



Vidya Vikas Education Trust

UNIVERSAL COLLEGE OF ENGINEERING

Near Bhajansons & Punyadham, Kaman Bhiwandi Road, Vasai, Palghar-401208.

DTE Code: 3460

Linguistic (Gujarati) Minority Institution

Approved by AICTE, DTE, University of Mumbai, Maharashtra, State Government

ASHTAG#

JANUARY 2020

APPLIED SCIENCES AND HUMANITIES DEPARTMENT

" We are what we repeatedly do.
Excellence, then, is not an act but a habit.
" – Aristotle

IT'S A **NEW** SEMESTER
IT'S A **CHANCE** TO START
OVER ↻

VISION

The Department of Applied Science and Humanities is committed to dynamically integrate the components of Science, Humanities and Engineering to groom students to transform them as globally acknowledged professionals.

MISSION

The department is carrying a mission to create and disseminate the knowledge and techniques in intellectual areas of Engineering and other core areas of Applied Science and Humanities for betterment of Eco system.

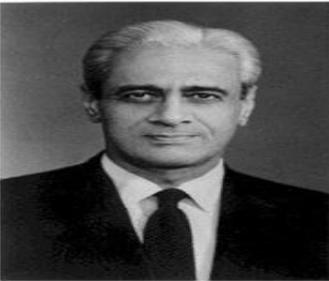
To inculcate the importance of Applied Science and develop a natural flair for Engineering and Technology which in turn shall mould students into a competent professional.

To be recognized for practicing the best teaching-learning processes to create highly competent, resourceful and self-motivated young Engineers for the benefit of the society.

Famous Engineers of India



Sir Mokshagundam Visvesvaraya was a notable Indian engineer, scholar, statesman and the Diwan of Mysore from 1912 to 1918. He was also awarded with Bharat Ratna, in 1955. He was the chief engineer responsible for the construction of Krishna Raja Sagara dam in North-West suburb of Mysuru city and chief engineer of flood protection system for the city of Hyderabad. His birthday September 15, is celebrated as Engineer's Day in India



Satish Dhawan was an Indian mathematician and aerospace engineer, widely regarded as the father of experimental fluid dynamics research in India. Dhawan was educated in India and further on in United States. Dhawan was one of the most eminent researchers in the field of turbulence and boundary layers, leading the successful and indigenous development of the Indian space programme. He was the third chairman of the Indian Space Research Organisation (ISRO).



APJ Abdul Kalam was an aerospace scientist who served as the 11th President of India. He spent four decades as a scientist and science administrator, mainly at the Defence Research and Development Organisation (DRDO) and Indian Space Research Organisation (ISRO). He came to be known as the *Missile Man of India* for his work on the development of ballistic missile and launch vehicle technology.

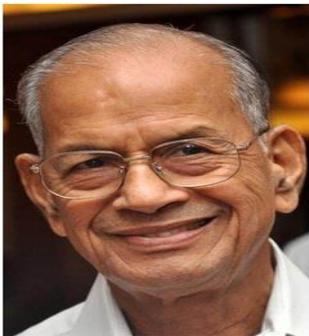


Verghese Kurien, known as the 'Father of the White Revolution' in India. He got a bachelor's degree in mechanical engineering and dairy engineering. His efforts made India the world's largest milk producer from a milk-deficient nation, which doubled milk available per person and increased milk output four-fold, in 30 years.

Famous Engineers of India



Nagavara Ramarao Narayana Murthy is an Indian IT industrialist and the co-founder of Infosys. Murthy has been listed among the 12 greatest entrepreneurs of our time by *Fortune* magazine. He has been described as the "father of the Indian IT sector" by Time magazine due to his contribution to outsourcing in India. He graduated from National Institute of Engineering with a degree in Electrical Engineering. After this he received his master's degree from the Indian Institute of Technology in Kanpur. Murthy founded Infosys in 1981 with an initial capital of Rs 10,000 or US\$ 250 and now it is US\$ 9.501 billion



Elattuvalapil Sreedharan is an Indian civil engineer and a retired IRSE officer popularly known as the "Metro Man". He is credited for changing the face of public transport in India with his leadership in building the Konkan Railway and the Delhi Metro. After completing his Civil Engineering degree from the Government Engineering College, Kakinada, Andhra Pradesh, presently known as JNTUK he went on to clear Indian Engineering Services Exam conducted by the UPSC.



Satya Narayana Nadella is an engineer and Indian American business executive. He is currently the chief executive officer (CEO) of Microsoft. He done his schooling from Hyderabad Public School, Begumpet. He earned his bachelor's degree in electrical engineering from the Manipal Institute of Technology. He also acquired an M.S. degree in computer science at the University of Wisconsin–Milwaukee.



Pichai Sundararajan also known as Sundar Pichai is an Indian American business executive, He earned his degree from Indian Institute of Technology Kharagpur in metallurgical engineering. He joined Google as a management executive in 2004. He rose to become the company's Product Chief, then Google's CEO in 2015. In December 2019, he additionally became CEO of Alphabet Inc. (parent company of Google)

Source: 1. <https://www.jagranjosh.com/articles/top-10-indian-engineers>
2. <https://en.wikipedia.org/wiki/India>

- Shivam Shukla

Technology in News

ISRO's satellite to study the Sun



Indian Space Research Organisation's (ISRO) Aditya-L1 mission, originally named as the Aditya-1 mission, is a satellite designed to study the solar corona (outer layers of the Sun) which is quite similar to NASA's Parker Solar Probe.

The satellite was conceived as a 400 kg class satellite carrying just one payload, the Visible Emission Line Coronagraph (VELC). It was planned to be launched in an 800 km low earth orbit. But, later, it was realised that a satellite placed in the halo orbit around the L1 point of the Sun-Earth orbit has the advantage of continuously viewing the Sun without any obstructions. Therefore, the mission was revised to be called as the Aditya-L1 mission.

The Aditya - L1 will be inserted in a halo orbit around the Lagrangian point 1 (L1), which is 1.5 million km from the Earth. The Aditya - L1 is set to launch during 2019-2020 timeframe by Polar Satellite Launch Vehicle (PSLV-XL) from Sriharikota, Andhra Pradesh. Lagrangian point is a point where the attraction by the Sun and the Earth becomes equal. The point doesn't experience gravitational force. If you put a satellite there, it won't get deflected, yet your captured data will be accurate. The satellite will perform additional experiments and will also observe the Sun's Photosphere and the Chromosphere.

The Aditya - L1 is set to launch during 2019-2020 timeframe by Polar Satellite Launch Vehicle (PSLV-XL) from Sriharikota, Andhra Pradesh. Aditya, which is the Sanskrit word for 'sun' -- will be ISRO's second high-profile space mission after it launched its Mars orbiter in 2013.

"With the inclusion of multiple payloads, this project also provides an opportunity to solar scientists from multiple institutions within the country to participate in space-based instrumentation and observations. Thus, the enhanced Aditya-L1 project will enable a comprehensive understanding of the dynamical processes of the sun and address some of the outstanding problems in solar physics," said ISRO on its website.

Source: <https://www.indiatoday.in/education-today/gk-current-affairs/story/aditya-l1-isro-s-satellite-study-sun-1317088-2018-08-17>

- Karthik Sankaraman

Technology in News

Indian scientist's work on nano material paves way for clean energy vehicle

Building an ultimate clean energy vehicle – one that combines atmospheric carbon dioxide with sunlight and water to produce fuel while leaving no harmful emissions – is a challenge that has boggled the minds of scientists for long. The work of an Indian scientist based in Australia on nano materials and his discovery of carbon nitrides with unique properties – has now seemingly laid the ground for finding a solution for the world's twin problems of pollution and fossil fuel depletion.



The research work of professor Ajayan Vinu, global innovation chair and director at the University of Newcastle, on nano materials has led to the development of technologies for conversion of carbon dioxide into fuel using sunlight and water and clean tech like sodium ion batteries to power electric vehicles. Impressed by the research work of the Indian origin nano materials scientist, the Indian defence ministry has now awarded a \$ 2 million research project to Professor Vinu to develop carbon nitride nano materials for a clean energy system requirement in the defence sector.

The materials needed for creating the carbon nitride nanomaterials for clean energy systems are low cost, can be prepared in large quantities and can be synthesized using chemical or molecular precursors, the scientist said

One of the future targets for research work for Prof Vinu is reduction of atmospheric carbon dioxide to methanol using the materials he has discovered. “Our planet has never experienced high concentration of CO₂ levels like it is experiencing now. Oceans may uptake 70 to 80 percent in the future but the remainder will remain in the atmosphere,” he said.

- Johnson T.A

Source: <https://indianexpress.com/article/technology/science/indian-scientists-work-on-nano-material-paves-way-for-clean-energy-vehicle-6201426/>

- Neha Shah

Technology in News

Walmart unveiled a new technology, called Alphabot, for its grocery business.



SALEM, New Hampshire — Walmart thinks it has a technological weapon that will enable it to pick, pack and deliver shoppers' online grocery orders faster as the company tries to strengthen its foothold as America's largest grocer.

The big-box retailer on Wednesday unveiled a platform called Alphabot which spans about 8,000 square feet and operates inside a roughly 20,000-square-foot space that looks like a mini warehouse and has been built onto the back of Walmart's Salem store. It took roughly two years to construct. Walmart isn't disclosing the cost of this technology or of the construction.

Alphabot uses autonomous carts to retrieve the shelf-stable foods, refrigerated items and frozen goods that people are ordering online. It can hold upward of 20,000 items, Walmart said. And the retailer is stocking its most popular grocery items — like cereals, frozen vegetables and peanut butters — there.

Once the carts have the items they're looking for, the Alphabot system sends them to the designated workstations, where a Walmart employee will then check the items to ensure the order is accurate, bag everything and finish the delivery.

Ultimately, Walmart says Alphabot will cut the time it takes to pick and pack an online grocery order, thereby allowing shoppers to order even more at the 11th hour. And they shouldn't have to wait as long after ordering to be able to pick it up. Walmart says there are other advantages — like the ability to collect and share data about groceries and shoppers' habits. It says Alphabot will be learning as it moves so that, over time, its "stocking will get more intelligent." Because of this, Walmart says it will be able to anticipate, for example, what a customer might want as a replacement if what they order is out of stock.

(PUBLISHED WED, JAN 8 2020 11:00 AM EST)

Source: <https://www.cnbc.com/2020/01/08/walmart-unveils-a-new-technology-for-its-grocery-business-alphabot.html>

- Aniket Patil

SMILE PLEASE

Researches have shown how people who smile and laugh, even when they are not in an elevated mood, stimulate a part in the brain's left hemisphere which relates to emotions of happiness. There is a well-known experiment conducted, to understand the influence of smile, in which one group is asked to hold a pencil between their lips and the second group is asked to hold it between their teeth. When the pencil is held by the lips it gives a frowning expression whereas holding it by the teeth gives a smiling expression. Both the groups were shown a funny picture. When their responses recorded it was seen that the group which held the pencil with their teeth found the picture to be funnier than the first group. This and many other researches have proved that producing smiles intentionally moves brain activity to spontaneous happiness. To put it simply, the more you smile, the more reasons to smile come your way.



Norman Cousins, author of the book 'Anatomy of Illness', was diagnosed a terminal illness and was told that he would have to suffer excruciating pain before he died. Cousins took a hotel room and watched funny movies and laughed as loudly as he could. After six months of this self-inflicted laugh therapy his doctors were amazed to find that he was completely cured of his illness. How did that happen? Laughter stimulates the endorphins- the body's natural pain killers and 'feel good' enhancers – which help in relieving stress and heal the body. It also helps in building the immune system of the body. This explains why happy people rarely get sick but complaining people often seem to be ill. A smile can not only heal you from diseases but also will help you handle stressful situations. So, whatever you do, do it with a smile.

People who are unhappy, angry, depressed, tensed or despondent is unknowingly pulling the corners of their mouth to show a down- mouth expression. If they hold these emotions frequently during their lifetime the corners of their mouth will set into a permanent down position giving an appearance of a bulldog. Studies have shown that people tend to avoid persons with a bulldog face and try to maintain a distance from them. On the contrary, it has also been proved that people are easily attracted to persons with a smiling face as they seem to be more friendly and approachable. So dear friends take a chill pill and look happy and feel happy.

Advantages of smiling does not end here there are many more of it. The Benefits for smiling are easily available net to those who want more reasons to smile

- Marina Thomas

Congratulations!!!

To Mr. Shivam Shuka, Head of Applied Sciences and Humanities for completing a QIP short term course on “FEM Simulation in Metal Forming: Formulation and Practical Implementation” conducted by IIT Bombay



Indian Institute of Technology Bombay

Continuing Education &
Quality Improvement Programmes (CE & QIP)

CERTIFICATE

This is to certify that

Shivam Mahendra Shukla

has participated in the AICTE Sponsored one-week QIP Short Term Course on
FEM Simulations in Metal Forming: Formulation and Practical Implementation
conducted by IIT Bombay during December 9 - 13, 2019

Preeti Rao

Prof. Preeti Rao

Professor-In-Charge (CE & QIP)



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Prashant Date

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