



Lunar Librarian Newsletter

November 2007

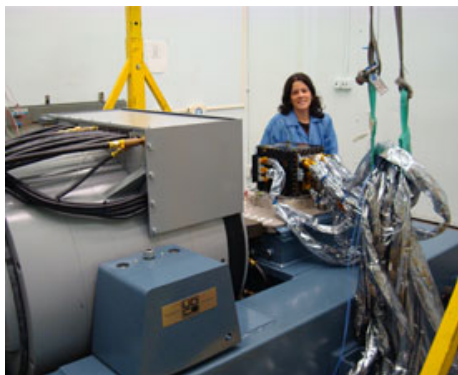
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LRO News



The LEND instrument engineering unit is in the Flatsat lab undergoing interface testing. The Flatsat lab contains engineering unit versions of the spacecraft electronics. We use this test bed to verify software performance, check out test procedures, test out operations procedures, and verify interfaces. The successful interface test with the LEND engineering unit yesterday allowed us to try out all of our functional tests of LEND, so we will be ready to run when the flight unit arrives next month.

In the photo to the right, Todd Bentley prepares to mount one of the LRO flight reaction wheels to the cold plate in preparation for the thermal vacuum test. The wheels are now in the vacuum chamber undergoing temperature cycling. This test demonstrates that the electronics and mechanisms will perform properly in the vacuum of space over the mission's temperature extremes. Four of these reaction wheels will control the pointing of the Orbiter throughout the mission.



The LRO Power System Electronics (PSE) completed its vibration testing this week. The photo to the left shows our PSE lead, Amri Hernández-Pellerano, with the PSE in the vibration laboratory. The PSE's cables are attached so that the box can be powered during the test. The large grey unit on the left shakes the plate holding the box, simulating the rigors of riding on a rocket.

Follow LRO's assembly progress at:
<http://lunar.gsfc.nasa.gov/hardware.html>

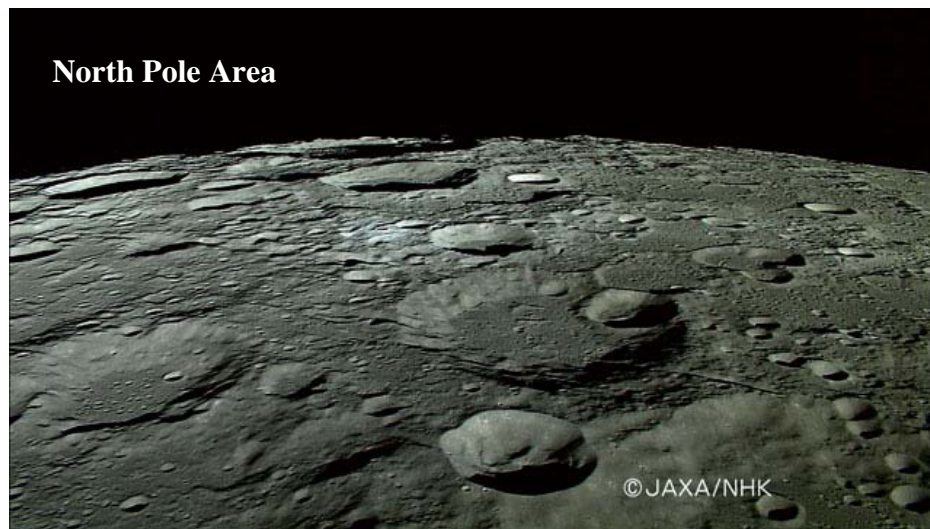
Lunar News

The Moon in HDTV

The Japan Aerospace Exploration Agency (JAXA) and NHK (Japan Broadcasting Corporation) recently released images from the Japanese lunar explorer "KAGUYA" or SELENE. Flying approximately 100 km above the lunar surface, the images below were taken with an onboard high definition television (HDTV). These images are the first of its kind.

The first image is part of a sequence taken of the northern area of the "Oceanus Procellarum" toward the center of the North Pole. The second image was part of a sequence taken from the south to the north on the western side of the "Oceanus Procellarum."

For more image and information, please visit: http://www.jaxa.jp/press/2007/11/20071107_kaguya_e.html



Does your library need a Second Life??

By Lora Bleacher

Background

Second Life (SL) is an online 3D Multi-User Virtual Environment (MUVE) in which avatars (a virtual representation of one's self) interact via communicating, learning, exploring, playing, and conducting business together. As of October 3, 2007, SL had 9,835,546 registered members, which it terms "residents," from over 100 different countries. What makes SL so attractive to its residents is that it is completely imagined and created by them. This means it is self-evolving, such that each time a resident logs in they may find that their surroundings have changed or that new places, objects, and people exist where before there were none. Avatars are fully customizable, such that residents may change their basic appearance (e.g. hair color), race, gender, clothing, etc. at any time. In addition to individuals, residents of SL include many real life (RL) groups, including federal agencies (e.g. NASA and NOAA), universities, libraries, museums, planetariums, businesses, nonprofits, embassies, and the tourism departments of many countries. Even network TV shows are joining in. Both CSI: NY and The Office recently aired episodes featuring SL.

The SL software platform may be downloaded for free from <http://www.secondlife.com>. Membership is restricted to those over 18 years of age. A basic account, which offers the ability to create an avatar, attend events, shop, and engage in other activities, is free. In order to own private land on which you can build or host events, one must first purchase a "premium" account at a cost of US\$9.95 per month. In addition to the cost of the land, landowners are subject to maintenance fees depending on the size of the land. Real life educators and nonprofit or educational institutions can purchase land at a 50% discount. Those between 13-18 years of age are allowed to join the Teen SL (<http://teen.secondliofe.com>). Entry into the Teen Grid is monitored closely such that only approved adults, such as educators, are allowed in.

Libraries in Second Life

Both formal and informal education occurs within SL. Formal education includes classes, training, and simulations. Informal education includes library programs and services, immersive museum exhibits, planetarium shows, public lectures, re-enactments, role-playing, concerts and performances. In addition to RL libraries, such as the State Library of Kansas for example, SL is home to many library advocacy groups. Info Island (Info Island 112, 77, 33), a partnership between the Alliance Library System (ALS) in Illinois and Online Programming for All (OPAL), offers links to book search engines, discussion groups on books and current library issues and research, links to SL help and resources, SL serials, classroom and public lecture space, and areas with couches for practicing foreign languages and general socializing. Interest in libraries within SL and other virtual spaces is so great that the American Library Association (ALA) approved the formation of a new Member Initiative Group on Virtual Communities and Libraries during its annual conference in June, 2007.



Info Island serves as a library, meeting space, and general resource center for Second Life residents.

Social interaction

Offering opportunities for visitors to interact socially is an important aspect of many educational locations within SL. The opportunity for SL residents to interact with other individuals with similar interests (individuals who in RL may be located around the world) in real time is a powerful incentive for

encouraging visits to educational locations (Urban, 2007). The ALA took this approach when it partnered with the ALS and others to celebrate Banned Books Week 2007 in SL by building “Pirate Paradise” (ALA Arts InfoIsland 26, 238, 24). Pirate Paradise included a pirate ship, a wharf with interactive displays, and many areas for socializing and small group discussions, such as a pub in the bottom of the pirate ship. The week’s events included a party, firework displays, book discussions, and other programs.

Sometimes, social events at educational locations within SL have little to do with the actual subject of the location. For example, the International Spaceflight Museum (Spaceport Alpha 27, 109, 22) offers a weekly opportunity for visitors called “Jazz in Outer Space” during which participants gather on the roof of the museum’s vehicle assembly building to listen to streaming jazz music, to dance, and to socialize. Even though the event has little if nothing to do with spaceflight, it offers a chance for those interested in spaceflight to meet each other and potentially engage in meaningful conversations related to spaceflight and the museum. In addition, such events could draw visitors that may not have ever chosen to visit the museum otherwise, potentially enlightening them to new ideas and information they may find of interest.

NASA in Second Life

NASA has established a presence within SL that focuses on informal education at the locations CoLab (NASA CoLab 244, 110, 22) and Explorer Island (Explorer Island 182, 169, 22). The many goals of CoLab include increasing public knowledge of and involvement in space science and space exploration and creating a more intimate and tangible experience of NASA with the public. To date, CoLab includes a few exhibits on various NASA missions, access to the NASA Web portal and streaming NASA TV, meeting spaces, and a public sandbox (i.e. a place in SL in which visitors may practice building objects). Explorer Island includes access to streaming NASA TV, space for meetings and live events such as lectures and launches, and exhibits on past and current missions. Interactive exhibits include opportunities to view an airbag demonstration and to ride a model of one of the Mars Exploration Rovers. SL users will be able to watch the launch of LRO next November.



Explorer Island is a great place to view NASA launches, hear guest speakers, and meet other space enthusiasts in Second Life.

Conclusions

In summary, SL is a powerful medium in which its residents shape its content. It provides opportunities for distance, social, collaborative, and self-paced learning, in both formal and informal contexts, with around the clock access to learning tools and resources. SL is an effective means by which to communicate with, engage, and educate the general public world-wide. Libraries and museums within SL are especially conducive venues for informal education due to their ability to provide a gathering and meeting place for residents with common interests to socialize, collaborate, and learn together.

Want more information?

http://www.simteach.com/wiki/index.php?title=Second_Life_Education_Wiki

<http://www.infoisland.org/>

<http://colab.arc.nasa.gov/>

Urban, R. et al. (2007), A Second Life for Your Museum: 3D Multi-User Virtual Environments and Museums. In J. Trant and D. Bearman (eds). Museums and the Web 2007: Proceedings. Toronto: Archives & Museum Informatics, published March 31, 2007 at

<http://www.archimuse.com/mw2007/papers/urban/urban.html>

The Graduate School of Library and Information Science, at the University of Illinois in Urbana-Champaign occasionally offers continuing education courses held in SL, which are open to librarians, museums professionals, and others interested in learning more about informal education in SL. For additional information, visit http://www.lis.uiuc.edu/programs/cpd/Second_Life.html

Lora Bleacher is Lora Lunasea in Second Life.

Science News

NASA Science News has published several articles last month. Please follow the links to read the full stories. Check out our RSS feed at <http://science.nasa.gov/rss.xml>!



A Fantastic Monday Morning Sky Show

On Monday morning, Nov. 5th, space shuttle Discovery is scheduled to undock from the ISS while the pair are gliding over many US towns and cities. The two spaceships will cut across a glittering expanse of morning stars dotted by bright planets and a Venus-Moon conjunction. And don't forget the exploding comet! It all adds up to "A Fantastic Monday Morning Sky Show."

http://science.nasa.gov/headlines/y2007/02nov_nov5.htm?list907815

Repair Shops for Broken DNA

NASA-supported scientists have discovered cellular repair shops where DNA broken by space radiation may be put back together again. http://science.nasa.gov/headlines/y2007/07nov_repairshops.htm?list907815

In the Blink of a Hurricane's Eye

NASA-supported scientists are working on a new device to help predict the sudden transformation of tropical storms to dangerous hurricanes. http://science.nasa.gov/headlines/y2007/09nov_hirad.htm?list907815

Strange Space Weather Over Africa

Scientists are converging on Ethiopia this week to discuss a new and strange form of space weather over Africa. http://science.nasa.gov/headlines/y2007/13nov_africa.htm?list907815

Moon Rocket Parachute Tests a Success

How do you bring a 200,000-pound rocket booster back to Earth after it catapults its payload toward the moon? NASA has answered that question with a successful test of a giant "moon rocket" parachute in the Arizona desert. http://science.nasa.gov/headlines/y2007/15nov_parachute.htm?list907815

Bargain Basement Satellites

NASA scientists have developed a fast and easy to build satellite named FASTSAT that could accelerate the pace of space exploration. http://science.nasa.gov/headlines/y2007/19nov_fastsat.htm?list907815

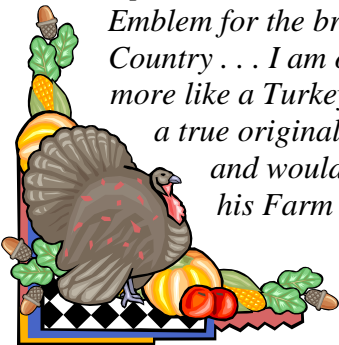


Welcome to Fall! What programs are you planning for the fall? Drop us an email and let us know!

Did you know??

Benjamin Franklin wanted the turkey to be the national bird instead of the eagle. Franklin thought the eagle was an ignoble, cowardly bird and was more favorably inclined toward the turkey. In his own words in a letter to his daughter:

For my own part I wish the Bald Eagle had not been chosen the Representative of our Country. He is a Bird of bad moral Character. He does not get his Living honestly. You may have seen him perched on some dead Tree near the River, where, too lazy to fish for himself, he watches the Labour of the Fishing Hawk; and when that diligent Bird has at length taken a Fish, and is bearing it to his Nest for the Support of his Mate and young Ones, the Bald Eagle pursues him and takes it from him. With all this Injustice, he is never in good Case but like those among Men who live by Sharping & Robbing he is generally poor and often very lousy. Besides he is a rank Coward: The little King Bird not bigger than a Sparrow attacks him boldly and drives him out of the District. He is therefore by no means a proper Emblem for the brave and honest Cincinnati of America who have driven all the King birds from our Country . . . I am on this account not displeas'd that the Figure is not known as a Bald Eagle, but looks more like a Turkey. For the Truth the Turkey is in Comparison a much more respectable Bird, and withal a true original Native of America . . . He is besides, though a little vain & silly, a Bird of Courage, and would not hesitate to attack a Grenadier of the British Guards who should presume to invade his Farm Yard with a red Coat on.



Links of the Month...

- Basics of Space Flight is a tutorial designed primarily to help operations people identify the range of concepts associated with deep space missions, and grasp the relationships among them. It also enjoys popularity with college and high school students, as well as faculty, and people everywhere who are interested in interplanetary space flight. <http://www2.jpl.nasa.gov/basics/>
- MESSENGER spacecraft will be making its first flyby in January. To follow its journey: <http://messenger.jhuapl.edu/>

Monthly Lunar Activity

Make a Model of the Pluto/Charon System

Activity from: http://www.pluto.jhuapl.edu/education/educators_models.php

It is quite easy to make a model of the Pluto/Charon system — all you need are a pair of plastic foam balls and a dowel. The balance point is center of mass.

Materials:

- 2 polystyrene balls (4-inch and 2-inch)
- wooden dowel (1/4-inch diameter, 34 inches long)
- glue (to stick the balls onto the ends of the dowel)



New Horizons Co-Investigator Fran Bagenal demonstrates how Pluto and Charon orbit each other using a model she constructed and painted. Because Pluto is 8 times more massive than Charon, the center of mass (the pivot point) is 8:1 of the distance separating them.

