Happenings in this world and beyond…

DECEMBER 2025

NATIONAL SPACE DESIGN COMPETITION

Qualification Round 2 quickly approaches

Sisler High School – Sparta05 (Winnipeg, MB Canada)

The Science Academy STEM Magnet North Hollywood, CA

Qualification Round 2 is set for Dec. 4-7. Much like Practice Round 2, teams will be asked to select components for a satellite that will best meet the mission requirements. If it's anything like the PR2, we can expect to see a lot of smiling faces because satellite design is so much fun! A special thanks to all the teams who sent us a competition photo. Keep an eye out on our social media pages as we begin to highlight some of our teams.

STLX12 Participant Kits are En Route!

Team directors should expect a box of STLX gear to arrive ahead of QR2. Each package contains a t-shirts, patch, and sticker for each participant. An email with tracking information was sent to team directors the week of Thanksgiving. Please contact competition@stellarxplorers.org if you have questions or concerns about the shipment.

STELLARCAMPS

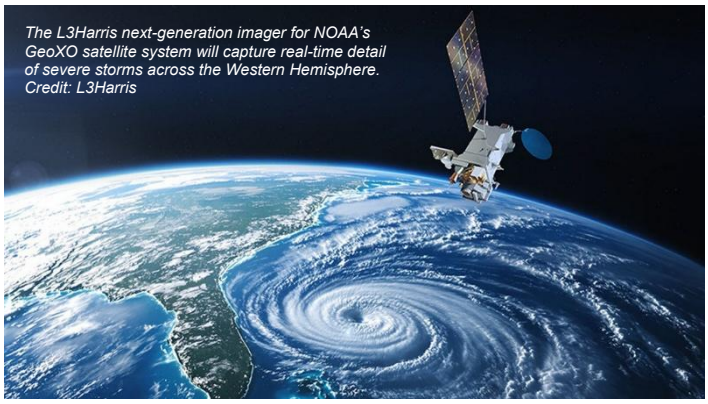
The StellarCamps curriculum is available yearround for purchase (one-time purchase for $99). Whether you're looking to spark interest in aerospace or build foundational skills for competition success, StellarCamps provide the perfect launchpad. Depending on your needs, the StellarCamp curriculum can be used in a group setting or as a self-paced course for individuals.

Learn more or get started today at www.stellarxplorers.org/stellarcamps.

Photo provided by the Basic Research Innovation Collaboration Center (BRICC)

SPONSOR NEWS

L3Harris' Next-Generation Weather Imager Ready to Deliver Life-Saving Weather Data Under Critical NOAA Satellite Program


The L3Harris next-generation imager for NOAA's GeoXO satellite system will capture real-time detail of severe storms across the Western Hemisphere. Credit: L3Harris

L3Harris Technologies successfully completed the system Critical Design Review (CDR) of the next-generation imager for the National Oceanic and Atmospheric Administration's (NOAA) Geostationary Extended Observations (GeoXO) program, which will deliver more detailed data to forecasters and provide more advance warning of severe weather. This development milestone validates the imager's detailed design and signals its readiness for system-level production.

The L3Harris GeoXO Imager (GXI) is an advanced instrument that will measure infrared wavelengths, in addition to capturing data across the visible spectrum. This enhancement will provide detailed data regarding atmospheric conditions at higher resolution than today's weather satellites. Sophisticated forecasting models rely on this data to monitor weather, ocean and environmental conditions and accurately predict severe storms. *Read more at https://www.l3harris.com/newsroom*

ULA Atlas V Launches the ViaSat-3 F2 Satellite, Enhancing the Future of Global Connectivity

A United Launch Alliance (ULA) Atlas V rocket carrying the ViaSat-3 Flight 2 (F2) mission for Viasat, Inc., a global leader in satellite communications, lifted off on Nov. 13 at 10:04 p.m. EST from Space Launch Complex-41 at Cape Canaveral Space Force Station. This mission reflects on ULA's goals of collaborating with customers to enable the future of global connectivity.


Photo by United Launch Alliance

"At ULA, we pride ourselves in delivering our customer's spacecraft precisely to orbit and serving as the catalyst for our customers to enable global connectivity," said Gary Wentz, ULA vice president of Government and Commercial Programs. "We partner in the shared goals of connecting the world and this successful launch aligns with this core mission. Thank you Viasat for your trust in our shared visions and successful partnership."

The Atlas V 551 rocket launched the ViaSat-3 F2 ultra-high-capacity broadband spacecraft to a geosynchronous transfer orbit (GTO). This spacecraft is expected to add significant capacity and flexibility to Viasat's global, multi-orbit network that supports consumer, commercial and government customers. Designed to add 1Tbps capacity to Viasat's global network, ViaSat-3 F2 will help address the increasing demand for secure, reliable and high-bandwidth services over the Americas.

Visit the launch photo album at Atlas V ViaSat-3 F2 | Flickr.

STEM RESOURCES

Join the StellarXplorers Alumni Network

This is a private group for past and present StellarXplorers participants. You must be at least 16 years of age to join, according to LinkedIn account regulations. All requests to join will be reviewed by StellarXplorers staff to verify participation in the program.

To join, visit: https://www.linkedin.com/groups/12721859/

SPACE NEWS

Curious About What's Happening Overhead?

Check out the Space.com Space Calendar to stay up to date with upcoming planned rocket launches and skywatching-worthy dates. And in case you missed it…

02 DEC 2025 | For the 1st time ever, 8 spacecraft are docked to the International Space Station

02 DEC 2025 | Dying satellite could use its final moments to photograph asteroid Apophis in 2029

29 NOV 2025 | Satellites capture aftermath of Ethiopian volcano's 1st eruption in recorded history

28 NOV 2025 | NASA astronauts take new moonsuit for a swim

26 NOV 2025 | Why is this star so weird? Maybe because it ate one of its own planets

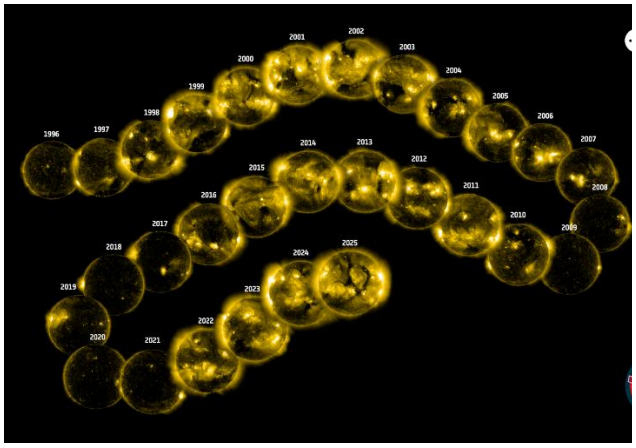
24 NOV 2025 | China launches uncrewed Shenzhou capsule for 3 astronauts stuck on Tiangong SS

19 NOV 2025 | Scientists just discovered a new crater on the moon — they call it a 'freckle'

21 NOV 2025 | NASA's Artemis 2 moon rocket comes together

15 NOV 2025 | Watch Blue Origin's huge New Glenn rocket ace its epic landing on a ship at sea

Photos from Space:



30 years of SOHO staring at the sun

The ESA/NASA Solar and Heliospheric Observatory (SOHO) has been observing the sun for 30 years. an extraordinary milestone for a mission originally expected to last only about three years. In that time, SOHO has observed nearly three of the sun's 11-year solar cycles, throughout which solar activity waxes and wanes.

Image credit: SOHO (ESA & NASA)/F. Auchère & ATG Europe

ISS astronauts see comet Lemmon 'absorbed' by aurora

On November 20, Comet Lemmon seemed to be absorbed by the aurora, as seen from Earth orbit. Comet Lemmon, officially designated C/2012 F6 (Lemmon), is a long-period comet discovered in 2012 by the Mount Lemmon Survey in Arizona. It originates from the distant Oort Cloud, the icy reservoir of cometary bodies that surrounds our solar system.

Image credit: NASA

JUST FOR FUN

Are Lucky Peanut's behind JPL's launch success?

Cassini Project Scientist Linda Spilker explains the tradition of lucky peanuts. Credit: NASA/JPL-Caltech

Eating "lucky peanuts" before launches and other major mission events is a longstanding tradition at NASA's Jet Propulsion Laboratory (JPL).

Why peanuts? It all started with the first U.S. effort to reach the Moon with a fully functioning spacecraft. Not to land on it – those missions were still a few years away.

In the early 1960s, the U.S. created the Ranger project – the first effort to launch probes toward the Moon. JPL built this series of automated spacecraft. They were supposed to relay pictures and other data as they approached the Moon and then crash on the Moon's surface.

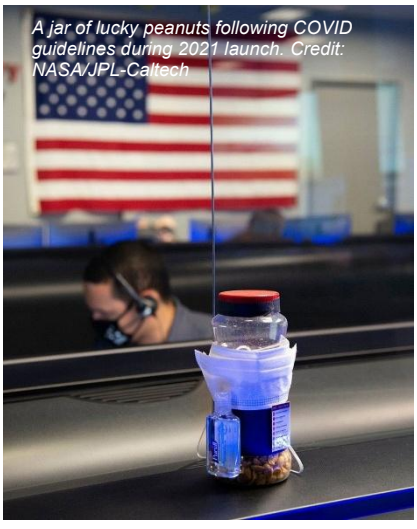
Rangers 1 through 6 were all unsuccessful for various reasons:

- *Ranger 1 (Launched Aug. 23, 1961) Launch vehicle failure; spacecraft could not leave Earth parking orbit*
- *Ranger 2 (Launched Nov. 18, 1961) Launch vehicle failure; spacecraft could not leave Earth parking orbit*
- *Ranger 3 (Launched Jan. 26, 1962) Radio contact lost; missed the Moon by about 22,900 miles (about 36,800 km)*
- *Ranger 4 (Launched April 23, 1962) Onboard computer failed; impacted the Moon on April 26, 1962*
- *Ranger 5 (Launched Oct. 18, 1962) Radio contact lost; missed the Moon by 450 miles (725 km)*
- *Ranger 6 (Launched Jan. 30, 1964) Reached the Moon but cameras failed; impacted the Moon Feb. 2, 1964*

After all those failures came Ranger 7. This mission was a complete success and marked a major turning point in the race to the Moon.

And that's where the lucky peanuts come in. When Ranger 7's launch day arrived, on July 28, 1964, the good-luck peanuts made their first appearance at the Space Flight Operations Facility – mission control – JPL. That morning, the mission's trajectory engineer, Dick Wallace, passed them out in hopes of calming people's nerves.

"I thought passing out peanuts might take some of the edge off the anxiety in the mission operations room," said Wallace. "The rest is history."


A jar of lucky peanuts following COVID guidelines during 2021 launch. Credit: NASA/JPL-Caltech

When this Ranger performed flawlessly, a new JPL tradition took hold, and now peanuts are passed around the laboratory's mission control center during critical mission events.

Ranger 7's successors, Ranger 8 and 9, also performed well. The spacecraft returned pictures that helped scientists pick the landing sites for NASA's Apollo Moon program. The peanuts have shown up on informal countdown checklists for almost every launch since then.

Superstition? Hardly. JPL scientists and engineers are driven by data, and know that correlation doesn't equal causation. But lucky peanuts are a time-honored tradition that unites JPLers around a shared story. They help remind those doing really hard things to approach challenges with humility, because the difference between success and failure can sometimes come down to what's beyond their control.

Source: https://science.nasa.gov/missions/what-are-jpls-lucky-peanuts/

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We would love to share some stories about your team. Send them our way: info@stellarxplorers.org.

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