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September Calendar

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Wallops Farmers' Market

11 a.m.-1 p.m. in parking lot "E" at the Chincoteague Bay Field Station, featuring Shore Beef & BBQ, fresh fruits and veggies, exotic jams, jellies and butters, dog and cat treats and much more.



5

Wallops Beach Party

Starts at 3 p.m. on the Wallops Island beach. Burgers, hot dogs, sweet corn and clam chowder, drinks and more. Bring chairs, blankets bug repellent, coolers, etc. Surf, soak in the sun, or build a sand castle. This is a kid friendly event, so bring the kids along too.

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International Observe the Moon Night

7-9 p.m. The Visitor's Center will also celebrate the one-year anniversary of the LADEE moon launch. See Page 12 for more details

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Wallops All-Hands

1-2:30 p.m. in the E-100 Auditorium. Bill Wrobel will talk with civil servants and contractors about the latest happenings at Wallops Flight Facility

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Global Hawk operations and HS3 Media Day

Media day to highlight the latest hurricane missions.

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The C-130 is prepared for takeoff from the Wallops Range airfield.

Photo Credit: NASA/Patrick Black



What's up @NASAWallops?

Balloon office conducts successful WASP/HySICS flight

WALLOPS ISLAND — The Wallops Balloon Program Office successfully completed a balloon flight for the Wallops Arcsecond Pointer (WASP) and the Hyper-Spectral Imager for Climate Science (HySICS) payloads Aug. 18 from Fort Sumner, N.M.

The helium-filled balloon, at 29.47 million cubic feet of volume fully inflated, lifted the 4,244 pound WASP/HySICS payload to an operational altitude of 122,000 feet.

WASP is an innovative pointing system designed to point balloon-borne scientific instruments at inertial targets with subarcsecond accuracy and stability. The objective of the flight was to demonstrate the capability to integrate, test, and support the HySICS science user with the WASP pointing capability. The HySICS instrument is a new approach to improving radiometric accuracy of Earth spectral observations needed for climate measurements.

Program managers are hailing the 8 hour 54 minute flight as an operational and science success, reporting excellent instrument performance and very high quality science data.

Orbital Sciences completes cargo resupply mission, announces date for Orb-3

WALLOPS ISLAND — Orbital Sciences Corp. completed its second cargo delivery mission to the International Space Station (ISS) under the company's \$1.9



Feds Feed Families

Students from the Virginia Space Coast Scholars program pose for a photo in front of a sounding rocket used to promote the "Stuff a Rocket" event at Wallops Aug. 13, 2014. The event resulted in some 175 pounds worth of food collected for families in need. Overall, Wallops collected more than 1,150 pounds of food for the campaign, which concluded Aug. 27. Photo Credit: NASA/Jamie Adkins

billion commercial resupply services contract with NASA Aug. 17.

The Cygnus spacecraft, which launched from Virginia's Mid-Atlantic Regional Spaceport Pad 0A at NASA's Wallops Flight Facility July 13, delivered some 3,669 pounds of cargo and science payloads to the orbiting laboratory. Cygnus unberthed from the ISS Aug. 15 and then reentered the Earth's atmosphere, burning up over the Pacific Ocean with some 3,550 pounds of disposal items.

Preparations are underway for the next Cygnus cargo delivery flight, scheduled for no earlier than Oct. 14 from Wallops. The Orb-3 flight is expected to deliver its heaviest cargo manifest yet, with 5,050 pounds (2,290 kilograms) of cargo and payloads to be sent to the ISS.

Goddard Library offers online access to Aviation Week magazine

WALLOPS ISLAND — The Goddard Library has a number of online resources available to Wallops employees. One in particular is access to Aviation Week magazine, a weekly magazine available both in print and online that reports on the aerospace industry.

The magazine contains news, insight, data, and analytics from every resource within the publication's portfolio from 1997 to present. To access, [visit the Aviation Weekly website here](#). If you have questions or need further information, please contact the Goddard Library at 301-286-7218 or email at gsfc-library@lists.nasa.gov.

What's up @NASAWallops?

Wallops conducts Diversity and Inclusion Day

WALLOPS ISLAND — Wallops held its Diversity and Inclusion Day, focused around the theme of unity, by bringing together individuals of different backgrounds to network and share their experiences through various activities Aug. 6.

The “I Am Goddard” success story of Caroline Massey, assistant director of management operations, kicked-off the day's activities. Following the keynote was the presence and promotion of the Center Advisory Committees and Wallops Exchange and Morale Association Clubs; a panel discussion with WFF D&I committee members Dan Krieger, Dr. Tiffany Moisan, Sheryl Eni, Jay Pittman, and DeWayne Washington; and a speed mentoring event featuring members of the WFF Senior Leadership team.

P-3B Orion departs for maintenance

WALLOPS ISLAND — After successfully completing the DISCOVER-AQ mission in Denver Aug. 12, Wallops' P-3B Orion was quickly offloaded and sent off on its next journey.

In the early hours of Aug. 19 the P-3 departed Wallops for maintenance, and when it returns it will have new wings and new propellers.

Mike Cropper, operations manager for the Wallops aircraft office, recalled seeing the P-3 as a 7th grader in the early 90's not long after the plane had gone through its first avionics upgrade. Cropper



Sheryl Eni and Jay Pittman look on as DeWayne Washington addresses the crowd during a diversity and inclusion panel discussion held during Wallops' Diversity and Inclusion Day. Photo Credit: NASA/Brea Reeves

Global Hawk flies over Hurricane Cristobal



Global Hawk 872 landed at Wallops at 7:43 a.m. Aug. 27 after a more than 22 hour flight transiting from Edwards Air Force Base and collecting science data and deploying 81 dropsondes over Hurricane Cristobal in the Atlantic Ocean. Photo Credit: NASA/Brea Reeves

said the plane will return with another 20-30 years of operational use. “I’ll probably retire working on the same plane I saw in the 7th grade,” he said.

Prior to its departure, the P-3 had amassed 623.7 flight hours for fiscal year 2014, a record for the airborne science platform.

Education highlights Wallops' summer

WALLOPS ISLAND — What a year it's been for Wallops Education! From teacher workshops to student STEM-engagement programs, this summer has been filled with stellar events and opportunities.

"By all accounts, we've had our busiest, most successful summer yet with Education at Wallops," said Bill Wrobel, Wallops director. "I continue to be amazed at how Team Wallops comes together to carry the mantel for inspiring the next generation of leaders in aerospace."

There were seven large education activities this summer, the first of which kicked off with the arrival of 32 summer interns hailing from the Eastern Shore and different parts of the nation, bringing with them a wide array of educational backgrounds. The internships culminated in the annual poster session, highlighting the different

projects that the interns worked on throughout the summer.

During the week of June 21-26, the seventh annual RockOn! and RockSat-C workshop, was held in partnership with the Colorado and Virginia Space Grant Consortia. The program gave 118 community college and university students and instructors the chance to construct a scientific payload, launch it on a suborbital rocket flight, and analyze the results once the payload was recovered.

The Wallops Rocket Academy for Teachers and Students (WRATS) is a program that provides high school participants with a technical flight experience in order to promote STEM concepts. During the event, which took place concurrently with RockOn!, teachers participated in hands-on experiences based on NASA's sounding rocket engineering and science data collection.

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Students from this year's RockOn! program work together to assemble their experiment that was launched on the suborbital sounding rocket in June.

Photo Credit: Courtesy photo



Inspire the Next Generation Day was filled with excited 5th-12th graders, including these students gathered around a table to work on one of many activities designed and carried out by this summer's interns.

Photo Credit: Courtesy photo



Three students selected for this summer's Virginia Space Coast Scholars (VSCS) program present their capstone projects. Their audience included fellow VSCS students, the education team, multiple other Wallops employees, and several summer interns. Photo Credit: Courtesy photo

Women of Wallops

All-woman team leads sounding rocket launch in PFRR in Alaska

FAIRBANKS, Alaska — Wallops' Sounding Rocket Program office has some 15 launches planned over the next 6 months, with two planned from Norway in November, five scheduled from Poker Flat Research Range, Alaska, in January 2015, seven other launches out of White Sands Missile Range, N.M., and one from Wallops.

As the team gears up for the busy schedule ahead, *Island Access* looks back at Wallops' last mission from Poker Flat, the Ground-to-Rocket Electrodynamics-Electrons Correlative Experiment or GREECE, and an interesting aspect of that successful mission: it was led by an all-woman team.

GREECE lifted off March 3, 2014, under the leadership of:

- **Libby West**, campaign manager, Sounding Rocket Program Office
 - **Kathe Rich**, range manager, University of Alaska
 - **Dr. Marillia Samara**, principal investigator, Southwest Research Institute (Note: Dr. Samara recently joined the Goddard family as a researcher working in the Geospace Physics Laboratory at the Greenbelt campus.)
 - **Lauren Neely**, range services manager, LJT & Associates (Range Operations Contract)
 - **Chris Chamberlin**, mission manager, Orbital Sciences Corp. (NASA Sounding Rocket Operations Contract (NSROC))
 - **Valerie Gsell**, lead ACS engineer, Orbital Sciences Corp. (NSROC)
- In addition, several additional field team roles were filled by women who contributed significantly to the mission's success. These team members include:
- **Terri Snyder**, ACS technician, Orbital Sciences Corp. (NSROC)



Marillia Samara



Lauren Neely



Valerie Gsell



Chris Chamberlin



Kathe Rich



Sara Blankenship

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All photos credit: NASA/Chris Perry and Lee Wingfield



The C-130 will deploy in late August or early September on a new NASA field campaign to study the effect of sea ice retreat on the Arctic climate. Photo Credit: NASA/Patrick Black

Wallops' C-130 heads to the Arctic

Aircraft will conduct research flights to study sea ice level changes

WALLOPS ISLAND — The Wallops Aircraft Office is scheduled to deploy its C-130 in late August or early September on a new NASA field campaign to study the effect of sea ice retreat on Arctic climate.

The Arctic Radiation IceBridge Sea and Ice Experiment (ARISE) will conduct research flights through early October, covering the peak of summer sea ice melt.

ARISE is NASA's first Arctic airborne campaign designed to take simultaneous measurements of ice, clouds and the levels of incoming and outgoing radiation, the balance of which determines the degree of climate warming. The campaign team will fly aboard NASA's C-130 aircraft from Thule Air Base in northern Greenland the first week and from Eielson Air Force Base near Fairbanks, Alaska, through the remainder of the campaign.

The C-130 will carry instruments that measure solar (incoming) and infrared (outgoing) radiation, ice surface elevation and cloud properties such as cloud particle size. This will be the first time that many of these instruments, including the mission's laser altimeter, have flown together.

In recent years the Arctic has experienced increased summer sea ice loss. Scientists expect the exposure of more open water to sunlight could enhance warming in the region and cause the release of more moisture to the atmosphere. Additional moisture could affect cloud formation and the exchange of heat from Earth's surface to space. Researchers are grappling with how these changes in the Arctic affect global climate.

"A wild card in what's happening in the Arctic is clouds and how changes in clouds, due to changing sea-ice conditions, enhance or offset warming," said Bill Smith, ARISE principal investigator at NASA's Langley Research Center in Hampton, Virginia.

ARISE was planned over the last year to take advantage of NASA's existing capabilities for gathering data about ongoing changes in the Arctic. Satellites provided some information about clouds and the energy balance in the Arctic, but the multiple instruments flown during ARISE should provide further insight.

"The clouds and surface conditions over the Arctic

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Gary Letchworth poses in front of the Space Shuttle Atlantis during its final rollout. Courtesy photo

i am goddard

Gary Letchworth

WALLOPS ISLAND — Wallops says hello and welcome back to a familiar face: Gary Letchworth.

Letchworth, recently selected as the new chief of the Advanced Projects Office (APO), is familiar with that organization as he was a part of the APO team eight years ago when he worked at Wallops.

A Florida native, Letchworth was inspired to work in aerospace after watching the moon launches on television. He wanted to be a part of that effort.

Upon graduation from high school, he went on to get his Bachelor's degree in engineering from Auburn University, then a Master's degree from Georgia Tech and later an engineering management degree from the University of Central Florida.

FASTFive

Dream Car: "I've got it — my blue 68' Camaro."

Favorite Food: Thai Food

Favorite Band: The Newsboys

Favorite Baseball Team:
Baltimore Orioles and Delmarva Shorebirds

If you could do any other job: "I don't want to do anything else. This is my dream job."

His aerospace career began at the Johnson Space Center, where he worked on Space Shuttle flight design. From there, he went on to work at the Kennedy Space Center where he worked on the Space Shuttle Operations Contract. Always looking for a

new adventure, Gary went on to work at Lockheed Martin's Skunkworks plant on the X-33 Space Plane program. Following the cancellation of that program, Gary returned to Florida. A civil service position became available at Wallops in APO, so Gary applied and was selected for this next adventure.

While Gary said he loved Wallops, the people and the missions, his wife still worked at Kennedy Space Center. They both sought positions at the other facilities in hopes of being able to reunite in one location. When a position opened at Kennedy Space Center, Gary applied and was selected. For the past eight years at Kennedy, Gary worked on the Orion

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In addition to getting the scientific knowledge, teachers also received ways to integrate this knowledge into classroom lessons.

Thirty-two Virginia pre-service teachers participated in an earth science workshop and Antares launch forum as part of the Integrative STEM for Pre-service Teachers program (inSTEP), a 2-year program with 15 universities, including minority serving institutions managed by the Virginia Space Grant Consortium.

The HS3/GPM/SMAP workshop was conducted the week of Aug. 4 for 28 educators from eight states (Maryland, Virginia, South Dakota, Arizona, Florida, Oregon Minnesota, and New York). The workshop was a collaboration with the American Geoscience Institute and Arizona State University focusing on NASA's earth science. The educators will impact 3,931 students during the year.

Wallops Education fostered greater interest in STEM fields among youth through Inspire the Next Generation. K-12 students came to the base in July and cycled through various STEM-themed activities. Additionally, this event provided interns with the chance to design an activity they did with visiting students, making it a teaching opportunity as well as an educational one.

The Virginia Space Coast Scholars (VSCS), funded by the Commonwealth of Virginia, returned to Wallops for its second year from July 26 to Aug. 1, and again from Aug. 9-15. The VSCS Summer Academy, split into two sessions of 45 students, is a program designed for high school sophomores to promote interest in Wallops missions and related STEM fields.

"It's been a great summer, and we're looking forward to an even bigger 2015," said Joyce Winterton, senior advisor for education and leadership development.



Outstanding Leadership Medal

Hickman, John/810
Kremer, Steven/840

Exceptional Achievement Medal

Bellinger, Frank/800
Voss, Douglas/840

Exceptional Service Medal

Dickerson, John/840
Stuchlik, David/820
Waters, Gregory/569

2014 Agency Honor Awards Selections

Exceptional Engineering Achievement Medal

Klein, Erich/820

Exceptional Public Service Medal

Jimmerson, Joseph/LJT and Associates, Inc./840

Group Achievement Award

2013 Wallops Launch Support Team/Thomas Pittman/800

LDSD Balloon Launch Tower Development

Team/Erich Klein/820

NASA P3 Aircraft Antarctic Mission Team/Thomas Wagner/DK000

NASA Sounding Rockets Program (NSRP) Team/Elizabeth West/810

Wallops Communications Branch/John Webb/763

Wallops CubeSat Ground Station Support Team/Schaire, Scott/453

Wallops Office of Communications Team/Jeremy Eggers/130

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- **Sara Blankenship**, telemetry readout technician, LJT & Associates (Range Operations Contract)
- **Angelique Kinney**, operations safety supervisor, Wallops safety office
- **Amanda Slagle**, science team member
- **Erica Kotta**, science team member, University of California, Berkeley

"No one even noticed that all of the lead roles were being filled by women until I pointed it out," said John Hickman, Sounding Rocket Program Office and deputy campaign manager for the GREECE mission. "I think it represents a natural progression of our workforce towards diversity and inclusion."

The purpose of the GREECE was to significantly enhance our knowledge of the structure and dynamics of the electron precipitation responsible for the aurora, on both large

and small scales, which can ultimately be used to set stronger constraints on models of auroral electrodynamics. The mission investigated the electrodynamics associated with the most dynamic, fluid-like auroral structures that occur at substorm onset using a sounding rocket.

In addition to the rocket, the science closure depended on heavy use of supporting ground-based optical auroral imaging at downrange site in the native village of Venetie. The science team members, in conjunction with Poker Flat range personnel, worked with the local tribal council and school administrators to set up an array of ground based instruments at the local school which were vital to this experiment.

The payload carried two new electron detectors, a new ion detector, electric field sensors, and magnetic field sensors. Multiple narrow field and all-sky imagers also viewed the auroral structures from the site at Venetie.

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as we observe them from satellites are very complex,” Smith said. “We need more information to understand how to better interpret the satellite measurements, and an aircraft can help with that.”

The array of instruments on ARISE should help scientists better observe how sea ice loss is affecting Arctic cloud formation and therefore the balance of incoming and outgoing radiation. Low-level clouds typically reflect more sunlight and offset warming, while higher clouds are typically less reflective and act to trap more heat in the atmosphere.

“It’s a complex business, but it depends on a lot of things we can, in fact, measure,” said Hal Maring, program manager for radiation sciences in the Earth Science Division at NASA Headquarters in Washington.

ARISE researchers will fly survey missions that target different cloud types and surface conditions, such as open water, land ice and sea ice. The missions will be timed to fly under the orbit paths of key satellite instruments, such as the Clouds and the Earth’s Radiant Energy Systems (CERES) instruments on multiple NASA satellites. Each morning, mission planners will look at satellite timings and weather forecasts to design flight plans that meet the most objectives of the campaign.

The ARISE campaign is a joint effort of the Radiation Sciences, Cryospheric Sciences and Airborne Sciences programs of the Earth Science Division in NASA’s Science Mission Directorate in Washington.

NASA monitors Earth’s vital signs from land, air and space with a fleet of satellites and ambitious airborne and ground-based observation campaigns. NASA develops new ways to observe and study Earth’s interconnected natural systems with long-term data records and computer analysis tools to better see how our planet is changing. The agency shares this unique knowledge with the global community and works with institutions in the United States and around the world that contribute to understanding and protecting our home planet.

To learn more about NASA’s Earth science activities in 2014, visit [NASA’s Earth Right now webpage](#).

Snap snaps up two disc golf world records

WALLOPS ISLAND

— Snap! Here are two for the record books. Michael “Snap” Conger went off to the World Flying Disc Federation (WFDF) Overall World Flying Disc Championships in Norrkoping, Sweden, in July 2013, and now he’s officially recognized as a 2x world-record holder.

Recently, the WFDF presented two flying disc world record holder certificates to Snap. The first is a distance world record for his age group: 148 meters. The other is for accuracy.

Conger has worked at Wallops off and on since the late 1970’s in capacities ranging from meteorologist, technical writer, technical manager, project support manager, all the way to his current position as a senior range services manager supporting cargo resupply missions to the International Space Station.

The California native attended college at Texas A&M as well as the University of Texas in Austin. For a time, he worked in the Grand Canyon as a boatman and geological interpreter. Shortly after making his 12th trip down the Colorado river, he was drafted into the military, enlisting in the Navy and later earning a commission as an officer and retiring as a captain.



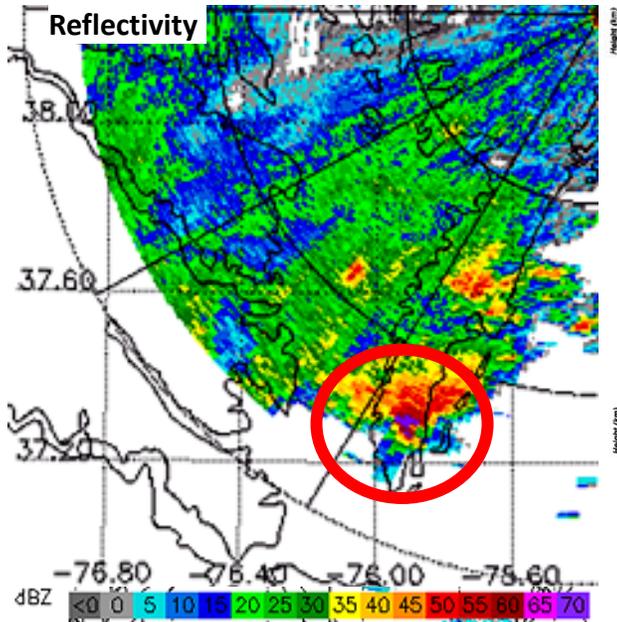
Michael “Snap” Conger Courtesy photo

Perhaps it was his California roots that led to his interest in the flying disc (California is the birthplace of one of the world’s most well-known Frisbee brands). What started as a pastime with friends in the Virginia Beach/Norfolk area and then later on the campus of UT-Austin, eventually led to competition. His first invitational world championship competition was in the Rose Bowl Championships, Pasadena, Calif., in August 1976.

“As it turned out, I received my ‘Snap’ nickname at the World Indoor Frisbee Championships by the sound crew of ABC’s Wide World of Sports. When I’m really on, I make a noticeable snapping sound when I throw hard,” said Snap.

Snap continues to compete in flying disc competitions and has his eye on some international competitions coming up later this year.

NPOL radar captures Cherrystone Campground tornado data



On July 24, 2014, the NPOL radar collected data on the Cherrystone Campground tornado event that occurred on the southern Delmarva Peninsula. The data was collected as part of the Wallops Flight Facility Earth Sciences Office of Field Support science operations supporting GPM Ground Validation (GV). The NPOL and supporting infrastructure are operated on a regular basis out of Newark, Md., to support precipitation science research and to coordinate with GPM satellite overpasses when they occur. For associated research and GV activity the objectives are to sample the broad horizontal coverage, amount, and type (e.g., rain, hail, snow) of precipitation that falls, and also to collect information on the full 3-D (i.e., horizontal and vertical) storm structure.



A Terrier-Lynx suborbital rocket was successfully launched for the Department of Defense Aug. 23 from Wallops Flight Facility. Photo Credit: NASA/Jamie Adkins

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Spacecraft as first a technical manager, and then as the branch chief for the Orion Spacecraft Branch. In that position, Gary was responsible for the team that led the buildup of the Orion Spacecraft test article, processing team and recovery team.

Now he's back in Virginia and ready for the next challenge.

"I'm so happy to be here at Wallops," Letchworth said.

Outside of Wallops, Gary is an avid runner. In fact, last year Gary, his wife, Janet, and brother-in-law completed a 13/13/13 challenge. The 13/13/13 challenge, created by his wife, was to run 13 half-marathons (13.1 miles) in 2013. They ran in several states, including Virginia, Florida, Washington, and Oregon. They actually ran 14 half-marathons, some of

which were full marathons.

"It was a great way to tour the country," he said.

Their 2014 goal is a little more magical, if you will. They completed the "Dopey," an event at Walt Disney World where runners complete a 5k, 10k, half-marathon and a full marathon (total of 49 miles) in a four-day period. This week, they will participate in the "Dumbo," a similar event at Disneyland in California where a participant completes a 10k and a half marathon in two days. Along with a finisher medal, the Letchworth's will receive a coast-to-coast medal, a unique award for those that complete both challenges in the Disney Parks.

Gary and Janet live in Chincoteague and have two adult daughters, Chloe and Chelsea.

The next time you're in F-6, stop in and say hello — or welcome home!

The NASA Wallops Flight Facility Visitor Center presents...

WALLOPS TO THE MOON!



Calling all luna-lovers!

International Observe the Moon Night (InOMN)

is an annual event that is dedicated to encouraging people to 'look up' and take notice of our nearest neighbor, the Moon. From looking at the Moon with a naked eye to using the most sensitive telescope, every year on the same day, people from around the world hold events and activities that celebrate our Moon.

This event will feature...

- Telescope Moon Viewing
- "LADEE Mission" Lecture
- "Field Trip to The Moon" Movie
- Moon-themed Crafts and Activities!



sites.wfi.nasa.gov/vc
observethemoonnight.org

06
SEPT
2014
7-9 P.M.



LUNAR AND
 PLANETARY
 INSTITUTE

