine in 2011, a Certificate of Appreciation in 2011, and a Best MRO Award in 2013. He has continued his education by taking a Leadership Master Class for Healthcare Professionals in 2010 and a Train the Trainer course, also in 2010.

### JOHN ERNSTING AWARD

**Prof. Henri Marotte, Dr.Med., Sc.D.**

*Established and sponsored by Environmental Tectonics Corporation in memory of Professor Ernsting. It is given for outstanding research in altitude physiology, and/or longstanding exceptional performance in the education, development, and administration of Aerospace Medicine and related specialties.*



Prof. Henri Marotte, Dr.Med., Sc.D., was the 2015 winner of the John Ernsting Award, for his accomplishments in research on the pathophysiological effects of flight, thermal constraints, biological rhythms, altitude and acceleration, and man-system interfaces (sometimes as a human subject). Formerly chief of the Aerospace Medical Laboratory of the French Flight Test Center, at present he is director of the Aerospace Medicine Education Service in the University of Paris, member of the Medical Council of Aviation Medicine,

and consultant for industry.

A native of Lons-le-Saunier, France, Henri Marotte graduated from medical school in 1972 and received a doctoral degree in sciences in 1979. In 1982 he became a Professor of Physiology. In the late 70s, he worked on thermal physiology and circadian rhythms; he was then designated as responsible for high altitude activity in the French Flight Test Center. In the 80s, he was responsible for the testing and certification of a multitude of flight equipment, to include oxygen systems for the Alpha-Jet, Mirage 2000, and the Rafale. He performed the high-altitude tests for the pressure suit for the Mirage 2000, including himself as a subject in rapid decompression chamber tests up to 75000 ft. He was also in charge of testing various oxygen systems for military and civil transport aircraft. He developed the Positive Pressure Breathing schedule currently used in these systems. In addition, he assessed the risk of

rapid decompression in transport aircraft to 45000 ft in order to adapt equipment and procedures. In the field of acceleration, he was involved in the study of positive pressure breathing for G and anti-G protection for fighter pilots. Since 1990, as a head of medical services for the Flight Test Center, he was a member of the French Medical Board of Civil Aviation, and a member of investigation boards for several aircraft mishaps. Since 1999, he has also been responsible for teaching aerospace medicine at the University of Paris, and Human Factors in engineering schools, to air transport pilots, and to various companies.

For 20 years, Dr. Marotte was the French representative to the NATO Aeromedical Working Group and, since 1992, a member of SAE A-10 committee (Aircraft Oxygen Equipment), regarding protection in high altitude environments.

Dr. Marotte is President and formerly General Secretary of the French Aviation and Space Medicine Society and a past president of the French Ecophysiological Society. His awards include the Légion d'Honneur (Chevalier), the French Merit Order (Chevalier), the Aeronautics Medall, and the Academic Palms (Officer).

### KENT K. GILLINGHAM AWARD

**Mica Endsley, Ph.D.**

*This award was established and sponsored by the AMST Group of Companies in Austria and the United Kingdom to honor the memory of Kent K.*

*Gillingham, M.D., Ph.D. The award is presented annually to an individual who has made a significant contribution in the field of spatial disorientation and situational awareness related to flight.*



Mica Endsley, Ph.D., Chief Scientist, U.S. Air Force, was the recipient of the 2015 Kent K.

Gillingham Award for her outstanding contributions to situation awareness as it relates to general and military aviation. Her spatial disorientation research and development of situation awareness models have had a significant impact on aviation safety. Additionally, her cognitive theory of pilot situation awareness has led to numerous other successful applications, including command and control, air traffic management, and human systems integration.

Dr. Endsley is a recognized world leader in the design, development and evaluation of systems to support human situation awareness (SA) and decision-making. Since the early 1990s her name has been synonymous with the term SA due to her seminal work in developing the first definition of an SA construct, methods of measuring SA, and an R&D program for finding ways to enhance this critical area through system design. Her usercentered design approach, as explained in her textbook, first published in 2003 and updated in 2012, has played a vital role in successfully integrating aircrew with their aircraft, their aircraft with other aircraft, and aircrew with air control personnel. Further contributions to the field include research related to auditory localization for spatial orientation, SA in future aircraft cockpits, command and control, information dominance in distributed teams in battlefield scenarios, training for SA, and the development of advanced decision support systems for enhancing SA. Dr. Endsley has led numerous projects on issues related to SA including investigations expertise and errors in SA, SA requirements analyses across multiple domains, development and validation of the Situation Awareness Global Assessment Technique for objectively measuring SA, investigations of the effect of free flight, studies of the effects of automation on SA and human performance, and the development of approaches for integrating humans and automated systems. Recent work involves her chapter, "Situation Awareness in Aviation," in the "Handbook of Aviation Human Factors" and extending her cognitive model of SA into computational models for decision support and system design evaluation. She is the author of over 200 scientific articles and reports on SA, decision-making and human systems integration.

Dr. Endsley received her B.S. in Industrial Engineering from Texas Tech University, Lubbock, TX in 1982, her M.S from Purdue in 1985, and her Ph.D. from University of Southern California, Los Angeles, in 1990. She has worked as an Engineer, Assistant Program Manager, and Manager of Situation Awareness IRAD Program for Northrop Corporation; been Assistant Professor and Associate Professor of Industrial Engineering at Texas Tech; visiting Associate Professor, Aeronautics and Astronautics, MIT, Cambridge, MA. From 1997-2013 she was President and CEO of SA Technologies, a cognitive engineering firm specializing in the development of operator interfaces for advanced systems, including the next generation of systems for aviation, air traffic control, medical, power, oil and gas, and military operations.

In 2013 Dr. Endsley was appointed Chief Scientist of the U.S. Air Force in Washington, DC. The position of the Chief Scientist was created over 60 years ago to provide independent scientific advice to the Secretary of the Air Force and the Chief of Staff of the Air Force, as well as to its senior leadership. In this role, she works with the top scientists and engineers within the Air Force as well as in academia, industry, and the other armed services to ensure the Air Force's research and development efforts remain relevant and effective. Additionally, as the Chief Scientist she responds to any tasking from the Secretary of the Air Force and the Air Force Chief of Staff on issues or opportunities of a scientific and technical nature that may arise. Dr. Endsley is the first human factors engineer and the first female to serve as Chief Scientist.

Dr. Endsley is a Fellow and Past-President of the Human Factors and Ergonomics Society. She is the founder and former Editor-in-Chief of the Journal of Cognitive Engineering and Decision Making and serves on the editorial board for three major journals. Dr. Endsley received the Human Factors and Ergonomics Society Jack Kraft Innovator Award in 2003 for her work in situation awareness.

### **WALTER AND SYLVIA GOLDENRATH AWARD** **Col. Donald J. White, USAF(Ret.), FRAes, FAShFA, FASMA**

*Established in memory of CAPT Walter L. Goldenrath, MSC, USN(Ret.), this award is presented for the most significant contribution in the field of aerospace physiology. It was created at the bequest of CAPT Goldenrath and is funded by the Walter and Sylvia Goldenrath Endowed Fund.*



Col. Donald J. White, USAF (Ret.), FRAes, FAShFA, FASMA, was the 2015 recipient of the Walter and Sylvia Goldenrath Award for his exceptional leadership directing re-engineering, transformation, and modernization of the USAF Aerospace and Operational Physiology Program. As Associate Corps Chief and Surgeon's Consultant, he integrated the program's historic aircrew training foundation with enhanced human performance and human factors applications. His guidance led the Air Force Chief of Staff to establish a Lead Command,

Training System Program Management and designation as a Non-Aircraft Weapon System. He has had an operational career that included assignment experience in acquisition, research, development, test and evaluation, education, aircrew training, operational physiology, and operational safety.

Col. White retired June 2012 as Assistant for Aviation, Operational Safety and Human Performance, Office of the Deputy Under Secretary of Defense, Installations and Environment, Environmental Readiness and Safety. He entered the Air Force by direct commission in 1984 and completed the USAF School of Aerospace Medicine Aerospace Physiology officer training course in 1984. He is a High Altitude Low Opening and Static Line Master Parachutist with over 4,500 parachute deployments. As a human factors and human performance consultant, he has participated on 14 Class A Safety Investigation Boards, 2 Accident Investigation Boards, and 4 Medical Incident Investigation Boards. He was also selected as a human factors, crew survivability and life science investigator for the Columbia Accident Investigation Board.

Col. White was inducted into the USAF Safety Hall of Fame in June 2012. He is a member of the Board of Directors of the Laurel Clark Crew Survival Foundation and has served as the Human Performance Integration, Human Factor Engineering and Crew Survivability Consultant for Paragon Space Development Corporation's Independent Review Board for the StratEx mission. He was also a Human Factors and Human Performance Integration Consultant for the STRATOS Red Bull mission. He served 5 years as the BSC Associate Corps Chief for Aerospace and Operational Physiology and has served as President, Life Science and Biomedical Engineering Board, Aerospace Medical Association; Chairman, Board of Directors, Society of Human Performance in Extreme Environments; Past Chair, Aerospace Medical Association Associate Fellows Group; past President of the Aerospace Physiology Society, past Chair, Human Factors Committee, Aerospace Medical Association, and current Member at Large, Aerospace Human Factors Association. He is honored to be a Fellow of the Aerospace Human Factors Association, Fellow of the Royal Aeronautical Society, London, and Fellow of the Aerospace Medical Association. He is currently employed as a Human Systems Integration Analyst, Aerospace and Operational Physiologist, for Decypher Technologies, Ltd., at the 711 Human Performance Wing, Human Systems Integration Directorate, Wright-Patterson AFB, Dayton, OH.

Col. White's decorations and awards include the John Ernsting Award in 2013 and the Harry G. Moseley Award in 2005 from the Aerospace Medical Association, the Fred A. Hitchcock Award for Excellence in Aerospace Physiology in 2008 and the Wiley Post Award for Operational Physiology in 1998 from the Aerospace Physiology Society, the NASA Group Achievement Award from the Columbia Accident Investigation Board in 2003, USAF Aerospace Physiologist of the Year and ACC Aerospace Physiologist of the Year in 1998, ACC Aerospace Physiologist of the Year in 1996, and AFMC Aerospace Physiologist of the Year in 1995. He is a member of the Interagency Institute for Federal Health Care Executives, and was an Adjunct Assistant Professor of Preventive Medicine/ Biometrics at the Uniformed Services University of Health Sciences in Bethesda, MD, until his retirement in 2012.

### **WON CHUEL KAY AWARD** **Lorenzo Vargas-Alfaro, M.D., FASMA**

*Established by the Korean Aerospace Medical Association in honor of Won Chuel Kay, M.D., the former Surgeon General of the Korean Air Force, founder and first Medical Director of Korean Airlines and first President of the Korean Aerospace Medical Association. This Award is presented annually to a member who has made outstanding contributions to international aerospace medicine. The award was established and is sponsored by the Korean Aerospace Medical Association.*



Lorenzo Vargas-Alfaro, M.D., FASMA, was the 2015 recipient of the Won Chuel Kay Award for establishing Peru's Aerospace Medicine Program and for advocating for aeromedical safety for 42 years. He was instrumental in the creation and advancement of the Iberoamerican Association of Aerospace Medicine's goals and has been recognized with several awards from them and from the governments of Ecuador and Peru. He developed Peru's aeromedical programs for safety and aviation physiology, search and rescue, noise and environmental issues, and airport operations. He also developed numerous of his country's preventive medicine programs, including those that assess environmental fitness and health of aircrew and ground personnel. Even after retirement, he continues to conduct research addressing the altitude environment, contributes to AsMA, and has founded a non-profit organization focused on enhancing aeromedical safety in developing nations.

Dr. Vargas received his undergraduate pre-med degree from San Marcos University, Peru in 1949. He returned to receive his M.D. degree in surgery in 1958. He served in the Peruvian Navy and trained as a Naval Flight Surgeon at the Naval Aerospace Medical Institute in Pensacola, FL, in 1972. He joined AsMA that year and became a Fellow in 1999. He has taken part in the "Fun Run" on several occasions, including the one in Anchorage in 2004, just before his 75th birthday.

### **JOE KERWIN AWARD** **Jonathon B. Clark, M.D., M.P.H.**

*Established and sponsored by Wyle in honor of Joseph P. Kerwin, the first physician/astronaut. It is presented for advances in the understanding of human physiology during spaceflight and innovation in the practice of space medicine to support optimal human health and performance in space.*



Jonathan B. Clark, M.D., M.P.H., received the 2015 Joe Kerwin Award for his commitment to Aerospace Medicine for over three decades, 26 years of which were spent in the U.S. Navy. He was also honored for his demonstration of the spirit of achievement and professionalism. Dr. Clark has mentored young aerospace physicians and his deep devotion to duty and willingness to venture beyond the status quo have enabled him to accomplish great feats in the aerospace environment and has brought great credit to himself, the U.S. Navy, the Center for Space Medicine, the Baylor College of Medicine, and the National Space Biomedical Research Institute.

Dr. Clark is an Associate Professor of Neurology and Space Medicine at Baylor College of Medicine and teaches operational space medicine at BCM's Center for Space Medicine (CSM). He is the Space Medicine Advisor for the

National Space Biomedical Research Institute (NSBRI). He is a Clinical Assistant Professor at the University of Texas Medical Branch in Galveston, where he teaches at the Aerospace Medicine Residency. He received a B.S. from Texas A&M University in 1975, an M.D. from the Uniformed Services University of the Health Sciences in 1980, and an M.P.H. from the University of Alabama in 1990. He is board certified in Neurology and Aerospace Medicine.

Dr. Clark was a member of the NASA Spacecraft Survival Integrated Investigation Team from 2004 to 2007 and a member of the NASA Constellation Program EVA Systems Standing Review Board from 2007 to 2010. He worked at NASA from 1997 to 2005 and was a Space Shuttle Crew Surgeon on six shuttle missions and was Chief of the Medical Operations Branch. He devoted 26 years to active service with the U.S. Navy, during which he headed the Spatial Orientation Systems Department at the Naval Aerospace Medical Research Laboratory in Pensacola, FL; the Aeromedical Department at the Marine Aviation Weapons and Tactics Squadron One in Yuma, AZ; and the Neurology Division and Hyperbaric Medicine at the Naval Aerospace Medical Institute. He was a DOD Space Shuttle Support Flight Surgeon covering two space shuttle flights and flew combat medical evacuation missions in Operation Desert Storm with the U.S. Marine Corps. He was Chief Medical Officer for Excalibur Almaz, an orbital commercial space company, from 2007 to 2012, and since 2013 is Chief Medical Officer for the Inspiration Mars Foundation. He was Medical Director of the Red Bull Stratos Project, a manned stratospheric balloon freefall parachute flight test program, which on 14 October 2012 successfully accomplished the highest stratospheric freefall parachute jump (highest exit altitude) from 127,852 ft, achieving human supersonic flight (Mach 1.25) or maximum vertical speed without a drogue chute at 843.6 mph or 1357.6 kph. In 2012 he joined the StratEx Space Dive project as the flight surgeon and medical advisor, and this project culminated in the new high altitude exit freefall record of 135,890 ft, reaching Mach 1.23 at 822 mph (1321 kph). His professional interests focus on the neurological effects of extreme environments and crew survival in space.

Dr. Clark is a Fellow of the Aerospace Medical Association (AsMA) and the American College of Preventive Medicine and a member of the Space Medicine Association, the American Medical Association, the American Academy of Neurology, the American College of Preventive Medicine, the Barany Society, and the Meneire's Society. His awards and honors include the Society of NASA Flight Surgeons' Randy Lovelace Award in 2013, the American Institute of Aeronautics and Astronautics John Jeffries Aerospace Medicine Life Sciences Research Award in 2013, AsMA's Associate Fellows Harold V. Ellingson Literary Award in 1993, and the Society of U.S. Naval Flight Surgeons Ashton Graybiel Literary Award in 1992. From the military, his awards include the Sharpshooter Rifle Medal, the Sea Service Deployment Ribbon, the Kuwait Liberation Medal (both Kuwait and Saudi Arabia), the National Defense Medal, the Meritorious Unit Commendation, and the Meritorious Service Medal. He has been an author or co-author on over 50 papers and 8 book chapters, and has presented numerous times at various meetings.

### MARY T. KLINKER AWARD Flt. Lt. Belinda Mollan, RAF

*Established by the Flight Nurse Section in 1968, this award became an official AsMA award in 1972. In 1978 it was renamed in memory of Mary T. Klinker, who was killed in a C-5A crash while performing a humanitarian mission. The award is given annually to recognize significant contributions to, or achievements in, the field of aeromedical evacuation. Sponsored by ZOLL Medical Corporation.*



Flt. Lt. Belinda Mollan, RAF, received the 2015 Mary T. Klinker Award from AsMA for altruistically providing patient movement over the past 15 years. Flt. Lt. Mollan is an Infection Prevention and Control (IPC) Nurse, currently Officer Commanding the RAF IPC Flight. She is also responsible for the maintenance, training, and deployment of the Air Transportable Isolator (ATI) capability. She routinely augmented missions, including on a CCAST as an additional nurse on very short notice. She also deployed, again on short notice, as Team

Leader of a 15-person team that retrieved a UK healthcare worker with Ebola from the Sierra Leone. She has been accountable for scrutiny of Continuing Professional Development and clinical contact hours for her entire aeromedical evacuation squadron. Upon appointment to the Training School in 2009, she became responsible for the oversight and delivery of training to all UK

Aeromedical Evacuation personnel during one of the busiest periods of operational combat casualties. She has selflessly continued flying, often at short notice, repatriating patients from around the globe, routinely augmented ultra-long haul missions and has undertaken training in Infection Prevention Control. She is currently responsible for the transport of patients with highly infectious diseases using the UK's Air Transportable Isolator.

After completing a degree in Nursing at the University College of St. Martin in Lancaster in 1998, she worked in the Accident and Emergency Department of Greenwich District Hospital. In 1999 she undertook Initial Recruit Training at RAF Halton to become a non-commissioned nurse in the Princess Mary's Royal Air Force Nursing Service. Her early service saw her working on a female medical ward at Royal Hospital Haslar. In October 2000 she went in to Primary Health Care, being the sole Practice Nurse at MOD Manston, whereby she assisted with the Op Fresco plans. In August 2003 she became the Practice Nurse at RAF Shawbury and deployed to Afghanistan on Op Fingal in 2004, Ascension Island in 2005 and 2006, and Al Udeid in 2006, where she performed the role of both Practice Nurse and Aeromedical Evacuation Liaison Officer.

In March 2007, Flt. Lt. Mollan undertook Specialist Entrant and Re-Entrant training at RAF Cranwell. Upon completion she became a Flight Commander on the Aeromedical Evacuation Squadron at RAF Lyneham. In charge of Professional Development Flight, she not only ensured all members of the Aeromed Squadron were appropriately qualified, but undertook aeromedical repatriation flights also. In August 2008 she returned to Primary Health Care as the Practice Nursing Officer in charge of the nursing team at RAF Marham and returned to RAF Lyneham in 2009 to become Officer Commanding, Aeromedical Evacuation Training Flight for the RAF Medical Services. In 2011 she became the RAF Director of Nursing Services Staff Officer at HQ Air Command and returned to the Tactical Medical Wing at RAF Brize Norton in 2012 to undertake Infection Prevention and Control (IPC) training.

Coincidentally, her husband, Wg. Cdr. Ian Mollan, received the Klinker award in 2012 for his role as Officer Commanding the Aeromedical Evacuation Coordination Centre for the UK, during the period 2006 to 2010.

### SIDNEY D. LEVERETT, JR., ENVIRONMENTAL SCIENCE AWARD

Gregg A. Bendrick, M.D., M.P.H., M.S.

*Established in memory of Sidney D. Leverett, Jr., Ph.D., this Environmental Science Award is presented annually to an individual who has made a significant contribution in the field of environmental medicine through a publication in Aerospace Medicine and Human Performance, or by activities conducted in support of aerospace systems operation. Sponsored by Environmental Tectonics Corporation.*



Gregg A. Bendrick, M.D., M.P.H., M.S., was the 2015 recipient of the Sidney D. Leverett, Jr., Environmental Science Award, his enormous contributions to aerospace systems operations in the areas of Space Shuttle landing support, fatigue risk management of the SOFIA airborne observatory, and in addressing the aeromedical concerns of the F-22 weapons system. He also co-authored a NASA book that distills the human factors lessons learned from various flight test incidents and has led the Society of NASA Flight Surgeons to constituency status within the Aerospace Medical Association (AsMA). He developed a risk-based schedule scoring process to facilitate his efforts at Fatigue Risk Management Officer for the Stratospheric Observatory for Infrared Astronomy. He was also part of the Task Force that analyzed the hypoxia-like incidents associated with the U.S. Air Force F-22 fighter aircraft, an effort which culminated in a report to the U.S. Air Force that was ultimately endorsed by the NASA Administrator and later presented in testimony before Congress.

Dr. Bendrick is currently the Chief Medical Officer at the NASA Neil A. Armstrong Flight Research Center (formerly known as the Dryden Flight Research Center) located on Edwards Air Force Base in California. There he implements all aspects of the NASA Occupational Health Program, including Aerospace Medicine, Occupational Medicine, Industrial Hygiene, Health Physics, and Fitness Center operations in support of NASA aeronautical test and airborne science operations. He likewise serves as the Fatigue Risk Management Officer for the Stratospheric Observatory For Infrared Astronomy (SOFIA), an airborne telescope that operates out of the Armstrong Flight Research Center. He also serves as a member of the NASA

Medical Policy Board, and represents the NASA Chief Health and Medical Officer as the designated Health and Medical Technical Authority (HMTA) at the Center.

Dr. Bendrick was born and raised near Chicago, IL, and attended the University of Chicago for both his undergraduate and professional education. There he earned a B.A. degree, an M.S. degree, and his M.D. After completing a Transitional-Year Residency in Pontiac, MI, he entered active duty with the U.S. Air Force and worked initially as an Emergency Medicine Physician at Misawa Air Base in Northern Japan. He then became a Squadron Flight Surgeon at Yokota Air Base near Tokyo, after which he returned to the United States to attend the Residency in Aerospace Medicine, followed by the Residency in Occupational Medicine, both at Brooks AFB in San Antonio, TX. During this period he completed his M.P.H. degree at the University of Texas. He was later assigned to Barksdale AFB, LA, where he served for over 2 years as the Chief of Aeromedical Operations. After separating from the Air Force, he joined the Oschner Clinic in New Orleans, LA, where he practiced as an Occupational Medicine Specialist until 2001, when he assumed his current position at the NASA Armstrong Flight Research Center. In this position he has directly supported six Space Shuttle landings as the NASA Emergency Medical Services Coordinator. In 2012 he also served as one of two Flight Surgeons on the NASA Engineering and Safety Center (NESC) Task Force analyzing the hypoxia-like incidents associated with the U.S. Air Force F-22 fighter aircraft.

A Fellow of AsMA, Dr. Bendrick is also a Fellow of the International Academy of Aviation and Space Medicine (IAASM) and sits on the Board of Directors for the Sleep Technology Council. He is Board Certified in Aerospace Medicine, Board Eligible in Occupational Medicine, and is designated by the Federal Aviation Administration (FAA) as a Senior Aviation Medical Examiner. He teaches on a part-time basis in the Aviation Safety and Security Program of the University of Southern California. He has authored several technical papers on various aspects of Aerospace Medicine, and has co-authored the book *Breaking the Mishap Chain*, a NASA publication analyzing the human factors associated with various flight test aircraft mishaps. He has likewise published a novel.

### ERIC LILJENCRANTZ AWARD

**Col. Robert M. Shaffstall, USAF(Ret.)**

*The Eric Liljencrantz award was established in memory of CDR Eric Liljencrantz, MC, USN, whose brilliant career in aviation medicine was cut short by his death in an airplane accident in 1942. It is given annually to honor excellence as an educator in aerospace medicine, or basic research into the problems of acceleration, altitude, or weightlessness. Sponsored by the Aerospace Medical PLC.*



Col. Robert M. Shaffstall, USAF (Ret.), received the 2015 Eric J. Liljencrantz Award for his leadership in aviation physiology research and his expert understanding of the altitude and acceleration environments. His research on high-flow, ready pressure anti-G valve set the high-water mark for biomedical research in support of those who fly. His seminal research on pressure breathing systems was key to raising the aviation operational ceiling and his long-time leadership in aircrew physiology training has allowed exploration of previously unattainable envelopes in the air and space environments. He has made myriad contributions towards expanding survivability in aerospace environments.

Col. Shaffstall holds a B.Sc. degree from Fort Hays Kansas State College and a M.Sc. degree from the University of Southern California. During his 45 years as a military and civilian aerospace physiologist, Col. Shaffstall participated in a wide spectrum of aerospace physiology and aviation safety activities. During his 27 years as a USAF Aerospace Physiologist, he served as a physiological training officer, research physiologist, and program leader. Highlights of his 27-year USAF career include serving as a physiological training officer at Castle AFB, CA, and Kadena AB, Japan. While stationed at Kadena, he flew combat missions in Southeast Asia as a physiological support officer on C-130 high-altitude air drop missions. As a research physiologist, then Capt. Shaffstall participated with a biodynamics research team that laid the foundations for aircrew G-tolerance training and improved acceleration protection equipment. Research included evaluations of assisted positive pressure breathing that led to development of the COMBAT EDGE pressure breathing system. He was also involved in evaluations of full coverage anti-G suits and improved anti-G suit inflation valves. In a second tour at Brooks AFB, he led a USAF School of Aerospace Medicine (USAF SAM) chemical defense program that developed personnel decontamination and chemical de-

fense shelter entry and exit procedures for hardened chemical shelters. Following research assignments at Brooks, he moved to Kirtland AFB, NM, as the Chief of the Aeromedical/Human Factors Division of the Air Force Operational Test and Evaluation Center (AFOTEC). In this capacity he was responsible for the aeromedical and human factors testing of new aircraft and other USAF equipment items. He returned to Brooks for his last active duty assignment as the Chairman of the USAFSAM Physiology Dept. He was principally responsible for the expansion of the USAF Aerospace Physiologists training to include more actual flying time and enhanced academics.

After retirement in 1993, Col. Shaffstall stayed at Brooks to work as a contractor with Wyle Laboratories, providing research support to the USAF SAM Crew Technology Division. The Wyle contract supported human and engineering evaluations to assess the acceleration, altitude, and thermal protection provided by current and developmental life support equipment, including the Advanced Technology Anti-G Suit (ATAGS) and life support equipment for the F-22 fighter. In 2000, Col. Shaffstall moved to the Federal Aviation Administration's Civil Aerospace Medical Institute (CAMI) in Oklahoma City, OK, to become the Manager of the Protection and Survival Research Laboratory. This diverse laboratory team of scientists, engineers, physicians, and technicians conducted research on civil aircraft environments, altitude, crash dynamics and cabin evacuation. The team's research included the aeromedical analysis of civil aircraft accidents and support for National Transportation Safety Board investigations.

Col. Shaffstall retired from the FAA in June 2012. His USAF awards include the Viet Nam Service Medal, the Allied Expeditionary Forces Medal, the Air Force Commendation Medal, the Meritorious Service Medal (two oak leaf clusters), and the Legion of Merit. As a civilian, he was twice selected as the FAA Office of Aerospace Medicine manager of the year. He has been a member of the Aerospace Medical Association for over 40 years and a Fellow of the organization for 25 years. He is a member of the Aerospace Physiologist Society and the Life Sciences Biomedical Engineering Branch. He was in the first group to be board certified in Aerospace Physiology (1977). He is an author or co-author on over 40 publications and presentations.

### RAYMOND F. LONGACRE AWARD

**Thomas E. Nesthus, Ph.D.**

*Established to honor the memory of MAJ Raymond F. Longacre, MC, USA. It is given annually for outstanding accomplishment in the psychological and psychiatric aspects of aerospace medicine. Sponsored by the Aerospace Human Factors Association.*



Thomas E. Nesthus, Ph.D., was the recipient of the 2015 Raymond F. Longacre Award. He is recognized as a leading scientist in the field of fatigue and human performance having conducted significant research on the effects of fatigue on performance of air traffic controllers, flight attendants and pilots involved in ultralong haul operations and hypoxia. His research contributed to improved fatigue risk management in air traffic controllers and the identification and application of fatigue countermeasures.

This research has contributed to regulatory practices including the recently implemented change in pilot duty hours by the FAA.

Dr. Nesthus earned a B.S. in Psychology in 1977 from the University of South Dakota in Vermillion, SD. He then went on to earn an M.A. in Psychology in 1984 and a Ph.D. in Psychology in 1986, also from the University of South Dakota. He worked for KRUG Life Sciences under contract with the USAF Crew Technology Division, Brooks Air Force Base, TX, from 1986-1992.

In 1992, Dr. Nesthus began work at the FAA Civil Aerospace Medical Institute's Aerospace Human Factors Research Division. Focal research activities have included laboratory and field studies evaluating performance and fatigue associated with flight and cabin crewmembers, ATCSs, TechOps Specialists, and aviation maintenance technicians. He has participated on numerous performance and fatigue-related DOT and interagency working groups. He chaired the Aerospace Medical Association's Human Factors Committee and the DOD Human Factors Engineering, Sustained and Continuous Operations Technical Advisory Group. He provides consultation and human performance expertise, as requested by the National Transportation Safety Board and the Department of Justice. He testified on pilot fatigue factors associated with the crash of Colgan Air Flight 3407 during the NTSB's public hearing. Due to Congressional interest, research turned to flight attendant (FA) fatigue. Tom led a four phased research effort with FAs including a national survey, a field investigation using a biomathematical model, a comparative study of international FA fatigue regulations,

and fatigue countermeasures. Tom recommended fatigue countermeasures for both air traffic controllers and FAs. Changes in time between controller shift turnarounds are based on this research. Work with FAA flight standards personnel led to applying a fatigue risk management approach to improving city pair ultralong haul operations.

Since the formation of the FAA's Aviation Rulemaking Committee in 2009, Dr. Nesthus has remained the FAA's science representative assisting the Air Transportation Division with the development and roll out of 14 CFR Part 117 Flightcrew Member Duty and Rest Requirements. Ever since the full implementation of the new rule in January 2014, he has assisted the FAA Flight Standards Division with the scientific evaluation of Fatigue Risk Management System (FRMS) proposals submitted by air carriers needing relief from the regulation in the form of an alternative method of compliance for flight operations that would exceed rule limitations.

Throughout his career, Dr. Nesthus has been very involved in AsMA (research presentations, committees, and journal reviews). He served as chair of the Aerospace Human Factors Committee (2000-2010), president of Aerospace Human Factors association (2002-2003), and AsHFA treasurer (1997- present). As an AsMA and AsHFA Fellow, he is author/coauthor of over 50 scientific/technical reports and has made numerous international presentations. He has been a member of the Human Factors and Ergonomics Society and the American Psychological Association, advisor/member of the National Safety Council's Alcohol, Drugs and Impairment Division, Chair of the MITRE Aviation Fatigue Roadmap Scheduled Operations Working Group, and a member of the International Society of Air Safety Investigators and The International Congress of Occupational Health.

### THEODORE C. LYSTER AWARD

**Christopher J. Brooks, OMM, OstJ, CD, MBChB, FFOM, DAVMed**

*This award was established to honor the memory of Brig. Gen. Theodore C. Lyster, the first Chief Surgeon, Aviation Section, United States Signal Corps. It is given annually for outstanding achievement in the general field of aerospace medicine. Sponsored by Army Aviation Medical Association.*



Christopher J. Brooks, OMM, OstJ, CD, MBChB, FFOM, DAVMed, was the 2015 recipient of the Theodore C. Lyster Award for his outstanding contributions to enhancing the survivability of helicopter water ditching through helicopter underwater escape training programs and improvements in cold water immersion protective equipment.

Dr. Brooks' career has spanned over 30 years, during which he has relentlessly pursued improvements in helicopter underwater escape training techniques and concurrent improvements in aircrew cold water survival equipment. These programs are especially important in Canadian and other maritime rotary wing operations where cold water ditching is a constant threat. Dr. Brooks has pursued cold water life-support equipment development, including improved life-jacket and immersion suit design and emergency breathing apparatus. He led studies and personally tested new equipment both in the lab and in actual cold water sea trials. He also led the development of improved underwater escape training programs at Survival Systems in Halifax, Nova Scotia. He has carefully documented these problems and solutions in a series of scientific papers published in *Aviation, Space and Environmental Medicine* (ASEM), NATO AGARD publications, and elsewhere. He was first author of two papers published in ASEM in 2014 (ASEM 2014;85;1-6; ASEM 2014;85;440-4). Additionally, he authored a series of lay articles for aircrew describing the improved life-support equipment and training. These combined efforts have greatly improved aircrew survival in cold water ditching and have saved many aircrew lives.

Dr. Brooks is a physician, a scientist, and an inventor. Coming from a medical family of at least 14 doctors, he was accepted at Medical School at age 17 in Manchester, UK. After graduating with an M.D. in 1964, he joined the Royal Navy and served in two nuclear submarines for 5 years as the physician and the Health Physicist in charge of the reactor chemistry and 16 nuclear tipped Polaris missiles. After leaving the Royal Navy, he spent 5 years in Family Practice in Nottingham, UK, the highlight of which time was delivering twins in the middle of the night in a gypsy caravan camped by the Erewash canal. The second twin came out bum first and survived!

Dr. Brooks then went to Carlyle, Saskatchewan, to do a locum in the winter of 1974/5. He looked after an Indian Reserve and the nearest hospital was 100 miles away. He pulled out teeth, dealt with a blown off knee cap, and one ectopic pregnancy. He loved Canada so much, he and his wife emigrated and he joined the Canadian Navy in late 1975. His new naval career started as a

Flight Surgeon in Shearwater, Nova Scotia. Here he spent some time dangling from the hoist of a Sea King helicopter conducting rescues in the North Atlantic. It was also here that he realized that if the helicopter ditched, he was going to be the first person to drown—hence his interest in marine survival and his extensive research into the human factors of escape and survival from helicopters flying over water.

Dr. Brooks had three tours at the former Defence and Civil Institute of Environmental Medicine in Toronto, two of which were as the C.O. He was the Command Surgeon for the Canadian Navy and later the Canadian Air Force too. He introduced a new lifejacket for the Air Force, a quick don immersion suit for the Navy, and pioneered an Emergency Breathing Apparatus (EBS) for helicopter crew and passengers flying over water. This EBS has now been copied and introduced into virtually all NATO maritime helicopters and in 2015 legislation is underway to introduce it into the Civil Aviation Authority regulations in UK and European commercial maritime helicopters. He retired from the Navy as a Captain in 1998. He was appointed as the Director of R&D at Survival Systems Ltd. in Dartmouth, Nova Scotia, and an adjunct Professor in the Faculty of Health and Human Performance at Dalhousie University, Halifax. He was also recently appointed by the Privy Council to be a Federal Medical Judge as a member of the Transportation Appeal Tribunal of Canada.

Dr. Brooks holds a Diploma in Aviation Medicine from Farnborough, UK, and is a Fellow of the Faculty of Occupational Medicine, London. He has published over 75 articles and papers, wrote the textbook on lifejackets, and has written several publications for NATO. He also co-shares five U.S. and one European patent for helicopter window escape mechanisms. Within AsMA, he serves on the International Activities Committee. His awards include the NATO Research and Technology Achievement Award, two Joe Haley Writing Awards, Order of St. John of Jerusalem, Queen's Jubilee Medal, Order of Military Merit, the Sir James Martin Gold Medal, and Honorary Member of the International Association for Safety and Survival Training.

### MARIE MARVINGT AWARD

**Susan Ip Jewell, M.D.**

*Established and sponsored by the French Society of Aerospace Medicine in memory of Marie Marvingt (1875-1963), a pioneer French pilot and surgical nurse who, for more than 50 years, actively and untiringly involved herself in the conception and development of air ambulance services and in the education of the general public regarding their use and benefits. The award is presented annually to honor excellence and innovation in aerospace medicine.*



Susan Ip Jewell, M.D., was the recipient of the 2015 Marie Marvingt Award for pioneering work in integrating innovative technologies using 3D printing of medical tools and 3D virtual reality glasses, and in developing telesurgery training protocols for non-medical crews. Dr. Jewell's projects include development of protocols and procedures for medical extra vehicular activities, incorporating disaster medicine procedures, search and rescue operational protocols, and medical triage skills for planetary surface missions, and incorporating robotics and UAVs into surface missions. She has also focused on development of yoga/meditation as psychological countermeasures for crews living in isolation in extreme environments. Additionally she has collaborated with a medical team from the European Space Agency, successfully demonstrated a "Mars-to-Mars" real-time synchronous telesurgery-teleanesthesia simulation training with non-medical/minimally trained crewmembers, and incorporated the testing of innovative EEG head scanners and biosensors for increasing human/brain computer interface during simulations.

Dr. Jewell is a space physician-scientist and a working professional in the areas of integrative medicine, human-factors, analogue astronaut simulation training, R&D, space medicine/physiology, biomedical engineering, telehealth, and digital media and entertainment. She is training as a commercial and analogue astronaut and a member of Astronaut-4-Hire, a non-profit organization training future commercial payload scientist astronauts. She is the Founder/President of Mars Without Borders (MWOB), a non-profit organization for building and training analogue astronaut crews, including development, testing, and successful implementation of technologies and capabilities for humans-to-Mars settlement to enable the development of human colonies on the Martian surface. She was Commander of Mars Desert Research Station (MDRS) Crew 151 and MWOB Crew145 Analog Astronaut Expedition 1 during MDRS field season 2014-2015. She completed a successful mission as Executive Officer and Health & Safety Officer for MarsUK

Crew134 Analogue Astronaut Expedition at MDRS earlier in January of 2014. Additionally, she was selected as 1 of 21 finalists to compete for the Artic MA365 expedition (sponsored by the Mars Society), a pioneering science expedition for a 1-year Mars analogue simulation in the Artic at the Flashline Mars Arctic Research Station (FMARS) on Devon Island, Canada. She recently completed a "back-to-back" mission as Health & Safety Officer with FMARS MA365 Crew144 and took over commandship of the station as Crew 145. Furthermore, she has been selected as a potential crew candidate for the NASA funded Hawaii Space Exploration Simulation Analog (HISEAS) expedition; a 12-month long-duration Mars simulation scheduled for mid-2015. She is a candidate for the 2-week simulation analogue astronaut crew at the NASA Human Exploration research Analog station located at Johnson Space Center in Houston.

Dr. Jewell is an alumni of the International Space University (ISU) Space Studies Training Program and was elected to serve on the Board of Directors ISU-USA Alumni Organization as Director of Development. She trained at the University of Texas Medical Branch, Aerospace Residency program in Aviation and Space Medicine, including physiological training at NASA Johnson Space Center and the Wyle Neutral Buoyancy Laboratory in Houston, TX. She is a member of various international aerospace/space associations, including the Aerospace Medical Association (AsMA), the Aerospace Human Factors Association (AsHFA), and the Space Medicine Association (SMA). She is founder of several space-related start-ups and non-profit organizations, and is the founder/CEO of Space Medicine, Biomedical Research, Innovations & Technology, a company focusing on R&D in innovative concepts and integration of disruptive innovations and technologies for improving state-of-the-art techniques and commercialization of products and procedures for medical applications and space exploration. She is also the founder of the Space Surgery Institute (SSI) and was the founder/CEO of The Clinic LLC, an integrated telemedicine, health & wellness and multi-media health center. She trained as a medical scientist and clinical researcher in the Department of Molecular (Cancer) Therapeutics and Drug Discovery, National Cancer Institute, NIH, and at the UCLA David Geffen School of Medicine, Department of Molecular Pharmacology, after completing basic medical school training at Ross University School of Medicine. She is a national TV/radio/social media health expert who has appeared on CBS, Fox, ABC, NBC, and CW, and the recipient of several NIH funded post-doctoral fellowships, notably, the Cancer Research Training Award and the National Research Scientist Award. She is also the radio host of "The Space Clinic Show with Dr. Jewell," conducting interviews with astronauts, medical, and space professionals on cutting-edge technologies and innovative approaches to space health and the future of human space exploration.

## HARRY G. MOSELEY AWARD

### Lt. Col. Brian T. Musselman, USAF

*Established in memory of Col. Harry G. Moseley, USAF, MC, in recognition of his material contributions to flight safety. It is given annually for the most outstanding contribution to flight safety. Sponsored by Lockheed-Martin Corporation.*



Lt. Col. Brian T. Musselman, USAF, was the 2015 recipient of the Harry G. Moseley Award for his expertise in aerospace physiology, human performance, and safety and accident investigations. Lt. Col. Musselman is the Air Mobility Commander Aerospace Physiology Training Program Manager and High Altitude Airdrop Mission Support Functional Manager, Scott AFB, IL. He is responsible to the AMC Director of Operations and Surgeon General for training, standardization/evaluation and operations of these two critical Air Mobility Command functions. Additionally, he serves as a human performance consultant to the AMC Operations Risk Assessment and Management System. His efforts have positively impacted Department of Defense and U.S. Air Force operations. He has led U-2 full pressure suit and aircrew flight equipment operations; investigated an F-22A fatal mishap and physiological incidents; developed various fatigue management programs; established the ANG Human Factors Safety Division; implemented DoD HFACS in USAF investigations; and was key to creation of the USAF Safety Center's Human Factors Division, including an additional aerospace physiologist.

Brian Musselman received his Bachelor of Science in Biology, United States Air Force Academy in 1994. He earned his Master of Aerospace Studies in Aviation Safety Systems, Embry-Riddle Aeronautical University in 2004. He also earned a Certificate of Advanced Graduate Studies Industrial/Organizational Psychology, Northcentral University in 2010.

Lt. Col. Musselman has served as an Aircraft Maintenance and Munitions Officer at Holloman AFB and Anderson AFB; an Air Force Reserve Officer Training Corps instructor at Embry-Riddle Aeronautical University, Detachment 028; an Aerospace Physiology flight commander at Beale AFB; a mishap investigator and human factors specialist at the Air Force Safety Center; a Pentagon staff officer; Executive Officer to the USAF Chief of Safety and Executive Secretary for a DoD Task Force. Most recently, he was Commander of the 9th Physiological Support Squadron where he was responsible for specialized support and training for U-2 aviators, the USAF Full Pressure Suit Depot maintenance and supply center, and mission-specific physiological training for DoD, NASA, high-altitude parachutists, and support personnel. In 2007, Lt. Col. Musselman served as an advisor to the Iraqi Air Force and established the new Iraqi Air Force Technical Training School.

As the 9th Physiological Support Squadron Commander providing U-2 full pressure and aircrew flight equipment support, Lt. Col. Musselman commissioned two USAF School of Aerospace Medicine research projects to analyze U-2 pilot fatigue and the risks of rapid decompression with a substantial pressure difference created by the modified U-2 cockpit pressure schedule. He also analyzed the physiological effects of oxygen consumption and toxicity under the new cockpit pressure. As a recognized investigation expert, the Air Combat Command (ACC) Director of Operations (DO) hand selected him 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 eventually briefed to the Chief of Staff of the Air Force. He was also an investigator on a board that analyzed all F-22A physiological incidents. The ACC Director of Operations commented that Lt. Col. Musselman is "a national treasure when it comes to aerospace physiology and accident investigation." He was selected to brief at the 3rd and 7th Annual Middle East Air Forces Safety Conferences in Jordan and Oman. He provided safety knowledge and experience to representatives from eight Middle Eastern nations. He established the U.S. Air Force Air National Guard Human Factors Safety Division. In this role, he managed the human factors safety program supporting 89 ANG wings. And he was instrumental in creating the U.S. Air Force Safety Center's Human Factors Division, which included an additional aerospace physiologist. He also implemented the DoD Human Factors and Analysis and Classification System (DoD HFACS) within the USAF investigation process and has investigated 5 Class A Aviation Mishaps. Finally, he taught aerospace physiology and crew resource management to the first 10 cadets in the new Iraqi Air Force.

Lt. Col. Musselman has received numerous awards and honors for his work including the Fred A. Hitchcock Award for Excellence in Aerospace Physiology from the Aerospace Physiology Society in 2012 and the Life Sciences and Biomedical Engineering Branch Professional Excellence Award in 2014. His military honors include: Defense Meritorious Service Medal; USAF Meritorious Service Medal, 4 Oak Leaf Clusters (OLC); USAF Commendation Medal, 2 OLC; USAF Achievement Medal, 2 OLC; Air Force Recognition Ribbon; National Defense Service Medal, 1 Device; Iraq Campaign Medal, 1 Device; Global War on Terrorism Medal; and the Humanitarian Service Medal.

A Fellow of the Royal Aeronautical Society, the Aerospace Human Factors Association, and AsMA, Lt. Col. Musselman served as Chair of the AsMA Associate Fellow Group 2012-2013 and Chair of the Aerospace Physiology Certification Exam 2011-2012. He is also a member of the International Society of Air Safety Investigators and Human Factors and Ergonomics Society. He has presented at over 40 national and international meetings.

## JOHN PAUL STAPP AWARD

### Col. Mark S. Adams, L/RAMC

*This award was established and sponsored by Environmental Tectonics Corporation to honor Col. John Paul Stapp, USAF(Ret.). The award is given annually to recognize outstanding contributions in the field of aerospace biomechanics and to promote progress in protection from injury resulting from ejection, vibration, or impact.*



Col. Mark S. Adams, L/RAMC, received the 2015 John Paul Stapp Award in recognition of his over 25 years working in flight medicine, aircrew equipment integration, human factors analysis, and aviation accident investigation with the British Army, the Royal Air Force, and as an Exchange Officer with the U.S. Army. As an Exchange Officer, he has led numerous accident investigations. During post-crash analysis, he has focused on specific equipment failures and investigated ways to improve aircrew crash survivability. As a result, he has successfully identified nu-

merous post-accident injuries specific to two rotary wing platforms and found that the injuries were being caused by poor performance of the aircrew seat and restraint devices. He led the investigation in analyzing each element of the seat mechanism until the critical failing components were identified. This led to confirmation of the components failure, recall of the components, and replacement, with a revision in the installation procedures. Col. Adams was recognized for his part in identifying the anomaly, rectifying the problem, and ensuring the crashworthiness of both rotary wing platforms.

Col. Adams has served in the UK Armed Forces for 30 years and is accredited as a consultant in both aviation and occupational medicine in the Royal Army Medical Corps. He is also a qualified military helicopter pilot with approximately 1000 hours experience. He has a special interest in aviation life support equipment and helicopter crash survivability, with particular focus on aircrew helmet impact standards and energy attenuating seat performance. He is currently serving as an Exchange Officer at the U.S. Army Aeromedical Research Laboratory where he is a Principal Investigator on their multi-disciplinary crash survival analysis team, whilst also conducting research into risk factors for spinal injury in helicopter accidents.

Col. Adams earned a B.Sc. in 1980 and an M.B.B.S. in 1983 from St. Thomas's Hospital Medical School, London. From 1983-1984, he served as House Physician and Surgeon at Kingston Hospital and St. Thomas's Hospital, London. He then did a tour with RAF JMO in RAF Finningley. In 1987, he served at PM RAF Hospital in Halton, Buckinghamshire, UK. In 1989, he earned a Certificate of Prescribed Experience from the Joint Committee on Postgraduate Training for General Practice. From 1989 through 1996, he served in a variety of positions throughout the UK, including a deployment to Bosnia. During 1994, he earned a Diploma in Aviation Medicine from the Royal College of Physicians and later earned a Certificate in Occupational Medicine from the University of Aberdeen in 1996. From 1997 to 2000, he was a Consultant in Aviation Medicine and RMO to 3 and 4 Regiments Army Air Corps in Wattisham, Suffolk. During that time, he earned an Associate Membership in the Faculty of Occupational Medicine, an M.Sc. in Occupational Health at the University of Aberdeen, and then full Membership in the Faculty of Occupational Medicine.

In 2000, Col. Adams became a Consultant in Aviation Medicine at the School of Army Aviation, Middle Wallop, Hampshire. In 2003 he became a British Exchange Flight Surgeon at the U.S. Army Aeromedical Research Laboratory in Ft. Rucker, AL. He returned to the UK in 2005, serving as a Consultant Advisor in Aviation Medicine for the Army at the Headquarters of the Director of Army Aviation in Wallop, Hampshire. In 2009, he took a position as Army Consultant in Aviation Medicine at the RAF Centre of Aviation Medicine in Henlow, Bedfordshire. He came back to the U.S. Army Aeromedical Research Laboratory in Ft. Rucker as a British Exchange Flight Surgeon in 2012. He is an author or co-author of 10 publications, 14 abstracts, and 11 presentations and became a Fellow of the Aerospace Medical Association in 2015.

### **JOHN A. TAMISIEA AWARD** **Susan E. Northrup, M.D., M.P.H.**

*This award was established and sponsored by the Civil Aviation Medical Association in memory of John A. Tamisiea, M.D. The award is given annually to an aviation medical examiner or other individual who has made an outstanding contribution to the art and science of aviation medicine in its application to the general aviation field.*



Susan E. Northrup, M.D., M.P.H., was the 2015 recipient of the John A. Tamisiea Award in recognition of her exemplary contributions to general aviation safety. As Southern Regional Flight Surgeon for the Federal Aviation Administration (FAA), her experience and personal passion have ensured the safe certification of thousands of general aviation pilots and has garnered the respect of the general aviation community. She has contributed to the art and science of aviation medicine for over 25 years through her flight surgeon experience, professional activities, and personal passion for general aviation. Her work with the American Board of Preventive Medicine and the American Society of Aerospace Medicine Specialists has contributed to the overall foundation of aerospace medicine credentialing and certification. Overall, her contributions to the safe certification of general aviation pilots have contributed to the safety of the U.S. national air space.

Dr. Northrup graduated from the Ohio State University with a B.A. in Chemistry in 1985 and then her M.D. degree in 1989. She served a Family Practice internship at the Ohio State University Hospitals from 1989-1990

and then earned an M.P.H. in 1994 from the University of Texas Health Science Center in Houston, after which she served a Residency in Aerospace Medicine from 1994-1995 and a Residency in Occupational Medicine from 1995 to 1996 at the USAF School of Aerospace Medicine. She graduated from the Air War College Jump Start Program in 2003. She served in the U.S. Air Force from 1990-2010 as a Flight Surgeon at Moody AFB, GA, Chief of Aeromedical Services at Al Kharj Air Base and Dhahran Air Base, Chief of Aerospace Medicine at Pope AFB, NC, and Chief of Operational Medicine at Bolling AFB, DC.

During this time, Dr. Northrup deployed as part of Desert Storm and Desert Shield and was the U.S. Head of Delegation at the NATO Aeromedical Working Group, U.S. Coordinating Member at the Air Standardization Coordinating Committee, Working Party 61, and a member of the Repatriated Prisoner of War Study Group Scientific Advisory Board at the Robert Mitchell Center, NAS Pensacola, FL. From 2001 to 2005, she also served as Regional Medical Director of Air Crew and Passenger Health Services at Delta Air Lines, Inc. In 2005, she became a Medical Consultant for the National Pilots Association and in 2009, she became Commander of the 94th Aeromedical Staging Squadron at Dobbins AFB, GA. She was appointed as FAA Regional Flight Surgeon for the Southern Region in 2007, a position she still holds.

Dr. Northrup's awards and honors include FAA Flight Surgeon of the Year, TAC Flight Surgeon of the Year, the Air Force Meritorious Service Medal with two oak leaf clusters, the Air Force Achievement Medal with a single oak leaf cluster, and the Air Force Outstanding Unit Award with Valor and a single oak leaf cluster. She is a member of the Red River Valley Fighter Pilots Association, the Society of USAF Flight Surgeons, the Airline Medical Directors Association, the Civil Aviation Medical Association, the American Society of Aerospace Medicine Specialists, and the American Board of Preventive Medicine. She is also a Selector for the International Academy of Aviation and Space Medicine and was Chair of the Air Transportation Association Medical Committee. She is a Fellow of the Aerospace Medical Association, where she has served as Vice President; Treasurer, Secretary, Chair-Elect, and Chair of the Associate Fellows Group; Chair of the Scientific Program Committee; Chair of the Registration Committee; member of the Ellingson Award Committee, Air Transport Committee, Leverett Award Subcommittee, and Space Medicine and Supplements Working Groups.

### **THOMAS J. AND MARGARET D. TREDICI AWARD** **Claudia H. Stern, M.D.**

*This award was established by Thomas J. Tredici and sponsored by an endowment fund managed by the Aerospace Medical Association Foundation. It is given for the most significant contribution to aerospace ophthalmology and vision science.*



Claudia H. Stern, M.D., received the 2015 Thomas J. and Margaret D. Tredici Award for her expertise and international reputation in evaluating individual aviation and space career applicants, and the aeromedical certification implications of research in ophthalmology. Dr. Stern specializes in aerospace ophthalmology and has worked in that field for more than 25 years. She is an ophthalmologist and flight surgeon. She is also one of the founding members of the European Society of Aerospace Medicine, she organized three successful congresses for the German Society for Aerospace Medicine, and is a member of the EuroControl medical experts group that established the first European medical criteria for air traffic control officers. She has also helped European Aviation Safety Agency rule-making groups to establish and update European ophthalmological criteria for aircrew. She has taken care of the European astronauts' eyes for 18 years, participated in two European astronaut selections, and is also involved in the NASA Ocular Health Study. Currently she holds the position of Head of the Division Flight Medicine Clinic at the German Aerospace Center (DLR).

Educated at the Medical School University Bonn, Dr. Stern graduated in 1990 and served as an Assistant at the Ophthalmology Department, University Bonn, from 1991-1992 and then as an Assistant at the Ophthalmology Department, University Hamburg, from 1992-1996. She became an Ophthalmologist in 1996. From 1990-1993, she was a Co-Investigator of a tonometry experiment during the Mir mission and then during the D-2 space mission. In 1993, she took the Flight Surgeon Course at the GAF Institute of Aviation Medicine and in 1995 the NASA Flight Surgeon Training Course at Patrick AFB, FL. In 1995 she visited the Armstrong Laboratory of the Human System Center (Brooks AFB) as a researcher. In the same year, she received the Albrecht Ludwig Berblinger Award of the German Academy for Aviation

Medicine. She earned a Ph.D. in 1996 and participated in the Windows on Science Program of the European Office of Aerospace Research and Development. That same year, she became a staff member of the German Aerospace Centre Institute of Aerospace Medicine's Flight Medicine Clinic. In 1998, she became a Consultant Ophthalmologist to the European Space Agency.

Dr. Stern was a Delegate of the German Aviation Authority at the Medical Subcommittee of the Joint Aviation Authority from 2000-2005 and a member of the Working Group of the European Medical Requirements for Air Traffic Controllers from 2006-2013. She became Head of the Division Flight Medicine Clinic at the DLR in 2014.

Dr. Stern is a member of the Association of Ophthalmologists, the Space Medicine Association, and the International Academy of Aviation and Space Medicine. She has served on the Advisory Board of the German Society of Aviation and Space Medicine, been a member of the Scientific and Organising Committee of the 41st International Congress of Aviation and Space Medicine, Head of the Working Group for Women in Aviation of the German Society of Aviation and Space Medicine, and Head of the Working Group on Polar Medicine and Extreme Environments. She is a past president of the German Society of Aviation and Space Medicine, and former Vice-President of the European Society of Aerospace Medicine. A Fellow of AsMA since 2002, she is also a member of the International Academy of Aviation and Space Medicine. She has been very active during many AsMA congresses as chair and member of the German and other panels, and has published scientific papers about retinopathy and (self)tonometry under micro-gravity and during Spacelab missions.

### ARNOLD D. TUTTLE AWARD

**Rebecca S. Blue, M.D., M.P.H.**

*Established in memory of Col. Arnold D. Tuttle, USAF, MC. Awarded annually for original research that has made the most significant contribution toward the solution of a challenging problem in aerospace medicine and which was published in Aerospace Medicine and Human Performance. Sponsored by Wyle Laboratories.*



Rebecca S. Blue, M.D., M.P.H., received the 2015 Arnold D. Tuttle Award for her role as lead author of "Tolerance of centrifuge-simulated suborbital spaceflight by medical condition" [Aviat Space Environ Med. 2014; 85(7):721-729]. The Other authors were: J. M. Paattarini, D. P. Reyes, R. A. Mulcahy, A. Garbino, C. H. Mathers, J. L. Vardiman, T. L. Castleberry, and J. M. Vanderploeg. They examined the responses of volunteers with known medical conditions to G forces in a centrifuge to evaluate how potential commercial space-

flight participants might tolerate the forces involved in spaceflight. The volunteers were recruited based on suitability for each of five disease categories or a control group and then underwent seven centrifuge runs. Data collected included blood pressure, electrocardiogram, pulse oximetry, neurovestibular exams, and post-run questionnaires. The authors found that, despite medical history, no subject experienced significant adverse physiological effects to the centrifuge profiles. They stated that their results suggest that most individuals with well-controlled medical conditions can withstand the acceleration forces of the launch and re-entry profiles of current commercial spaceflight vehicles.

Dr. Blue received a baccalaureate degree in Biological Sciences with minors in Chemistry and Mathematics from Truman State University in 2003. She was named a Fulbright Scholar in Ireland in 2005-2006 and during that time she received a Higher Diploma in Social Policy from the University College of Dublin, Ireland, for study in Comparative Health Policy. After she returned to the United States, she earned a Doctorate of Medicine from Georgetown University School of Medicine in 2008. After receiving her medical degree, she underwent training in Emergency Medicine at Orlando Regional Medical Center in Orlando, FL. While there, she began working at the Biological Research Laboratory at Kennedy Space Center and had the opportunity to work with the medical team supporting the NASA Space Shuttle launch and landing operations. After completion of her Emergency Medicine training, she was accepted into the Aerospace Medicine residency at the University of Texas Medical Branch and completed this training, as well as a Masters in Public Health in 2012, while practicing as an emergency physician in Houston, TX. Following her aerospace medical training, she began working in the commercial spaceflight industry as a Flight Surgeon for Virgin Galactic.

Dr. Blue is a contributor to many areas of research, including: sleep deprivation and fatigue in extreme environments, development and analysis of

hemodynamic monitoring systems for operational environments, and evaluation of commercial spaceflight passenger tolerance of acceleration forces in preparation for suborbital flight. She was also a member of the medical team for the Red Bull Stratos project as the field medical response team leader, providing crew recovery and ground support and contributing to the development and analysis of the physiological monitoring system to be utilized for the record breaking jump.

A Fellow of the Aerospace Medical Association, Dr. Blue is a member of the Sigma Xi Research Honor Society, the American College of Emergency Physicians, the American Academy of Emergency Medicine, and the American Medical Association. She has received multiple awards for research and scholarly activity throughout her career, including AsMA's Julian E. Ward Memorial Award for Outstanding Aerospace Medicine Resident in 2014, the Young Investigators Award in 2012, and AsMA's Life Sciences Branch Ross McFarland Award in 2012.

### JULIAN E. WARD MEMORIAL AWARD

**Peter D. Hodkinson, M.B.Ch.B., MRCP (UK), D.Av.Med.**

*Established and sponsored by the Society of U.S. Air Force Flight Surgeons in memory of its first member to lose his life in an aircraft accident, and to honor all flight surgeons whose lives are lost in the pursuit of flying activities related to the practice of aerospace medicine. The award is given annually for superior performance and/or outstanding achievement in the art and science of aerospace medicine during residency training.*



Peter D. Hodkinson, M.B.Ch.B., MRCP (UK), D.Av.Med., was the 2015 recipient of the Julian E. Ward Memorial Award for his role as the first UK trainee in Aviation and Space Medicine to follow the new training curriculum. During his residency, he undertook key work that enhanced operational capability through the delivery of a new aircraft oxygen system. He has led or contributed to a diverse range of operationally and flight safety relevant projects from aircraft life support system hazard analysis to medical considerations for UK spaceplane operations. During his Ph.D. work, he undertook experiments that provided physiological evidence to support the introduction into service of a new type of portable oxygen system for Chinook helicopter crew. Other findings from his Ph.D. have influenced hypoxia research methodology and the certification of oxygen delivery systems. An active and keen teacher, he taught regularly on undergraduate courses and the Diploma in Aviation Medicine course at King's College London and the USAF RAF Course.

Dr. Hodkinson earned a B.Sc. (Med. Sci. Hons.) in Physiology from the University of Edinburgh in 2000. This was followed by a Masters in Human and Applied Physiology from King's College London, graduating with Distinction in 2001. The M.Sc. course was his first exposure to the world of aerospace medicine and physiology and sparked a passion that continues to burn strongly. He was lucky to have the late Professor John Ernsting as his M.Sc. research supervisor. His Master's thesis was titled "Is mild hypoxia a risk factor for Traveller's Thrombosis?"

Dr. Hodkinson returned to the University of Edinburgh to complete his medical training, aided by a Royal Air Force (RAF) Medical Cadetship, graduating with an M.B.Ch.B. in 2004. He completed RAF Initial Officer Training at RAF College Cranwell in 2005 and spent a year from 2006-2007 working as a General Duties Medical Officer at RAF Kinloss, home at that time to Nimrod aircraft. He also spent some time at the RAF Centre of Aviation Medicine in 2005 assisting with research on the Joint Strike Fighter oxygen delivery system back-up regulator. Junior doctor and core medical training jobs were also completed in Edinburgh and he passed diploma exams for membership to the Royal College of Physicians in 2008.

In 2009 Dr. Hodkinson earned the Diploma in Aviation Medicine from the Faculty of Occupational Medicine and commenced Specialty Registrar training in Aviation and Space Medicine. The training program has involved a variety of clinical, research physiology, and applied aviation medicine work. Time has been spent within the Royal Air Force, at the Civil Aviation Authority, the U.S. Air Force, and the European Space Agency Space Medicine Office. During Specialty Registrar training he also completed his Ph.D. at the University of Cambridge looking into the effect of hypoxia on aircrew at altitudes of less than 18,000 ft.

In 2014 Dr. Hodkinson was part of an international team that undertook a series of parabolic flights as part of the NASA Flight Opportunities Program to test a handheld near-infrared spectroscopy device. Two other recent interesting projects involved: 1) the provision of aeromedical advice to Dr. Sally Evans for the CAA technical report "UK Government review of com-

mercial spaceplane certification and operations”; and 2) as lead aeromedical advisor for a series of UK fast-jet life support systems hazard reviews, he developed a bespoke educational package for aerospace engineers to inform their understanding of aerospace physiology and risk. The hazard reviews will lead to improvements in flight safety and reduced risks for ground maintainers.

Dr. Hodkinson is a founding member of the UK Space Biomedicine Association (now part of the UK Space Life and Biomedical Sciences Association), a member of the Royal College of Physicians, the International Society of Mountain Medicine, and the British Interplanetary Society, and an Associate Fellow of the Aerospace Medical Association. His awards include best paper award at the Survival and Flight Equipment Europe Symposium, Queen Elizabeth II’s Diamond Jubilee Medal, and Inaugural Survival and Flight Equipment Europe student award winner.

### Read Current News Online and Visit Us on Social Media!

Visit the AsMA, Industry, and Member News pages online. They’re updated regularly. There’s also a form on the top right-hand side of the Members Only page so members can send in their news!

**Twitter:** [https://twitter.com/aero\\_med](https://twitter.com/aero_med)

**Facebook:** [www.facebook.com/AerospaceMedicalAssociation](https://www.facebook.com/AerospaceMedicalAssociation)

**LinkedIn:** [https://www.linkedin.com/company/2718542?trk=tyah&trkInfo=tarId:1404740611720,tas:Aerospace Medical,idx:1-1-1](https://www.linkedin.com/company/2718542?trk=tyah&trkInfo=tarId:1404740611720,tas:Aerospace%20Medical,idx:1-1-1)

### Future AsMA Annual Scientific Meetings

April 24-28, 2016: Harrah’s Resort  
Atlantic City, NJ

April 29 - May 4, 2017: Sheraton Denver Downtown Hotel  
Denver, CO

May 6-10, 2018; Hilton Anatole Hotel  
Dallas, TX

May 5-9, 2019; Rio All Suites Hotel  
Las Vegas, NV

### News of Members

**William Saltiel-Gracián, B.Sc., M.P.H.**, recently completed all requirements for the degree of Master of Public Health at American Military University. He completed his public health practicum at a rural and occupational medicine clinic in Hermiston, OR, where he has resided since 2002, and wrote his capstone thesis, which was entitled “Population Health Effects of Lunar Regolith and Its Simulants.” He previously completed his undergraduate work at Excelsior College, receiving the degree of Bachelor of Science in biology and in psychology, and is presently continuing his postgraduate studies towards the degree of Master of Science in space studies (aerospace science option). He holds the rank of Staff Sergeant in the U.S. Army Retired Reserve, with prior service in the Texas and Oregon Army National Guard, and the U.S. Air Force Reserve. He served in the Gulf War as a flying crew chief on the C-5 Galaxy and completed two combat tours as an infantry NCO during Operation Iraqi Freedom. A long-time commercial pilot and ground instructor in civil life, Will continues to serve as a Civil Air Patrol pilot, observer, and health services officer. Having a longstanding interest in aerospace physiology, aeromedical research, and commercial manned spaceflight, Will’s next objective is to complete medical school and to become an AME.

### New Members

Adkins, Stanley R., M.D., Indianapolis, IN  
Anker, Thorsten, Puerto de la Cruz, Tenerife, Spain  
Bozung, Tracy K., Lt. Col., Wright-Patterson AFB, OH  
Butler, David, M.D., Palos Park, IL  
Florom-Smith, Aubrey L., Dr., Cooper City, FL  
Formanek, Arthur R., M.D., Baltimore, MD  
Gilg, Chris, Honolulu, HI  
Gladhart, Gregg R., M.D., Prescott, AZ  
Glushak, Cai, Dr., Chicago, IL  
Huebner, Kermit, Dr., Bridgeport, WV  
Lippert, Michael T., MAJ, USMC, B.S., Edwards AFB, CA  
Mapes, Nona I., B.A., M.S., Rockville, MD  
Mayes, Ryan S., Ph.D., M.P.H., Upper Arlington, OH  
Rojas, James, Maj., Washington Township, OH  
Salassa, James W., III, MS, USN, Pensacola, FL

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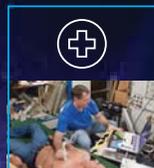
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Samoil, Kathleen, B.Sc., Edmonton, Alberta, Canada  
Schaeffer, Rob L., B.S., Oceana Park, MA  
Schultz, Isabele I., B.S., Orlando, FL  
Scott, Graham B. I., Ph.D., B.Sc., Houston, TX  
Skelley, Nathan W., Dr., Saint Louis, MO  
Stoker, Georgia A., CDR, USN, M.D., Carlsbad, CA  
Vingson, Elizabeth, Col., Ft. bomifacio Makti, Philippines  
Wolf, Richard D. M., Austin, TX  
Wu, Ruilin, Dr., Beijing, China

### In Memoriam: Gerardo Canaveris

The Aerospace Medical Association (AsMA) was saddened to learn of the recent death of Gerardo Canaveris, M.D. Born in Buenos Aires, Argentina, Dr.



Canaveris graduated as an M.D. from the Buenos Aires Faculty of Medicine and started his aviation medicine career by joining the Argentine Air Force in 1956. He was assigned as base flight surgeon to the Rio Gallegos AFB, Argentina (1957–1962). He was the only medical officer invited by the Secretary of the U.S. Air Force to participate in Allied Training. He was assigned to the Military Clinic of Kelly AFB, San Antonio, TX. After undergoing training in aviation medicine and advanced cardiology at various USAF facilities in San Antonio, he attended the School of Aerospace Medicine, and qualified as a USAF flight surgeon in 1963.

Upon return to his home country, Dr. Canaveris was assigned to the National Institute of Aviation and Space Medicine, where he first was Chief of the Section of Internal Medicine, and afterwards, Chief of the Cardiology Section. In 1964, he obtained the Medical Examiner for Flying Personnel Diploma, and qualified as Specialist in Aviation and Space Medicine a year afterwards. He earned the title of Specialist in Cardiology in 1966, and his Doctor in Medicine degree in 1974 from the Buenos Aires Faculty of Medicine. In 1971, Dr. Canaveris retired from the Argentine Air Force when he had a severe aircraft accident. Within a year of the accident, he was reincorporated into the National Institute of Aviation and Space Medicine as

Chief Cardiologist, Physical Fitness Adviser and Chief of the Aviation Medical Examiners Division.

Dr. Canaveris' research and evaluation of complicated cardiovascular problems in airline pilots increased flight safety. Dedicated to maintaining flying fitness, he returned many pilots to flight status by his thorough aeromedical cardiovascular evaluations. He published numerous papers on aviation medicine, aviation cardiology, and flying fitness maintenance. He also was one of the founders of the Argentine Society of Aviation and Space Medicine, and served as its president twice.

A member of the AsMA since 1967, Dr. Canaveris became a Fellow in 1987. He was a member of the International Academy of Aviation and Space Medicine and was an outstanding practitioner and researcher. He promoted the health and prevention of disease in professional airline pilots and shared his expertise widely through lectures and publications, both nationally and internationally. He was awarded the 1992 Boothby-Edwards Award from AsMA for this expertise, outstanding research, and promotion of health in pilots.

### Obituary Listing

AsMA was saddened to learn that **Percival D. McCormack, M.D.**, an Associate Fellow and long-time member of the Aerospace Medical Association (AsMA), recently died. He was a Professor of Bioengineering, Biophysics and Physiology at the University of Illinois at Chicago. He received his M.D. degree in 1978 from Trinity College, Dublin, Ireland, and prior to that obtained a Ph.D. in nuclear physics. From 1979 to 2000 he was a U.S. Navy doctor and flight surgeon and for 6 years was assigned to NASA as Chief of Operational Medicine. He also served for 6 years as Chief of Environmental Medicine at the Navy Medical Research Institute, Bethesda, MD. In 2000 he took up the post at the University of Illinois at Chicago. He worked on imaging techniques such as ultrasound and MRI. Nanofluids were a topic of special interest for him and he wrote a textbook on "The Vortex, Molecular Spin and Nanovorticity" for Springer-Verlag that was published in 2011. He had also recently been appointed to the Advisory Council for the National Institute of Biomedical Imaging and Bioengineering. An active member of AsMA, he served on AsMA's Science and Technology and Scientific Program Committees.

## NEWS OF CORPORATE MEMBERS

### AOPA's Pilot Education Supported by NTSB

The head of the National Transportation Safety Board told Aircraft Owners and Pilots Association (AOPA) President Mark Baker that he supports AOPA's development of a new course to educate pilots on medical health and well-being. NTSB Chairman Chris Hart made the comments during a meeting in June in Washington, DC. AOPA and the AOPA Air Safety Institute are developing the course to help pilots increase their knowledge of aeronautical medical factors and circumstances that may affect their fitness to fly. Hart agreed that "an informed pilot community" with a solid understanding of how to perform medical self-assessments and greater knowledge of the effects of over-the-counter medications and prescription drugs is in everyone's best interest. AOPA and the Air Safety Institute are in the process of finalizing and testing the new course, which should be available by the end of the year. The meeting followed an appearance by Hart at AOPA's Homecoming Fly-In in June. During his fly-in remarks, Hart told the audience that the NTSB wants to avoid "perspective views" on accidents and focus on the information that comes from accident investigations. Earlier this year, the agency named general aviation loss-of-control accidents among its top concerns. The Air Safety Institute provides a number of free online courses aimed at reducing loss-of-control accidents and is participating in the "Fly Safe" campaign, a joint FAA-industry effort to reduce loss-of-control accidents by educating pilots about their causes and how to prevent them.

—To read more about this, please visit <http://www.aopa.org/News-and-Video/All-News/2015/June/17/NTSB-and-AOPA-discuss-medical-reform>.

### ALPA Continues to Work on Increasing Laser Awareness

For years, ALPA has been on the front lines to increase public awareness of the serious safety hazard posed by laser attacks on aircraft cockpits. In our continued efforts to mitigate laser strikes in Canada and improve pilot and passenger safety, ALPA recently hosted a meeting with Transport Canada (the Canadian agency responsible for transportation policies and programs),

the FAA, and the FBI to discuss implementing an awareness campaign similar to those in place in the United States. After a nearly 150 percent increase in reported laser incidents over the past five years, Transport Canada is preparing to launch a national laser awareness campaign designed to provide effective and innovative strategies to engage the public and enhance capabilities for Canadian law enforcement. The recent meeting with Canadian officials is part of ALPA's continued commitment to improving laser strike mitigation capabilities across North America. Through strategic collaboration with government, industry, and private-sector representatives, we will continue to look for ways to protect passengers and crews from the threat of laser strikes.

—For more on this, please see <http://leadershipfromthecockpit.com/2015/06/19/increasing-laser-awareness-across-north-america/>.

### Baxter Releases Sustainability Report

Baxter International Inc. recently issued its 16th annual Sustainability Report detailing the company's progress creating social, environmental, and economic value by addressing the needs of stakeholders worldwide. Baxter's 2014 Sustainability Report, available at [baxter.com/sustainability-report](http://baxter.com/sustainability-report), highlights recent actions taken by the company that align with its nine sustainability priorities, which include strengthening access to healthcare, creating an inclusive workplace, and enhancing math and science education. Priorities also include a range of environmental initiatives such as reducing greenhouse gas emissions, waste generation, and water use. Baxter's Sustainability Report is aligned with the Global Reporting Initiative G3 Guidelines, which provide a uniform and transparent set of metrics to systematically report on sustainability initiatives and results. The company's wide-ranging 2014 highlights include its proactive, strategic approach to product donations and reducing its net greenhouse gas emissions (GHG) from operations by 8% on an absolute basis since 2005, a 41% reduction when indexed to revenue during that time period.

—To learn more, please visit [http://www.baxter.com/press\\_room/press-releases/2015/06\\_10\\_15\\_sustainability.html](http://www.baxter.com/press_room/press-releases/2015/06_10_15_sustainability.html).

## NIOSH Offers Musicians Guidance for Hearing Protection

The National Institute for Occupational Safety and Health (NIOSH) published new guidance to help musicians and those who work in the music industry protect their hearing. Professional musicians such as orchestra, band members, music teachers, and others in the music industry such as disc jockeys, audio engineers, and crewmembers are all at risk for developing permanent hearing loss, ringing in the ears, and other hearing disorders from prolonged exposure to loud music. Exposures to noise exceeding 85 decibels over 8 hours (dBA) are considered hazardous and, if the noise reaches 100 dBA, it could take only 15 minutes to cause permanent damage if exposed for a prolonged period of time. NIOSH's new recommendations are based on a series of studies and collaborations with musicians and music schools. In 2012, NIOSH conducted a Health Hazard Evaluation where NIOSH researchers measured sound levels during middle and high school music classes and marching band rehearsals. Findings showed that sound levels during most band rehearsals exceeded 91 dBA and reached more than 100 dBA at times exposing the band director to sound levels capable of causing permanent hearing damage. For the complete list of recommendations, download "Workplace Solutions: Reducing the Risk of Hearing Disorders among Musicians" (<http://www.cdc.gov/niosh/docs/wp-solutions/2015-184/pdfs/2015-184.pdf>).

—To read more, please see <http://www.cdc.gov/niosh/updates/upd-06-19-15.html>.

## ETC Wins ADMS Contract

Environmental Tectonics Corporation's (ETC's) Simulation Division, located in Orlando, FL, has been awarded a contract to deliver an Advanced Disaster Management Simulator (ADMS) to the Rochester Fire Department. Purchased with funding awarded through the Department of Homeland Security's Assistance to Firefighters Grant (AFG), the Rochester Fire Department will use ADMS to train their Fire Officers, Technical Rescue Specialists, and Hazardous Materials Teams. The installed ADMS-Command virtual reality training suite will include an Incident Command station, three Field Unit stations, and an additional viewing monitor for classroom learning and observation. The ADMS will provide an immersive simulation training tool for over 500 members of the Rochester Fire Department and neighboring departments from senior level Fire Officers to new Firefighters and everyone in between. The simulator includes a variety of incident locations, physics-based simulation of smoke and fire behavior, as well as hazardous materials, to exercise knowledge of fire behavior, practice standard operating procedures, and train critical decision making skills in a virtual environment.

—For more, please visit <https://www.etcusa.com/etc-simulation-awarded-contract-to-deliver-adms-training-system-to-rochester-fire-department/>.

## Mayo Clinic Named a Yellow Ribbon Company

In mid-June, Mayo Clinic was named a Yellow Ribbon Company — the first health organization in Minnesota to receive this recognition. Mayo received this recognition in connection with its participation in the Beyond the Yellow Ribbon Program, which was started by the Minnesota National Guard. This program creates awareness of the need to connect service members and their families with community support, training, services and resources. Being a part of the Beyond the Yellow Ribbon program enables Mayo Clinic to help those affected by military deployments, support successful transition into the workplace following military deployments, and demonstrate a public commitment to supporting military members when they become patients. Mayo Clinic has a long history of supporting the military. In 2011, the first Veterans Mayo Employee Resource Group (Veterans MERG) was formed in Rochester and, as the group became further involved in best practice research, they discovered the Beyond the Yellow Ribbon program, and began to focus their efforts around this program's standards. Mayo's wartime efforts have led to important advances in civilian health care such as the anti-gravity suit for pilots, the oxygen mask and practice efficiencies that became standard operating procedure.

—To learn more, please see <http://newsnetwork.mayoclinic.org/discussion/mayo-clinic-proclaimed-a-yellow-ribbon-company/#more-67190>.

## SAA Receives More Awards

South African Airways (SAA) received more awards at the World Travel Awards™ in late June, where it was named Africa's Leading Airline for 21 years in row. Besides the award as Africa's Leading Airline, SAA's in-flight

magazine, Sawubona, was awarded as Africa's leading in-flight magazine. SAA's low-cost carrier, Mango, was named Africa's Leading Low-Cost Airline. World Travel Awards™ is voted for by travel and tourism professionals worldwide, with awards presented this year at a gala ceremony at the Kempinski Seychelles Resort. These latest World Travel Awards™ add to the SAA Group's recent feat at the Paris Airshow where SAA walked off with no less than three Skytrax awards: The airline was named as Best Airline Africa for the 13th consecutive year; SAA also walked away with the Best Airline Staff Service Africa award for the fourth time; and Mango, SAA's low-cost carrier, received the award for Best Low-Cost Airline in Africa.

—To read more, please visit <http://www.flysaa.com/us/en/flyingSAA/News/South-African-Airways-on-a-winning-streak.html>.

## Corporate News Bites

**Air Canada:** Air Canada recently expanded its network with the addition of non-stop services to Amsterdam and Mexico City. These services mark Air Canada's further expansion of their international capacity. New routes launched this year include Montreal-Venice, Vancouver-Osaka, Vancouver-Comox, Calgary-Halifax, Calgary-Nanaimo, Toronto-Austin, Toronto-Atlantic City, and Calgary-Terrace. For more information on this, please visit the news release at <http://aircanada.mediaroom.com/index.php?s=43&item=891>.

**Epoch Health:** Epoch recently posted a commentary on the use of testosterone in response to the Federal Drug Administration's requirement that drugmakers warn patients that testosterone can increase the risk for heart attacks and strokes. Epoch agrees that testosterone can be dangerous and should only be used when clinically indicated. They are concerned about "shot clinics" and "shot jocks" who may only be interested in getting patients in the door and then keeping them regardless of whether they still need treatment. To read more, please visit <http://www.epochmenshealth.com/epoch-news/commentary-epoch-health-focused-on-teach-test-treat-philosophy-to-keep-men-healthy>.

**Essex Industries:** Essex recently announced a contract from Emirates Airlines to outfit their fleet of Airbus and Boeing aircraft with the Essex Protective Breathing Equipment (PBE). This multimillion dollar contract was obtained through the Essex distributor, Safari Aviation Services of the United Arab Emirates. The PBE is designed to provide crewmembers with ocular, head, and respiratory protection during emergency conditions in an aircraft cabin. To learn more, please visit [http://essexindustries.com/news\\_view?nid=639](http://essexindustries.com/news_view?nid=639).

**Gentex:** Gentex demonstrated its latest line of aircrew helmet systems at the Paris Air Show in mid-June. They also demonstrated their line of Pureflo® respiratory protection products at the American Society of Safety Engineers (ASSE) Safety 2015 Professional Development Conference & Exposition in early June. For more on these, please see <http://www.gentexcorp.com/news-events/news/pureflo-respiratory-protection-from-gentex-presented-at-safety-2015> and <http://www.gentexcorp.com/news-events/news/gentex-highlights-alpha-930-aircrew-helmet-systems-at-paris-air-show>.

**Spectrum Aeromed:** Spectrum recently completed customization of a Lear 45 for Red Star, a long-time customer from Turkey. They installed a dual patient system medical interior and the Lear 45 was also granted an aircraft operator certificate. This is the second medical interior Spectrum Aeromed has completed for Red Star, with the first installation being in a Jetstream 32. Another accomplishment as a result of this install is the STC validation from EASA for the Lear 45. Spectrum Aeromed also received STC validation this month from EASA on an unrelated Cessna XL. To read more, please visit <http://spectrum-aeromed.com/spectrum-aeromed-equipped-lear-45-air-ambulance-red-star/>.

**United Airlines:** United recently announced that the company will add 10 Embraer E175 aircraft to the United Express fleet. Additionally, United expects that the airline or one of the carriers that operate as United Express will convert 18 more E175 aircraft to firm orders in the near term. United anticipates deliveries of the aircraft will begin next year and continue through the summer of 2017. The new aircraft will replace older, less-efficient 50-seat regional jets and are in addition to the 125 E175s whose deliveries began in 2014. To learn more, please see <http://newsroom.united.com/2015-06-15-United-Airlines-to-Add-More-Embraer-E175-Aircraft-to-United-Express-Fleet>.

## UPCOMING CALLS FOR PAPERS

**November 2-4, 2015;** 53rd Annual SAFE Symposium; Caribe Royale Hotel & Convention Center, Orlando, FL. Call for Papers: Deadline for abstract submission is July 24, 2015. For more information, please visit <http://www.safeassociation.com/index.cfm/page/symposium-overview>.

**November 10-12, 2015;** The XI International Scientific and Practical Conference "Manned Space Flights"; Star City, Russia. Abstract deadline for international participants is July 7, 2015. For more information, please visit <http://msf2015starcity.com/en>.

## MEETINGS CALENDAR

**July 1-3, 2015;** XXVIII National Congress of AIMAS; Expo-Fiera Milano, Milan, Italy. For more, please visit [www.aimas.it](http://www.aimas.it) or contact Maj. Paola Verde, [segreteria@aimas.it](mailto:segreteria@aimas.it).

**July 22-24, 2015;** Pandemics, Bioterrorism, and International Security; George Mason University Campus, Arlington, VA. For more, visit <http://spgia.gmu.edu/programs/executive-education/summer-program-international-security/>.

**September 29-30, 2015;** Aviation Health Conference; Millennium Gloucester Hotel, London, UK. For more information, please visit <http://www.quaynote.com/ankiti/www/?code=AVHealth15>.

**October 12-16, 2015;** 66th International Astronautical Congress (IAC 2015); Jerusalem, Israel. For more: <http://www.iac2015.org/cost-and-payments/>.

**October 26-30, 2015;** 2015 International Annual Meeting of the Human Factors and Ergonomics Society; JW Marriott Los Angeles at L.A. Live. For more information, please visit <https://www.hfes.org/Web/HFESMeetings/2015annualmeeting.html>.

**November 2-4, 2015;** International Air Safety Summit (IASS); Miami, FL. For more information or to register, please visit <http://flightsafety.org/meeting/iass-2015>.

**December 3-5, 2015;** First UAE International Symposium on Air Sport Medicine. This symposium is being held as part of the FAI World Air Games Dubai 2015 from Dec. 1-12. For more, please visit: <http://www.worldairgames.aero/>.

## George Mason University 2015 Summer Program in International Security

**IS 0300—Pandemics, Bioterrorism, and International Security**  
**July 22 – 24, 2015, 9:00 AM – 5:00 PM, GMU Arlington Campus**

This three-day, non-credit course introduces participants to the challenges facing the world at the intersection of health and security.

**Who Should Attend:** Professionals and academics in public health, the life sciences, industry, law enforcement, emergency management, international affairs, and national security who have responsibilities for preventing, preparing for, or responding to pandemics or bioterrorism.

**Registration fee:** \$1195 (\$1395.00 After June 15). Registration includes: Continuing Education Units and Certificate, All Course Materials, Catered Lunches and Coffee Breaks, Networking Reception. Discounts for GMU alumni and groups of three or more. For more or to register: <http://spgia.gmu.edu/programs/executive-education/summer-program-international-security/>.

## Upcoming FAA AME Seminars

<u>Dates</u>	<u>Location</u>	<u>Seminar Type</u>
July 17-19, 2015	Philadelphia, PA	Refresher <sup>††</sup>
Aug. 29-30	Denver, CO	Refresher <sup>†</sup>
Oct. 8-10, 2015	Fort Worth, TX	CAMA <sup>††</sup>

For more information on these or to register, please visit the FAA's AME Seminar page: [http://www.faa.gov/other\\_visit/aviation\\_industry/designees\\_delegations/designee\\_types/ame/seminar\\_schedule/](http://www.faa.gov/other_visit/aviation_industry/designees_delegations/designee_types/ame/seminar_schedule/).

<sup>††</sup>Seminar sponsored by the Civil Aviation Medical Association (CAMA). It is sanctioned by the FAA and fulfills the FAA recertification training requirement.

<sup>‡</sup>HIMS AME Refresher Training. Registration is limited to HIMS AMEs.

<sup>‡‡</sup>A 2-1/2 day AME refresher seminar consisting of 14 hours of AME specific subjects plus 4-6 hours of subjects related to a designated theme. Registration must be made through the Oklahoma City AME Program staff.