

HAPPENINGS

Weekly Edition
Friday, September 8, 2023

NASA Laser Communication System Headed To ISS This Year

Later this year, SpaceX's 29th Commercial Resupply Services mission will lift a refrigerator-sized device to the International Space Station. This device - given the catchy name of Integrated LCRD Low Earth Orbit User Modem and Amplifier Terminal (ILLUMA-T) - will complete NASA's first two-way, end-to-end laser communications system. Harnessing laser beams, ILLUMA-T will transmit information to another satellite at the rate of a respectable Earth-based internet connection.

Both crewed and uncrewed space missions have nearly always communicated to Earth, from Earth and to each other via tried and trusted radio waves. But sending information with lasers has a few advantages over radio. For one, laser equipment is lighter and less power-intensive, making it easier to fit on a craft. Plus, because laser light wavelengths are shorter than radio wavelengths, a laser communications link can transmit orders of magnitude more information at once.

NASA has tinkered with laser communications for over a decade, shooting light both between the ground and Earth orbit and between Earth and lunar space. Quietly joining NASA's list was Laser Communications Relay Demonstration (LCRD), fitted aboard a U.S. Department of Defense satellite that launched in December 2021.

Only after ILLUMA-T's launch will LCRD assume its full purpose. Once ILLUMA-T is in operation aboard the ISS, it will begin beaming information to LCRD via infrared laser at a rate of 1.2 gigabits per second. From there, LCRD will relay the information to two ground stations: one in Hawaii and the other in California. Mission planners chose those locations to avoid cloud cover, which lasers struggle to penetrate. If this tech demonstration is successful, LCRD will one day serve as a relay for other orbital laser links, too.

The Orion capsule undergoing preparations for the crewed Artemis 2 moon mission at Kennedy Space Cen-

ter (KSC) recently received a laser communication module, called the Artemis 2 Optical Communications System (O2O), for integration with Orion ahead of the round-the-moon Artemis 2 mission near the end of 2024.

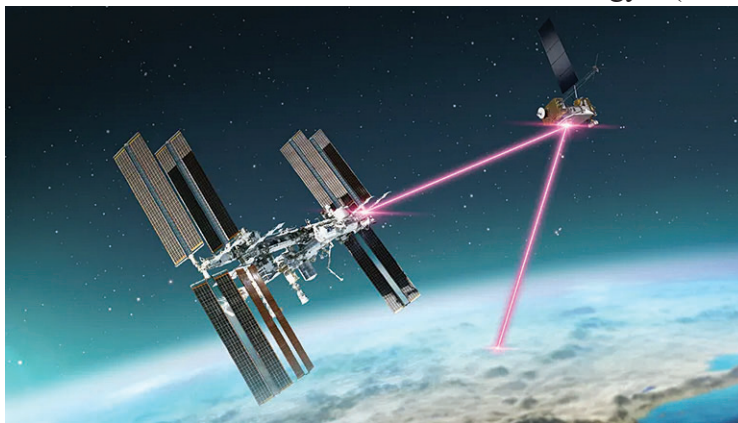
O2O was developed at NASA's Goddard Space Flight Center in Maryland, with help from the Massachusetts Institute of Technology's (MIT) Lincoln Laboratory. The project was funded under NASA's Space Communications and Navigation (SCaN) program, which has completed successful laser communication demonstrations on multiple mission. SCaN is sending the Integrated LCRD Low-Earth-Orbit User Modem and Amplifier Terminal (ILLUMA-T) laser communication relay to the International Space Station (ISS) later this year.

O2O will enable Artemis 2 astronauts to share their lunar journey with Earth in a new and unprecedented way. And the laser communications system will handle more than just the pictures and videos from crew members. It will be embedded in Orion's system infrastructure.

"O2O will transmit and receive procedures, pictures, flight plans and be a link between Orion and Mission Control on Earth. At 260 megabits per second, O2O is capable of sending down 4K high-definition video from the moon," O2O project manager Steve Horowitz said in NASA statement.

For the Artemis 2 mission, two ground stations were chosen in Las Cruces, New Mexico and Table Mountain, California, to receive Orion's O2O data transmissions. Both locations were selected for their preponderance of clear skies. Excessive cloud coverage, NASA said, can affect the quality of laser communication data transmittance.

A successful demonstration of O2O during Artemis 2 could help the technology make its way into many more aspects of spaceflight, and enable a streamlined communications infrastructure on NASA's future missions to the moon and beyond, agency officials said.



NASA's ILLUMA-T payload communicating with LCRD over laser signals. (Image credit: NASA/Dave Ryan)

Satellite Beach-Imposed Fees at Hightower/Pelican Parks Won't Come at Cost for County Residents

The City of Satellite Beach is implementing a Beach Parking Fee Program for out-of-town visitors to its beachside parks. The hourly and daily parking rates will be implemented on Friday, September 15.

Both Hightower Beach Park and Pelican Beach Park are former county-owned properties, which were deeded to the City of Satellite Beach in 2013. Brevard County residents are eligible to obtain a free annual pass that will allow parking at Hightower Beach East Parking Lot and Pelican Beach Park without being required to pay the daily parking rates. Annual Non-resident Parking Permits are available at the City of Satellite Beach parking website, <https://www.parksatellitebeach.org/> and will be at no cost for Pelican Beach Park and Hightower Beach Park only. Permit applications require a minimum of 72 hours to be processed.

Passes will be required for other Satellite Beach beachside parking areas. Brevard County residents wishing to visit any other beachside park within Satellite Beach will need to purchase an annual pass at the rate of \$75, or pay \$2.50 per hour with a maximum of \$10 per day.

City of Satellite Beach residents are eligible to obtain a free annual pass that will allow parking at all Satellite Beach park beach accesses and parking areas without being required to pay the daily parking rates.

For anyone residing outside of Satellite Beach city limits, the annual pass rate is \$75 for access to ALL of the beach parking areas within the City of Satellite Beach, or \$2.50 per hour with a maximum of \$10 per day.

All rate customers can pay either through an app by phone, or through kiosks that will be provided at Pelican, Hightower, and Shell Street in Satellite Beach. A mobile phone convenience fee of \$0.35 will be added to each mobile phone payment.

For questions on the Beach Parking Fee Program or how to obtain a beach parking pass, please call 321-425-2522. Annual Parking Permits may be applied for any time of the year.

Trailhead Closure for Maintenance

The Rails Trail, 2.3 miles north of the Aurantia Trailhead, is closed for maintenance. Maintenance will be ongoing through the end of the September and signage will be posted onsite.

Preventing Bone Loss as You Age

As we age, bone loss is a natural process that can lead to health problems. There are things we can do to prevent bone loss, and it's important to be aware of the risks and how to protect our bone health. Here are five tips for preventing bone loss as you age:

1. Get enough calcium and vitamin D.

Calcium is the main building block of bones, and vitamin D helps the body absorb calcium. Be sure to include plenty of calcium-rich foods in your diet, and get regular exposure to sunlight or take a vitamin D supplement to ensure adequate levels of this nutrient.

2. Exercise regularly.

Weight-bearing exercise such as walking, jogging, stair climbing, dancing, and lifting weights helps to maintain bone density and prevent bone loss. Be sure to speak with your doctor to learn which activities are best for you.

3. Change bad lifestyle habits.

Smoking and drinking alcohol are two habits that can have drastic effects on your health — from heart disease to bone loss. Smoking increases the risk of bone loss and fractures, and excessive alcohol consumption can also lead to bone loss.

4. Get regular medical checkups and screenings.

Be sure to have your bones checked regularly by your doctor, and get bone density tests as recommended. Early detection and treatment of bone loss can help prevent serious health problems down the road.

5. Get Healthcare Screenings with Parrish Healthcare

By following these tips, you can help prevent bone loss and keep your bones healthy as you age. Keeping on track with your health is crucial and routine health screenings play a huge role. Our family practice locations offer regular checkups, physicals, and even referrals to specialists depending on your needs. Visit www.parrishhealthcare.com for more information on facilities and contacts.

Backwoods Food Truck Roundup

Mark your calendars for September 8th, 5 - 8 p.m. because the lineup of food trucks is absolutely drool-worthy. Come out and enjoy some food by Taste Budz by Chef Moe, Tonies' Pasta Fresca, Reel Cajun Cookin, Taste Budz, Burger Robs, No Ordinary Burritos, Just Cupeakin Around and Chicago Style Eats. There is good food for everyone and no dishes to do afterward!

The event will take place at 5515 Areca Palm St., Canaveral Groves. Everyone is welcome.

The event also offers fishing, food trucks, and the perfect opportunity to chillax and hang out with friends, neighbors, or even make new ones.

For more information, visit www.facebook.com/events/327796463021090.

September Events at the Enchanted Forest Sanctuary

Nature Storytime - Wednesday, September 6, 10:00 a.m. to 10:30 a.m. Geared toward ages 5 and under. Enjoy a half hour story time at the Enchanted Forest Sanctuary! Theme: Terrific Trees! Join us for some fun with trees through activities and crafts! Registration required, please call 321-264-5185 to sign up. NO SAME DAY SIGN UPS.

Garden Workday - Saturday, September 9, 9 a.m. to 11 a.m.-Grab your hat, sunblock, and water and come help maintain the butterfly garden at the Sanctuary with the Sea Rocket Chapter of the Florida Native Plant Society! Registration required, please call 321-264-5185 to sign up.

Sanctuary School - Wednesday, September 13, 10:00 a.m. to 10:45 a.m.-Geared towards ages 6 through 12. Theme: Tremendous Trees! Enjoy learning about trees through fun activities and crafts! Registration required, please call 321-264-5185 to sign up. NO SAME DAY SIGN UPS.

Native Plant Sale - Saturday, September 16 at 9 a.m.-Come and support the Sea Rocket Chapter of the Florida Native Plant Society's native plant sale. Find an assortment of native plants to beautify your yard and support wildlife!

Hike with the Friends of the Enchanted Forest Sanctuary, Inc. - Sunday, September 17, 2:00 p.m. to 3:00 p.m.-Join the Friends of the Enchanted Forest Sanctuary Inc. for a hike and some tea! Registration required. Call 321-264-5185 for more information.

Pine Needle Basket Making - Sunday, September 24, 12 p.m. to 4 p.m.-Join Yvette Flis for a class on basket making with pine needles. Registration required, please call 321-264-5185 to sign up. *Limited space*

Coming Soon! Creepy Crawly Critter Night! - Saturday, October 14, 6 p.m. to 10 p.m.-Grab your costume and join us for a night filled with critters! There will be games, crafts, education booths, animal talks, live animals, and a glow trail. Registration is required. *Spots limited* Registration will open at the end of September on Eventbrite. Visit Creepy Crawly Critter Night Registration to register.

Tai Chi at the Forest - Every Saturday in September, 9:30 to 10:30 a.m.-Join instructor Kate Perez for a beginner level class on the porch! Loose-fitting clothing and a water bottle are recommended. Registration required no later than the day before class, please call 321-264-5185. SPACE LIMITED. NO SAME DAY SIGN UPS.

Yoga in Nature - Every Sunday in September, 9:30 a.m. to 10:30 a.m.-Join local yoga instructors for a traditional class for all levels on the porch! Wear loose-fitting clothing and do not eat anything an hour before class. Bring water and a mat. Registration required no later than the day before class, please call 321-264-5185. SPACE LIMITED. NO SAME DAY SIGN UPS.

Guided Hikes-Openings - Saturday/Sunday in September at 10:00 a.m. Enjoy a 45-minute guided hike. Please bring a hat, water, and walking shoes. Days are limited to staff availability. Registration required no later than the day before the hike, please call 321-264-5185 to sign up. NO SAME DAY SIGN UPS.

The Enchanted Forest Sanctuary was created and managed under Brevard County's Environmentally Endangered Lands Program referendum, established by voters in 1990 to protect and preserve the rich biological diversity of Brevard County for future generations. Admission to the sanctuary and education center is free and open to the public Tuesday through Sunday from 9 a.m. to 5 p.m.

Schedule Changes at Amvets Post 2415

9-9 Amvets Riders Chapter 2415 General Membership Meeting- 2nd Saturday of the month at 10:30 a.m. President Steve Carman, 321-446-3394.

9-9 Bike Day! 4:00 - 8:00 on the 2nd Saturday of the month at the Post.



9-13 General Membership Meeting- 2nd Wednesday of the month at 6 p.m.

Post 2415 is located at 688 West Ave., (adjacent to Hwy. US 1), Port St. John. If you are a veteran and would like to visit the Post or would like more information about Amvets, contact Commander Larry Lonneville at 321-208-7897.

Fraud Alert From Launch CU

We have recently been alerted that scammers are sending fraudulent text messages with a (305) area code pretending to be Launch Credit Union. **Please know that we will never contact you to ask for the following information:**

- User ID or password
 - Authentication codes sent to you via text/email
 - Digital banking username or password
 - Secure access codes
 - All 16 digits of your debit or credit card number
 - Credit or debit card PIN Numbers
 - The CVV code on the back of the debit or credit cards
- If you receive a phone call or text requesting this information, please treat it as suspicious and call our Contact Center at 321-455-9400 (Inside Brevard) or 800-662-5257 (Outside Brevard).**

If you are currently working on a loan and receive a text from a (321) area code with a link, you can consider this legitimate. If not, do not respond.

We always strive to protect our members from fraudsters. When in doubt, please contact us directly at 321-455-9400. Thank you for your assistance in preventing financial fraud.

Septic System & Well Maintenance After Flooding

During floods or heavy rains, the soil around a septic tank and drain field can get waterlogged, and wastewater from the septic system can't drain through the soil. Help avoid major problems with your system by following these guidelines when flooding occurs:

Relieve pressure on the septic system by using it less or not at all until floodwaters recede and the soil has drained.

Clean up floodwater in your house without dumping it into sinks or toilets. That would send it to the septic system.

Avoid digging around the septic tank and drain field while the soil is soggy, and don't drive vehicles over the drain field. These activities will compact the soil and water won't be able to drain properly.

Don't open or pump out the septic tank if the soil is still flooded. Silt and mud can get into the tank. This can end up clogging the pipes in your drain field. Pumping under these conditions can cause the tank to pop out of the ground.

If you think your system has been damaged, have the tank inspected and serviced by a professional. Taking care with your septic system after flooding, you can contribute to the health of your household and the environment.

If your private well is damaged during a storm, your well water may be contaminated with harmful bacteria. It is important to have your water tested for bacteria to ensure it is safe to use. To avoid getting sick, make sure you boil or disinfect your water before using it for drinking, making ice, brushing teeth, cleaning wounds or cooking.

Boil water for at least one minute before use. If boiling isn't possible, disinfect water by adding one-eighth teaspoon - or about eight drops - of unscented household bleach per gallon of water. Stir well and let stand for 30 minutes. If the water is still cloudy, repeat the procedure once.

You can also use bottled water until you know your well water is safe. Bottled water is recommended for preparing infant formula.

If you lost power during the storm but there was no damage to your well or septic system, the chances of well contamination are low. But, you should flush the well to pump the stagnant water out of your plumbing system before use. Open every outdoor tap and indoor tap and let the water run for at least 15 minutes before use. This will flush the stagnant water out of your plumbing system.

To determine if your well water is safe to use, you will need to have it tested for bacteria. Have your well water tested for bacteria as soon as you can. For more disaster recovery tips, go to disaster.ifas.ufl.edu.

- Developed by UF/IFAS Extension regional specialized water resources agents Yilin Zhuang and Andrea Albertin

Port St. John Public Library
6500 Carole Ave., Port St. John
321-633-1867

Mary Lena Penna, Library Director

Library Hours: Monday, Tuesday, Thursday and Friday, 9 a.m.-5 p.m., Wednesday, 12-8 p.m. and Saturdays, 10 a.m.-2 p.m.

All Brevard County libraries will be closed on Monday, September 4th for Labor Day.

Meeting rooms are available for reservation by calling the library and study rooms are open on a first-come-first-served basis.

Computers are available, and we also offer scanning, wireless printing and faxing. More information on services offered, how to get a library card and events for all the Brevard County libraries can be found at brevardfl.gov/PublicLibraries.

Tuesdays 3:00-4:00 p.m.: **STEAM time**. Ages 6-12. Come build & make things with us! Activities centered around Science, Technology, Engineering, Art & Mathematics.

Thursdays, 11 a.m.-noon: **Humanatee Yoga** for Beginners or Intermediate. \$5 Instructor Fee.

Thursdays, 1-3 p.m.: **SHINE Medicare assistance** through the Senior Resource Alliance of Brevard.

Fridays, 9:30-10:00 a.m.: **Baby Storytime**. Ages 3 and under.

Fridays, 10:30 a.m.: **Toddler Storytime**. Ages 3-5.

9/6, 6:30 p.m.: **Bookworms Bookclub**, see the Reference desk for monthly book selection.

9/6, & 9/20, 1:30-5 p.m.: **Community Support Advocate** can help with Housing Assistance, SNAP Benefits, Social Security/Medicare Benefits and more.

9/7, 10 a.m.: **North Brevard Public Library Advisory Board Meeting**.

9/13, 6 p.m.: **Port St. John Special District Advisory Board Meeting**.

9/16, 10:30 a.m.: **Spooky Doorhanger Craft** class. \$40 fee due at signup. Registration ends 9/13. See Reference Desk for more information and to sign up.

9/23, Noon-1:00 p.m.: **Read-to-a-Dog!** Practice reading skills with the best four-legged listeners around from Space Coast Therapy Dogs.

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