




PROW

INTERNATIONAL SPACE STATION
CALENDAR



Space Station Research and Technology

www.nasa.gov/iss-science

Benefits of Space Station Research

http://www.nasa.gov/mission_pages/station/research/benefits/coolstation.html

Space Station for Students

http://www.nasa.gov/mission_pages/station/research/ops/research_student.html

Space Station for Educators

http://www.nasa.gov/mission_pages/station/research/ops/research_teacher.html

Information for Prospective Investigators

http://www.nasa.gov/mission_pages/station/research/ops/research_information.html

Twitter

www.twitter.com/iss_research

Facebook

www.facebook.com/ISS

**To see when the International Space Station
will be flying over your town, go to:**

<http://spaceflight.nasa.gov/realdata/sightings/index.html>



A message from the Program Manager for the

International Space Station



Teachers and teaching are amongst the most valuable investments individuals, communities and nations can make. Investments in education guide and inspire our children and equip them to shape the world, for their own generation, as influenced by what they have learned. At every educational level and across every discipline, teachers prepare the scientists and engineers, accountants and artists, philosophers and diplomats who sway the course of humankind and demonstrate what educated and motivated individuals, communities and nations can do.

Developed by five partner agencies representing 15 nations, the International Space Station (ISS) is a wonder of scientific research and multi-national cooperation. Over 1500 experiments have been conducted by researchers from 68 countries expanding humanity's knowledge from a microcellular level to a planetary scale and beyond. Discoveries made aboard the space station have enabled life-saving robotic surgery techniques, led to water purification technologies for remote communities, and improved remote sensing techniques to significantly increase crop yields. The ISS is a testament to what humankind can accomplish through investments in education.

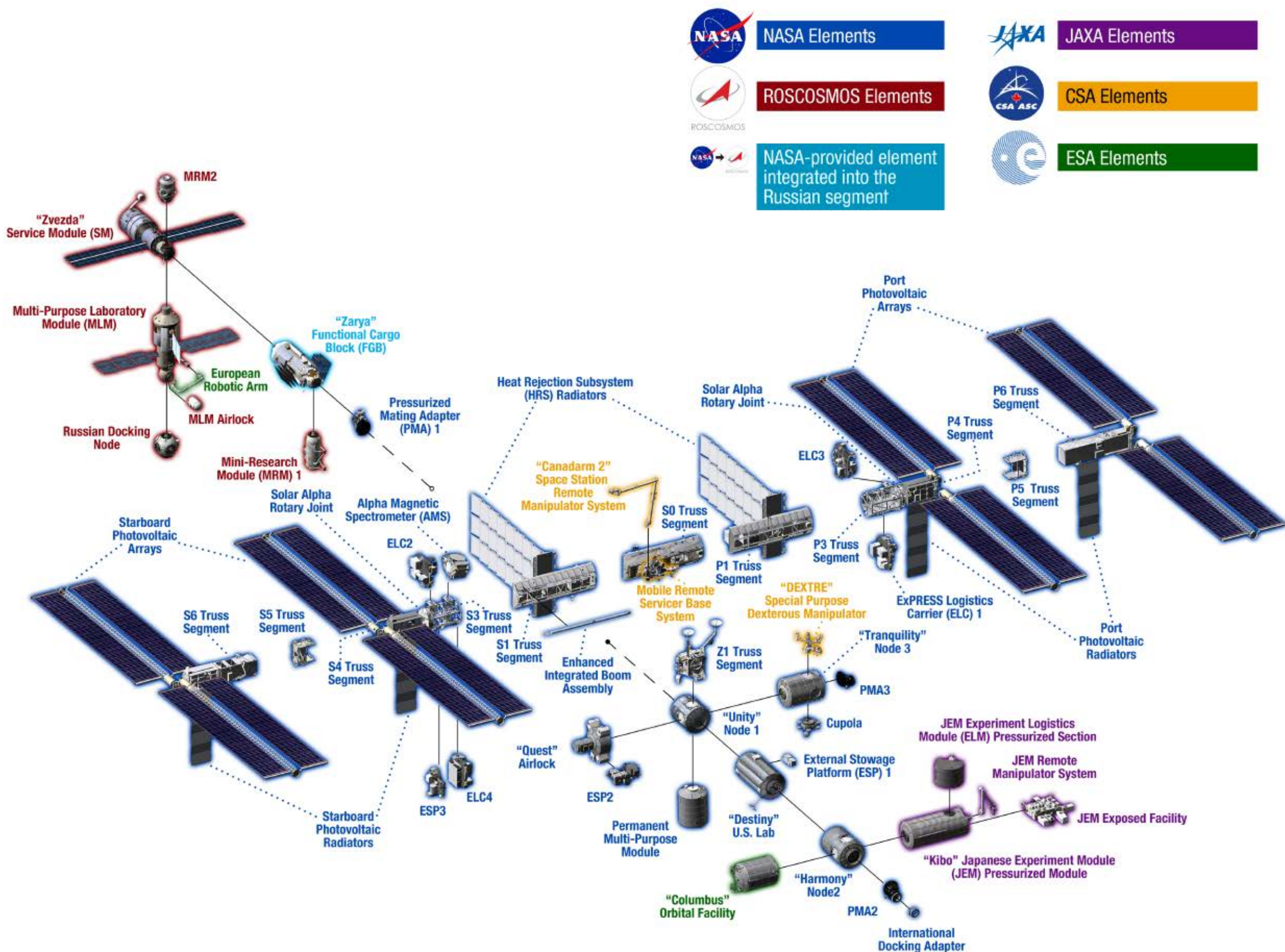
I hope you enjoy this calendar featuring highlights of the science performed onboard the space station and that it will inspire you to learn more about the research on ISS, its benefits to humanity and what can be accomplished by a peaceful partnership of many nations.

Regards,

MICHAEL T. SUFFREDINI

ISS Program Manager

FRONT COVER: The sun is captured by photo as a spectacular starburst over Earth's horizon. The Expedition 36 crew aboard the International Space Station captured this sunny display while flying over southwestern Minnesota in the United States on May 21, 2013. **INSIDE FRONT COVER:** The night lights of cities in North and South America glow in this image captured by the Suomi NPP satellite and mapped over existing imagery of Earth. The Suomi NPP satellite has a Visible Infrared Imaging Radiometer Suite which allows it to detect light in a range of wavelengths from green to near-infrared and uses filtering techniques to observe dim signals such as city lights, gas flares, auroras, wildfires and reflected moonlight. This image provides new meaning to the Earth being a spaceship traveling through the darkness and overwhelming expanse of space.






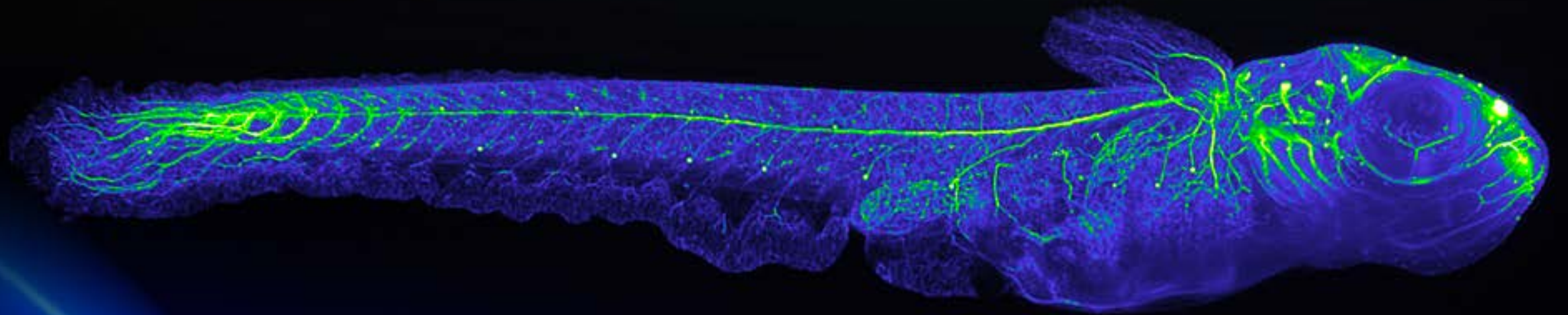
JANUARY 2014

Fruit delivered to the space station is part of a balanced diet which helps maintain astronaut health through the duration of their flight. Fresh fruit floats freely in this picture of astronauts and cosmonauts during Expedition 34. Researchers use fruit and other forms of nutrition as a countermeasure for bone loss which is one of the adaptations of humans in space. Understanding the role of nutrition in astronauts can lead to better understanding for treating patients suffering from osteoporosis here on Earth. **BELOW:** Research has shown that astronaut's vision may deteriorate during prolonged spaceflight. To characterize these changes, astronaut vision is regularly examined, even during spaceflight, so that countermeasures can be developed to combat astronaut vision problems. These countermeasures may also be relevant for patients suffering from eye diseases such as glaucoma. Here, NASA astronaut Karen Nyberg uses an ocular testing device known as a Fundoscope, which images eye anatomy to track changes over time spent in space.

JANUARY 2014

| December | | | | | | | February | | | | | | |
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|-----------------------------------|-----------------------------------|--|---|--|--|---|
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| | | | 1 New Year's Day | 2 1959: Luna 1, first spacecraft to reach escape velocity and orbit the sun | 3 2004: Spirit lands on Mars | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 1997: STS-81, Shuttle - Mir | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 Martin Luther King, Jr. Day | 21 2003: STS-107, Inaugural Spacehab flight | 22 1998: STS-89 Shuttle - Mir | 23 | 24 1986: Voyager 2, first spacecraft to observe Uranus; 2004: Opportunity lands on Mars | 25 1984: President Ronald Reagan announces U.S. plans to build a space station |
| 26 | 27 1967: Apollo 1 fire | 28 1986: STS-51L, Space Shuttle Challenger accident | 29 1998: Intergovernmental Agreement on Space Station Cooperation signed | 30 | 31 1958: Explorer 1, first U.S. satellite |  |



MARCH 2014

The Medaka fish (*Oryzias latipes*) is studied on the International Space Station to examine the impact of microgravity on its bones. This image was taken with a Digital Scanned Laser Light Sheet Fluorescence Microscope to enhance the view of the skeletal structure of the fish. Medaka fish are transparent, allowing for easier observation of their bones and organs during study. Impacts to their bones in microgravity may help scientists determine the reasoning for a decrease in astronaut bone density during spaceflight and help develop osteoporosis countermeasures on Earth. *Image credit: Philipp Keller, Stelzer Group, EMBL.* **BELOW:** Japanese astronaut Akihiko Hoshide poses with the Aquatic Habitat that houses the Medaka fish in the Japanese Experiment Module, or Kibo.

MARCH 2014

| February | | | | | | | | April | | | | | | |
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| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
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| 2 | 3 <small>1959: Pioneer 4, first successful lunar mission by U.S. spacecraft; 1969: Apollo 9, first manned flight of the Command/Service Module along with the Lunar Module</small> | 4 | 5 | 6 | 7 | 8 <small>2001: STS-102/5A.1, first MPLM flight, ESP-1 launched, & ISS Expedition 2, first crew rotation</small> |
| 9 <small>2008: First ESA ATV</small> | 10 | 11 <small>2008: STS-123/1JA, JAXA-ELM-PS launched</small> | 12 | 13 | 14 <small>2013: ISS Expedition 35</small> | 15 <small>2009: STS-119/15A, S6 truss and solar arrays launched, 2013: Chris Hadfield becomes first Canadian Commander of Station</small> |
|  16 <small>1926: First liquid-fueled rocket; 1966: Gemini VIII, first docking of two spacecraft in orbit; 2011: ISS Expedition 27</small> | 17 | 18 <small>1965: Cosmonaut Alexei Leonov, first person to spacewalk; 2010: ISS Expedition 23</small> | 19 | 20 <small>Spring Begins</small> | 21 | 22 |
|  23/30 <small>March 23, 1965: Gemini III, first crewed mission of Gemini Project</small> |  24/31 | 25 | 26 <small>2009: ISS Expedition 19</small> | 27 | 28 | 29 <small>2006: ISS Expedition 13; Anniversary of 1st 4-orbit launch to docking of an ISS crew</small> |



APRIL 2014

The Great Lakes as seen from the International Space Station. Earth observations from human space flight serve as a unique record of environmental change on Earth. These photographs provide valuable information that allows a better understanding of our planet from many perspectives and is helpful in monitoring impacts from environmental emergencies and natural disasters. **BELOW:** Unique spiral cloud formations that make up a storm front and the sun's glint off of the Atlantic Ocean, making up the southern coast of Ghana.

APRIL 2014

| March | | | | | | | | May | | | | | | |
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| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
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| | | 1 | 2 | 3 | 4 | 5 <small>2010: STS-131/19A, MPLM launched</small> |
| 6 <small>1984: STS-41C, first orbital satellite repair mission</small> | 7 <small>2007: ISS Expedition 15</small> | 8 <small>1964: Gemini I test flight; 2002: STS-110/BA, SO truss launched; 2008: ISS Expedition 17</small> | 9 <small>1959: NASA announces Mercury 7, NASA's first astronaut class</small> | 10 | 11 | 12 <small>1961: Cosmonaut Yuri Gagarin, first human in space; 1981: STS-1, first space shuttle (Columbia) mission</small> |
| 13 | 14 <small>2005: ISS Expedition 11</small> | 15 | 16 | 17 | 18 <small>2004: ISS Expedition 9</small> | 19 <small>2001: STS-100/6A, CSA-Canadam2 & MPLM launched</small> |
| 20 | 21 <small>2013: Antares Test Flight at Wallops Island</small> | 22 <small>2001: First Canadian spacewalk, Chris Hadfield</small> | 23 | 24 <small>1967: Soyuz 1 accident; 1990: STS-31, Hubble Space Telescope launched</small> | 25 <small>2003: ISS Expedition 7</small> | 26 |
| 27 <small>2012: ISS Expedition 31</small> | 28 | 29 | 30 | | | |



MAY 2014

Space biology investigations examine and discover underlying mechanisms of adaptation to changes in plants resulting from the microgravity environment. The goal is to determine genetic, cellular and organismal mechanisms that regulate and sustain growth, metabolism, reproduction and development in this altered setting. This research can benefit agricultural practices on Earth, such as improved crop production and watering strategies, and may also help determine how to one day feed astronauts on long-duration missions to asteroids and other planets. Here, surface tension helps a water droplet beautifully perch on the leaf of a plant growing in the Zvezda Service Module of the International Space Station. **BELOW:** The Light Emitting Diodes of the Advanced Astroculture plant growth facility cast light on basil growing in space. Advanced Astroculture was one of the first plant growth facilities on the space station that allowed plants to grow from seeds.

MAY 2014

| April | | | | | June | | | | | | | | |
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| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
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|  | | | | 1 | 2 | 3 |
| 4 | 5 1961: Freedom 7, Alan Shepard Jr., first American in space | 6 |  7 | 8 | 9 | 10 |
| 11 Mother's Day | 12 | 13 2013: ISS Expedition 36 |  14 1973: Skylab space station launched; 2010: STS-132/ULF4, MRM1 launched; | 15 | 16 2011: STS-134/ULF6 launched | 17 |
| 18 | 19 2000: STS-101/2A.2a, Spacehab launched | 20 |  21 | 22 2012: Launch of Space-X/Dragon, first commercial craft to launch to the space station | 23 2011: Expedition 28 | 24 |
| 25 1973: Skylab 2, first U.S. space station crew; 2012: SpaceX/Dragon capsule, first grappled and berthed commercial craft to the space station | 26 Memorial Day | 27 1999: STS-96/2A-1 launched, first space shuttle to dock with ISS; 2009: ISS Expedition 20 |  28 | 29 | 30 | 31 2008: STS-124/1JA, JAXA- JEM-PM, JEM-RMS launched |



JUNE 2014

These circular star trails and the rainbow of colorful lights of the Earth below them were created by a total of 18 images with prolonged time exposures combined into a composite photo. The bluish-white specks in the foreground that appear similar to balls of cotton are lightning from storms on Earth. This image depicts one of the many creative ways in which occupants of the International Space Station observe the wonder of the Earth below, the vast expanse of space and its many stars beyond. From this vantage point, we seek to understand the origins and composition of our universe. **BELOW:** Seen through the windows of the Cupola on the space station, this neon-colored composite of the lights of Earth and a few outward star trails uses multiple photos to produce an other worldly effect similar to a "lightspeed" effect in a science fiction movie.

JUNE 2014

| May | | | | | | | | | | July | | | | | | | |
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| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|---|---|---|---|--------|---|
| 1 2010: ISS Expedition 24 | 2 1966: Surveyor I, first U.S. spacecraft to soft land on the moon | 3 1965: First American spacewalk, Ed White | 4 | 5 2002: STS-111/UF-2, MBS & MPLM launched & ISS Expedition 5 | 6 | 7 |
| 8 2007: STS-117/13A, S3/S4 truss and solar arrays launched | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 Father's Day | 16 1963: Cosmonaut Valentina Tereshkova, first female in space | 17 | 18 1983: STS-7, Sally Ride, first U.S. female in space | 19 | 20 | 21 Summer Begins (Summer Solstice, 1:04am EDT) |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 1995: STS-71 Atlantis, first shuttle to dock with Russian Mir space station | 30 1971: Soyuz 11 accident, 2012: ISS Expedition 32 | | | | | |





JULY 2014

A small island and the shallow sand bars of the Great Sandy Strait – an estuary that separates the state of Queensland, Australia from neighboring Fraser Island – are displayed in vivid turquoise and blue-green detail as seen from the International Space Station. Astronauts aboard the space station are regularly observing the beauty of the Earth's features below as they orbit the Earth approximately 16 times in a 24 hour period. **BELOW:** The milky blue-green colors of the Saint Lawrence River observed from the space station. The Saint Lawrence River connects the Great Lakes to the Atlantic Ocean as it flows southeast to northwest through Canada.

JULY 2014

June

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August

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| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
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| | | 1 1962: Cape Canaveral, Fla., established as NASA Launch Operations Center | 2 | 3 | 4 Independence Day 1997: Pathfinder lands on Mars; 2006: STS-121/ULF1-1, MPLM launched | 5 |
| 6 | 7 | 8 2011: STS-135/ULF7 launched (Final shuttle mission) | 9 2013: First Italian spacewalk, Luca Parmitano | 10 1962: Telstar-1, first commercial communications satellite | 11 1979: Skylab re-enters Earth's atmosphere | 12 2001: STS-104/7A, U.S. Quest Airlock launched; 2000: Proton/1R, Russia-Zvezda Service Module launched |
| 13 | 14 1965: Mariner 4 takes first close-up pictures of Mars | 15 1975: Apollo-Soyuz, first joint Russia-U.S./Soyuz spaceflight; 2009: STS-127/2JA, JAXA-JEM-EF and ELM-ES launched | 16 | 17 | 18 | 19 |
| 20 1969: Apollo 11, first manned lunar landing; 1976: Viking 1, first U.S. spacecraft to land on Mars | 21 | 22 | 23 1999: STS-93, Eileen Collins, first female space shuttle commander | 24 | 25 | 26 1963: Syncom 2, world's first geosynch comm. satellite; 2005: STS-114, first shuttle flight following the Space Shuttle Columbia accident |
| 27 | 28 1973: Skylab 3 | 29 1958: President Eisenhower signed the National Aeronautics and Space Act | 30 | 31 | | |



AUGUST 2014

Instead of the teardrop-shaped flame typical of a candle burning on Earth, flames burn in a spherical shape in microgravity. Spherical flames, fueled by heptane, are hot-burning at first, then begin burning at a relatively low-temperature between 400 –1,000 degrees Fahrenheit and are known as cool flames. While cool flames on Earth extinguish immediately, cool flames tested on the International Space Station burned for at least a minute. This photo depicts a close-up of a cool flame overlaid with a series of photos of the progression of the cool flame after it was extinguished. Observations of the temperature and shape of flames from burning gases in microgravity will help scientists and engineers improve fuel efficiency and reduce pollutant emissions in practical combustion on Earth.
BELOW: NASA astronaut Don Pettit performs a session of Burning and Suppression of Solids fire safety tests at the Microgravity Sciences Glovebox. The Microgravity Sciences Glovebox provides a safe and contained environment for conducting experiments involving combustion or hazardous materials.

AUGUST 2014

| July | | | | | | | | | | | September | | | | | | | | | |
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| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 2012: Curiosity Rover lands on Mars | 7 | 8 1978: Pioneer 13-Venus, first U.S. spacecraft to study Venus in detail; 2007: STS-118/13A.1, S5 truss, Spacehab and ESP-3 launched | 9 |
| 10 2001: STS-105/7A.1, MPLM launched & ISS Expedition 3 | 11 | 12 1977: Space Shuttle Enterprise, first free-flight test | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24/31 | 25 1989: Voyager 2, reaches closest approach to Neptune | 26 | 27 | 28 2009: STS-128/17A, MPLM launched | 29 | 30 |




SEPTEMBER 2014

The three colorful, bowling-ball sized, free-flying satellites of the Synchronized Position Hold, Engage, Reorient, Experimental Satellites, or SPHERES, investigation serve as a platform for experimentation that can operate in a variety of environments, including inside the International Space Station. SPHERES test control procedures for spacecraft by performing self-directed rendezvous and docking maneuvers inside the space station. The results help with operation of distributed satellite and docking missions and to design new spacecraft configurations. **BELOW:** More than 43 million students across the globe have participated in space station educational activities. The many inquiry-based projects allow students to be involved in human space exploration with the goal of inspiring them in their studies of science, technology, engineering and mathematics (STEM). Examples include YouTube Space Lab competition, Student Spaceflight Experiment Program, and Zero Robotics.

SEPTEMBER 2014

| August | | October | | | |
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| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|---|---|--|--|---|---|
| | 1 Labor Day | 2 | 3 | 4 | 5 1977: Voyager 1 returns first spacecraft photo of Earth and Moon | 6 |
| 7 | 8 2000: STS-106/2A.2b, Spacehab launched | 9 1975: Viking 2 launched, first spacecraft to successfully land on Mars; 2006: STS-115/12A, P3/P4 truss launched; 2011: ISS Expedition 29 | 10 2009: First JAXA HTV launched; 2013: ISS Expedition 37 | 11 | 12 | 13 |
| 14 2001: Soyuz/4R, Pirs docking compartment launched | 15 | 16 2012: ISS Expedition 33 | 17 | 18 2006: ISS Expedition 14; 2013: Orbital Sciences/Cygnus, commercial craft launched to space station | 19 | 20 |
| 21 2003: Galileo, first spacecraft to enter Jupiter's atmosphere | 22 Autumn Begins (Fall Equinox, 4:44pm EDT) | 23 | 24 | 25 | 26 | 27 2008: First Chinese spacewalk, Zhiqiang Zhai |
| 28 | 29 1988: STS-26, first shuttle flight following the Space Shuttle Challenger accident; 2013: Orbital Sciences/Cygnus, commercial craft grappled and berthed to space station | 30 2005: ISS Expedition 12 | | | |  |




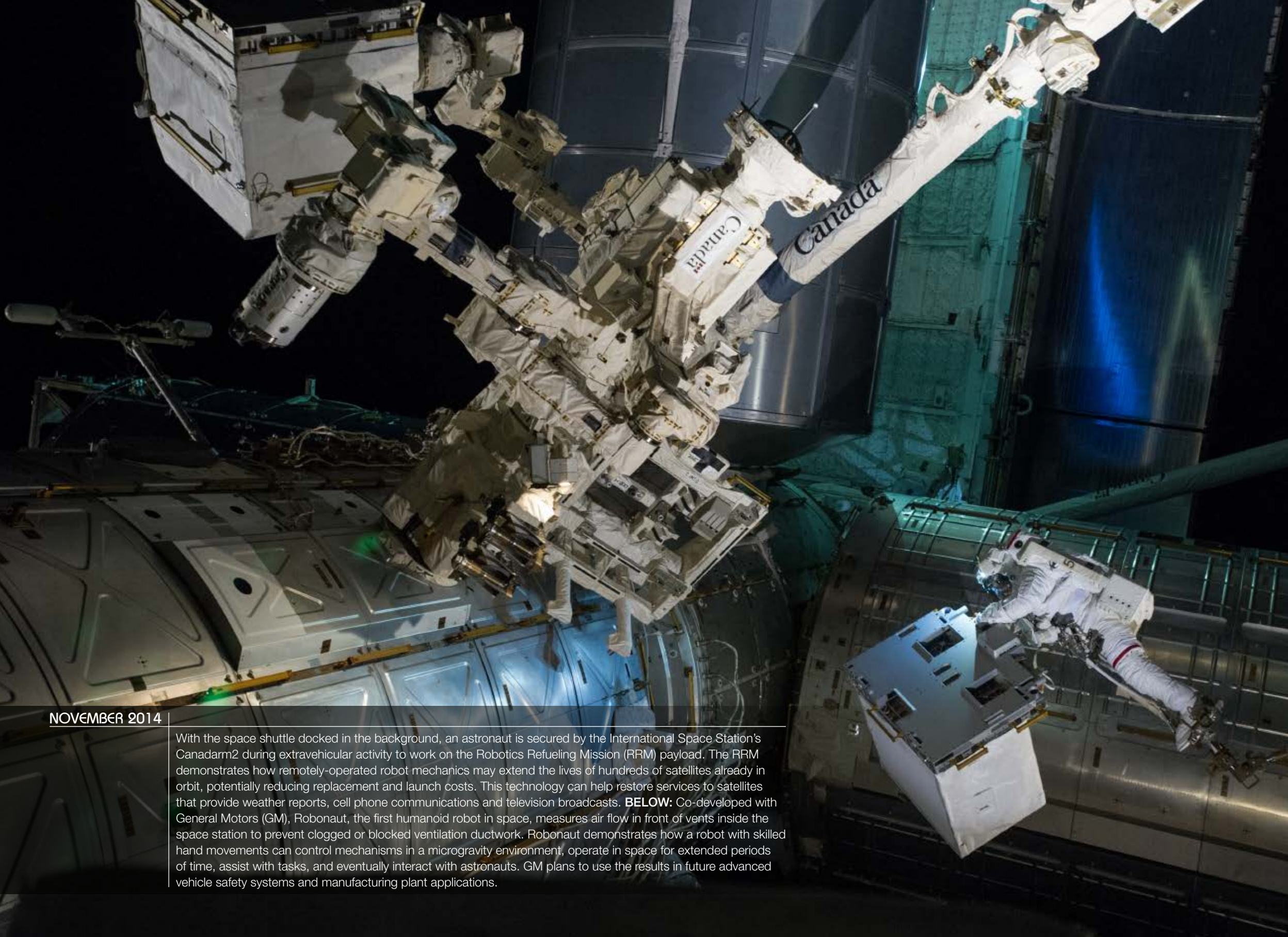
OCTOBER 2014

The multi-colored panels of the Materials International Space Station Experiment (MISSE) stand out against the bright blue and white of the Earth's sky and clouds below. The MISSE is mounted externally on the space station to investigate the effects of long-term exposure of materials to the harsh space environment. A coating that survived long-term exposure as part of MISSE now protects the critical power unit of the Mars Curiosity Rover from static electricity as it collects data on Mars. This will also help develop future spacecraft for low Earth orbit and long-duration missions. **BELOW:** An astronaut prepares to work with MISSE at its location outside of the Quest Airlock.

OCTOBER 2014

| September | | | | | | | November | | | | | | |
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| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|---|--|---|--|--|---|
| | | |  1 1958: NASA officially begins operations | 2 | 3 | 4 1957: Sputnik 1 (U.S.S.R.), first satellite |
| 5 | 6 | 7 2002: STS-112/9A, S1 truss launched; 2010: ISS Expedition 25 | 8 |  9 | 10 2007: ISS Expedition 16, Peggy Whitson, first female ISS commander | 11 1958: Pioneer 1, first NASA Launch; 1968: Apollo 7, first crewed Apollo mission; 2000: STS-92/3A, Z1 truss launched; 2009: ISS Expedition 21 |
| 12 1964: Voskhod 1 (U.S.S.R.), first flight with multiple crew members; 2008: ISS Expedition 18 | 13 Columbus Day | 14 | 15 |  16 | 17 | 18 2003: ISS Expedition 8 |
| 19 | 20 1995: First German spacewalk, Thomas Reiter | 21 | 22 |  23 2007: STS-120/10A, ESA-Harmony Connecting Module launched | 24 | 25 |
| 26 | 27 | 28 2009: Ares-1X launch | 29 |  30 | 31 |  |








NOVEMBER 2014

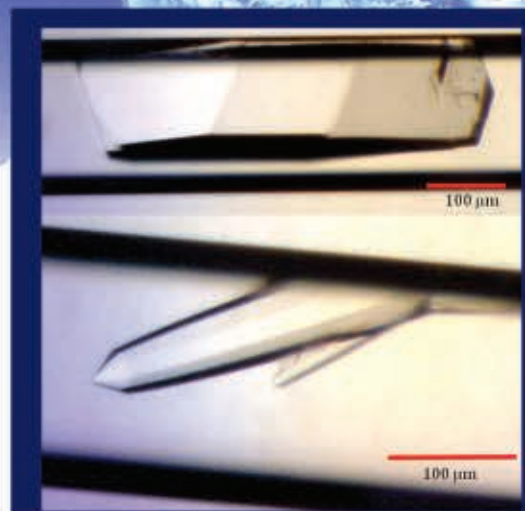
With the space shuttle docked in the background, an astronaut is secured by the International Space Station's Canadarm2 during extravehicular activity to work on the Robotics Refueling Mission (RRM) payload. The RRM demonstrates how remotely-operated robot mechanics may extend the lives of hundreds of satellites already in orbit, potentially reducing replacement and launch costs. This technology can help restore services to satellites that provide weather reports, cell phone communications and television broadcasts. **BELOW:** Co-developed with General Motors (GM), Robonaut, the first humanoid robot in space, measures air flow in front of vents inside the space station to prevent clogged or blocked ventilation ductwork. Robonaut demonstrates how a robot with skilled hand movements can control mechanisms in a microgravity environment, operate in space for extended periods of time, assist with tasks, and eventually interact with astronauts. GM plans to use the results in future advanced vehicle safety systems and manufacturing plant applications.

NOVEMBER 2014

| October | | | | | | | | | | | December | | | | | | | |
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| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|--|--|-----------|---|---|--|
|  | | | | | | 1 |
| 2 2000: Expedition 1 arrives at ISS. Continuous human occupation of ISS begins. | 3 1973: Mariner 10, first spacecraft to explore Mercury | 4 | 5 | 6  | 7 | 8 |
| 9 | 10 2013: ISS Expedition 38 | 11 Veterans Day 1982: STS-5, first space shuttle operational mission; 2013: ISS Expedition 38 | 12 | 13 1971: Mariner 9-Mars, first spacecraft to orbit another planet | 14  2008: STS-126/ULF2, MPLM launched | 15 2010: ISS Expedition 26 |
| 16 1973: Skylab 4; 2009: STS-129/ULF3, ELC1, and ELC2 launched; 2011: ISS Expedition 30 | 17 | 18 | 19 | 20 1998: Proton - Russia, Zarya Control Module, ISS first element launch | 21 | 22  |
| November 23, 2002: STS-113/11A, P1 truss launched; ISS Expedition 6; November 30, 2000: STS-97/4A, P6 truss, first set of solar arrays launched; 2009: ISS Expedition 22 | 24 | 25 1997: First Japanese spacewalk, Takao Doi | 26 | 27 Thanksgiving Day | 28 1983: STS-9, First international agency participates in U.S. mission | 29  |
| 23/30 | | | | | | |

The blue snowflake-like shapes are sodium chloride crystals grown in space. Researchers also grow protein crystals in space. Microgravity provides investigators the ability to study crystal structures free from distortion. A study of protein crystals on the International Space Station led to discovery of a water molecule in a protein-inhibitor complex that is now being used in the development of a treatment for Duchenne muscular dystrophy. **BELOW:** NASA astronaut Nicole Stott works at the Protein Crystallization Research Facility in the Japanese Experiment Module, or Kibo, during Expedition 20/21.



DECEMBER 2014

| November | | | | | | | January | | | | | | |
|----------|----|----|----|----|----|----|---------|----|----|----|----|----|----|
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| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 23/30 | 24 | 25 | 26 | 27 | 28 | 29 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|---|--|---|--|---|---|
| | | | | | |  |
| | 1 | 2 | 3 1973: Pioneer 10-first flyby of outer planet (Jupiter) | 4 1998: STS-88/2A, Unity Connecting Module, first U.S. component launched | 5 2001: STS-108/UF-1, MPLM launched & ISS Expedition 4 | 6 |
| 7 1972: Apollo 17, final Apollo mission | 8 | 9 2006: STS-116/12A.1, Spacehab & P5 truss launched; 1988: First French spacewalk, Jean-Loup Chretien | 10 | 11 | 12 2006: First Swedish spacewalk, Christer Fugelsang | 13 |
|  | 14 1962: Mariner 2, first flyby of Venus | 15 1965: Gemini VI-A and VII, first manned rendezvous between two spacecrafts; 1970: Venera 7 (U.S.S.R.), first man-made spacecraft to successfully land on another planet (Venus) and to transmit data from there back to Earth | 16 | 17 | 18 | 19 |
| |  | 21 1999: First Swiss spacewalk, Claude Nicollier | 22 | 23 1968: Apollo 8, first crewed mission to orbit the moon | 24 25 Christmas Day | 26 |
| | 28  | 29 | 30 | 31 | |  |