



November 2022

Update

**Oklahoma Space
Alliance**

A Chapter of The
National Space Society

A free email newsletter of the Oklahoma Space Alliance

Pillars of Creation Redux



Credit: NASA

October 2022 OSA Meeting

Saturday, November 12, 2022

2:00 PM

**Cliff & Claire McMurray's
House**

2715 Aspen Circle, Norman, OK 73072

405-863-6173

Program— Space News and
Events

Website: <http://osa.nss.org>



Quote of the Month

"The question came up, would I like to go back and fly in space? Well, I certainly don't want to go back to the space station. I don't even want to orbit the Earth. And then I thought about it and I said I would be interested in going to the moon." – Dennis Tito

Table of Contents

Pillars of Creation Redux	1
November 2022 OSA Meeting	1
Quote of the Month.....	1
Table of Contents.....	2
Heavenly Palace Gets Its Final Wing.....	3
Still a Pioneer.....	4
Return of the Heavy.....	5
The Engines Cannae Take The Strain, Captain.....	6
India Expands Commercial Launch Business.....	7
Getting the Money While the Getting's Good.....	8
Roc Nears Hypersonic Launch.....	9
Beware the Hun in the Sun.....	10
Alright, We'll Build Our Own Damn Lander.....	11
Bezos Gets Briefed by Space Force.....	12
This Week At NASA	13
That's All Folks	14

Oklahoma Space Alliance Update

November 12, 2022

Editor Cliff McMurray

Asst Editor Claire McMurray

cliffmcmurray@hotmail.com

405-863-6173 (C)

The *Oklahoma Space Alliance Update* is a bi-monthly newsletter of the Oklahoma Space Alliance a chapter of the National Space Society, a non-profit organization headquartered in Washington, D.C. The address of OSA is **102 W. Linn, #1, Norman, OK 73071.**

Unless otherwise noted, all contents of articles herein do not necessarily reflect the opinion of anyone but the writer. Reprint rights are granted to recognized chapters of NSS, provided credit is given.

Articles may be submitted by U.S. mail or electronically. Articles may be sent to the Editor at 121 South Creekdale Drive, Norman, OK 73072 or to david.sheely51@gmail.com. Each submission should include the author's name and either e-mail address or phone number (for verification only). A text or Microsoft Word file is preferred. Please contact the Editor by phone, e-mail or texting before mailing your information.

OSA Officers for 2022

President & Update Editor Cliff McMurray

cliffmcmurray@hotmail.com

405-863-6173 (C)

Vice President David Sheely

david.sheely51@gmail.com

405-8321-9077 (C)

Secretary & Outreach Editor Syd Henderson

sydh@ou.edu

405-321-4027(H)

405-365-8983(C)

Treasurer Tim Scott

ctsscott@mac.com

405-740-7549(H)

NSS Headquarters

1155 15th Street NW, Suite 500 Washington DC 20005

Exec Director Kirby Ikin

nsshq@nss.org

202-429-1600

Heavenly Palace Gets Its Final Wing



Credit: CMSA

Just 13 hours after liftoff on Long March 5B rocket out of the Wenchang Satellite Launch Center on October 31, the Mengtian module docked with the Tiangong space station. The currently resident Shenzhou-14 crew watched the automatic docking from aboard Tiangong. Mengtian is the third and – for now – final module for the station. It's a science module with 32 cubic meters of habitable volume, a payload airlock which will allow the Wentian module's 5.2-meter-long robotic arm to grasp science experiments and transfer them to payload adapters on the outside of the module, and an on-orbit release mechanism that can deploy small satellites of up to 100 kg into orbit. This launch was the ninth of 11 missions in the launch campaign to equip and commission the space station. Once again, the Long March 5B booster upper stage made an uncontrolled reentry. And China plans to launch a lot more Long March 5Bs in the future.

Articles: <https://spacenews.com/final-module-docks-at-chinas-tiangong-space-station/>

<https://www.space.com/china-launches-mengtian-module-tiangong-space-station>

<https://www.space.com/nasa-esa-space-chiefs-condemn-china-rocket-debris-crash>

<https://www.space.com/china-long-march-5b-rocket-falls-into-pacific-ocean>

<https://spacenews.com/china-wants-to-ramp-up-the-launch-rate-of-its-long-march-5b-rocket/>

Still a Pioneer



Credit: SpaceX

Dennis Tito was the first private citizen to pay his own way to space, riding to and from ISS in a Russian Soyuz capsule in 2001. Now 82 years old, he and his wife Akiko have purchased two of the 12 seats on SpaceX's second commercial lunar flight, a weeklong circumlunar flight aboard a Starship. The first flight was bought in its entirety by Japanese billionaire Yusaku Maezawa, but SpaceX is selling individual seats on this second flight. No other passengers have yet been announced.

Articles: <https://www.space.com/dennis-tito-spacex-starship-moon>

<https://spacenews.com/dennis-tito-and-wife-to-be-on-second-starship-flight-around-the-moon/>

<https://www.space.com/spacex-starship-moon-mission-make-humanity-multiplanetary>

Return of the Heavy



Credit: SpaceX

Falcon Heavy is still, for the time being, the most powerful rocket in service, but until November 1 it had only flown three missions, and none since June 2019. The most recent launch, designated USSF-44, delivered several classified DoD payloads to GEO. The low flight rate is in part due to delays in delivery of payloads already booked, such as NASA's Psyche asteroid probe. In the next few years, NASA will use Falcon Heavy to launch some very high-profile missions, including Psyche, the Europa Clipper, key elements of the Gateway, and the Nancy Grace Roman Space Telescope.

Articles: <https://www.space.com/spacex-falcon-heavy-ussf-44-launch-space-force>
<https://www.space.com/spacex-falcon-heavy-launch-drought-explainer>

The Engines Cannae Take The Strain, Captain



Credit: Skyrora

Edinburgh-based Skyrora's Skylark L rocket didn't make it very far off its launch pad on its first attempt to reach suborbital space. On October 8 it cleared the tower of its launch pad on the Langanes peninsula in northeastern Iceland, aiming to reach 77 miles. It missed that mark by quite a bit, falling into the Norwegian Sea about a third of a mile from the coastal site. Skyrora plans to use a larger rocket, Skyrora XL, to perform the first vertical launch to orbit from the United Kingdom next year (Virgin Orbit hopes to air-launch from the U.K. by the end of this year, if they can clear the licensing hurdle).

Articles: <https://www.space.com/skyrora-suborbital-rocket-launch-attempt-failure>

India Expands Commercial Launch Business



Credit: ISRO

India's GSLV Mark III rocket successfully carried 36 of OneWeb's broadband satellites, grounded by Russia's refusal to launch them in retaliation for the United Kingdom siding with Ukraine, to orbit on October 8. It was the GSLV Mark III's second operational flight and first commercial multi-satellite mission of its kind. Russia's self-sabotage of its commercial launch market has made the commercial launch market much tighter; the remaining Ariane 5 and Atlas 5 vehicles have all been sold, and Ariane 6, H3, New Glenn and Vulcan Centaur have all suffered delays that pushed back their first launches by three years or more. So India has an opening to get more business.

Articles: <https://spacenews.com/oneweb-launch-sign-of-greater-role-for-india-in-commercial-launch-market/>

<https://www.space.com/indian-rocket-launches-oneweb-satellites-october-2022>

Getting the Money While the Getting's Good



Credit: NASA

NASA has ordered three more Orion crew capsules from Lockheed Martin, at a cost \$1.99 billion. The spacecraft will be used for Artemis missions VI through VIII. Artemis V won't fly until 2029 at the earliest, so these crew capsules won't fly before the 2030s. Who wants to bet all NASA's lunar crews won't be flying on Starship by then?

Articles: <https://www.space.com/nasa-orders-three-more-orion-capsules-artemis>

Roc Nears Hypersonic Launch

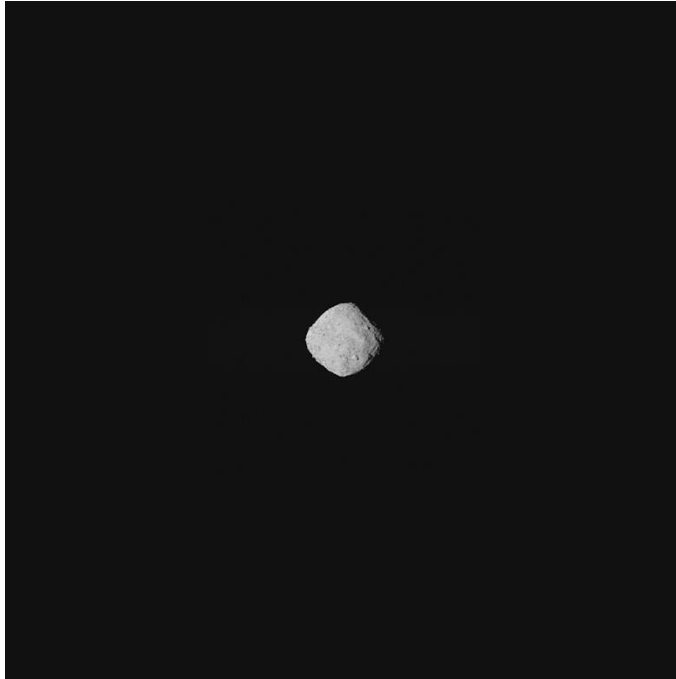


Credit: Stratolaunch

On October 28, Stratolaunch conducted its first captive carry flight of the Talon-A hypersonic vehicle. This was the Roc carrier aircraft's eighth flight. A drop test is scheduled for December, and the first hypersonic test should happen next year.

Articles: <https://www.space.com/stratolaunch-hypersonic-prototype-first-captive-flight>

Beware the Hun in the Sun



Credit: NASA

Asteroid 2022 AP7 is a big rock, 0.9 miles wide (1.5 km). It's big enough to be a "planet killer", and it's a NEO that might hit Earth someday. Nevertheless, it managed to avoid detection until this year, when it was spotted by the supersensitive Dark Energy Camera (DEC) at the Cerro Tololo Inter-American Observatory in Chile. It remained hidden for so long because its orbits lie between Earth and Venus, so telescopes have to look inward toward the sun and contend with its glare. NEO Surveyor, hurry up and get out there and start looking for more of these!

In other asteroid news, astronomers have confirmed that the first known interstellar visitor is a three-foot-wide space rock that hit Earth in 2014, three years before the famous interstellar visitor 'Oumuamua streaked through our solar system.

Articles: <https://www.space.com/dangerous-asteroid-discovered-in-sun-glare>
<https://www.space.com/2014-meteor-first-interstellar-visitor-oumuamua>

Alright, We'll Build Our Own Damn Lander



Credit: ESA

The September launch date for ESA's ExoMars rover Rosalind Franklin has come and gone, thanks to Russia pulling out of its partnership with ESA for a Mars mission in works since 2004. Russia was to supply the Proton launch vehicle and a landing platform for the European rover, and now will provide neither. Now ESA leadership has decided the mission is too valuable to cancel, and will ask its 22 member states for 360 million euros to begin work on a new lander. They are likely to need more money in subsequent years. No mention of a decision on a new launch vehicle.

Article: <https://www.space.com/europe-homegrown-lander-exomars-rover>

Bezos Gets Briefed by Space Force



Credit: Facebook

Blue Origin executives heard a briefing in September at a Space Systems Command industry meeting in Los Angeles, and were so impressed that they requested that SSC brief Jeff Bezos personally. The SSC briefed Bezos a few weeks later. The upshot of the briefing is that China is becoming both more capable and more aggressive with space-based assets.

Article: <https://spacenews.com/space-force-briefing-on-military-space-race-catches-jeff-bezos-attention/>

This Week At NASA

Videos: https://www.nasa.gov/multimedia/podcasting/twan_index.html

That's All Folks





Credit: SpaceX