



Chikitsak Samuha's

Sitaram And Lady Shantabai Patkar Varde College Of Arts And Science and V.P Varde College Of Commerce and Economics.
(An Autonomus college affiliated to University of Mumbai)

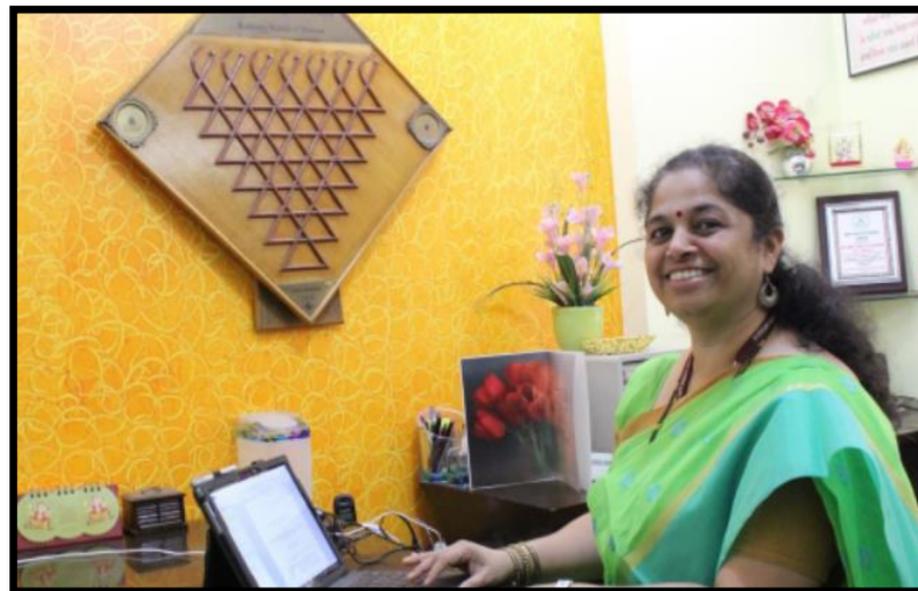


WEEKEND CHRONICLE

India's contribution in space research.

SPECIAL ISSUE

An initiative by B.M.S Department



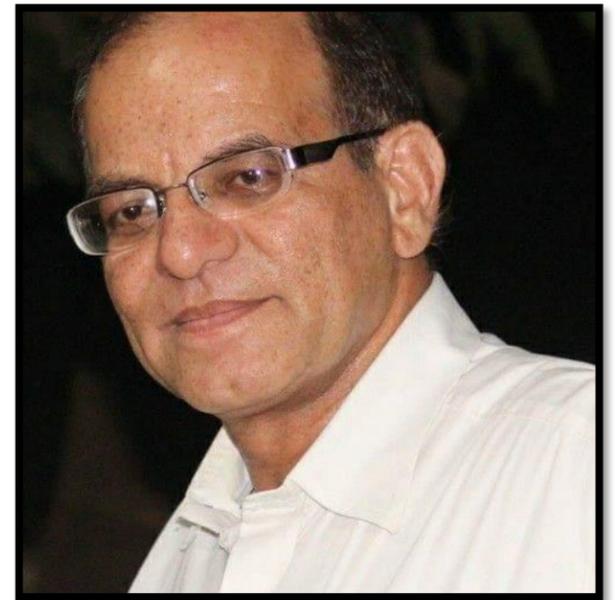
A MESSAGE FROM CHIEF EDUCATION OFFICER'S DESK

Dear Readers,

“Develop a passion for learning. If you do, you will never cease to grow.” We live today in a world that is so very different from the one we grew up in, the one we were educated in. The world today is moving at such an enhanced rate and we as educationalists need to cause and reflect on the entire system of education. On-line learning provides new age technology to widen the educational scope. It prepares students to succeed in an increasing technology driven global economy. Technology makes life much easier, most of all it saves time and energy. It is one of the fastest growing field right now and there is no sign of stopping anytime soon.

It is indeed a great moment for all of us to bring forth this weekly E-Periodical “Weekend Chronicle”. We are sure this E-Periodical will help to acquire knowledge and skills, build character and enhance employability of our young talented students to become globally competent. There is something for everyone here, right from the field of Business, Academics, Travel and Tourism, Science and technology, Media and lot more. The variety and creativity of the articles in E-Periodical will surely add on to the knowledge of the readers. I am sure that the positive attitude, hard work, continued efforts and innovative ideas exhibited by our students will surely stir the mind of the readers and take them to the fantastic world of joy and pleasure.

Dr. Mala Kharkar
Chief Education Officer
(Patkar-Varde College)



A MESSAGE FROM THE PRINCIPAL'S DESK

Dear Readers,

As we know, "An Investment in knowledge pays the best interest."

Hence in this regard the E-Periodical Weekend Chronicle is playing a vital role in providing a platform to enhance the creative minds of our students of BMS Department.

The E-Periodical i.e online magazine drives us through varied genres containing- News related to Global affairs under departments like Business, Advertisement, IT and Science & Nature to intellectual news articles under Academics, Media and Library Departments. It also covers articles related to Food & Health care, Culture & Cuisine and Travel & Tourism which usually tops our "bucket lists" including article which address societal problems under Department of Social Issues. Lastly covering words and vision of our talented students as budding poets, writers and thinkers under Student's section Department.

Over all this vision of constructing E-Periodical by students will engage today's youth and the crafters of the youth (teachers) in their communities which is the necessity to over come hurdles of present reality. We will strive to make a better world through our acts and thoughts. Rather it is a challenge to be met!!!

**Dr. Shrikant B Sawant
Principal
(Patkar-Varde College)**

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BUSINESS

ISRO TO ADOPT 100 ATAL TINKERING LABS FOR PROMOTING SPACE EDUCATION IN SCHOOLS

Indian Space Research Organisation (ISRO) will be adopting 100 Atal Tinkering Labs under the Atal Innovation Mission to promote education in the field of STEM, space education and related innovations.



New Delhi: Indian Space Research Organisation (ISRO) will be adopting 100 Atal Tinkering Labs under the Atal Innovation Mission to promote education in the field of STEM, space education and related innovations. The new project focuses on building scientific temperament among school students of Classes 6 to 12. This project has been initiated in line with the AtmaNirbhar Bharat. NITI Aayog has also joined this initiative

ISRO Chairman Dr K. Sivan explained about the benefits of the new project for school students as he said that this project based learning will improve the attitude towards research right from the school days. With today's adoption of 100 ATLs, distributed geographically in line with ISRO's presence across the country, the organization is taking a small step in engaging with the students, towards giving them direction in pursuing their space dreams.

NITI Aayog Chairman Amitabh Kant said, "I am glad that to nurture our future space scientists, ISRO in collaboration with their regional research centers are adopting 100 Atal Tinkering Labs, where ISRO scientists and researchers will personally guide and mentor the young innovators in the field of STEM education and Space technology".

Further NITI Aayog Vice Chairman Dr Rajiv Kumar said, "This is a great opportunity for our young budding space researchers and astronauts to learn from the best minds of our country, and become living inspirations for their school, families and local communities".

ATAL tinkering labs were initiated by the Union Government to promote innovation and research atmosphere in the schools and colleges. In the same line various incubation centres have also been set up in the technical institutes including the Indian Institutes of Technology (IIT).

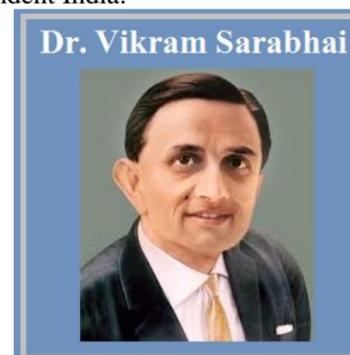
NITI Aayog has created more than 700 ATAL Tinkering Labs across the country where ISRO scientists have been mentoring the students in scientific research work. Atal Innovation Mission had earlier collaborated with ISRO for the AtmaNirbhar Bharat ARISE-ANIC Initiative along with four other ministries to spur applied research and innovation in Indian MSMEs and startups.

ROHIT PAWAR
(NEWSCASTER)

REF: <https://www.ndtv.com/education/isro-adopt-100-atal-tinkering-labs-for-promoting-space-education-in-schools>

VIKRAM SARABHAI FOUNDER OF ISRO 100TH BIRTHDAY: ALL YOU NEED TO KNOW

Vikram Sarabhai was a great scientist and institutional builder who had established several institutions in various fields. One of his greatest achievements is the establishment of the Indian Space Research Organisation (ISRO). In 1947, he came back to India from Cambridge and persuaded the charitable trust that is controlled by his family and friends near his home in Ahmedabad. He established Physical Research Laboratory (PRL) in Ahmedabad on 11 November, 1947 which was the first laboratory of independent India.



Vikram Sarabhai: Career and Achievements

- He came to India when India got its independence and so, he felt the need for better scientific facilities. For this, he established The Physical Research Laboratory (PRL) in Ahmedabad in November 1947.
 - The founding director of PRL is K.R Ramanathan, an atmospheric scientist. Under his guidance the institute became the leading organisation of cosmic rays and space sciences.
 - He is the founding director of Indian institute of Management (IIM), Ahmedabad. In 1961, with the help of businessman Kasturbhai Lalbhai he set up an institute of learning.
 - He played a crucial role in establishing the Centre for Environmental Planning and Technology University (CEPT University) in Ahmedabad in 1962. University offers courses for undergraduate and postgraduate programs in subjects like architecture, planning and technology.
 - He established the Nehru Foundation for Development in 1965 which focus on the current problems of society and individual development.
 - He also established Vikram A. Sarabhai Community Science Centre (VASCSC) in 1960s with an aim to promote science and mathematics education among students and general public.
 - Dr, Homi Bhabha always supported Vikram Sarabhai in most of his projects and was the pioneer in the field of nuclear research in India. Not only this Bhabha helped Vikram Sarabhai in setting up the first rocket launching station at Thumba on the coast of the Arabian Sea. On 21 November, 1963, the inaugural flight was launched.
 - He was also the chairman of the Atomic Energy Commission.
 - The most significant contribution of Vikram Sarabhai is in establishing the Indian Space Research Organisation (ISRO) in 1969. The objective behind establishing it is to advance the space technology and apply it for national benefits.
- Major work of Vikram Sarabhai is to establish ISRO and contributed immensely in the field of science. He is regarded as the Father of the Indian Space Program. Eventually, ISRO became the largest government space agency in the world.

-ROHIT PAWAR
(NEWSCASTER)

REF: <https://m.jagranjosh.com/general-knowledge/vikram-sarabhai-1565439068-1>

ADVERTISEMENT

HOW BRANDS TOOK CHANDRAYAAN 2 TO MOON.

July 25, 2019



Indian Space Research Agency (ISRO) launched its lunar mission to the moon named Chandrayaan 2. The spacecraft was launched at 2.43 p.m. from Satish Dhawan Space Centre, SHAR, in what was the GSLV-MK III's first operational flight. And as Indian celebrated the big move, brands too utilised the moment to talk about. Here is a look at how brands captured the moment.

AMUL

The dairy products brand has spoken to Indian audiences on topical issues for decades. It celebrated the success of Chandrayaan 2 launch with an ad featuring the country's most powerful rocket, GSLV MK-III and ISRO's chief K Sivan. The cartoon also featured ISRO's Vikram lander and Pragyan Rover that are to land on the Moon's surface soon.

KFC India

The quick-service restaurant brand showcased a piece of chicken, shaped like a rocket, from its popular bucket lit by fire. The creative perfectly delved into the situation pushing the tagline 'Finger licking good' making KFC a part of the overall discussion on the social media platforms.

Parle G

The brand that calls itself as Desh ka Biscuit took no time in congratulating the country on such a big feat. Its creative features the iconic mascot who is proud of the country's first home-grown lunar spacecraft.

Vicks

A popular brand to heal sore throats launched a quirky creative that tied the germs to the frontend of Chandrayaan 2 and sent them outside the world. The creative ran 'Blast Kich Kich Out of the World'. The brand used the pun effectively to congratulate the country and send its brand message.

Kurkure

The chips brand from the house of Pepsico released a creative stating #Khyaaltohchatpatahai

KSHITIJA CHAVAN
(NEWSCASTER)

Ref: (<https://brandequity.economicstimes.indiatimes.com/news/advertising/how-brands-took-chandrayaan-2-to-moon/70371748>)

HOW TARGETED DIGITAL ADVERTISING IS IMPERATIVE FOR SMALL BUSINESS TODAY.

Updated: February 02, 2020, 11:50 IST

Advertising technologies are doing their best to adhere to this profound change by adapting to a cohesive system to target their audience. Keeping that in mind, companies have ventured and capitalized on online videos to build a close-knit community...



Amitt Sharma, founder and CEO, VDO.AI.

Dynamic consumer behaviour towards content consumption is making a substantial change in the industry today. A brand's target audience has shifted from the traditional advertising ecosystem to online platforms for consuming content.

This has opened new possibilities to gain a vast target audience, develop a decent social presence, and leverage the credibility of well-established publishers. The use of A.I. has augmented more possibilities; the use of video analytics to enhance recall and get the right target audience is very pertinent today. Even in the post-production stage, the use of algorithms to fabricate personalized videos/versions of the same footage is easily achieved.

Video content can be stretched in length for a feature video, short for a quick video, fabricated for advertising and streaming, and curated for the viewers to be informed, educated, or entertained.

•Video versatility

Video content can be stretched in length for a feature video, short for a quick video, fabricated for advertising and streaming

•Budget friendly

The money invested in the creation of online video content is much lower than what the traditional mediums cost

•Re-enact consistency

The scope of online videos is irrefutable as it ensures consistency of new content deep rooted by the current business scenarios.

•Digital divergence of audience

The majority of the population today is equipped with Smartphone and Internet connectivity and 46 per cent consumers watch and prefer videos on social media.

Advertising Technologies augmenting change the billboard strategy will only take you so far, advertising technologies are the way to the future.

SOURCES :BRANDEQUITY.COM

SHRUTI BHASKAR AMIN
(NEWSCASTER)

Ref: (<https://brandequity.economicstimes.indiatimes.com/news/marketing/how-targeted-digital-advertising-is-imperative-for-small-businesses-today/73864602>)

SCIENCE AND SPACE

MISSION MANGAL (INDIA'S FIRST MARS ORBITER MISSION)



The Mars Orbiter Mission probe lifted-off from the First Launch Pad at Satish Dhawan Space Centre (Sriharikota Range SHAR), Andhra Pradesh, using a Polar Satellite Launch Vehicle (PSLV) rocket C25 at 09:08 UTC on 5 November 2013. The launch window was approximately 20 days long and started on 28 October 2013. The MOM probe spent about a month in Earth orbit, where it made a series of seven apogee-raising orbital manoeuvres before trans-Mars injection on 30 November 2013 (UTC) After a 298-day transit to Mars, it was put into Mars orbit on 24 September 2014.

The mission is a "technology demonstrator" project to develop the technologies for designing, planning, management, and operations of an interplanetary mission. It carries five scientific instruments The spacecraft is currently being monitored from the Spacecraft Control Centre at ISRO Telemetry, Tracking and Command Network (ISTRAC) in Bengaluru with support from the Indian Deep Space Network (IDSN) antennae at Bengaluru, Karnataka.

On 23 November 2008, the first public acknowledgement of an uncrewed mission to Mars was announced by then-ISRO chairman G. Madhavan Nair. The MOM mission concept began with a feasibility study in 2010 by the Indian Institute of Space Science and Technology after the launch of lunar satellite Chandrayaan-1 in 2008. Prime Minister Manmohan Singh approved the project on 3 August 2012, after the Indian Space Research Organisation completed ₹125 crore (US\$18 million) of required studies for the orbiter. The total project cost may be up to ₹454 crore (US\$64 million).[12][31] The satellite costs ₹153 crore (US\$21 million) and the rest of the budget has been attributed to ground stations and relay upgrades that will be used for other ISRO projects.

The space agency had planned the launch on 28 October 2013 but was postponed to 5 November following the delay in ISRO's spacecraft tracking ships to take up pre-determined positions due to poor weather in the Pacific Ocean.

Team:

Some of the scientists and engineers involved in the mission include:[39]

Mylswamy Annadurai was the Programme Director and in charge of budget management as well as direction for spacecraft configuration, schedule and resources.

S Ramakrishnan was a Director who helped in developing the liquid propulsion system of the PSLV launcher.

P. Kunhikrishnan was a Project Director in the PSLV programme. He was also a Mission director of PSLV-C25/Mars Orbiter Mission.

Moumita Dutta was the Project manager of the Mars Orbiter Mission.

Nandini Harinath was the Deputy Operations Director of Navigation.

MANSI PARAG SIKCHI
(NEWSCASTER)
REF : www.isro.com

INFORMATION TECHNOLOGY

IN FIRST MISSION IN 2021, ISRO TO LAUNCH BRAZILIAN, INDIAN STARTUP SATELLITE



India's space agency ISRO will launch Brazilian satellite Amazonia-1 and 20 other payloads, including one built by an Indian start-up on February 28. This will be the first space mission in 2021 by Bengaluru-headquartered Indian Space Research Organization. The launch is scheduled to take place at 10.23 am from Satish Dhawan Space Centre (SDSC) SHAR in Sriharikota. ISRO Chairman K Sivan had earlier described the upcoming mission as beginning of "new era of space (sector) reforms" and called it "special for us, special for the entire country". PSLV-C51 (mission) is going to be a first of its kind in the country. It is going to initiate a new era of space reforms in India and I am sure that these private people will take this activity further and provide services for the entire country," K Sivan said.

All you need to know about the PSLV-C51/Amazonia-1 mission:

1. PSLV-C51/Amazonia-1 is the first dedicated commercial mission of New Space India Limited (NSIL), a Government of India company under Department of Space.
2. NSIL is undertaking this mission under a commercial arrangement with Spaceflight Inc.USA.
3. Amazonia-1 is the optical earth observation satellite of National Institute for Space Research (INPE).
4. This satellite would further strengthen the existing structure by providing remote sensing data to users for monitoring deforestation in the Amazon region and analysis of diversified agriculture across the Brazilian territory, the ISRO said.
5. The 20 co-passenger satellites include one from ISRO (INS-2TD), 'Anand', 'Satish Dhawan' satellite and 'UNITY sat'.
6. Amazonia-1 is the primary payload on board ISRO's PSLV (Polar Satellite Launch Vehicle) rocket.
7. 'Anand' is built by Indian space startup, Pixxel, and 'Satish Dhawan Satellite' by Chennai-based Space Kidz India.
8. UNITY sat is a combination of three satellites designed and built as a joint development by Jeppiaar Institute of Technology, Sriperumpudur (JITsat), G.H.Raisoni

AJAY LOVEKAR
(NEWSCASTER)

REF:<https://www.indiatoday.in/science/story/isro-first-mission-2021-pslv-c51-isro-launch-brazilian-indian-startup-satellite-1766394-2021-02-05>

ISRO WILL TRANSFORM IN 2021 AS INDIA PUMPS BIG MONEY TO DRAW IN START FOR THE 'SECOND SPACE AGE'



The Indian Space Research Organization (ISRO) is on the road to transforming itself from an end-to-service provider for India's space programme into a facilitator. The latest budget allocation is a signal that the Indian government is serious about giving private players a serious role in the 'second space age'. Despite the cash crunch caused by the COVID-19 pandemic, India did not cut back on the money for the space programme. In fact, the outlay increased by 3.5%. More importantly, bulk of the funds will be routed to a new entity, New Space India Limited (NSIL). NSIL, the commercial arm ISRO saw a 138 times jump in allocation. The money that earlier went from the Department of Space (DoS) to ISRO, will now be routed to NSIL, which will then authorize the participation of private players.

"That means that the government is super serious about commercializing whatever IP (intellectual property) it has under its kitty and just monetizing that. It's a departure from the mindset of yesteryears where ISRO was only there to cater to the government's requirements," Chaitanya Giri, space policy expert and fellow with think tank Gateway House, told Business Insider. The push for private sector participation in the space sector is a strategic necessity, according to Giri. "For our commercial sector to get started on this front, it will need governmental space agency ISRO to get things done at its end first," he points out. India's edge in the global market was its ability to keep things cheap. The advantage has been diluted by emerging companies like Elon Musk's SpaceX, which made launching satellites more competitive.

Its Crew Dragon capsule is another indication that the second space age will be run by the commercial sector. "They will be building the rockets, launch services, building space capsules and providing logistics," explained Giri

AJAY LOVEKAR
(NEWSCASTER)

REF:businessinsider.in/science/space/news/isro-will-transform-in-2021-as-india-pumps-big-money-to-draw-in-startups-for-the-second-space-age/articleshow/80683054.cms

ACADEMICS

INDIA'S SPACE TECHNOLOGY PLAYS KEY ROLE IN VARIETY OF SECTORS



The Indian Space Research Organisation (ISRO) has launched more than 70 satellites since the space programme was set up in 1969 “for various scientific and technological applications”, including “mobile communications, meteorological observations, telemedicine, tele-education, disaster warning, radio networking, search and rescue operations, remote sensing and scientific studies of the space”.

The satellites are also used for “telemedicine”, connecting speciality hospitals in India’s major cities to hundreds of hospitals in rural and remote areas of the country, as well 18 mobile units with satellite dishes that link it up to the system. “India has established space systems that form an important element of the national infrastructure,” the ISRO says. It adds India also has “the world’s largest constellation of remote sensing satellites”.

“India’s first spacecraft mission to the Moon, Chandrayaan-1, was successfully launched on October 22, 2008. The mission resulted in the discovery of water molecules on the surface of Earth’s nearest neighbour. India was the fourth single country to send a probe to the Moon.

Through its first Mars mission, launched on November 5, India is hoping to gather data on the Red Planet’s weather systems as well as searching for methane. India has established a strong infrastructure for realising its space programme,” the ISOR says.

“They include facilities for the development of satellites and launch vehicles and their testing; launch infrastructure for sounding rockets and satellite launch vehicles; telemetry, tracking and command network; data reception and processing systems for remote sensing.

“A number of academic and research institutions as well as industries participate in the Indian space Programme. Several Indian industries have the expertise to undertake sophisticated jobs required for space systems.”

It seems the country is not merely shooting at the Moon.

SANEHA JATAV

(NEWSCASTER)

REF:<https://www.thenationalnews.com/business/india-s-space-technology-plays-key-role-in-variety-of-sectors-1.289199>

SPACE SCIENCE AND EXPLORATION



Indian Space programme encompasses research in areas like astronomy, astrophysics, planetary and earth sciences, atmospheric sciences and theoretical physics. Balloons, sounding rockets, space platforms and ground-based facilities support these research efforts. A series of sounding rockets are available for atmospheric experiments. Several scientific instruments have been flown on satellites especially to direct celestial X-ray and gamma-ray bursts.

ASTROSAT

AstroSat is the first dedicated Indian astronomy mission aimed at studying celestial sources in X-ray, optical and UV spectral bands simultaneously. The payloads cover the energy bands of Ultraviolet (Near and Far), limited optical and X-ray regime (0.3 keV to 100keV). One of the unique features of AstroSat mission is that it enables the simultaneous multi-wavelength observations of various astronomical objects with a single satellite.

MARS ORBITER MISSION

Mars Orbiter Mission is ISRO’s first interplanetary mission to planet Mars with an orbiter craft designed orbit Mars in an elliptical orbit of 372 km by 80,000 km. The primary driving technological objective of the mission is to design and realize a spacecraft with a capability to perform Earth Bound Manoeuvre (EBM), Martian Transfer Trajectory (MTT) and Mars Orbit Insertion (MOI) phases and the related deep space mission planning and communication management at a distance of nearly 400 million Km.

CHANDRAYAAN – 1

Chandrayaan-1, India’s first mission to Moon, was launched successfully on October 22, 2008 from SDSC SHAR, Sriharikota. The spacecraft was orbiting around the Moon at a height of 100 km from the lunar surface for chemical, mineralogical and photo-geologic mapping of the Moon. The spacecraft carried 11 scientific instruments built in India, USA, UK, Germany, Sweden and Bulgaria.

CHANDRAYAAN – 2

Chandrayaan-2 will be an advanced version of the previous Chandrayaan-1 mission to Moon. Chandrayaan-2 is configured as a two module system comprising of an Orbiter Craft module (OC) and a Lander Craft module (LC) carrying the Rover developed by ISRO.

VISHAKHA GAIKWAD

(NEWSCASTER)

REF:<https://www.isro.gov.in/spacecraft/space-science-exploration>

MEDIA

ISRO: THE INDIAN SPACE RESEARCH ORGANIZATION



The Indian Space Research Organization (ISRO) is India's national space agency. India has been steadily building its launching and exploration capabilities for decades. ISRO's roots stretch back to 1962, when India's first prime minister, Jawaharlal Nehru, enlisted physicist Vikram Sarabhai to set up the Indian National Committee for Space Research (INCOSPAR). Sarabhai is known as the founding father of India's space program because of this effort.

India's first rocket launch flew from Saint Mary Magdalene Church in the fishing village of Thumba in Thiruvananthapuram, Kerala, on Nov. 21, 1963. The sounding rocket, which only reached sub-orbital space, was called Nike-Apache and its components were built by NASA. The payload was famously transported to the launch site by bicycle, according to an article in India Today. ISRO now refers to the church as the Mecca of Indian rocket science.

INCOSPAR was superseded by ISRO in 1969. Six years later, the country launched its first satellite, called Aryabhata, into orbit aboard a Soviet rocket. Named for an ancient Indian astronomer, Aryabhata conducted experiments in X-ray astronomy and solar physics, though it ceased to function after only a few days in space.

In 1979, ISRO conducted the first tests of its own homegrown orbital rocket, the Satellite Launch Vehicle-3 (SLV-3). The four-stage vehicle was capable of placing payloads up to 88 lbs. (40 kilograms) into orbit. SLV-3 successfully launched for the first time on July 18, 1980, making India the sixth nation to achieve spaceflight. It carried the Rohini-1 satellite, an experimental satellite developed to test components that could be used in space.

The first and so far, only Indian astronaut is Rakesh Sharma, an Indian Air Force pilot who flew with two Russian cosmonauts to the Soviet space station Salyut 7 in 1984. Sharma prepared for his time in microgravity with specialized yoga exercises, according to the Indian history section of Space Today. He also conducted multispectral photography of the northern region of India in preparation for construction of hydroelectric power stations in the Himalayas during his time in orbit.

ISRO has conducted robotic missions to other worlds in our solar system. In 2008, the agency sent the Chandrayaan-1 orbiter to the moon. The probe, whose name means "moon craft" in ancient Sanskrit, was about the size of a refrigerator and helped discover evidence of water molecules on the moon. Five years later, ISRO flew the Mars Orbiter Mission, nicknamed Mangalyaan or "Mars craft," to the Red Planet. The vehicle successfully reached Mars in 2014, making India's space agency just the fourth entity to place a spacecraft in Martian orbit. The mission was completed at a record-low cost of \$74 million.

The agency is gearing up for its next lunar mission, Chandrayaan-2, expected to launch later this year. Chandrayaan-2 will consist of a lunar orbiter, which will map the moon from an altitude of 62 miles (100 kilometers), and a lander, which is expected to touch down near the lunar south pole and deploy a small rover. If the mission succeeds, India will become either the fourth or fifth country to achieve a soft landing on the moon, following the U.S., Soviet Union, China, and, perhaps, Israel. (The Israeli lunar lander, Beresheet, is on its way to the moon now, and is expected to touch down on April 11.)

India is aiming to become one of the few nations to send humans into space using their own rockets. On Aug. 15, 2018, Indian prime minister Narendra Modi announced that the country expects its first crewed flight in 2022. ISRO's human spaceflight program has been allocated the equivalent of \$1.3 billion to achieve this task under a scheduled series of missions called Gaganyaan.

"Our country has made great progress in space," Modi said during a speech on Aug. 15, 2018, to mark the country's Independence Day, according to a translation by the Planetary Society, a nonprofit space science organization. "But our scientists have a dream. By 2022, when it would be 75 years of independence, an Indian — be it a man or a woman — will go to space with the tricolor flag in their hands."

Advertisement

U.S. spacefarers are known as astronauts, while Russian ones are referred to as cosmonauts. The Chinese equivalents have been dubbed taikonauts. So, what will Indian astronauts be known as? According to an article in Scientific American, they will be called vyomanauts, from the Sanskrit word "Vyoma," meaning "sky."

VISHAKA IPTE
(NEWSCASTER)

REF: - <https://www.space.com/indian-space-research-organization.html>

SWEDEN JOINS INDIA'S VENUS MISSION WITH INSTRUMENT TO EXPLORE PLANET



Sweden is getting on board India's Venus orbiter mission "Shukrayaan" with a scientific instrument to explore the planet. Ambassador of Sweden to India, Klas Molin said Swedish Institute of Space Physics (IRF) is engaged in the venture, its second collaborative project with the Indian Space Research Organisation (ISRO).

"IRF's satellite instrument Venusian Neutrals Analyzer (VNA) will study how the charged particles from the Sun interact with the atmosphere and exosphere of the planet", he told PTI.

"The new Venus mission means that the collaboration between IRF and ISRO continues".

The VNA would be the ninth generation of IRF's series of miniaturized ion and ENA (Energetic Neutral Atoms) instruments, according to Swedish officials.

On collaboration in general with India in the field of space, Molin said Sweden has quite a lot to provide, both from its institutions and from space tech companies. He said India has a clear ambition to explore the universe, other planets and to send humans to space. "This segment includes to a large extent R&D effort, both regarding space technologies and services."

Scientific objectives of ISRO's Venus mission are investigation of the surface processes and shallow subsurface stratigraphy; and solar wind interaction with Venusian Ionosphere, and studying the structure, composition and dynamics of the atmosphere, according to ISRO.

"The unique Space Tech Testbed capability at Esrange can also carry out even more advanced tests of equipment and technologies that should be used in exploration campaigns", Molin said. On future prospects in the space field between the two countries, the Ambassador noted that India has recently created National Space Promotion and Authorization Centre (IN-SPACe) to provide a level playing field for private companies to use Indian space infrastructure.

This is part of reforms aimed at giving a boost to private sector participation in the entire range of space activities, he said. "The future is exciting as India is opening the space market for commercial player participation and easing import-export restrictions, including 100 per cent FDI allowed in satellite development and deployment. It is important to underline that ISRO will remain as the main Indian customer in the coming years, but the market growth could be exponential", Molin said.

VEDANG KHOPKAR
(NEWSCASTER)
REF : gadgets.ndtv.com

ARTS & HISTORY

HISTORY OF INDIAN ASTRONOMY



Indian astronomy has a long history stretching from prehistoric to modern times. Some of the earliest roots of Indian astronomy can be dated to the period of Indus Valley Civilization or earlier. Astronomy later developed as a discipline of Vedanga or one of the “auxiliary disciplines” associated with the study of the Vedas, dating 1500 BCE or older. The oldest known text is the Vedanga Jyotisha, dated to 1400–1200 BCE (with the extant form possibly from 700 to 600 BCE).

Some of the earliest forms of astronomy can be dated to the period of Indus Valley Civilization, or earlier. Some cosmological concepts are present in the Vedas, as are notions of the movement of heavenly bodies and the course of the year. As in other traditions, there is a close association of astronomy and religion during the early history of the science, astronomical observation being necessitated by spatial and temporal requirements of correct performance of religious ritual. Thus, the Shulba Sutras, texts dedicated to altar construction, discusses advanced mathematics and basic astronomy. Vedanga Jyotisha is another of the earliest known Indian texts on astronomy, it includes the details about the Sun, Moon, nakshatras, lunisolar calendar.

The divisions of the year were on the basis of religious rites and seasons (Rtu). The duration from mid March—mid May was taken to be spring (vasanta), mid May—mid July: summer (grishma), mid July—mid September: rains (varsha), mid September—mid November: autumn (sharad), mid November—mid January: winter (hemanta), mid January—mid March: the dews (shishir).

**SWARANGI RANE
(NEWSCASTER)
REF:- Wikipedia.in**

INDIAN SPACE RESEARCH ORGANISATION



The Indian Space Research Organisation is the national space agency of the Republic of India, headquartered in Bengaluru. It operates under the Department of Space (DOS) which is directly overseen by the prime minister of India while chairman of ISRO acts as executive of DOS as well. ISRO is the primary agency in India to perform tasks related to space based applications, space exploration and development of related technologies.[6] It is one of six government space agencies in the world which possess full launch capabilities, deploy cryogenic engines, launch extraterrestrial missions and operate large fleets of artificial satellites

The Indian National Committee for Space Research (INCOSPAR) was established by Jawaharlal Nehru under the Department of Atomic Energy (DAE) in 1962, with the urging of scientist Vikram Sarabhai recognising the need in space research. INCOSPAR grew and became ISRO in 1969, also under the DAE. In 1972, the Government of India had set up a Space Commission and the Department of Space (DOS), bringing ISRO under the DOS. The establishment of ISRO thus institutionalised space research activities in India. It is managed by the DOS, which reports to the Prime Minister of India.

ISRO built India’s first satellite, Aryabhata, which was launched by the Soviet Union on 19 April 1975. It was named after the mathematician Aryabhata. In 1980, Rohini became the first satellite to be placed in orbit by an Indian-made launch vehicle, SLV-3. ISRO subsequently developed two other rockets: the Polar Satellite Launch Vehicle (PSLV) for launching satellites into polar orbits and the Geosynchronous Satellite Launch Vehicle (GSLV) for placing satellites into geostationary orbits. These rockets have launched numerous communications satellites and Earth observation satellites. Satellite navigation systems like GAGAN and IRNSS have been deployed. In January 2014, ISRO used an indigenous cryogenic engine CE-7.5 in a GSLV-D5 launch of the GSAT-14.

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REF :- WIKIPEDIA.IN**

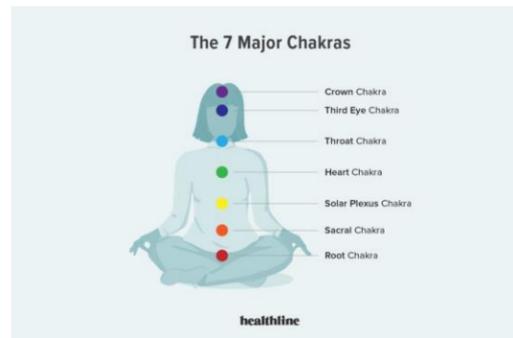
LIBRARY

VIBRATIONAL ENERGY AND OUR BODY

You are a living energy field. Your body is composed of energy-producing particles, each of which is in constant motion. So, like everything and everyone else in the universe, you are vibrating and creating energy.

The field of vibrational medicine, sometimes called energy medicine Trusted Source, seeks to use the vibrational energy generated by and around your body to optimize your health.

To many people, the concept of energy fields in the body may sound more spiritual than medicinal.



More research must be done to understand how electrical and magnetic energy in the body stimulate chemical processes. But there's growing evidence that these energies can be used to influence your health outcomes.

Here's what we know so far.

Vibrations are a kind of rhythm. Rhythms happen on a grand scale, like seasonal changes and tidal patterns. They also happen within your body.

Heartbeats, breathing rates, and circadian rhythms are examples of physiological rhythms we can see, feel, and measure.

But there are much smaller vibrations happening in your body, too. Inside each one of your cells, molecules vibrate at characteristic rates.

Using atomic force microscopes, researchers have detected vibrations on the nanoscale — much smaller than 1/1000th the diameter of a single human hair.

These vibrations generate electromagnetic energy waves Trusted Source. Researchers have found that vibrations and the electromagnetic energy associated with them cause changes in your cells, which can then affect how your body functions. Different molecules vibrate at different rates and those rates can speed up or slow down if conditions around the molecules change. Temperature, for example, can change the speed of a molecule's vibration.

What are the benefits of vibrational energy?

A growing body of research suggests that there's a strong connection between your mind and your body.

It isn't yet understood how vibrational energy fits into the relationship between the two. Proponents think you may be able to change your body's vibrations to:

alter your mood

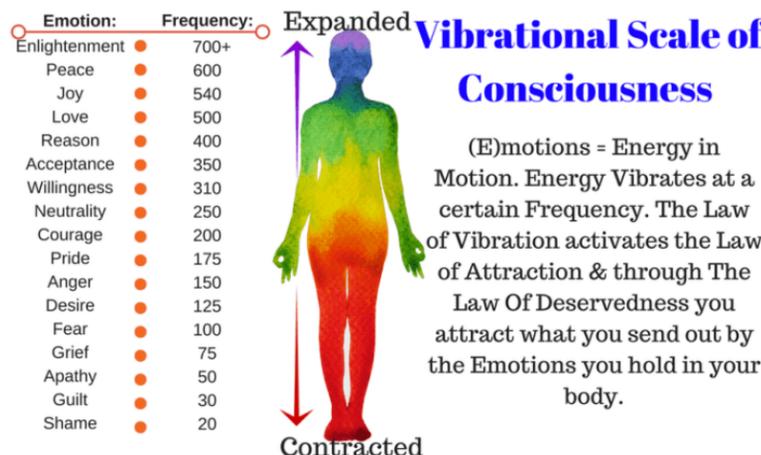
improve your physical health

help you achieve your goals and intentions

Vibrational energy experts claim that certain emotions and thought patterns, such as joy, peace, and acceptance, create high frequency vibrations, while other feelings and mindsets (such as anger, despair, and fear) vibrate at a lower rate.

There isn't much scientific evidence to support this correlation. But there is plenty of evidence linking positive emotions and thinking patterns to better health and greater goal achievement.

Researchers Trusted Source are finding that vibrations of many kinds — electromagnetic, sound, and light — can be used to encourage healing and stimulate growth in the body.



NEHA BHADDEKAR
(NEWSCASTER)

REFERENCE:- www.healthline.com

STUDENT'S SECTION

How To Become A Space Scientist in ISRO?

To assist you better in achieving your space science dream, we have touched the areas of ISRO jobs, courses in space science after 12th and space science colleges in India. How to plan a career in space science after class 12th ?

If you've decided to take up a career in space science, it is advised to start early after Class 10. Candidates should choose PCM (Physics, Chemistry and Mathematics) at Class 12 and B.Tech/B.E. in disciplines such as Electronics, Electrical, Mechanical and Computer Science. One can also take up a science degree such as bachelors' in Mathematics, Physics and Astronomy and should go for a masters degree in the discipline. A PhD in Physics and Mathematics is an added advantage

Course in space science after 12th

B.Tech in Aerospace Engineering B.Tech in Avionics Engineering
B.Tech+M.S./M.Tech (B.Tech. in Engineering Physics + M.S. in Solid State Physics, Astronomy, Earth System Science/ M.Tech. in Optical Engineering) M.Tech in Electronics, Electrical, Mechanical and Computer Science PhD in relevant disciplines

How to get job in ISRO ?

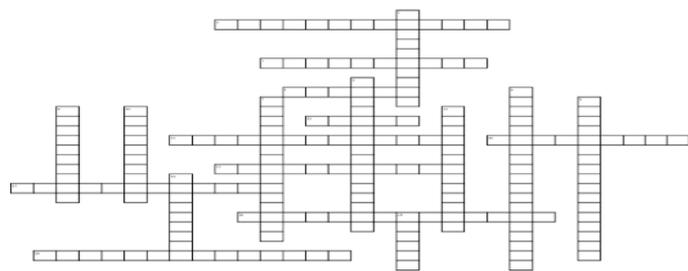
The recruitment to ISRO is conducted by a Centralised Recruitment Board. Candidates can find ISRO jobs under the 'Careers' tab on the ISRO official website. One who meets the eligibility conditions set by ISRO can apply for jobs. The selection will be made through a written examination and an interview. ISRO also recruits candidates directly through campus placements from pioneer institutes in the country such as the IITs and IISc, to name a few.

Rasvita Rane
(Newscaster)

Ref: www.careerindia.com

CROSSWORD PUZZLE

Famous Mathematicians



- Across**
2. Famous French mathematician, physicist, and philosopher.
 3. French-Hungarian American mathematician and computer scientist.
 4. The country where most famous mathematicians come from.
 12. Greek philosopher and founder of the Academy of Athens.
 13. American mathematician best known for their work on decision problems and Hilbert's tenth problem.
 14. A famous mathematician who was born in Pisa, Italy in about 1170.
 15. German mathematician who invented set theory.
 17. French mathematician and physicist.
 18. French lawyer at the Parlement of Toulouse, France.
 20. English polymath, mathematician, philosopher, inventor and mechanical engineer.
- Down**
1. Greek mathematician, physicist, engineer, inventor, and astronomer.
 4. First African American scientist, inventor and farmer.
 6. Greek mathematician, astronomer, and philosopher in Egypt.
 8. American inventor who developed an electromechanical punched card tabulator.
 9. The mathematical sequence in which any number in the sequence is the sum of the two previous numbers.
 10. An Indian Greek philosopher and mathematician.
 16. Free-Socratic Greek philosopher of Magna Graecia.
 11. Swiss mathematician, physicist and astronomer.
 19. Hungarian mathematician known both for their social practice of mathematics and for their eccentric lifestyle.
 21. Greek mathematician, often referred to as the "father of geometry".

Rasvita Rane
(Newscaster)

Ref :- www.wordmint.com

PHOTOGRAPHY BY STUDENT



Sudarshan Chandrashekhar
Tybms

QUIZ

- Q.1. India's first satellite Aryabhata was launched from
A) Soviet Union
B) America
C) India
D) Israel
- Q.2. First satellite to be placed in orbit by Indian made launch vehicle SLV-3
A) Aryabhata
B) Rohini
C) Bhaskara-1
D) INSAT
- Q.3. Total number of satellite launched by India till now
A) 80
B) 93
C) 102
D) 118
- Q.4. India's first satellite Aryabhata launched by India in the year
A) 1972
B) 1980
C) 1978
D) 1975
- Q.5. who is known as the father of Indian space program
A) CV Raman
B) Vikrama Sarabhai
C) APJ Kalam
D) Satish Dhawan
- Q.6. First mobile phone conversion take place in India between
A) jyoti Basu and sukham
B) Narasimbha Roa and sukham
C) Ambika soni and Narasimbha Roa
D) None of the above
- Q.7. Internet in India was started by VSNL in the year
A) 15th August, 1992
B) 15th August, 2000
C) 15th August, 1995
D) 26th August, 1997
- Q.8. Most Recent Indian citizen scientist that won a Nobel prize in 2009
A) VS Naipaul
B) V Ramakrishnan
C) Amartyan Sen
D) Mother Teresa
- Q.9. First nuclear plant in India
A) Tarapur, Maharashtra
B) Rawatbhata, Rajasthan
C) Narora, Uttar Pradesh
D) Kakrapur, Gujrat
- Q.10. First nuclear reactor made in India
A) CIRCUS
B) Dhruva
C) KAMINI
D) Apsara

Rasvita Rane
(Newscaster)

Ref: <https://www.gkduniya.com/science%20and%20technology>

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