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Program Update

StellarXplorers VIII Registration!

We are gearing up for StellarXplorers VIII, and we'd love to have you join us! Register [here](#) if you want to participate in the upcoming competition season! Registration closes on October 4.

STLX VIII Mentors

If you are interested in mentoring a StellarXplorers team for this upcoming competition, reach out to us at info@stellarxplorers.org!

STLXVIII Overview

Check out this [video](#) for a quick overview of StellarXplorers VIII!

StellarCamp Update



Our StellarCamp pilot season has come to a close with 5 successful camps!

At the camps, students are learning how to use Systems Tool Kit, a professional tool used by the industry to manipulate orbital mechanics. These camps are serving as fun ways to introduce students to STEM education and getting them excited about space!

Please stay tuned for these StellarCamp opportunities starting 2022 Summer. Announcements about opportunities to get involved with StellarCamps will be posted on our website.

Stellar Spotlight

Elizabeth Ash

Elizabeth Ash is a Project Manager with Lockheed Martin. She recently volunteered with one of our StellarCamps this summer.



"What has surprised you most working with Lockheed Martin and the Aerospace industry?"

"How many people it takes to get a job done. Obviously, you wouldn't expect it to be a simple industry, but the full breadth of how many people are involved and everyone that needs to come together". Teamwork is a huge highlight of the industry, and a cornerstone of our competition as well! The kids have to work together on every aspect of the mission scenario to complete the assignment.

"Could you share your experience volunteering with StellarCamp, and anything you'd like to share with those unable to be at the camp?"

"Absolutely—I spent an hour with the camp talking about how I got where I am as a non-traditional background getting into Lockheed Martin and the Aerospace industry". "One great takeaway I'd love to share is that your teachers are there to do more than teach their assigned subject, they want to help you succeed overall". Her NASA internship that catapulted her to Lockheed Martin was spurred from a teacher of her General Management class. She wanted to stress that they also have tons of networking and professional development interests in their lives and are happy to help.

"For anyone looking to get involved in Aerospace what would you suggest to them?"

"Keep doing activities to stoke your Aerospace interest, and try to get an internship with an Aerospace company early on". "The engineering paths are what create the products, but there's much more than goes into Aerospace" There's people from a wide array of fields that come together and there's tons of ways to get involved in the industry.

Aerospace News

[SpaceX launches Dragon cargo capsule to space station, nails rocket landing at sea](#)

SpaceX launched its 21st rocket of the year on August 29, sending a robotic Dragon cargo capsule toward the International Space Station before nailing a landing at sea.

The Dragon is packed with more than 4,800 pounds of supplies, scientific experiments and hardware, including a new robotic arm that will be tested inside the space station's Bishop Airlock.

The massive ship, called "A Shortfall of Gravitas," is the newest of three drone ships in the company's fleet of recovery vessels that catch falling boosters and return them to port for later reuse.



[Astronauts successfully demonstrate DNA repair in space using CRISPR technology](#)



The first CRISPR experiment to take place in space shows that DNA can repair itself in microgravity.

As part of the "Genes In Space-6" experiment, astronauts on board the International Space Station (ISS) created breaks in the DNA of a common yeast, and then analyzed how it repaired itself.

During the investigation, the yeast's DNA was cut across both strands to create significant damage. In a recent paper published in the journal PLOS One, researchers explained how the DNA was restored to its original order.

The introduction of CRISPR in space and the first successful genome manipulation on the ISS extends the possibilities for future DNA repair experiments, researchers said. The increased exposure to radiation in space has the potential to damage the DNA of humans. On Earth, the body can repair double-strand breaks by adding and deleting DNA bases, or re-joining the two pieces without altering them. Before the Genes In Space-6 experiment, however, these processes had not been studied in microgravity.

[Perseverance Mars rover gearing up for 2nd rock sampling attempt](#)

NASA's Perseverance rover will soon try again to snag its first Mars sample.

Perseverance landed inside the Red Planet's Jezero Crater this past February, on a mission to hunt for signs of ancient Mars life and collect dozens of drilled samples for future return to Earth. On Aug. 6, the car-sized robot attempted to grab the first of those samples, but things didn't go according to plan: The rock Perseverance drilled into turned out to be surprisingly soft, breaking into crumbly bits that didn't make it into the sampling tube.

Since then, the rover has cruised 1,493 feet away to a craggy ridge the mission team calls "Citadelle", which seems to offer greener sampling pastures.



StellarXplorers Sponsors

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Space Careers

Materials Engineering

Materials engineers work with metals, ceramics, and plastics to create new materials. Materials engineers develop, process, and test materials used to create a range of products, from computer chips and aircraft wings to golf clubs and biomedical devices.



“Materials Engineering for Hypersonics is like baking the perfect cake for the most competitive cakemaking contest in the world – you get to experiment, understand, and design how all the ingredients and processes interact on the path to the final perfect product. My fascination with process engineering and the effect of small changes on systems propelled me into working on fighter jets and satellites, but I know it was all building up to eventually working in Hypersonics. My role as a materials engineer makes a difference for my team, my country, and the entire world.” – Michelle Johnson, Parts, Materials & Processes Composites Lead Engineer, LM Space

Aerospace Opportunities!

[Virtual Space in the Community](#) is a series of videos in association with leading companies and business partners with STEM resources for students and teachers alike!

They have some truly amazing interviews and videos, spanning topics such as career paths like Opto-Mechanical Engineering and Image Science and Satellite Imaging to topics about Mars Lander Design, Mars Habitat and Life Science!