



Ever Upward: October 2023

Save These Dates!

Welcome to October! We at the AsMA Home Office would like to remind everyone of some important upcoming dates.

Abstract Submission

The abstract submission site has been open since September 1. The site is located at <https://asma-abstracts.secure-platform.com/a/solicitations/39/home>. AsMA Members can log in using their AsMA credentials. The theme for the 94th Annual Scientific Meeting is “Honoring the Past...Preparing for the Future” and we welcome abstracts in the many areas related to Aerospace Medicine. Details can be found on the submission site, in the Call for Papers (<https://www.asma.org/scientific-meetings/asma-annual-scientific-meeting/call-for-papers>), or on the Abstract Submission page (<https://www.asma.org/scientific-meetings/asma-annual-scientific-meeting/abstract-submissions-instructions-for-presenters>). **The deadline for submission is November 1—there will be no exceptions.**

Council & Scientific Program Committee meetings

In November, there will be an AsMA Council meeting on **November 15** at the Holiday Inn Alexandria at Carlyle, 9 AM – 4 PM. The Scientific Program Committee meeting will be the following day, **November 16**, from 9 AM to 5 PM. Breakfast will be offered on November 15 and 16 at 8 AM. AsMA Members who are interested in becoming scientific abstract reviewers can log into the Members Only site through the login boxes in the top right-hand corner of the home page at www.asma.org and click on the link for “Scientific Program Committee” in the left-hand column. This year the reviewing will be both remote and in person. **The RSVP deadline is November 1 and hotel reservations for in-person attendance should be made no later than October 31.**

We hope everyone is doing well during these busy times and that we will see many of you at the Scientific Program Committee meeting in November as well as at the Annual Scientific Meeting next May in Chicago, IL.

New Members

AsMA welcomes 20 new members in October.

- Bond, Sabrina; Palo Alto, CA, United States
- Cicero, Gina; Racine, WI, United States
- Duncan, Kelsey Rose; Cleveland, OH, United States
- Ghafoury, Roya; Tehran, Iran
- Harvey, William; Virginia Beach, VA, United States
- Hudson, Adam; Kurrajong, New South Wales, Australia
- Hutton, Sophie; Newport News, VA, United States
- Jois, Preeti; Tampa, FL, United States
- Kadakza, Nimish; Brea, CA, United States
- Lerman, Milton; Oro Valley, AZ, United States
- McDonald, Abigail; Wethersfield, CT, United States
- McGaa, Nicole; Pittsburgh, PA, United States
- Menon, Srihari; College Station, TX, United States
- Mossman, Audrey; Seattle, WA, United States

- Nakkala, Puja; Apex, NC, United States
- Rajeev, Srishti; Phoenix, AZ, United States
- Ritter, Eric; Houston, TX, United States
- Silva, Quinton; Duluth, GA, United States
- Singh, Raunak; Clermont, FL, United States
- Skicki, John; Albuquerque, NM, United States

AsMA also welcomes back one member.

- Hadinoto, Mario Damianus Daniel; Jakarta Barat, Indonesia

FAA News

FAA Proposes Rule to Reduce Debris from Commercial Space Vehicles

The Federal Aviation Administration (FAA) is proposing a rule to limit the growth of new orbital debris and reduce the potential for collisions with spacecraft and satellites to promote a sustainable space environment. If left unchecked, the accumulation of orbital debris will increase the risk of collisions and clutter orbits used for human spaceflight and for satellites providing communications, weather, and global positioning system services.

The proposed rule would require commercial space operators to choose from among five options to dispose of the upper stages of launch vehicles. These include: conduct a controlled reentry; move the upper stage to a less congested storage or graveyard orbit; send the upper stage on an Earth-escape orbit; retrieve the upper stage (called active debris removal) within 5 years; or perform an uncontrolled atmospheric disposal. By strictly limiting the uncontrolled reentry of upper stages, the FAA seeks to mitigate the risk to people on the ground and in flight due to the significant size and mass and the uncertainty of where such debris will land.

The proposed rule also would align commercial space orbital debris mitigation practices with those accepted by the U.S. government for its space missions. As of July 2023, the number of orbital objects sized 10 cm or greater is estimated to be over 23,000. Recent debris projections estimate a total of one-half million objects sized between 1 and 10 cm on orbit and over 100 million objects larger than 1 mm.

The 90-day public comment period will begin after the proposed rule is published in the Federal Register. To see the complete press release, please visit <https://www.faa.gov/newsroom/faq-proposed-rule-would-reduce-growth-debris-commercial-space-vehicles>.

For more FAA news, visit <https://www.faa.gov/newsroom/press-releases>.

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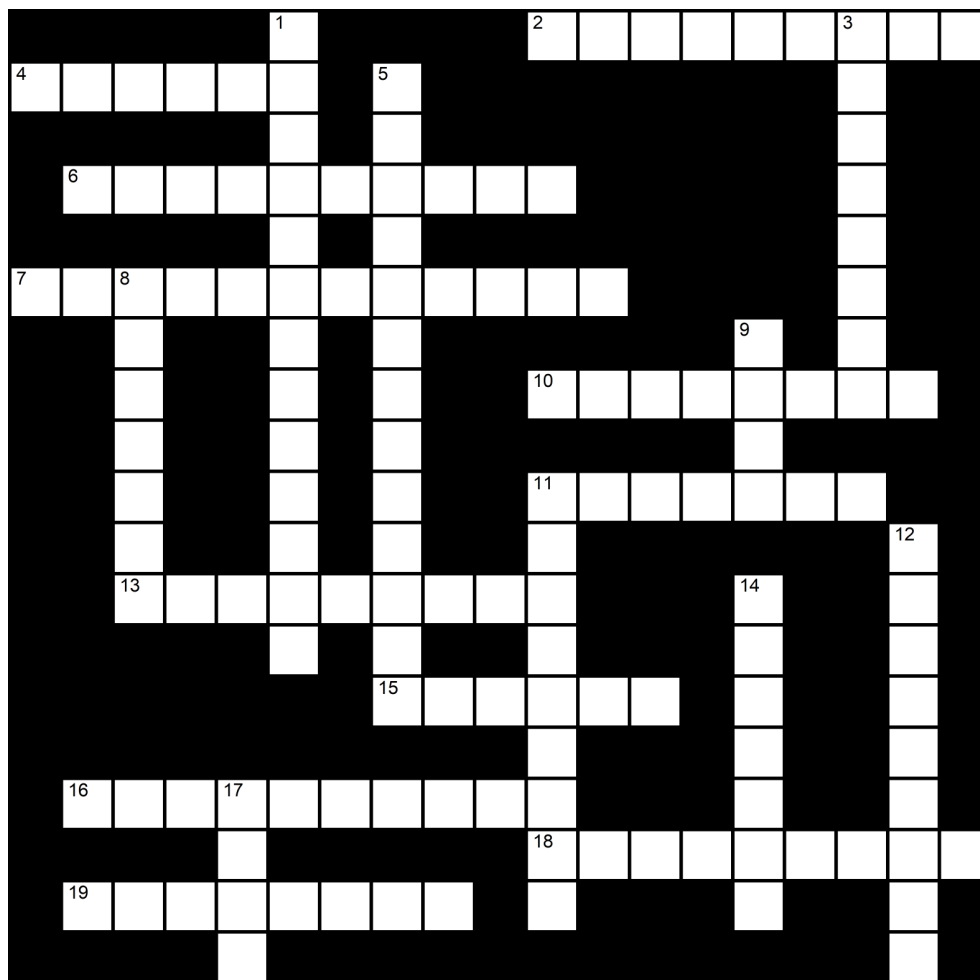
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Send information for publication in this newsletter to: Journal Department, AsMA: rtrigg@asma.org

October Crossword Puzzle



ACROSS

2. Auto-feathering is seen in _____ engines. (9)
4. When treated with water, potassium superoxide liberates oxygen to form potassium hydroxide. This chemical reaction forms the basis of the use of this system in self-contained breathing escape devices. The water in such systems is delivered by moisture in the _____. (6)
6. Displacement, deviation, and distortion are all _____ optical effects. (10)
7. _____ refers to a sensation of weight that is acting in a direction that is no longer vertical with respect to the Earth. (12)
10. _____ is used for purging the NVG. (8)
11. When a target moves across the visual field, the eye must track it in order to maintain foveal fixation. This is called _____ visual acuity. (7)
13. _____ oxygen is highly reactive and contributes heavily to erosion and discoloration of carbon-containing materials exposed to external space in LEO. (9)
15. Inboard leak is prevented in the mask by _____ pressure. (6)
16. _____ do not have red cones. (10)
18. First successful takeoff from ship: _____ . (6,3)
19. Purging of NVG removes _____. (8)

DOWN

1. Adequate concentration of oxygen & nitrogen, adequate flow capacity with minimal (added external) resistance and disposal of expirate are _____ requirements of an oxygen system. (13)
3. A sling psychrometer can be used to find _____ humidity. (8)
5. _____ are located inside the aortic arch and carotid sinus. (13)
8. 2-4 cpd is the range for _____ contrast sensitivity of the human eye. (7)
9. The best extinguisher for an HBOT chamber is _____ . (4)
11. During continuous positive pressure breathing the Inspiratory Reserve volume _____. (9)
12. The "gravitational credit card" of flight is seen in the _____ flight maneuver. (9)
14. The _____ effect is a property of hemoglobin within which oxygenation of blood in the lungs displaces carbon dioxide from hemoglobin, increasing the removal of carbon dioxide. (7)
17. The _____ maneuver is used to drop a bomb on a target without incurring the risk of having to overfly it. (4)

*By Lt. Col. Srihari Iyer K, Flight Surgeon, Indian Army.
The solution can be found on p. N72.*

News of Corporate Members

Leidos Employees Participate in Suicide Prevention

In September, Leidos employees across the U.S. participated in the American Foundation for Suicide Prevention (AFSP) Out of Darkness Walks to raise awareness and support for suicide prevention. It's part of the company's Mission for the Mind campaign to address the country's ongoing mental health crisis. Steve Cook, Leidos Dynetics Group President, said surging suicide rates among teenagers and young adults in particular are alarming. More than anything, Cook said that suicide prevention starts with everyday heroes, which could be any of us. He wants to prevent others from being in his shoes, not knowing how to respond when a loved one asks for help. He said the most important thing he would say to someone struggling with suicidal thoughts is that they're not alone. Last year, more than 10 Leidos teams participated in the Out of Darkness Walks, helping to raise more than \$100,000.

—Please visit <https://www.leidos.com/insights/breaking-silence-prevent-suicide> for the full story.

Mayo Clinic Names New Site Director

Richard Bold, M.D., has been named site director of Mayo Clinic Comprehensive Cancer Center in Arizona. He joins Mayo Clinic from the University of California, Davis (UC Davis), where he has built an impressive career marked by excellence in patient care, innovative research and dynamic leadership. Throughout his career, Dr. Bold has demonstrated a commitment to improving cancer detection and intervention. His passion for bringing leading expertise to each patient, with research and education that deliver innovation, aligns seamlessly with Mayo Clinic's mission and values, making him an ideal fit for this role. He will begin his new role on Oct. 2. He succeeds Alan Bryce, M.D., prior chair of the Division of Hematology/Oncology and interim site director of Mayo Clinic Comprehensive Cancer Center in Arizona.

—Please see <https://newsnetwork.mayoclinic.org/discussion/richard-bold-m-d-named-site-director-mayo-clinic-comprehensive-cancer-center-in-arizona/> to read more.

Axiom Space Announces Third ISS Mission

Axiom Space announced the full crew complement for its third mission, Axiom Mission 3 (Ax-3), to the International Space Station (ISS), after receiving NASA and ISS-partner approval for the four-person, multi-national team to travel to the orbiting laboratory no earlier than January 2024. Ax-3 will be the first all-European commercial astronaut mission to launch to the ISS—redefining the pathway to low-Earth orbit (LEO) and helping chart a course toward Axiom Station, the world's first commercial space station. In an historic venture, three countries—Italy, Türkiye, and Sweden through the European Space Agency (ESA)—have united for Ax-3, with Axiom Space's Chief Astronaut and Commander Michael López-

Alegria leading the commercial mission, representing both the United States and Spain as a dual citizen. The Ax-3 pilot is Italian Air Force Col. Walter Villadei and the two mission specialists are Alper Gezeravcı of Türkiye and ESA project astronaut Marcus Wandt of Sweden. Villadei, Gezeravcı, and Wandt have extensive flight crew experience and have all served in their nation's Air Forces. As part of Ax-3, Türkiye is sending its first astronaut to space in a larger effort to expand the nation's space exploration capabilities and establish a national human spaceflight program. Ax-3 will also be the first commercial spaceflight mission for an ESA-sponsored astronaut. For Italy, the Ax-3 mission represents a whole-of-country effort to foster its endeavor for safe, secure, and effective access to space.

—Please visit <https://www.axiomspace.com/news/ax3-astronaut-crew> for the full press release.

UTMB Researcher Continues Study of Hispanic Life Expectancy

Kyriakos S. Markides, a professor of aging at the University of Texas Medical Branch (UTMB) in Galveston, TX, originally coined the term “Hispanic Epidemiological Paradox” in a 1986 paper which found that Hispanics living in the American Southwest live as long or longer than white people despite lower incomes, less health care, and higher rates of diabetes. The finding was met with widespread disbelief and criticism and Markides, a junior faculty member at the University of Texas Health Science Center in San Antonio at the time, said colleagues warned him against publishing because they thought it was wrong. Over time, new data confirmed his findings, however, despite attempts to overturn the paradox. Now he and other researchers are starting to make headway in finding the causes of the paradox. They're looking at which parts hold up and which don't, how it's evolving as immigration patterns shift, how genetics are involved, and what the survival edge can teach about further improving the health of Hispanics as well as the rest of the country.

—Please see <https://www.statnews.com/2023/09/14/hispanic-paradox-life-expectancy-research/> to read more.

KBR Wins Tech & Engineering Contract

KBR announced it has been awarded a blue hydrogen process technology and front-end engineering design (FEED) contract by EET Hydrogen for its planned HPP2 low-carbon hydrogen facility at HyNet, the UK's leading industrial decarbonization project. Under the terms of the agreements, KBR will provide technology licensing, proprietary engineering design and equipment, catalyst, and FEED for up to 1000 MW plant capacity to be located at the Stanlow Manufacturing Complex. HyNet includes hydrogen production and supply and carbon capture and sequestration (CCS) to support the decarbonization of hard-to-abate sectors in a region of concentrated conventional energy usage. KBR is excited to support EET

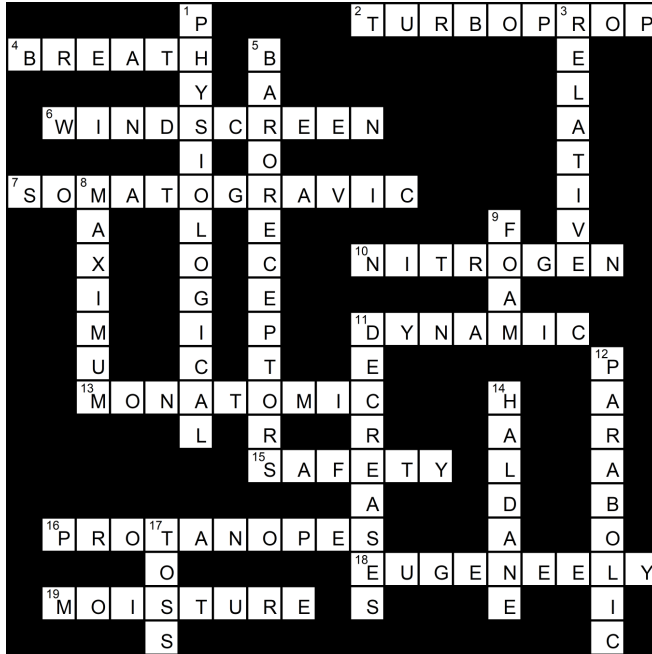
See “KBR”, p. N72

From "KBR", p. N71

Hydrogen and will apply their knowledge and technology to deliver this blue hydrogen energy transition project.

—Please visit <https://www.kbr.com/en/insights-news/press-release/kbr-wins-blue-hydrogen-technology-and-engineering-contract-eet-hydrogen> for more.

Crossword Solution



Corporate News Bites

Addman Group: Addman joined forces with America Makes, a leading collaborative partner in additive manufacturing and 3D printing technology research located in Youngstown, OH, United States. This partnership will assist with Addman's commitment to being at the forefront of additive manufacturing in the United States and allows both companies to pool their expertise, resources, and insights. For more, please visit <https://www.addmangroup.com/america-makes/>.

AOPA: The Airline Owners and Pilots Association (AOPA) Foundation offers scholarships to offset the cost of education, training, and testing. The scholarships have a range of opportunities for those seeking to enhance their skills, qualifications, and career opportunities by earning a pilot certificate or advanced ratings, transitioning to a different aircraft, or partaking in specialized training. The scholarship application period opened in September and the deadline is February 9, 2024. For more information, visit AOPA's scholarship web page at <https://aopa.org/training-and-safety/students/aopa-flight-training-scholarships>.

ALPA: The Air Line Pilots Association, International (ALPA Int'l), Canada, president issued a statement in response to the Canadian government's recent announcement of the first-ever category-based selection invitations for newcomers with work experience in transport. ALPA Canada feels this is a band-aid solution and the root of the problem—labor shortages—needs to be addressed. To read the statement, please visit <https://www.alpa.org/news-and-events/news-room/2023-09-22-alpa-canada-response-express-entry>.