

Astronautical News

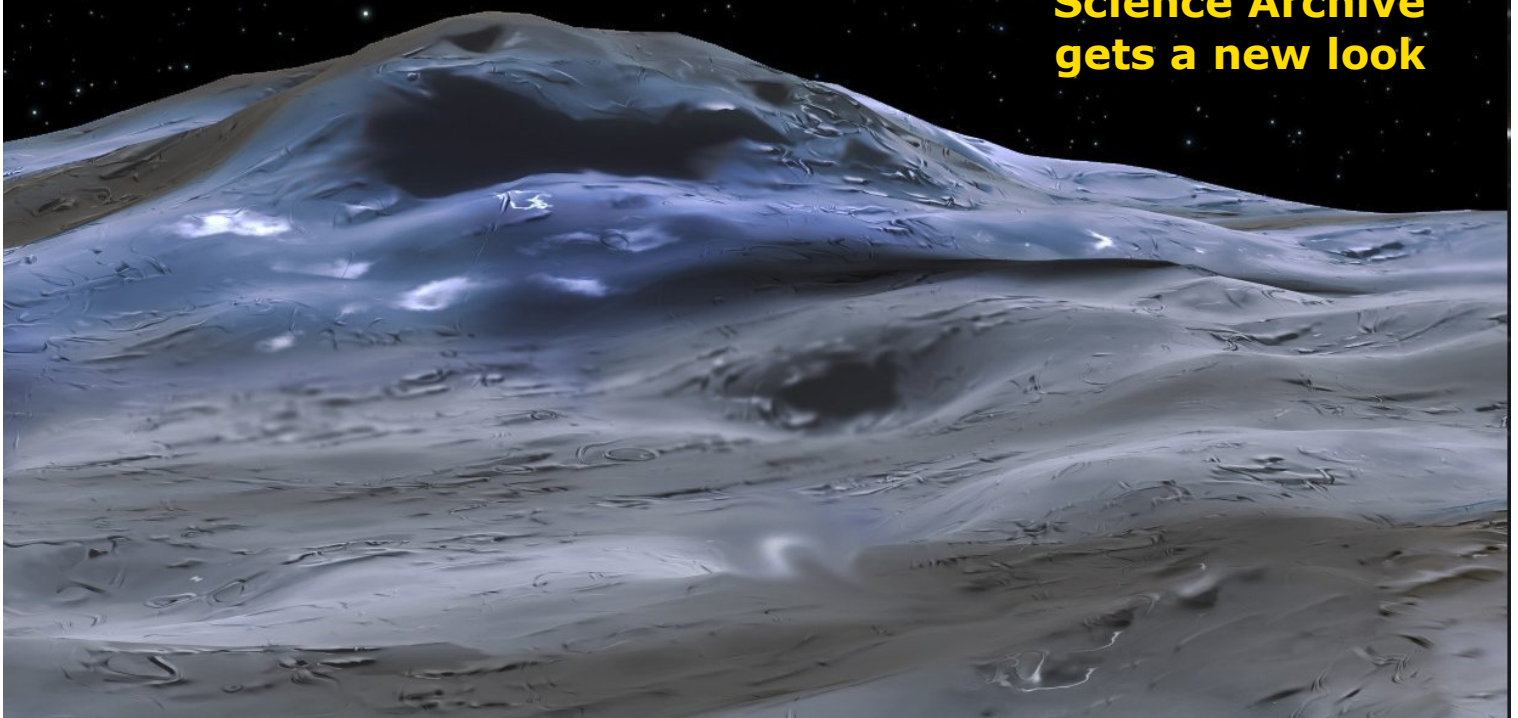
27 January 2017

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**China's hi-res
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**ESA Planetary
Science Archive
gets a new look**



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The British Interplanetary Society

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The Outer Space Treaty at 50

Fifty years ago, on January 27, 1967, the Outer Space Treaty was opened for signature. As a successful undertaking in international diplomacy, and one that helped foster the global development of outer space as a realm of humankind's activities, the importance of this event warrants reflection. Many experts in international law believe that the fundamental provisions of treaty are so well-observed and respected that they exist as an entirely different set of legal rules, outside of the textual treaty, as "customary" international law. At signing ceremonies in Moscow, London, and Washington, 62 countries participated in the political act of signing the Outer Space Treaty. Its full title bears repeating: Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. Rather than a treaty solely about space exploration and human spaceflight, the treaty was principally developed with international peace and security in mind. The Outer Space Treaty entered into force as a binding legal instrument between signatory states on October 10, 1967. Fifty years later, 104 states of the international political order are now parties to the Outer Space Treaty. These include major space powers like the US, Russia, China, Japan, and the European members of the European Space Agency (ESA), as well as emerging space powers like Brazil and India. States that merely use or benefit from space technologies and capabilities have also signed the treaty in order to avail themselves of its rights. Many experts in international law believe that the fundamental provisions of treaty are so well-observed and respected that they exist as an entirely different set of legal rules, outside of the textual treaty, as "customary" international law. And, as customary international law, the Outer Space Treaty reflects rules that bind even those states who are not formal parties to the treaty itself.



More...



Russia's Proton rocket grounded by poor quality control Russia's workhorse Proton rocket may be grounded until June or July, dealing another blow to the country's launch infrastructure.



OHB set to jump into geo telecom satellite market A small tech company not too long ago, OHB is now set to compete with the bigger satellite OEMs.



Google Lunar X Prize field narrowed to five The X Prize Foundation announced Jan. 24 that five of the 16 teams in the Google Lunar X Prize competition have verified launch contracts and can continue in the \$20 million race to the moon.



Space: Where we've been, where we're going President Obama shook up space policy when he took office, and President Trump may be about to do the same.



eROSITA X-ray telescope travels to Russia for launch in 2018 On 20 January 2017, the completed eROSITA X-ray telescope boarded a cargo plane and was transported from Munich, where it had been built at the Max Planck Institute for Extraterrestrial Physics, to Moscow. It is expected to arrive at the premises of Lavochkin Association, in the Moscow suburb of Khimki on 25 January.



NASA considering Boeing offer for additional Soyuz seats NASA is proposing to purchase, through Boeing, additional Soyuz seats for International Space Station missions to both take advantage of Russian plans to decrease the size of its crew and as insurance against potential additional commercial crew delays.



Joint space projects to yield results soon: Iranian official Iran's joint projects with other countries in the space field will yield results in the near future, Head of Iran's National Space Center Manouchehr Manteqi said. Iran has begun international cooperation in space projects, Manteqi said, adding that there was no such cooperation in the past.



NASA's Earth Observatory reveals Cambodia's incredibly shrinking forests Scientists from the University of Maryland and the World Resources Institute's Global Forest Watch have been using Landsat satellite data to track the rate of forest loss on a global scale. Though other countries have lost more acres in recent years, Cambodia stands out for how rapidly its forests are being cleared.



US Air Force pursues strategy to defend anti-satellite attacks While several countries are known to be making investments in the development of space weaponry, Chinese activities have engendered a particular concern among Pentagon leaders, analysts and threat assessment professionals.



Could radiation be a deal breaker for Mars missions? New studies show cosmic radiation could be even more damaging to astronauts' brains than we thought. Can humanity still live and travel among the stars?



How satellite data changed chimpanzee conservation efforts Approximately 345,000 or fewer chimpanzees remain in the wild, according to the International Union for the Conservation of Nature, a substantial decline from the more than two million that existed a hundred years ago. Humans' closest genetic cousins, chimpanzees are an endangered species, and scientists and conservationists are turning to the NASA-U.S. Geological Survey Landsat satellites.



Russian-Japanese research helps understand the effects of microgravity on bone tissue The co-authors from the Russian side are Oleg Gusev (Extreme Biology Lab, Kazan Federal University) and Vladimir Sychyov (Institute of Medical and Biological Problems of RAS). As is well-known, space flights bring with them a unique set of health hazards. That includes bone and muscle deterioration. Loss of bone density is currently one of the most serious problems for astronauts.



Commercial crew's role in path to Mars The spacecraft, rockets and associated systems in development for NASA's Commercial Crew Program are critical links in the agency's chain to send astronauts safely to and from the Red Planet in the future, even though the commercial vehicles won't venture to Mars themselves. The key is reliable access to the International Space Station as a test bed.



Recent Launch Activities

Japan launches satellite to modernise military communications Japan on Tuesday launched a satellite to modernise its military communications and reportedly to better monitor North Korean missile launches. The Kirameki-2 will enable ground, sea and air units of the military - known as the Self-Defense Forces - to communicate directly with each other, a defence ministry official said.

(26 January 2017)

Atlas V rocket launches US missile-warning satellite A United Launch Alliance Atlas 5 rocket blasted off from Florida to put a missile-detection and early warning satellite into orbit for the U.S. military. The 19-story-tall rocket bolted off its seaside launch pad at Cape Canaveral Air Force Station, kicking off the first of 11 missions on ULA's 2017 calendar.

(21 January 2017)

SpaceX returns to flight with Falcon 9 rocket launch SpaceX has resumed flights, launching a Falcon 9 vehicle from the Vandenberg Air Force Base on the California coast.

(15 January 2017)

KZ-1A lofts small satellites on commercial mission The Kuaizhou-1A (KZ-1A) rocket sent three satellites into space in its first commercial mission.

(10 January 2017)

Development Activities

China set to launch Moon-sampling mission in November Two years after placing its very first rover on the surface of the moon, China has announced it would launch a mission to return lunar samples to Earth later in 2017. As it develops that mission, China's space agency is also getting ready to launch a different trip to the moon's far side.

(25 January 2017)

eROSITA X-ray telescope travels to Russia for launch in 2018 On 20 January 2017, the completed eROSITA X-ray telescope boarded a cargo plane and was transported from Munich, where it had been built at the Max Planck Institute for Extraterrestrial Physics, to Moscow. It is expected to arrive at the premises of Lavochkin Association, in the Moscow suburb of Khimki on 25 January.

(24 January 2017)

China to launch electromagnetic monitoring satellite for earthquake study China will launch a satellite this year to gather electromagnetic data that may be used in monitoring and forecasting earthquakes. According to China's earthquake administrative agencies, the satellite will be launched in the latter half of 2017.

(20 January 2017)

Russia, China work on joint high-precision satellite navigation system Russia and China are setting up a joint Differential Corrections and Monitoring (SDCM) high-precision satellite navigation system, China National Space Administration (CNSA) chief representative in Russia Zhang Yuan said.

(18 January 2017)

Russia works on new-generation space radio intelligence system Russia's Defense Ministry continues to develop the Liana Electronic Intelligence Program (ELINT) using Lotos-S satellites, Defense Minister Sergei Shoigu said. Lotos-S and Pion-NKS radio surveillance satellites are planned to replace two aged Soviet Tselina satellites and create the upgraded ELINT system for land and sea military surveillance.

(14 January 2017)

ISRO set to increase vehicle capacity to accommodate more space launches India would maximise its rocket capability to launch more satellites for maximum return on investment, its space agency chief said on Wednesday. "By launching 103 satellites together using one rocket next month, we are trying to maximise its capability and optimally utilise it for maximum return on investment," Indian Space Research Organisation (ISRO) Chairman A.S. Kiran Kumar said.

(14 January 2017)

Newly announced mission could solve the mystery of water on asteroid Psyche Discovered in 1852 by Italian astronomer Annibale de Gasparis, Psyche is one of the ten most-massive asteroids in the asteroid belt. Although Psyche is thought to be a world made of metal, scientists have recently found the presence of water on this minor planet. The new findings which baffled researchers, could be confirmed and further studied by a newly announced NASA mission.

(11 January 2017)

Russia to produce new EgyptSat-A satellite instead of failed EgyptSat-2 The EgyptSat-A satellite will be produced by Russia's Rocket and Space Corporation (RSC) Energia instead of failed EgyptSat-2 is scheduled to be launched in 2019, Chief Executive Officer of the corporation Vladimir Solntsev told TASS.

(10 January 2017)

ISS Activities

NASA considering Boeing offer for additional Soyuz seats NASA is proposing to purchase, through Boeing, additional Soyuz seats for International Space Station missions to both take advantage of Russian plans to decrease the size of its crew and as insurance against potential additional commercial crew delays.

(23 January 2017)

NASA to rely on Soyuz for ISS missions until 2019 If NASA intends to continue sending astronauts to the International Space Station or the Moon, the space agency has little choice but to rely on Roscosmos' Soyuz spacecraft, at least until 2019. NASA filed a "presolicitation" requesting that private firms reach out to NASA if they can transport astronauts to and from the orbital research platform.

(21 January 2017)

Space Station astronauts take spacewalk to upgrade power system On Jan. 6, 2017, NASA astronauts Shane Kimbrough and Peggy Whitson spent more than six hours spacewalking outside the International Space Station to upgrade the outpost's power system. See photos from the spacewalk here.

(9 January 2017)

Japan's new small satellite deployer debuts Japan's STAR-C tethered CubeSat duo departed the International Space Station as 2016 drew to a close.

(4 January 2017)

SpaceX mission delay could cost NASA hundreds of millions of dollars It looked like Boeing and SpaceX would give NASA what it paid for: a means of putting American astronauts back into space, under our own power, by late 2017, or early 2018 at the latest. In succeeding, they'd save NASA from the necessity of paying Roscosmos another \$490 million (or more, given the steep price increase of the last contract) to continue ferrying astronauts to space. This aim may have slipped.

(27 December 2016)

Space Tourism

Weightless tourism just four years away Out-of-this-world experiences will be possible, according to the plans of China's newly established commercial space company, which expects to start providing high-atmosphere and space journeys for people with enough cash as early as 2020.

(13 November 2016)

NOAA's GOES-16 satellite sends first images to Earth GOES-16, the first spacecraft in NOAA's next-generation of geostationary satellites, has sent the first high-resolution images from its Advanced Baseline Imager (ABI) instrument. Included among them are a composite color full-disk visible image of the Western Hemisphere captured on January 15, 2017.

(25 January 2017)

NASA's Earth Observatory reveals Cambodia's incredibly shrinking forests Scientists from the University of Maryland and the World Resources Institute's Global Forest Watch have been using Landsat satellite data to track the rate of forest loss on a global scale. Though other countries have lost more acres in recent years, Cambodia stands out for how rapidly its forests are being cleared.

(23 January 2017)

Clocks 'failed' onboard Europe's navigation satellites Europe's beleaguered Galileo satnav has suffered another setback, with clocks failing onboard a number of satellites in space, the European Space Agency said Wednesday. Designed to render Europe independent from America's GPS, the 10 billion-euro (\$11 billion) project may experience further delays as the cause of the failure is investigated, ESA director general Jan Woerner told journalists in Paris.

(19 January 2017)

Cubesat testbeds trim risk and save millions Tom and Jerry are more than an old-school cartoon, they are now an important cubesat experiment.

(13 January 2017)

China to offer global satellite navigation service by 2020 China plans to form a BeiDou network consisting of 35 satellites for global navigation services by 2020, said a white paper released by the State Council Information Office. The country plans to start providing basic services to countries along the Silk Road Economic Belt and 21st-century Maritime Silk Road in 2018, said the document titled "China's Space Activities in 2016."

(2 January 2017)

NASA releases new Greenland glacier data NASA's Oceans Melting Greenland (OMG) mission has released preliminary data on the heights of Greenland coastal glaciers from its first airborne campaign in March 2016. The new data show the dramatic increase in coverage that the mission provides to scientists and other interested users. Finalized data on glacier surface heights, accurate within three feet (one meter) or less vertically, will be available by Feb. 1, 2017.

(27 December 2016)

Preparing for air traffic control via satellite ESA recently completed its first flight trials using satellites to help bring Europe closer to its goal of modernising air traffic control.

(21 December 2016)

Galileo begins serving the globe Europe's own Galileo satellite navigation system has begun operating, with the satellites in space delivering positioning, navigation and timing information to users around the globe.

(17 December 2016)

Lockheed Martin and USAF move ahead with GPS backup ground system upgrade The U.S. Air Force approved Lockheed Martin's design to upgrade the current GPS satellite ground control system with new capabilities that will enable it to operate more powerful and accurate GPS III satellites.

(15 December 2016)

Europe's own satnav, Galileo, due to go live Seventeen years and more than 10 billion euros (\$11 billion) later, Europe's Galileo satnav system is set to go live Thursday, promising to outperform US and Russian rivals while boosting regional self-reliance.

(14 December 2016)

High-precision system for real-time navigation data of GLONASS ready for service A global high-precision system for obtaining the real-time navigation data has passed state tests and is ready to be put into operation as part of the GLONASS navigation system, Russia's Roscosmos state space corporation said in a statement.

(26 November 2016)

ESA expands space weather services A major expansion in the space weather information and services provided by ESA will help satellites in space and networks like power grids on Earth to cope with solar eruptions. Scientists, engineers and researchers across Europe are working with ESA to develop a space weather warning system as part of the Agency's Space Situational Awareness programme.

(23 November 2016)

Optical clock technology tested in space for first time For the first time, an optical clock has traveled to space, surviving harsh rocket launch conditions and successfully operating under the microgravity that would be experienced on a satellite. This demonstration brings optical clock technology much closer to implementation in space, where it could eventually allow GPS-based navigation with centimeter-level location precision.

(22 November 2016)

Russian space agency may launch up to 4 Glonass navigation satellites in 2017 Russia's Roscosmos space agency may launch up to four Glonass navigation satellites in 2017, Deputy Director General for Automatic Space Complexes Mikhail Khailov said. According to him, the launches will be carried out if operating satellites are out of order.

(12 November 2016)

Italy on the move Scientists are analysing Sentinel-1 radar images from before and after the 30 October earthquake that struck central Italy to reveal just how much the ground has shifted.

(3 November 2016)

Indian government unveils satellite surveillance to curb illegal mining The mining surveillance system (MSS), a pan-India surveillance network using latest satellite technology, to check illegal mining.

(1 November 2016)

The future of radar - scientific benefits and potential of TerraSAR-X and TanDEM-X The German satellite duo TerraSAR-X and TanDEM-X have consistently delivered one-of-a-kind Earth observation data since 2007 and 2010, hence shaping the international research landscape. Now, scientific users from across the globe have gathered for the TerraSAR-X and TanDEM-X Science Meeting at the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) in Oberpfaffenhofen, where they will discuss the results obtained from the data and define requirements for future remote sensing technology.

(19 October 2016)

Sky and Space Global, GomSpace partner on nano-satellite assembly Sky and Space Global is partnering with Denmark's GomSpace to assemble its three initial nano-satellites and get them ready for launch in the first half of next year.

(18 October 2016)

Smallsat Constellations Seen Adding Debris Risk As the number of smallsat constellations grows, international satellite tracking bodies see increased risk of space debris problems unless mitigations measures are adopted.

(8 October 2016)

US, China will meet this year to talk space debris A senior U.S. State Department official said China and the United States plan to hold a second set of talks later this year to discuss how their militaries operate in space.

(1 October 2016)

Do not put all your ships in one satellite network It is a risky business putting all future satellite communications in one basket – thankfully not many shipowners and managers do. Incidents on one US rocket launch pad and an issue with a key high throughput satellite highlight the problems that constellation operators face. It also demonstrates the risks ship operators face with choosing providers of satellite communications.

(30 September 2016)

China's hi-res SAR imaging satellite put into use China's first high-resolution Synthetic Aperture Radar (SAR) satellite has passed all its in-orbit tests and is now operational, according to the State Administration of Science, Technology and Industry for National Defense. The Gaofen-3 satellite, which is accurate to one meter in distance, was launched in August 2016.

(27 January 2017)

Gaia turns its eyes to asteroid hunting Whilst best known for its surveys of the stars and mapping the Milky Way in three dimensions, ESA's Gaia has many more strings to its bow. Among them, its contribution to our understanding of the asteroids that litter the Solar System. Now, for the first time, Gaia is not only providing information crucial to understanding known asteroids, it has also started to look for new ones.

(26 January 2017)

ISRO realigns orbit of Mars mission spacecraft 'Mangalyaan' Indian Space Research Organization has successfully realigned the orbit of its Mars Orbiter Mission 'Mangalyaan' so it is not affected by a long-duration eclipse, ISRO chairman A S Kiran Kumar said.

(23 January 2017)

China's quantum science satellite begins experiments The world's first quantum science and communications satellite has been handed over to Chinese scientists for the official start of experiments to test the phenomena of quantum entanglement and 'unhackable' quantum communication.

(19 January 2017)

Breakthrough surveying other galaxies for planets to visit A private plan to visit Alpha Centauri is boosting science on Earth today. Breakthrough's Starshot plan is looking for exoplanets in the 'Goldilocks Zone' of the Alpha Centauri binary system that might support life.

(18 January 2017)

Curiosity finds Mars rock that may be a meteorite made from iron NASA's Curiosity rover took a picture that appears to show a new iron-nickel meteorite on Mars, one of only eight that have been discovered by rovers there so far.

(18 January 2017)

Eutelsat America's all-electric satellite enters service after seven-month journey The second of two all-electric satellites fleet operator Eutelsat gained through its acquisition of Satmex began service Jan. 16 after finishing a seven-month journey to its orbital location. Eutelsat 117 West B launched last June on a SpaceX Falcon 9 rocket with ABS-2A, a similar all-electric satellite Boeing built for Bermuda-based ABS. Both satellites formed the second set in a four-satellite order paired with Falcon 9 dual launches.

(17 January 2017)

Chinese imaging satellites reach orbit after botched launch China has received images from a pair of 0.5-meter high-resolution remote sensing satellites launched in late December last year. According to the China Aerospace Science and Technology Corporation (CASC), the satellites have reached their operational orbit after a partial launch failure.

(15 January 2017)

Thousands of cosmic distances now catalogued The universe just got an address book. A new NASA catalogue of objects will help scientists identify the distance of tens of thousands of objects that are so far away they date back to the beginning of the universe.

(9 January 2017)

Mars Odyssey rebounds from Safe Mode Mars Odyssey is resuming science observations this week, following a Dec. 26 safe mode incident.

(5 January 2017)

Odyssey recovering from precautionary pause in activity NASA's Mars Odyssey orbiter, which has been in service at Mars since October 2001, put itself into safe mode - a protective standby status - on Dec. 26, while remaining in communication with Earth. The Odyssey project team has diagnosed the cause - an uncertainty aboard the spacecraft about its orientation with regard to Earth and the sun - and is restoring the orbiter to full operations.

(2 January 2017)

Looking ahead: Space exploration in 2017 An exciting year lies ahead for science and planetary spaceflight - by NASA and by other spacefaring nations.

(1 January 2017)

Russia plans early February Progress return to flight Russia has tentatively scheduled the next Progress launch for early February, pending the outcome of an ongoing investigation.

(31 December 2016)

Researchers dial in to 'thermostat' in Earth's upper atmosphere Scientists have known that solar flares and coronal mass ejections (CMEs) - which release electrically charged plasma from the sun - can damage satellites, cause power outages on Earth and disrupt GPS service. Now it has been determined that when such powerful CMEs come off the sun and speed toward Earth, they create shock waves much like supersonic aircraft create sonic booms. While the shock waves from CMEs pour energy into Earth's upper atmosphere, puffing it up and heating it, they also cause the formation of the trace chemical nitric oxide, which then rapidly cools and shrinks it.

(19 December 2016)

Cassini Probe Will Have Busy Final Year at Titan Saturn's moon Titan is being used by scientists to better understand the Earth's atmosphere. One day, it could give scientist a clue about the likelihood of non-Earthlike lifeforms evolving in the universe.

(6 December 2016)

ESA's new Mars orbiter prepares for first science The ExoMars orbiter is preparing to make its first scientific observations at Mars during two orbits of the planet. The Trace Gas Orbiter, or TGO, a joint endeavour between ESA and Roscosmos, arrived at Mars on 19 October. It entered orbit, as planned, on a highly elliptical path that takes it from between 230 and 310 km above the surface to around 98 000 km every 4.2 days.

(22 November 2016)

The Universe has ten times more galaxies than scientists thought More than a trillion galaxies are lurking in the depths of space, a new census of galaxies in the observable universe has found ?? 10 times more galaxies than were previously thought to exist.

(31 October 2016)

ExoMars mission continues to thrive despite loss of lander Despite the apparent loss of the Schiaparelli lander, the other half of the ExoMars 2016 mission, the Trace Gas Orbiter (TGO), has successfully entered the Red Planet's orbit and will continue to function as expected, officials from the European Space Agency (ESA) have confirmed.

(28 October 2016)

Tracking waves from sunspots gives new solar insight While it often seems unvarying from our viewpoint on Earth, the sun is constantly changing. Material courses through not only the star itself, but throughout its expansive atmosphere. Understanding the dance of this charged gas is a key part of better understanding our Sun.

(26 October 2016)

Going out in a blaze of glory: Cassini's Grand Finale With the conclusion of the international Cassini mission set for 15 September 2017, the spacecraft is poised to soon begin a thrilling two-part endgame. Cassini enters the first part of this denouement on 30 November 2016, when the spacecraft begins a series of 20 passes just beyond the outer edge of the main rings.

(23 October 2016)

Schiaparelli Mars probe's parachute 'jettisoned too early' ESA's Schiaparelli lander did not behave as expected as it headed down to the surface of Mars. Telemetry data recovered from the probe during its descent indicates that its parachute was jettisoned too early. The rockets it was supposed to use to bring itself to a standstill just above the ground also appeared to fire for too short a time. The European Space Agency has not yet conceded that the lander crashed but the mood is not positive.

(20 October 2016)

Giant telescope in China joins international hunt for extraterrestrial life China's newest radio telescope, the largest in the world, will work with the privately-funded Breakthrough Initiatives organization to hunt for signs of intelligent life beyond Earth.

(16 October 2016)

MinXSS CubeSat brings new information to study of solar flares Along with the visible light and warmth constantly emitted by our sun comes a whole spectrum of X-ray and ultraviolet radiation that streams toward Earth. A new CubeSat - a miniature satellite that provides a low-cost platform for missions - is now in space observing a particular class of X-ray light that has rarely been studied.

(12 October 2016)

Schiaparelli readied for Mars landing The commands that will govern the Schiaparelli lander's descent and touchdown on Mars were uploaded to ESA's ExoMars spacecraft, enroute to the Red Planet.

(9 October 2016)

Cassini data reveal subsurface ocean on Saturn's moon Dione Subsurface oceans are all the rage. Titan and Enceladus have one. Europa and Pluto probably have one. Ceres might have one. Now, Saturn's moon Dione is getting in on the action. In a new study in the journal Geophysical Research Letters, scientists argue gravity data collected by Cassini reveal the presence of an underground ocean.


(7 October 2016)


More evidence for an ocean inside Pluto A simulation of the Sputnik Planum's formation supports the idea of a deep, salty ocean.

(3 October 2016)

Mission complete: Rosetta's journey ends in daring descent to comet ESA's historic Rosetta mission concluded as planned, with the controlled impact onto the comet it had been investigating for more than two years.


(30 September 2016)

 **Russia to construct Glonass satellite navigation station in Nicaragua** Experts from the Russian Central Research Institute of Machine Building (TsNIIMash) will construct a ground Glonass satellite navigation tracking station in Nicaragua, the TsNIIMash's press service said. "The TsNIIMash's specialists will construct a station for tracking data of the Glonass and other global satellite navigation systems in Nicaragua," the press release reads. (27 January 2017)


 **Space: Where we've been, where we're going** President Obama shook up space policy when he took office, and President Trump may be about to do the same. (25 January 2017)


 **Joint space projects to yield results soon: Iranian official** Iran's joint projects with other countries in the space field will yield results in the near future, Head of Iran's National Space Center Manouchehr Manteqi said. Iran has begun international cooperation in space projects, Manteqi said, adding that there was no such cooperation in the past. (23 January 2017)


 **US Air Force pursues strategy to defend anti-satellite attacks** While several countries are known to be making investments in the development of space weaponry, Chinese activities have engendered a particular concern among Pentagon leaders, analysts and threat assessment professionals. (22 January 2017)

 **From school to space: satellite built by Brazilian students launched into orbit** A satellite built by students of a Brazilian middle school was launched into space from aboard the International Space Station on January 16. The Tancredo-1 satellite, developed by the students of Tancredo de Almeida Neves Municipal School in the city of Ubatuba, measures only 13 centimeters in diameter and weighs about 700 grams. (21 January 2017)

 **Russia-China joint space studies centre may be created in southeastern Russia** A joint-working space centre of Russian and Chinese specialists could be built in Russia's southeastern Zabaikalsky Territory, the press service of the region's head said in a statement. A centre for joint work of Russian and Chinese specialists in the sphere of space studies could be built in Russia's southeastern Zabaikalsky Territory as a part of the comprehensive plan. (19 January 2017)

 **First Singapore satellite launched from the International Space Station** The first Singapore satellite launched from the International Space Station took place successfully. Called AOBA VELOX-III, it is a joint project between Nanyang Technological University (NTU) and Japan's Kyushu Institute of Technology (Kyutech). It will be conducting tests to evaluate the durability of commercial off-the-shelf microprocessors in space while orbiting at 400km above sea level. (17 January 2017)

 **Lightfoot, Radzanowski will head NASA temporarily** Associate NASA Administrator Robert Lightfoot will take over as acting administrator on 20 January. (14 January 2017)

 **Trump and space: panel forecasts changes to come** As Trump's "landing team" touches down at NASA, science community members mull ways to interact with politics. (11 January 2017)

 **ISRO encourages Indian startups.** The Indian Space Research Organisation is luring young entrepreneurs to utilise massive amounts of geo-spatial data procured through its series of earth-mapping satellites to launch start-ups and earn in millions in the years to come via consultative services to respective users. (7 January 2017)

 **Commercial space player wants clarity on NASA's role** An emerging U.S. commercial space sector stands to benefit if the Trump administration can decide sooner rather than later whether NASA is to continue with efforts to transition its human spaceflight pursuits from low Earth orbit to deep space. (3 January 2017)

 **Russia to double number of space launches in 2017** Director-General Igor Komarov said that Russia's state space corporation Roscosmos plans to launch twice as many rockets into space in 2017 as in the outgoing year. Russia's state space corporation Roscosmos plans to launch twice as many rockets into space in 2017 as in the outgoing year, its Director-General said. (2 January 2017)

 **Brazilian satellite manufacturer seeks new business as it completes its first satellite** Brazil's emerging domestic satellite manufacturer Visiona Tecnologia Espacial is building up a remote sensing business and weighing a small satellite project in order to gain more experience. (1 January 2017)


 **exactEarth to study Small Vessel Tracking** exactEarth has been awarded a 1.1 million pound grant from the UK Space Agency (UKSA) under its 'International Partnerships Programme' (IPP). The IPP funding will support the operational deployment of exactEarth's Satellite AIS-based small vessel tracking technology "exactTrax" to improve safety of life at sea (SOLAS) for South Africa's small boat owners and operators. (29 December 2016)

 **ISRO to launch three rovers to the Moon on a single rocket in 2017** For the first time in the history of space exploration, the Indian Space Research Organisation will launch three rovers to the Moon placed on a single rocket. The three rovers, one of which is India's first private mission to the moon by Team Indus, will be sent into space using ISRO's Polar Satellite Launch Vehicle-XI (PSLV-X1). The other two rovers will be from Japan. (28 December 2016)

 **China outlines its space exploration ambitions** China released a new white paper on its policy and activities in space, outlining ambitious deep space exploration, human spaceflight and space science projects as major priorities for the years up to 2020 and beyond. (28 December 2016)


 **Russia prioritizing space exploration with maiden launches, new projects** Russia is planning to orbit 44 satellites by 2025. It will increase the constellation of the Russian spacecraft to 73 in 2025. Roscosmos intends to develop a new medium-class carrier rocket, Phoenix before 2025. Financing of its development is scheduled to begin in 2018. Cargo capacity of the carrier rocket will reach up to 15 metric tons. Also, Russia plans to launch the development of a super-heavy carrier rocket. The new carrier rocket will allow Russia to launch a manned spaceflight to explore deep space. (21 December 2016)

 **India Inc joins hands to bid for moon mission** An Indian aerospace start-up's plans to send a mission to moon as part of the Google's Lunar XPRIZE challenge has received a major boost in funding from local corporate houses and entrepreneurs. A Bengaluru-based start-up has found the surprise backing of India's leading corporate houses and entrepreneurs to fulfill its dream of sending a rover to the moon. (11 December 2016)

 **UAE launches national space policy** The UAE Space Agency issued the Arab world's first national space policy - the first step to formulating laws for the industry. "The policy is just like a torch guiding us to where we have to go," said Dr Mohammed Al Ahababi, the agency's director general. (10 December 2016)

 **UAE to facilitate sending tourists to space in future** The UAE is trying to create an environment in the space sector to facilitate sending tourists to space in future, a senior official told journalists. (8 December 2016)

 **Chinese space exploration plans unveiled** The Chinese Academy of Sciences' National Space Science Center has officially unveiled five space exploration plans to be accomplished during the 13th Five Year Plan period (2016- 20). (7 December 2016)

 **Indian X Prize team secures launch contract with ISRO** TeamIndus, an Indian team competing in the Google Lunar X Prize, announced that it has a launch contract for its lunar lander mission with the Indian Space Research Organisation (ISRO). (4 December 2016)

Opportunities

NASA Engineering and Logistics Business Development Director - PAE, Inc (United States)

****Supporting the Most Exciting and Meaningful Missions in the World**** NASA Engineering and Logistics Business Development Director NASA Engineering and Logistics

Application Developer Ntts - NASA - QTS (United States)

Work Location: NASA Ames Research Center (Mountain View, CA) Minimum Citizenship: US Citizen or Permanent Resident Status Clearance : This position requires

Astrophysics Program Scientists at NASA Headquarters - Astrophysics Division, NASA Headquarters (United States)

NASA seeks one or more visiting Ph.D.-level scientists to serve as Program Scientists in the Astrophysics Division at NASA Headquarters in Washington, DC. With a

Branch Customer Services Associate/ NASA HQ - NASA Federal Credit Union (United States)

largest credit unions in the region and top performing in the nation, NASA Federal Credit Union members enjoy banking with an organization that's well established,

Career Opportunities with NASA NASA Independent Verification and Validation (IV&V) Program - West Job - SAIC (United States)

Career Opportunities with NASA NASA Independent Verification and Validation (IV&V) Program - West Virginia (Job Number:422408)
Description: SAIC is pursuing

Environmental Protection Specialist (NASA Ames) - Leidos (United States)

opening for an Environmental Protection Specialist to support its contract at NASA Ames Research Center, Moffett Field, CA. The Environmental Protection Specialist

Fire Protection Engineer - NASA - Chenega Corporation (United States)

CHENEGA INFINITY, LLC ****Company Job Title:**** Fire Protection Engineer, NASA ****Chenega Job Title:**** Fire Protection Engineer ****Clearance:**** Must be able to obtain and

Ground Stations Maintenance and Engineer

Closing date 10th March 2017 The Ground Stations play a key role in Space and Ground Segment operations, the key person will therefore be expected to acquire and maintain a Systemwide view of the Ground Segment, particularly in the areas of spacecraft TTC and payload data transfer. The key person shall divide his time and expertise, according to the workload, between the various programs to support the long term evolution and maintenance of the EUMETSAT Ground Stations. The tasks of the key person will be carried out mainly at EUMETSAT Head Quarter facilities in Darmstadt, as required, but travel within Europe may be required for certain activities. He/She may also be required to go on missions to remote sites where ground station are located such as Svalbard Norway and Turkey PROFILE Mandatory skills University degree or equivalent in a relevant discipline, Minimum of 5 years experience in the 247 Operations and Maintenance of Large Ground Stations and/or Ground Stations EngineeringIn...

Ground Stations Maintenance and Engineering Consultancy

Since 1979, Italian ACS has been a Software System Integrator. As a Payload Data Ground Segment specialist, ACS develops componentssubsystemsground stations for satellite data acquisition, processing and dissemination. The company is active in geospatial multisource applications development for planning and management of environmental risks infrastructures and realtime handling of large data streams. ACS offer to their customers the complete range of services from the collection of user requirements to operational activities support. Our German subsidiary ACSD provides consultancy service at EUMETSAT Darmstadt. Selected candidate will sign permanent full time contract and work at EUM premises. Besides an opportunity to work in international environment, ACS can offer competitive salary, attractive benefits package tailored to specific needs, training and career growth within ACS group, support for relocation to Darmstadt. For our activities in Germany, we are looking for a person to p...

JasonCS Overall Ground Segment Integration and Verification Consultancy

Since 1979, Italian ACS has been a Software System Integrator. As a Payload Data Ground Segment specialist, ACS develops componentssubsystemsground stations for satellite data acquisition, processing and dissemination. The company is active in geospatial multisource applications development for planning and management of environmental risks infrastructures and realtime handling of large data streams. ACS offer to their customers the complete range of services from the collection of user requirements to operational activities support. Our German subsidiary ACSD provides consultancy service at EUMETSAT Darmstadt. Selected candidate will sign permanent full time contract and

work at EUM premises. Besides an opportunity to work in international environment, ACS can offer competitive salary, attractive benefits package tailored to specific needs, training and career growth within ACS group, support for relocation to Darmstadt. For our activities in Germany, we are looking for a person to p...

Junior Engineer, Software

SES is the worldleading satellite operator with a fleet of more than 50 geostationary satellites. The company provides satellite communications services to broadcasters, content and internet service providers, mobile and fixed network operators and business and governmental organizations worldwide. SES stands for longlasting business relationships, highquality service and excellence in the satellite industry. The culturally diverse regional teams of SES are located around the globe and work closely with customers to meet their specific satellite bandwidth and service requirements. SES holds a participation in O3b Networks, a next generation satellite network combining the reach of satellite with the speed of fiber. Where others see barriers, we see opportunities. Do you enjoy supporting customers realizing breakthrough value? Do you stay attuned to your customers needs and visions? Do you like to work openly and supportively together with your colleagues and customers? Our work involv...

Junior Software Engineer FixedTerm

SES is the worldleading satellite operator with a fleet of more than 50 geostationary satellites. The company provides satellite communications services to broadcasters, content and internet service providers, mobile and fixed network operators and business and governmental organizations worldwide. SES stands for longlasting business relationships, highquality service and excellence in the satellite industry. The culturally diverse regional teams of SES are located around the globe and work closely with customers to meet their specific satellite bandwidth and service requirements. SES holds a participation in O3b Networks, a next generation satellite network combining the reach of satellite with the speed of fiber. Where others see barriers, we see opportunities. Do you enjoy supporting customers realizing breakthrough value? Do you stay attuned to your customers needs and visions? Do you like to work openly and supportively together with your colleagues and customers? Our work involv...

Microelectronics Design and Validation Engineer

We are looking to further enhance our team by adding a Microelectronics Design and Validation Engineer You will be based at our clients premises in Noordwijk, Netherlands. In this large European Agency you will find an excellent and modern working environment with challenging tasks and responsibilities. Your Tasks Include Being the Focal Point of ESA IP Cores Service technical and administrative maintenance of our catalogue of IP Cores. This work includes verifying, improving and correcting the IP Cores source code good working knowledge of VHDL and SystemC and IC EDA tools is therefore mandatory and documentation based on users feedback, maintaining the databases and tools used for the service, interacting with customers and our legal department to solve technical, legal and administration problems. Microelectronics Laboratory Coordination conditioning and maintenance of the laboratory infrastructure, servers, CAD tools, new equipment, equipment and components inventory, security in ...

Microwave Instrument System Engineer

Client and Location For one of our main customers ESAESTEC, we are currently looking for a Microwave Instrument System Engineer who will give support to the directorate of Earth Observation Mission. Tasks and Responsibilities The duties of the Contractor are performed in liaison with a team of engineers. They include Developmentacquisition, validation and maintenance of performance assessment tools for various space borne microwave instruments encompassing both active radars and passive radiometers instruments Translation of missionobservation requirements to instrument requirements improvement and maintenance of data processing tools Performance Assessment of active and passive microwave instruments during the study phases 0, A and during project implementation phases B, CD Participation in the preparation and monitoring of instrument system and technology predevelopment studies together with industry. Requirements University master degree or equivalent qualification in electrical en...

MOC Mission Operations Center Controller

SES is the worldleading satellite operator with a fleet of more than 50 geostationary satellites. The company provides satellite communications services to broadcasters, content and internet service providers, mobile and fixed network operators and business and governmental organizations worldwide. SES stands for longlasting business relationships, highquality service and excellence in the satellite industry. The culturally diverse regional teams of SES are located around the globe and work closely with customers to meet their specific satellite bandwidth and service requirements. SES holds a participation in O3b Networks, a next generation satellite network combining the reach of satellite with the speed of fiber. GovSat is a brand operated by LuxGovSat S.A., a publicprivate joint venture between the Luxembourg Government and SES, the worldleading satellite operator. Our mission is to provide secure, reliable and accessible satellite communication services for governments addressing ...

Security Police Officer, NASA -Ci - Chenega Corporation (United States)

CHENEGA INFINITY, LLC.Company Job Title: Security Police Officer (SPO), NASA Chenega Job Title: Police Officer I Clearance: Secret Location: Titusville, FL Reports

Senior Engineer, Product Engineering

SES is the worldleading satellite operator with a fleet of more than 50 geostationary satellites. The company provides satellite communications services to broadcasters, content and internet service providers, mobile and fixed network operators and business and governmental organizations worldwide. SES stands for longlasting business relationships, highquality service and excellence in the satellite industry. The culturally diverse regional teams of SES are located around the globe and work closely with customers to meet their specific satellite bandwidth and service requirements. SES holds a participation in O3b Networks, a next generation satellite network combining the reach of satellite with the speed of fiber. Where others see barriers, we see opportunities. Do you enjoy supporting customers realizing breakthrough value? Do you stay attuned to your customers needs and visions? Do you like to work openly and supportively together with your colleagues and customers? Our work involv...

Subject Matter Expert - NASA (Atemp) - Vectrus (United States)

SUMMARY: Vectrus needs a senior subject matter expert (SME) to support the NASA Kennedy Space Center (KSC) Institutional Services Contract (ISC) and other

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