National Aeronautics and Space Administration

The Launch Pad

NASA Shared Services Center

July - September 2011

Shuttle Atlantis Ready for Final Mission

On July 8, 2011, space shuttle Atlantis is scheduled to launch from Kennedy Space Center in Florida for the last time. This will be shuttle Atlantis' final flight to space, and it will also be the end of NASA's Space Shuttle Program. The entire space shuttle fleet will be retired following this historic mission of Atlantis.

Atlantis will carry a crew of four: Commander Chris Ferguson, Pilot Doug Hurley, and Mission Specialists Sandy Magnus and Rex Walheim. Reflecting on the significance of this final space shuttle mission, Commander Ferguson said, "I don't think that the full magnitude of the moment will really hit us until the wheels have stopped on the runway."

Atlantis will carry the Raffaello multipurpose logistics module to deliver supplies and spare parts to the space station. The mission also will fly a system to investigate the potential for robotically refueling existing spacecraft, and will return a failed ammonia pump module.

Pictured above: Atlantis stands on Launch Pad 39A at NASA's Kennedy Space Center in Florida, in preparation for its final flight to space.

Pictured above: The four member NASA astronaut crew of STS-135 are Commander Chris Ferguson (center right), Pilot Doug Hurley (center left), Mission Specialists Rex Walheim (far left) and Sandy Magnus (far right).

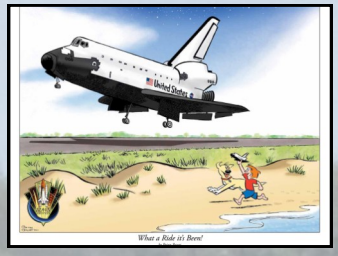
The NSSC Reaches Out to Community at Open House

The NASA Shared Services Center (NSSC) participated in Stennis Space Center's (SSC) 50th Anniversary Open House event on June 2, 2011. SSC opened its doors to the community as part of a yearlong celebration of its 50th anniversary. NSSC employees from the Customer Satisfaction and Communication Team were on-hand to answer questions about how the consolidation of services to the NSSC frees Agency resources that are redirected to NASA's core technical mission.

For more information about the NSSC, visit: www.nssc.nasa.gov

Pictured left: Employees from the NSSC Customer Satisfaction & Communication Team Doug LeMere, Mae Mangieri, Debbie Cagle, Mike Tubbs, and Chris Canary at Stennis Space Center's Open House.

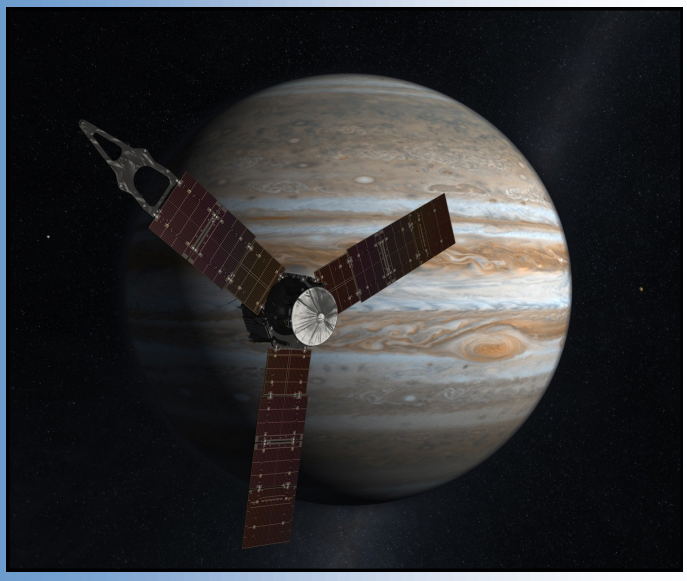
New Homes for Shuttle Orbiters



After 30 years of spaceflight, more than 130 missions, and numerous science and technological firsts, NASA's space shuttle fleet will retire and be on display at institutions across the country to inspire the next generation of explorers and engineers.

- Shuttle Enterprise, the first orbiter built, will move from the Smithsonian's National Air and Space Museum/Steven F. Udvar-Hazy Center in Virginia, to the Intrepid Sea, Air and Space Museum in New York
- Shuttle Discovery, which was retired after completing its 39th mission in March 2011, will be displayed at the Udvar-Hazy Center in Virginia
- Shuttle Endeavour, which was retired after completing its 25th mission in June 2011, will go to the California Science Center in Los Angeles
- Shuttle Atlantis, which will fly the last planned shuttle mission in July 2011, will be displayed at the Kennedy Space Center Visitor's Complex in Florida

For more information about the Space Shuttle Program, visit: http://www.nasa.gov/shuttle



NASA to Launch Spacecraft Juno to Jupiter

Scheduled for launch in August 2011, Juno is the second mission in NASA's New Frontiers program. The mission will improve our understanding of the solar system by advancing studies of the origin and evolution of Jupiter. The spacecraft will carry nine instruments to investigate the existence of a solid planetary core, map Jupiter's intense magnetic field, measure the amount of water and ammonia in the deep atmosphere, and observe the planet's auroras.

Key things to know about Juno*:*

- Launches in August 2011
- Five-year cruise to Jupiter, arriving July 2016
- One year at Jupiter will complete the mission (orbiting the planet 32 times)
- Juno will improve our understanding of our solar system's beginnings by revealing the origin and evolution of Jupiter

When it arrives, Juno will…

- Determine how much water is in Jupiter's atmosphere, which helps determine which planet formation theory is correct (or if new theories are needed)
- Look deep into Jupiter's atmosphere to measure composition, temperature, cloud motions and other properties
- Map Jupiter's magnetic and gravity fields, revealing the planet's deep structure
- Explore and study Jupiter's magnetosphere near the planet's poles, especially the auroras (Jupiter's northern and southern lights), providing new insights about how the planet's enormous magnetic force field affects its atmosphere

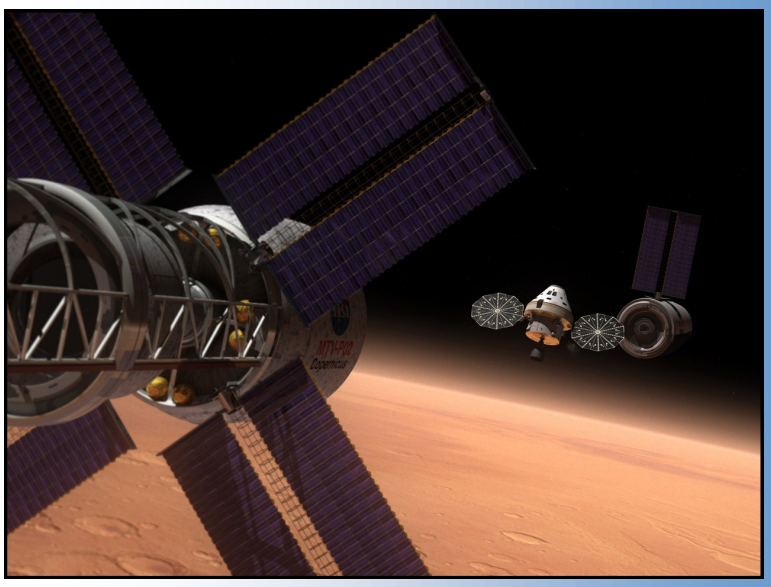
For information about the Juno mission, visit: http://www.nasa.gov/juno

Did You Know?

Jupiter is our solar system's largest planet. See how tiny Earth is in the picture to the right compared to Jupiter? The raging storm known as the "Great Red Spot" on Jupiter could swallow up the whole Earth.

Jupiter is called a gas giant planet. It is made of mostly hydrogen and helium, the same materials as the Sun. If Jupiter were larger, could it have become our solar system's second Sun? Imagine seeing two Suns in the sky!

To learn more about Jupiter and the solar system, visit: http://solarsystem.nasa.gov/index.cfm



NASA's Future Spacecraft: The Multi-Purpose Crew Vehicle

NASA has reached an important milestone for the next U.S. transportation system that will carry humans into deep space. On May 24, 2011, NASA Administrator, Charles Bolden, announced that the system will be based on designs originally planned for the Orion Crew Exploration Vehicle for traveling beyond Low Earth Orbit (LEO). Those plans now will be used to develop a new spacecraft known as the Multi-Purpose Crew Vehicle (MPCV).

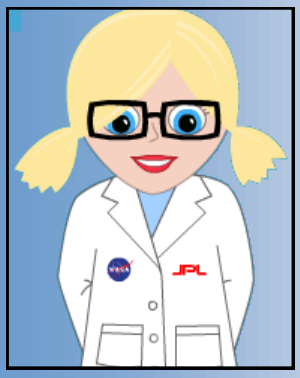
Drawing from more than 50 years of spaceflight research and development, the MPCV will be designed to meet the evolving needs of our nation's space program for decades to come. As the flagship of our nation's next-generation space fleet, the MPCV will push the envelope of human spaceflight far beyond LEO.

For more information about the MPCV, visit: http://www.nasa.gov/exploration/systems/mpcv

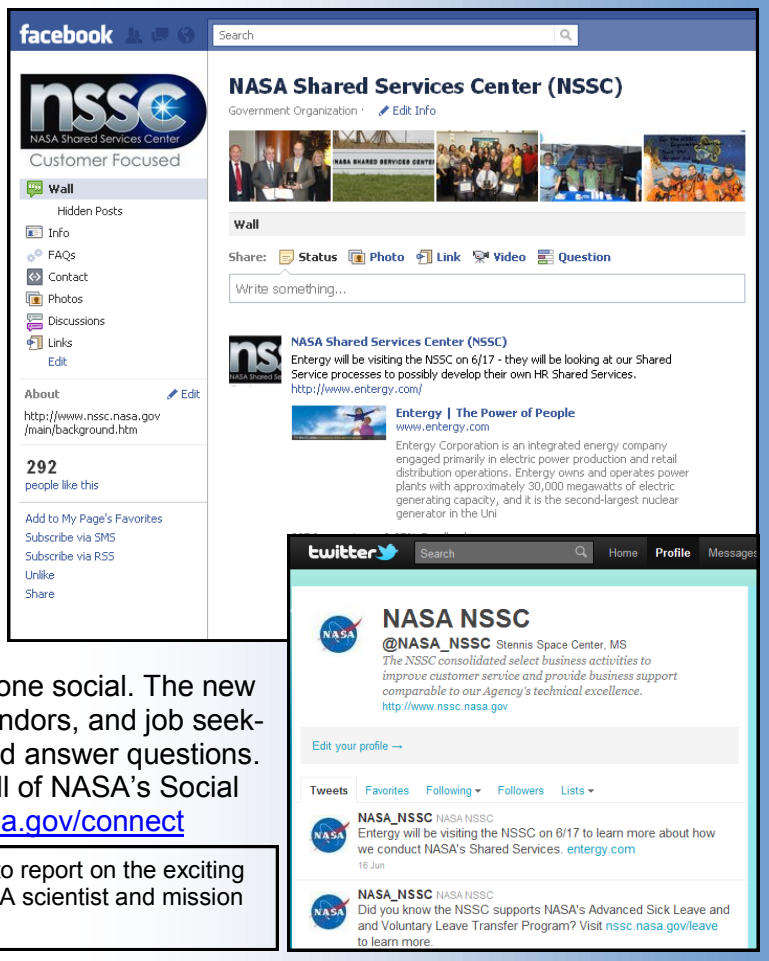
A Social Shared Services Center

By Susie Satellite

Howdy Space Cadets! I just checked my Facebook page on my new iPhone. Isn't technology great? Did you realize that there are now over 500 million Facebook users in the world? Twitter has over 190 million users! That's a lot of people. More and more, businesses and government organizations are using social media to reach customers and citizens. Why wouldn't they? NASA has led the way by embracing this new and exciting form of communication.



NASA pages are quite popular! Thousands of people use social media to keep in touch with the exciting things the Agency is doing, or to get their space news, or to simply interact and ask questions. The NSSC has also gone social. The new pages give NASA employees, vendors, and job seekers updates, share resources, and answer questions. To connect with the NSSC and all of NASA's Social Networking Sites, visit: www.nasa.gov/connect

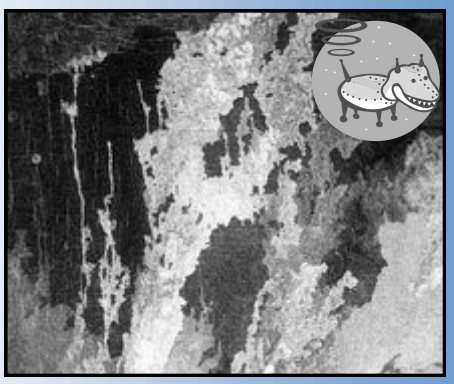


Susie Satellite is constantly visiting the NSSC and is always eager to report on the exciting things she sees. She reminds you that you can build your own NASA scientist and mission at: http://www.jpl.nasa.gov/education/index.cfm?page=67

Summer Vacation on the Surface of Venus

By Sirius

It sure is nice to finally be on vacation, but I'm not so sure that Venus was a good summer resting spot. It sure looked pretty from afar. Venus was named for the ancient Roman goddess of love and beauty. As it turns out, the brightest planet you see on Earth is mostly due to the reflection of sunlight on the clouds and the fact it is so close by. The atmosphere here is mostly carbon dioxide and there are clouds of sulfuric acid droplets. The wind whips so hard, it's like a hurricane—and there's lightning! The weather is so bad I think I need to cancel my plans. I had hoped to visit Ishtar Terra, the highlands, on Venus' North Pole, but I don't think it is a very good idea!



Pictured above: A close-up of the Venusian surface showing a series of complex lava flows which emerged from the northern flank of one of Venus' large volcanoes, Sif Mons. The image covers a region about 160 km (100 miles) across, and was obtained by the Imaging Radar instrument on NASA's Magellan spacecraft which orbited Venus from 1990-1994. Image Credit: NASA/JPL .

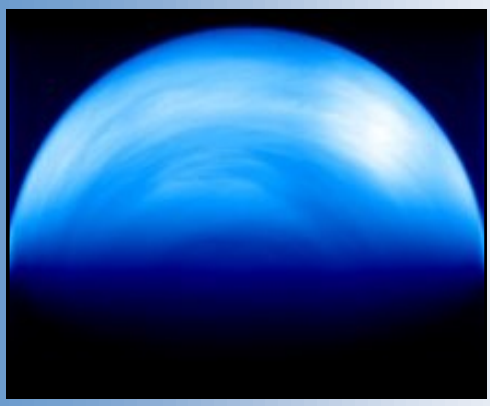


Image Credit: ESA/VIRTIS/INAF-IASF/ Observatory de Paris-Lesia.

The heat is unbearable because it gets trapped within Venus' atmosphere. It's about 880 degrees today. Probes that have landed on Venus survived only a few hours before being destroyed by the incredible temperatures combined with the sulfur in Venus' clouds. The corrosive atmosphere can cause significant surface weathering and erosion. I'd better get out while I can! To learn more about Venus, visit: http://solarsystem.nasa.gov/planets/profile.cfm?Object=Venus

Sirius, the robotic dog, travels to exciting places in our solar system. He sends reports back to the NSSC in exchange for treats and a scratch behind the ear.

Living the Dream: Astronaut Mike Fossum

Above: Expedition 28 Flight Engineers Mike Fossum (left), Sergei Volkov (center) and Satoshi Furukawa (right) flash a thumbs up sign in front of their Soyuz TMA-02M spacecraft.

On June 8, 2011, American astronaut Mike Fossum began his journey to the International Space Station, launching aboard a Russian Soyuz rocket. Prior to leaving, Mike updated his blog about all the incredible experiences he was having in Russia.

May 25, 2011: *"I want to start documenting this amazing adventure and might as well start here since I have been too busy to do so for the last two and a half years.*

We have been on the Gagarin Cosmonaut Training Center airplane from Star City, Russia, to Baikonur Cosmodrome, Kazakhstan, for about two hours, and a member of the airplane crew just draped a blanket over one of my crewmates while he is napping. I can understand – it has been an amazing, exhausting adventure to get to this place.

We can still hear the echoes of the celebrations on April 12th as Russia and the world celebrated the 50th anniversary of Yuri Gagarin's first flight into space. Who could have imagined back then the launch to begin Russia's second half-century of human spaceflight would include an American Air Force Colonel (USAFR-Ret) and a Japanese doctor/astronaut? The history of our three countries includes periods of intense conflict and horrific strife; yet here we are – American, Russian, and Japanese crewmates – fused together as a crew and ready to persevere through the final steps to the launch pad in the next two weeks."

To read more about Mike's preparation for launch, check out his blog: http://blogs.nasa.gov/cm/newui/blog/viewpostlist.jsp?blogname=Living%20the%20Dream

Left front: Flight Engineers Mike Fossum, Sergei Volkov, and Satoshi Furukawa.

Left back: Flight Engineer Ron Garan, Commander Andrey Borisenko, and Flight Engineer Ron Garan.

The Launch Pad

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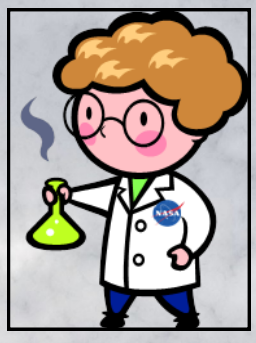
Submit Questions/Comments to:
NSSC Customer Satisfaction and Communication Team
Attn: The Launch Pad
Mail Code: XB000
Stennis Space Center, MS 39529
Or call 228-813-6154

Contributors: Mae Mangieri, Jamie Mettler, Doug LeMere, Mike Tubbs

Girl Scouts and Boy Scouts of America



Are you a Girl Scout with dreams of journeying into space? Then you should note that many of NASA's career astronauts were former Girl Scouts, including the first woman to perform a spacewalk, Dr. Kathryn Sullivan, and the first female shuttle commander, Eileen Collins.

You can begin your journey by visiting this page: http://solarsystem.nasa.gov/girlscouts/index.cfm

Don't worry Boy Scouts, we haven't forgotten about you! If you're wondering where to get started exploring your interests in science, space, or technology, take a look at the new Robotics merit badge offered through NASA and the Boy Scouts of America: http://science.nasa.gov/science-news/news-and-features/nasa-and-bsa-introduce-robotics-merit-badge/

Meet NASA's Last Female Shuttle Astronaut

SANDRA H. MAGNUS (PH.D.)
NASA ASTRONAUT

Background:

- Born October 30, 1964, in Belleville, Illinois
- Selected as a NASA astronaut in April 1996
- After her first spaceflight in 2002, Magnus became the 34th out of 47 women to fly aboard the shuttle
- This will be her third spaceflight
- Previous spaceflight experience includes STS-112 and STS-126
- Logged 4+ months in space
- Enjoys soccer, reading, cooking, travel, and water activities
- Graduated from Belleville West High School, Belleville, Illinois, in 1982
- Received a bachelor's degree in physics and a master's degree in electrical engineering from the University of Missouri-Rolla in 1986 and 1990, respectively
- Received a doctorate from the School of Material Science and Engineering at the Georgia Institute of Technology in 1996

For more information about NASA astronauts, visit: http://www.jsc.nasa.gov/Bios