



Ever Upward: December 2023

Newman Is Incoming Editor-in-Chief

Prof. David Newman, AM, M.B., B.S., D.Av.Med., MBA, Ph.D., Hon. FRAeS, FAsMA, FACAsM, FAICD, FRSM, is the incoming Editor-in-Chief for *Aerospace Medicine and Human Performance*. His distinguished



service to aerospace medicine as a researcher, educator, and flight safety advocate spans more than 30 years. He has taught thousands of civilian and military doctors, pilots, and accident investigators around the world in aerospace medicine and human factors. He has conducted significant, unique, and award-winning research with over 100 publications, including 2 textbooks. He has been an expert consultant to 26 accident investigations in 4 countries involving a range of aircraft types from light aircraft

to commercial jet airliners. In recognition of his extensive and significant contributions to aerospace medicine, Prof. Newman was admitted to Honorary Fellowship of the Royal Aeronautical Society in 2020. He is the first aerospace physician to receive this honor, conferred on those whose careers, leadership, inspiration, and impact mark them out as among the most eminent and influential aerospace professionals of their generation.

Dr. Newman is Visiting Professor of Aerospace Medicine at King's College London. An internationally recognized aerospace medicine researcher, his widely cited research covers the full spectrum of aerospace physiology, clinical aerospace medicine, aerospace biomechanics, and flight safety. He is an authority on the effects of G force in pilots, having published extensive research on G-related issues, including his two textbooks: "Flying Fast Jets" and "High G Flight." Prof. Newman is actively involved in air accident investigations and his specialist expertise has been sought by several international investigative agencies. In 2020, he was a member of the expert review panel for a UK inquiry into G-related cognitive impairment. He has dedicated his career to improving human performance in flight and enhancing flight safety.

Prof. Newman holds a medical degree from Monash University, a Ph.D. from the University of Newcastle, an MBA from Deakin University, and a Diploma in Aviation Medicine from the Royal College of Physicians of London. He is a qualified USAF Flight Surgeon and a pilot with flying experience in a range of civilian and military aircraft, including the F/A-18 Hornet, the Hawk T1, and the Harrier.

Upon graduating from the Faculty of Medicine at Monash University in 1989, Prof. Newman entered full-time service in the Royal Australian Air Force (RAAF). His career as a mili-

tary medical officer and aviation medicine specialist included 3 years in support of tactical fighter operations. In that capacity, he regularly flew with all four on-base fighter squadrons. In October 1994, he was called upon to help rescue and recover two fighter pilots who had ejected following a mid-air collision. In 1995, he was posted to the United States and undertook the USAF Flight Surgeon training program. In 1997, he was selected to undertake an RAF exchange posting in the United Kingdom, where he completed the Diploma in Aviation Medicine and won the Stewart Prize for the best student. He then stayed in the United Kingdom for another 7 months as an aviation medicine instructor, where he taught aviation medicine to RAF aircrew. His final posting was 2 years as the Chief Instructor at the RAAF Institute of Aviation Medicine, where he was responsible for the training of all Australian Defence Force aircrew and medical officers in aviation medicine. During his tenure as Chief Instructor, he was the Australian representative for several international working parties of the 5-nation Air Standardization Coordination Committee.

After leaving the RAAF in 2000, Prof. Newman founded the Aviation Medicine Unit at Monash University, where he later became Professor of Aviation Medicine. In that capacity he developed, coordinated, and taught a range of aerospace medicine courses. In 2020, he was appointed to his current role as Visiting Professor of Aerospace Medicine at King's College London.

In addition to his academic work, Prof. Newman is the founder and Managing Director of Flight Medicine Systems Pty Ltd, a globally focused company which has been providing highly specialized aerospace medicine research, training, consultancy, and accident investigation services for over 23 years. He has provided high-level consulting and advisory services to various national and international government agencies, regulatory bodies, airlines, and corporate entities in over 25 countries.

Prof. Newman has been a long-standing reviewer and member of the Editorial Board of *Aerospace Medicine and Human Performance*, and he is a reviewer for multiple international peer-reviewed journals, including *Anaesthesiology*, *Autonomic Neuroscience*, and *Occupational & Environmental Medicine*. He was also Chair of a University Human Research Ethics Committee for 15 years.

Prof. Newman's many international awards include the Stewart Memorial Prize from the RAF School of Aviation Medicine in 1997, the Royal Aeronautical Society's 2000 Buchanon-Barbour Award, and the Aerospace Medical Association's 2000 Arnold Tuttle Award, the 2014 John Paul Stapp Award, and the 2021 Louis H. Bauer Founders' Award. In 2022, he received the University of Newcastle's Alumni Medal for Professional Excellence and, in 2023, he received a Deakin University Alumni of the Year award. He was appointed a Member of the Order of Australia (AM) in the 2023 King's Birthday Honours List for significant service to aerospace medicine, and is a Fellow of the Aerospace Medical Association and the Australasian College of Aerospace Medicine.

Send information for publication in this newsletter to: Journal Department, AsMA: rtrigg@asma.org

New Members

AsMA welcomed 39 new members in the past month.

- Alqahtani, Hatem; Toronto, Ontario, Canada
- Blue, Benjamin; San Francisco, CA, United States
- Bradshaw, Jace; Baltimore, MD, United States
- Bruebaker, Melissa; Pensacola, FL, United States
- Carrillo, Abril; Ciudad de México, Mexico
- Correa, Patrick; Dakar, Senegal
- Garcia, Jesus; Fort Worth, TX, United States
- Ghoddousi, Payam; London, United Kingdom
- Hou, Laurence; Hillsborough, NJ, United States
- Kemp, Richard; Hanford, CA, United States
- Kilic, Fatma; Doha, Qatar
- Klein, Jordan; APO, AE, United States
- Klinker, Nora; Williamsburg, VA, United States
- Kwon, Marcus; Camas, WA, United States
- Leavitt, Lydia; Jeffersonville, IN, United States
- Malladi, Pallavi; Orange, CA, United States
- Mathew, Manoj; Cochin, India
- McNally, Conor; Berkeley Heights, NJ, United States
- Merilson, Lisa; New Smyrna Beach, FL, United States
- Mishra, Stuti; Uttar Pradesh, India
- Musatova, Dasha; Uniondale, NY, United States
- Nadaf, Mohammad Shoabi, Belgaum, India
- Najmi, Murtaza; Dubai, United Arab Emirates
- Napier-Ionascu, Nicolle; Orinda, CA, United States
- Nassar, Jay; Wyomissing, PA, United States
- Oniyide, Tosin; Chicago, IL, United States
- Pedroso, Ana; Pitanga, Brazil
- Raus, Aric; Kansas City, MO, United States
- Raval, Darshankumar; Jacksonville, FL, United States
- Ricks, Emily; Horizon City, TX, United States
- Riley, Brian; Seattle, WA, United States
- Ringdahl, Erik; San Antonio, TX, United States
- Rodriguez, Omar; Bayswater, Western Australia, Australia
- Saha, Devankush; Webster, TX, United States
- Singh, Rajat; New Delhi, India
- Stein, Laila; Trafalgar, IN, United States
- Vanstone, Sean; Donyatt, Somerset, United Kingdom
- Veeranna, Raghunandan; New Delhi, India
- Whitaker, Fiona; Johnson City, TN, United States

AsMA also welcomed back five returning members.

- Carminati, Maria-Vittoria; Denver, CO, United States
- Colon, Ismael; Caguas, Puerto Rico
- Maciejewski, Claire; Sagamore Hills, OH, United States
- Patel, Roshan; Norristown, PA, United States
- Pattanaik, Sambit; Philadelphia, PA, United States

Read Current News Online!

Visit the AsMA & Industry News to see what's new! Members: log in on the home page to read Member News.

Visit Us on Social Media!

Twitter: https://twitter.com/aero_med

FB: www.facebook.com/AerospaceMedicalAssociation

LinkedIn: <https://www.linkedin.com/company/2718542?trk=tyah&trkInfo=tarId:1404740611720,tas:AerospaceMedical,idx:1-1-1>

FAA News

Pilot Mental Health Rulemaking Committee

The Federal Aviation Administration will establish a Pilot Mental Health Aviation Rulemaking Committee (ARC) to provide recommendations on breaking down the barriers that prevent pilots from reporting mental health issues to the agency. Pilots must report certain mental health conditions to their aviation medical examiners, who are trained to determine the pilot's fitness to fly. The ARC will include medical experts and aviation and labor representatives. The FAA will finalize the charter for the rulemaking committee and appoint the panel of experts in the coming weeks. It will build on previous work the FAA has done to prioritize pilot mental health. In addition, the FAA will work with the ARC to address open recommendations from the July 2023 DOT Office of Inspector General report on Pilot Mental Health Challenges, which found that the agency has "comprehensive procedures to evaluate pilots' psychological health." To read the full release, please visit <https://www.faa.gov/newsroom/faa-appoint-rulemaking-committee-examine-pilot-mental-health>.

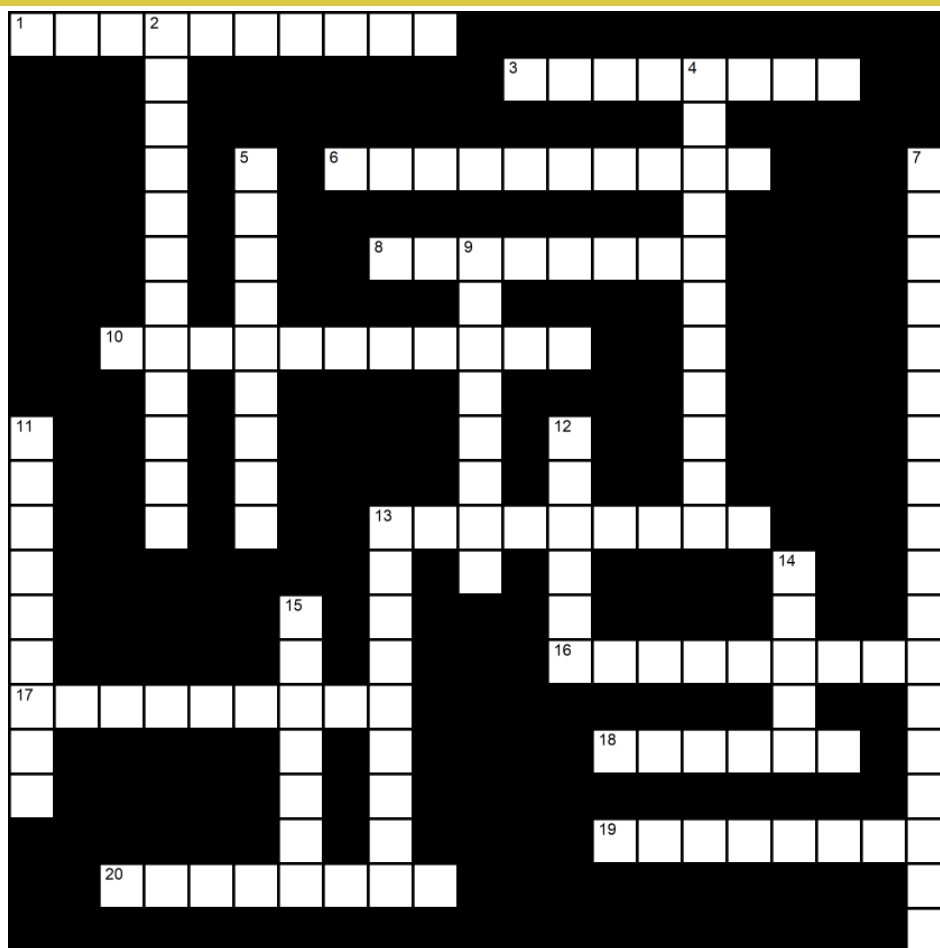
Safety Review Team Recommendations

The Federal Aviation Administration is taking immediate action to enhance air traffic controller training and safety reporting following the release of the National Airspace System Safety Review Team report. The independent safety review team completed a thorough assessment and presented its recommendations this week on enhancing safety and reliability in the nation's air traffic system. The team examined the FAA's internal safety processes, staffing levels and practices, as well as needs for facilities and equipment and how the agency's air traffic budget is funded. The FAA commissioned the panel of aviation experts following the agency's Safety Summit in March. Since the Safety Summit, the FAA has undertaken a series of safety initiatives to reach its commitment to pursue a goal of zero serious close calls. See <https://www.faa.gov/newsroom/faa-takes-actions-address-independent-safety-review-teams-recommendations> for more.

Runway Safety Meetings

The Federal Aviation Administration continues to address runway safety risks with 16 runway safety meetings for the remainder of the year. These meetings are in addition to the 90 Runway Safety Action Team meetings across the country already held. The meetings, held annually at each airport with a control tower, are the primary forum for pinpointing and addressing airport-specific risk in the surface environment. The product of the meeting is a Runway Safety Action Plan where stakeholders agree to pursue specific actions to improve surface safety. During a Runway Safety Action Team meeting, airport stakeholders identify unique risks to surface safety at that airport and develop plans to mitigate or eliminate those risks. Representatives from the FAA's air traffic organization, airlines, pilots, airport vehicle drivers and others participate. Major airports with upcoming runway safety meetings include Boston Logan International Airport, Dallas/Fort Worth International Airport and Newark Liberty International Airport. For the full article, please visit <https://www.faa.gov/newsroom/faa-schedules-next-series-runway-safety-meetings>.

December Crossword Puzzle



ACROSS

1. Bardin and _____ introduced the concept of Unit Pulmonary Toxic Dose (UTPD). (10)
3. Recurring exposures to an extreme level of HBO₂ eventually induces irreversible hyperoxic paralysis known as the _____ Effect. (4,4)
6. _____, by blocking superoxide dismutase, can increase the risk of oxygen toxicity and should not be used concurrently with HBOT. (10)
8. Toxic effects of O₂ was first reported by _____. (8)
10. Cardiac toxicity is the reason concurrent use of _____ and hyperbaric oxygen therapy is contraindicated. (11)
13. The _____ Therapeutic Regimen (ATR) in hyperbaric oxygen therapy (HBOT) is a treatment protocol developed by Dr. J. J. Wortel in the Netherlands. It is primarily used for the treatment of chronic non-healing wounds, such as diabetic foot ulcers, venous stasis ulcers, and other tissue injuries that have not responded to conventional treatments. (9)
16. _____ described the rupture of eardrums in drivers around 300BC. (9)
17. Dysbaric osteonecrosis is a type of _____ necrosis of the bone most commonly found in undersea divers and workers breathing compressed air or gas. (9)
18. _____'s Arithmetic Method is a table which is used to calculate oxygen exposure from 0.6 to 5.0 ATA and enables

the calculation of total UPTD for a given oxygen exposure or sequences of exposures. (6)

19. Dr. Andrew Smith, a physician with the miners coined the word _____ disease to describe illness that he encountered among workers of Brooklyn bridge. (8)
20. _____ in bubble size during HBOT is based on Boyle's law. (8)

DOWN

2. _____ the precursor of vitamin A helps in protection against pulmonary oxygen toxicity. (4,8)
4. HBOT causes a decrease in cardiac output due to _____. (11)
5. The total oxygen content of blood under hyperbaric conditions is equal to the oxygen content combined with hemoglobin plus the _____ oxygen content. (9)
7. Marx protocol is used for _____. (18)
9. HBOT _____ the permeability of the Blood Brain Barrier. (9)
11. Lorraine Smith effect is the name given for _____ toxicity of HBOT. (9)
12. _____ is considered to be the Father of modern Hyperbaric Medicine. (7)
14. Capillary diffusion theory is credited to _____. (5)
15. As per _____ effect, the saturation of carbon dioxide depends on deoxygenation. (7)

*By Lt. Col. Srihari Iyer K, Flight Surgeon, Indian Army.
The solution is on p. N81.*

News of Corporate Members

Axiom Chooses AWS for Cloud Services

Axiom Space announced that it has chosen Amazon Web Services (AWS) in support of its terrestrial information technology (IT) infrastructure. By migrating its enterprise IT to AWS, Axiom Space looks to provide its engineers, ground operations, and business development teams the terrestrial cloud infrastructure necessary to enable development of its next-generation commercial space station, [Axiom Station](#). In parallel to going all-in on AWS for enterprise IT needs, Axiom Space and AWS will continue to collaborate on validating cloud-based hardware and software capable of supporting in-space workloads. These include cutting-edge scientific research and discovery that Axiom Space supports on orbit to benefit new pharmaceuticals development, stem cell research, regenerative medicine, and other areas of study in the micro-gravity environment. Axiom Space and AWS are also collaborating on the development and demonstration of in-space cybersecurity solutions that set the foundation for operating a cybersecure Axiom Station. Axiom Space and AWS worked together to integrate and operate an AWS Snowcone device on the International Space Station as part of the Axiom Mission 1 (Ax-1) in April 2022. Together, the teams used the device's powerful edge processing capability to apply a sophisticated machine learning (ML)-based object recognition model and quickly analyze images of various scientific experiments on orbit. Today the AWS Snowcone—a small, rugged, and secure device offering edge computing, data storage, and data transfer on-the-go in an austere environment with little or no connectivity—remains on orbit and Axiom Space continues to demonstrate unique use cases in edge processing, artificial intelligence (AI), ML, and in-space cybersecurity with its partners.

—Please visit <https://www.axiomspace.com/news/amazon-web-services-all-in> for the complete press release.

Leidos Awarded Radar Contract

Leidos, announced it was recently awarded a new contract by the Marine Corps System Command (MARCORSSYCOM) through the Consortium Management Group (CMG). The defense radar systems development contract calls for four Medium Range Air Defense Radar (MRADR) prototype systems within a two-year span. The company's Dynetics team will be leading the development of the required sensors. Leidos' Dynetics Group previously developed the Marine Expeditionary Long Range Persistent Sensor (MELPS) assets through the Office of Naval Research Multi-domain Radar in Contested Environments (MuDRaCE) program, which was managed by Leidos' Innovation Center (LIInC). Those sensors provide a 360-degree field of view that combines digitized antennas and receivers with sophisticated signal processing techniques to provide a persistent, high-quality air picture with no detectable electromagnetic footprint. Work on the new systems will be based off expertise from previous sensor development programs as well as feedback from live demonstrations.

—Please see <https://www.leidos.com/insights/leidos-awarded-32m-defense-radar-contract> to read more.

Mayo's NICU Celebrates 50 Years

The Neonatal Intensive Care Unit (NICU) at Mayo Clinic began as a four-bed pilot project in 1973, spearheaded by the late Robert Feldt, M.D., a pediatric cardiologist, and Lloyd Harris, M.D., a pediatrician. The pilot was a success, quickly demonstrating the need for more space and personnel to care for the hospital's most fragile patients. Mayo Clinic's original four-bed Neonatal Intensive Care Unit has grown to include two Neonatal Intensive Care Unit locations in Rochester, where 879 newborns received care in 2022. A neonatal telemedicine service introduced in 2013 serves even more patients, placing a neonatologist virtually at the bedside of any newborn across the entirety of Mayo Clinic Health System. This service assists local care teams with the stabilization of critically ill babies and has supported nearly 1,000 newborns since its inception. All of the babies who received care at Mayo Clinic's NICU are invited to attend an annual NICU family reunion.

—Please visit <https://newsnetwork.mayoclinic.org/discussion/neonatal-intensive-care-unit-celebrates-50-years-of-caring-for-mayos-tiniest-patients-including-those-of-a-nicu-nurse/> to read the full story.

ADDMAN Employee Recognized by SME

ADDMAN announced that Dr. Youping Gao, Chief Scientist, has been distinguished as a member of the 2023 SME College of Fellows. This prestigious recognition, awarded since 1986, celebrates individuals who have made exceptional contributions to the manufacturing profession. Dr. Gao has played a pivotal role in advancing additive manufacturing and industrialization. His achievements include spearheading groundbreaking initiatives, such as being the first in the nation to receive NASA production certification for additive manufactured hardware in human spaceflight. His extensive research, supported by NASA, Air Force, AFRL, MDA, and industrial partners, has resulted in over 40 published papers on advanced materials, laser materials processing, and additive manufacturing. Additionally, he has shared his expertise through leading workshops at prominent conferences.

—Please see <https://www.addmangroup.com/youping-gao-2023-sme-fellow-inductee/> for more on this.

AOPA Partners with Choose Aerospace

To meet the ongoing and increasing demand for pilots and mechanics, the Airplane Owners and Pilots Association (AOPA) has teamed up with Choose Aerospace, a nonprofit partnership of aerospace stakeholders interested in diversifying and increasing the aviation workforce. According to a memorandum of understanding signed October 5, the parties will collaborate to “identify curriculum alignment, jointly promote each other's educational materials, and pursue grant funding opportunities related to aviation.” The partnership between the AOPA Foundation, the philanthropic arm of AOPA, and Choose Aerospace will attempt to reduce duplicated efforts to build robust aviation programs that fulfill the in-

See “Corporate News”, p. N81

terests of students and meet aviation and aerospace workforce demands. Details of the agreement include comparison of curriculum benchmarks and competencies; cross-promotion of the curriculum and materials through several digital and in-person avenues; and exploration of grant funding proposals related to K-12 aviation education.

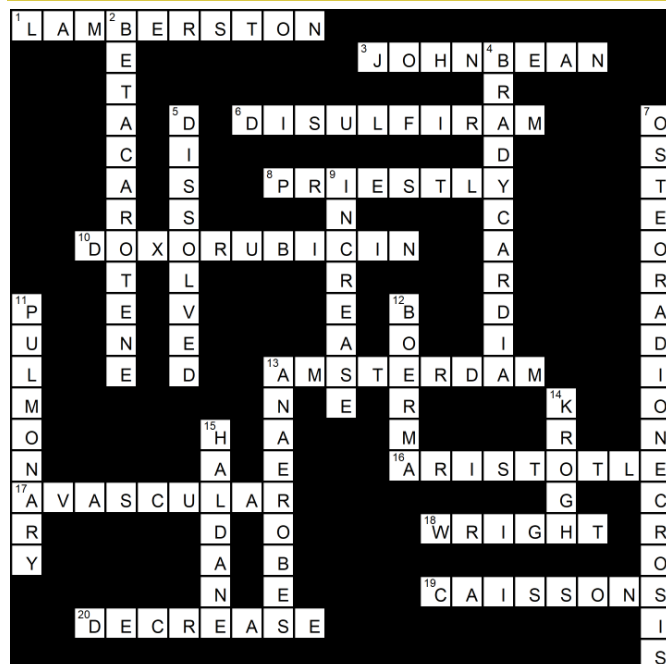
—Please visit <https://www.aopa.org/news-and-media/all-news/2023/november/07/aopa-choose-aerospace-partner-on-aviation-education-workforce-development> to read more.

KBR Presents HSSE Award

KBR President and CEO Stuart Bradie has recently recognized the outstanding efforts of this year's Health, Safety, Security and Environment (HSSE) Excellence award winner. This prestigious award is given annually to individuals or groups who demonstrate exceptional HSSE leadership or extraordinary performance improvement by living our commitment to Zero Harm. This year's winner, James Asher, from KBR's Government Solutions International Projects and Programmes business, was presented the award for his achievements as the contract manager at the British Embassy in Mogadishu. James began his role in 2022, and proactively strove to increase safety and performance on the project. His dedication in this area led to him achieving an average of 97% on the project's Structured Safety Evaluation Audit, 99.6% Safety Energy score, delivery of ten leadership safety visits, and reaching a 4-year incident free milestone. Prior to joining KBR, James was in the British Army for 24 years where he achieved the rank of Warrant Officer and recognized for his service on the Queens Honors list in 2013 with the Meritorious Service Medal (MSM).

—Please see <https://www.kbr.com/en/insights-news/stories/kbrs-ceo-award-hsse-excellence> for more on this.

Crossword Solution



Corporate News Bites

MedAire: MedAire recently received the National Business Aviation Association's Sustainable Flight Department Accreditation. This program includes four accreditations: flight, ground support, operations, and infrastructure. It is aimed at recognizing the diversity of business aviation entities, providing an industry standard for validating leadership in sustainable flight operations, and promoting a culture of sustainability. To read the full release, please visit <https://www.newproductsdigest.com/article/668315907-nbaa-announces-latest-recipients-of-sustainable-flight-department-accreditation>.

UTMB: The University of Texas Medical Branch's (UTMB's) Department of Population Health and Health Disparities is accepting applications for seed grants to catalyze enduring, collaborative, interdisciplinary research projects across several UTMB Center programs and the School of Public and Population Health (SPPH) by funding seed projects. Proposals are encouraged that include trainees at any level of career development. Proposals are especially encouraged that involve interdisciplinary research covering areas of interest to two or more of the participating entities. The deadline is February 1, 2024. For more and links to apply, please see <https://www.utmb.edu/spph/department/of-population-health-health-disparities/seed-grants>.

ALPA: The Air Line Pilots Association, Int'l (ALPA), issued a statement in response to the Federal Aviation Administration (FAA) establishing a Pilot Mental Health Aviation Rulemaking Committee. The statement talks about how they have worked with the Federal Aviation Administration (FAA) and partners across the industry to improve aviation safety and have implemented and supported pilot mental health programs. The statement further says they are looking forward to continuing to work with the FAA and others on the committee. To read the complete statement, please visit <https://www.alpa.org/news-and-events/newsroom/2023-11-09-mental-health-arc>.

Meetings Calendar

10 Dec. 2023; International Humans in Space Summit 2023; virtual. Scheduled from 9:30-17:00 AEDT (Sat., Dec. 9 for those in North America). For more info or to register, please visit <https://adastravita.com/international-humans-in-space-summit-2023/>.

Feb. 27-28, 2024; National Training Aircraft Symposium; Mori Hosseini Student Union Events Center on the Daytona Beach campus of Embry-Riddle Aeronautical University. Please visit <https://commons.erau.edu/ntas/about.html> for more info.

May 19-22, 2024; 108th American Occupational Health Conference (AOHC), Loews Royal Pacific Hotel, Orlando, FL, United States. For more info, visit [https://acoem.org/American-Occupational-Health-Conference-\(AOHC\)](https://acoem.org/American-Occupational-Health-Conference-(AOHC)).

Calls for Papers

Ongoing: International Astronautical Federation (IAF) Global Networking Forum Space Conversations Series; ONLINE, 14:00 Paris time. Please visit <https://www.iafastro.org/events/iaf-gmf-space-conversations-series/> for more info.



CALL FOR AUTHORS

100 YEARS!

- ▶ Join a project spearheaded by the History and Archives Committee as we prepare for the upcoming 100th anniversary of AsMA in 2029!
- ▶ Seeking authors interested in contributing a chapter to a book that examines how aviation and aerospace medicine have changed over the past century, as reflected by our Society through the years.
- ▶ Help us celebrate the history of AsMA and the innovations in our field that many of you have not only witnessed but engineered.
- ▶ Please contact Committee Chair Walt Dalitsch at walt3@dalitsch.com if interested.

FAA AME Seminars

These are offered by the FAA AME Program Office.

January 26-28	San Diego, CA	Refresher
March 4-8	Oklahoma City, OK	Basic
April 12-14	VIRTUAL	Refresher
May 6-9	Chicago, IL	AsMA
June 10-14	Oklahoma City, OK	Basic
August 9-11	TBD	Refresher
September 19-21	Jacksonville, FL	CAMA
October 21-25	Oklahoma City, OK	Basic
November 22-24	TBD	Refresher

AsMA only takes registrations for the seminar held in conjunction with our annual scientific meeting. For more info on these seminars, please visit the FAA website.

The Need For SPEED

Farther, faster, together.

The Aerospace Medical Foundation is working to accelerate its efforts by empowering the next generation of Aerospace Medicine scientists who will take humans to deep space. In order to achieve these objectives, they are setting a goal in the "Need for Speed" campaign of \$5 million by AsMA's 100th Anniversary! Donations can be in cash or in stock and can be made by credit card or PayPal through the AsMAFoundation.org website. AsMA Members: consider joining the Heritage Society and include the Foundation in your estate planning.

Support the Foundation!

With your help we can accelerate to Mach 10 by 2029!



SUBSONIC
MACH < 1.0

\$680,000

Happy Holidays

The staff of Aerospace Medicine and Human Performance and the Aerospace Medical Association wish our members and subscribers a joyous and safe holiday season and a very happy New Year.