BUDGE BUDGE INSTITUTE OF TECHNOLOGY

MECHAZINE

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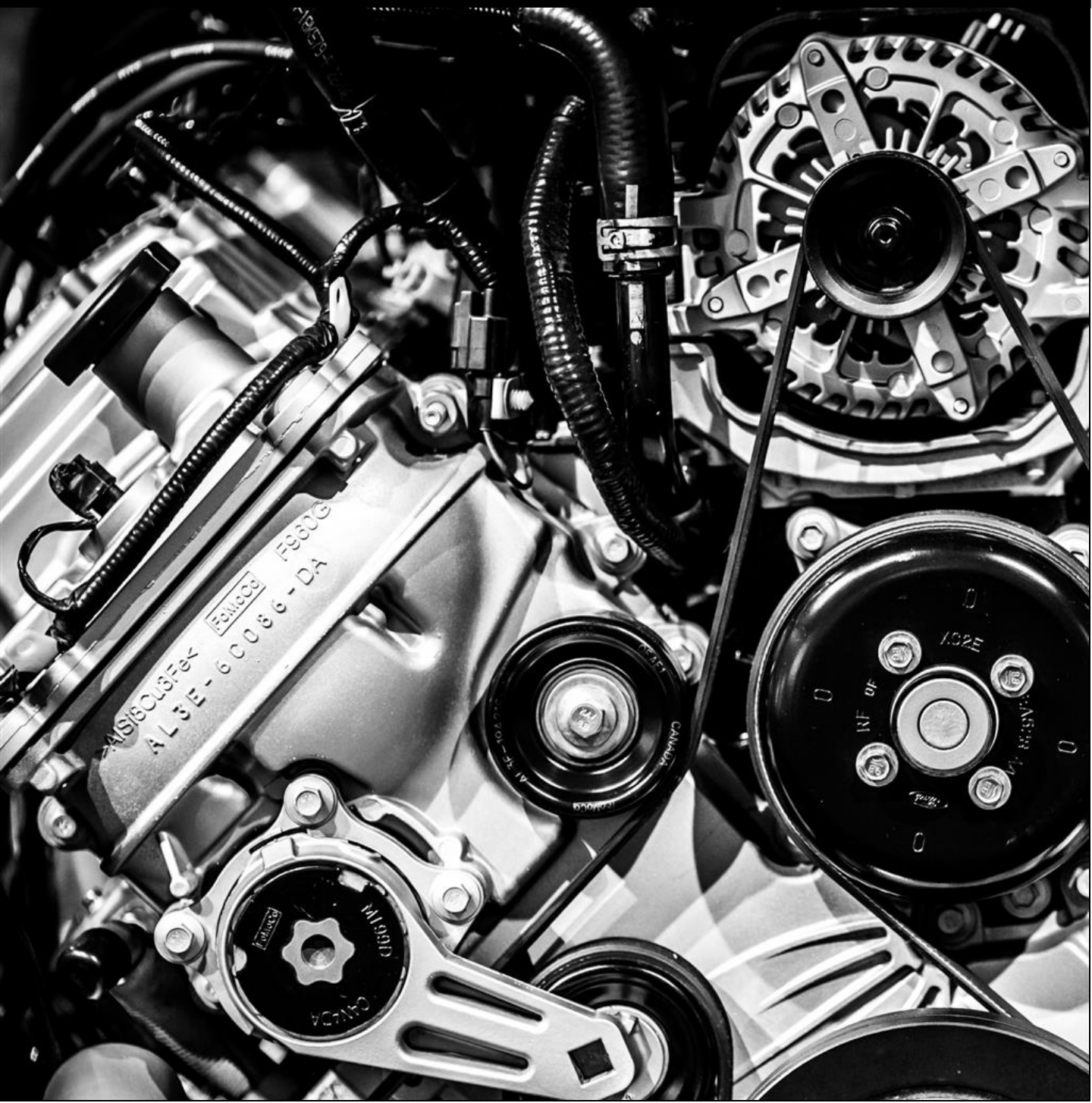

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DEPARTMENTAL e-MAGAZINE FOR ACADEMIC YEAR 2018-19

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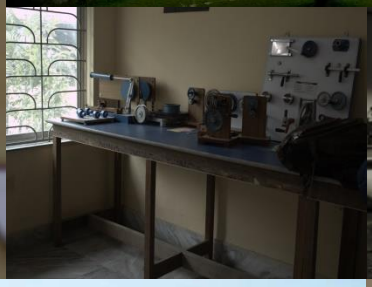



ENGINEERING


MECHANICAL
NBA
EVOLUTION

Shri Jagannath Gupta
Chairman, BBIT

It gives me immense pleasure to welcome each of you in our family at Budge Budge Institute of Technology for quite some time have been feeding the absence of an advanced learning centre in this region to meet the growing needs of our nation. We can achieve this together by the commitment towards the sacred body of knowledge. On behalf of the Institute, I want to assure you that our efforts shall always be to cater the nation with the best possible technical education through our highly qualified and competent faculties and associates from reputed organizations like I.I.T., N.I.T., C.U., J.U., B.E.S.U. etc. I strongly believe, with the passage of time, we will be able to provide you with education of international standards. We feel proud in associating ourselves with not only you , but also your parents, who have critical contributors towards your success until now. Let me take this opportunity to remind each of you that what yesterday your parent's dream, is your vision for tomorrow. The pursuit of knowledge and excellence shall always reign supreme, and should always remain unfettered, irrespective of one's caste, creed , sex, religion, and nationality. As the Chairman of the Jagannath Gupta Family Trust, I desire that, with the cooperation of faculty members, research organizations and reputed educational institutions, we will be able to inculcate a sense of values to serve the industry as well as the society. I would like to extend my best wishes to the Department of Mechanical Engineering, who has taken the initiative in coming up with their departmental magazine.

Shri Krishna K. Gupta
Vice Chairman, BBIT

Our Institute, Budge Budge Institute of Technology, is under the leadership of our Chairman – Sri Jagannath Gupta, an experienced Industrialist and Philanthropist, and able guidance of none other than Padmashree Dr. K. L. Chopra, Former Director of I.I.T. Kharagpur. Besides, we have experienced Trustees, Advisory Boards and Governing Body, who are always guiding, supporting and appreciating our endeavours. I am highly pleased that the Department of Mechanical Engineering is publishing their departmental e-magazine. I am certain that our students are going to reap huge benefits from this endeavour, which in turn would assist them in their future pursuits. I also thank the faculty members of the department who have collaborated with the students and guided our prospective engineers with their expertise and experience.

Dr. Balaram Gupta
Member of Governing Body, BBIT

BBIT, one of the pioneering technical institutes, is disseminating technological know-how among the aspiring candidates keeping in view the global need of engineers and management graduates. BBIT is dedicated to excellence in undergraduate and graduate education amongst all the technical institution in West Bengal. Our goal is to provide a mutually respectful environment to advance learning and the pursuit of knowledge, and to foster intellectual curiosity and integrity in all aspects of technical education. Our focus is on educating future professionals in the areas of engineering while building their leadership skills and setting a high standard of performance. Pedagogy and academicians involved in BBIT are at par with the same what I have observed in USA. Undoubtedly students passing from BBIT will have a competitive edge in the corporate world. I am happy to be associated with BBIT and am sure that with sincere and honest efforts of the management; soon the objective of creating an excellent center for technical education would be achieved.

Dr. Subhangi Gupta
Executive Director, BBIT

Our Institute is under the leadership of our Chairman - Sri Jagannath Gupta, an experienced industrialist and philanthropist and Padmashree Dr. K. L. Chopra, Former Director of I.I.T Kharagpur. We started this coveted, technical institute in 2009 with an intake of 60 students each in the B.Tech Program in Civil Engineering, Mechanical Engineering, Electrical Engineering, Electronics & Communication Engineering and Computer Science & Engineering respectively and the Master of Business Administration (MBA) Program. Within few years a huge infrastructure has been built by the management which has culminated into a Technical Campus which also boasts of programs namely – Polytechnic, B.Tech and MBA. Furthermore, the students of BBIT are getting regular industrial exposure.. BBIT has shown a keen interest in providing quality faculty members to its students. Most of the faculty members are Ph.D. holders and associated with institutes like I.I. T., N.I.T., C.U., J.U., B.E.S.U. etc. BBIT has tied up with various industries to provide the students with proper trainings and internship. Since its initial year, BBIT has shown its inclination towards extra – curricular activities . Starting from organizing few fun - filled events on the Fest - Verve to Annual Sports, this Institute has established a niche for itself. The willingness to adapt to change in this fast changing world will take BBIT to its pinnacle. It is a promise which is there within the members of this Institute which will be executed in the coming days.

Prof. (Dr.) Gautam Gangopadhyay
Director, BBIT

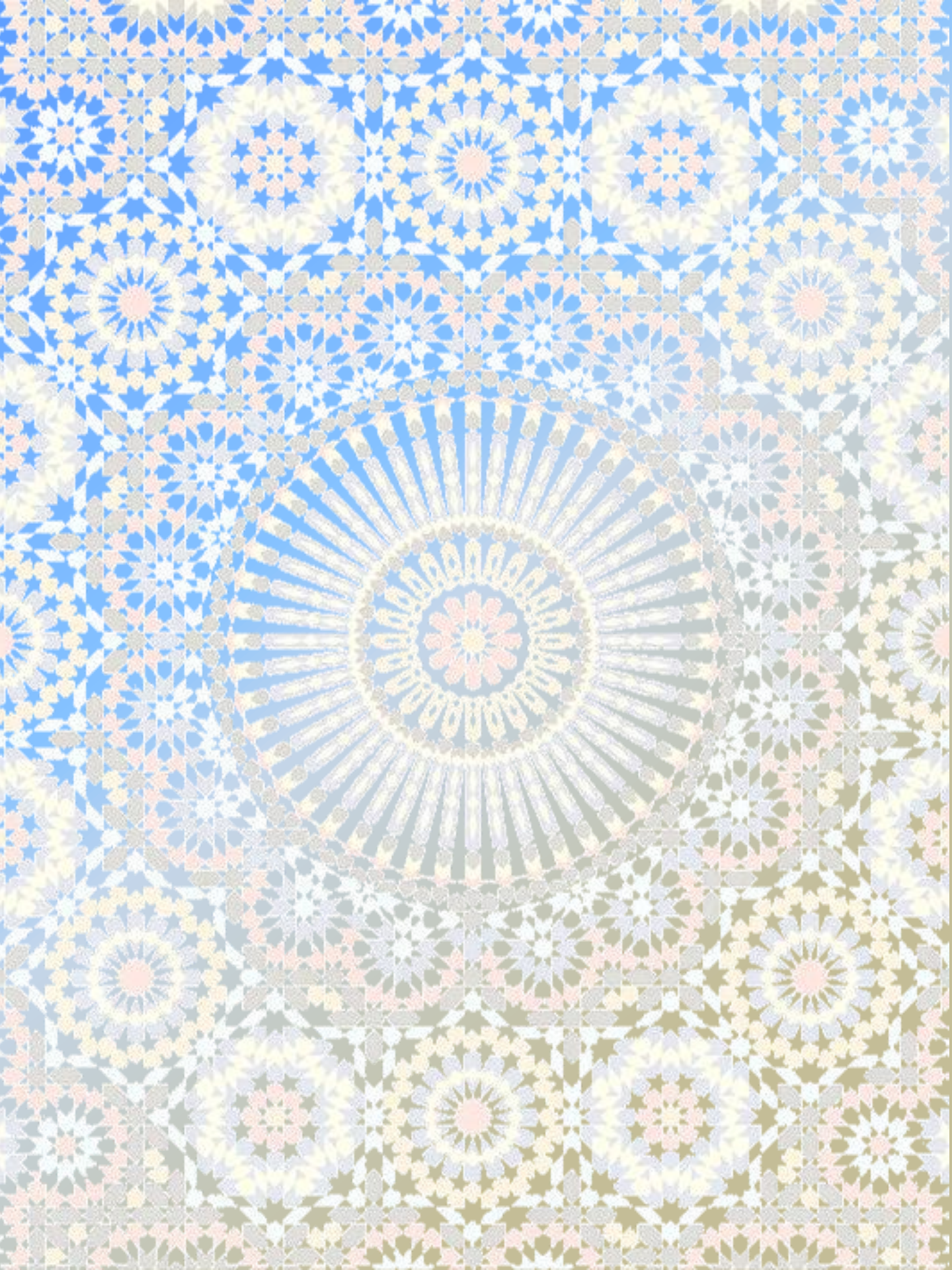
Budge Budge Institute of Technology (BBIT) aims at preparing the students joining this Institute to meet the growing challenges and changing needs of the industry by imparting high quality technical education. To achieve this, the Institute has inducted a team of full – time qualified faculty members in five important branches of engineering. The Institute is providing state of the art infrastructure to facilitate optimum resource allocation to each student in the areas of learning and specialization. BBIT is dedicated to act as the nurturing ground for young and future engineers who seek to make a mark in their lives. We look forward to make our students not only good engineers but also responsible citizens and above all good human beings with the infusion of ethics, discipline and moral values. BBIT also strongly believes in providing a distinctive and relevant combination of academic skills and technical experience. This is a combination that is designed to lay the foundation in life for each student to become successful professionals. BBIT is acting as a true catalyst for the Indian Industry and will always endeavor to fulfill the dreams of budding engineers in designing their future

Dr. Siladitya Bandhyopadhyay
Dean of students, BBIT

The primary goal of Budge Budge Institute of Technology (BBIT) is to impart quality technical education. To live up to our academic procedures, commitment to quality education, solid management, continuous development and able administration we have raised our institute's profile to an exemplary height in almost no time (Estd. 2009) and shaped its fantastic growth to achieve excellence. Here in BBIT we are proud of all that we have accomplished till now in respect of the holistic development of our students and also confident of the future prospects that are open to both our students and staff. We stress on the importance of responsibility, integrity and honesty through commitment, discipline, insight and creativity. We aim at developing highly skilled human resources for our students to adapt to the challenges of the corporate world both intellectually and technologically in the ever changing environment. I sincerely believe that with our given infrastructure students will make the best use of the opportunities that are showered to them to become competent professionals, entrepreneurs and great human beings in the near future. Best wishes to all for a bright future!

Dr. Urmibrata Bandhopadhyay
Head, Department of Mechanical Engineering, BBIT

Budge Budge Institute of Technology, a leading technical institute, is on the verge of completing its tenth year journey this month. Within this short tenure, it has reached important milestones like NAAC Accreditation, NBA Accreditation etc. The team from Mechanical Engineering Department has come out with MECHAZINE, a departmental e-magazine, with all creativity within months from their publication of the Wall Magazine. I congratulate the organizers on this achievement, besides their endeavor for academic excellence. This will motivate all of us to inculcate the culture of mixing technical with real life skills. I hereby wish the entire team – Students, Faculties and TAs – of the Department of Mechanical Engineering, all success and future progress.



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TECHNICAL SECTION

The work shows it is possible to restore a range of natural, touch-based feelings to amputees who use prosthetic limbs. Made of fabric and rubber laced with sensors to mimic nerve endings, e-dermis recreates a sense of touch as well as pain by sensing stimuli and relaying the impulses back to the peripheral nerves

NEW 'E- DERMIS' BRINGS SENSE OF TOUCH, PAIN TO PROSTHETIC HANDS

Engineers at the Johns Hopkins University have created an electronic skin and aim to restore the sense of touch through the fingertips of prosthetic hands. When layered on top of prosthetic hands, this e-dermis brings back a real sense of touch through the fingertips. Made of fabric and rubber laced with sensors to mimic nerve endings, e-dermis recreates a sense of touch as well as pain by sensing stimuli and relaying the impulses back to the peripheral nerves. The ability to detect pain could be useful, for instance, not only in prosthetic hands but also in lower limb prostheses, alerting the user to potential damage to the device.

Rituparna Biswas,
Faculty

03

Mingda Li, currently working on a new approach to understand a common type of material defect called a crystal dislocation, proposed a theoretical new particle named a "dislon" to help capture the mechanism underlying dislocation.

THEORY OF DEFECTS

Defects show up everywhere — in metals, semiconductors, and insulators, are caused by stress, they emerge naturally in crystals, disrupting the precise lattice arrangement of atoms, and affecting a wide range of properties in materials, including electrical and thermal behavior. Mingda Li came up with one equation to compute any properties caused by dislocation — electrical, optical, magnetic, thermal, even superconducting. This accomplishment, which has vaulted Li to prominence in the field, comes after a long journey during which Li sometimes struggled to find his bearings.

Tahsin Azad
2014-2018

Scientists have been trying to replicate the kind of protection combined with flexibility offered by certain kinds of animal scales. They are now working on Ceramic-covered gloves that offer industrial workers increased protection from piercing.

PROTECTIVE WEAR INSPIRED BY FISH SCALES

For a long time biologists and engineers largely ignored each other, but this is now changing. Biologists are using more and more engineering tools and methods, and engineers are revisiting old engineering problems using bio-inspiration. Through a series of experiments the researchers were able to identify a set of critical mechanisms in the way natural fish scales deform, interact, and fracture. It was discovered that smaller scales are actually more difficult to pierce than the larger ones, something that can now be fully explained using engineering analysis. It is also learned that they are the toughest collagen-based material known.

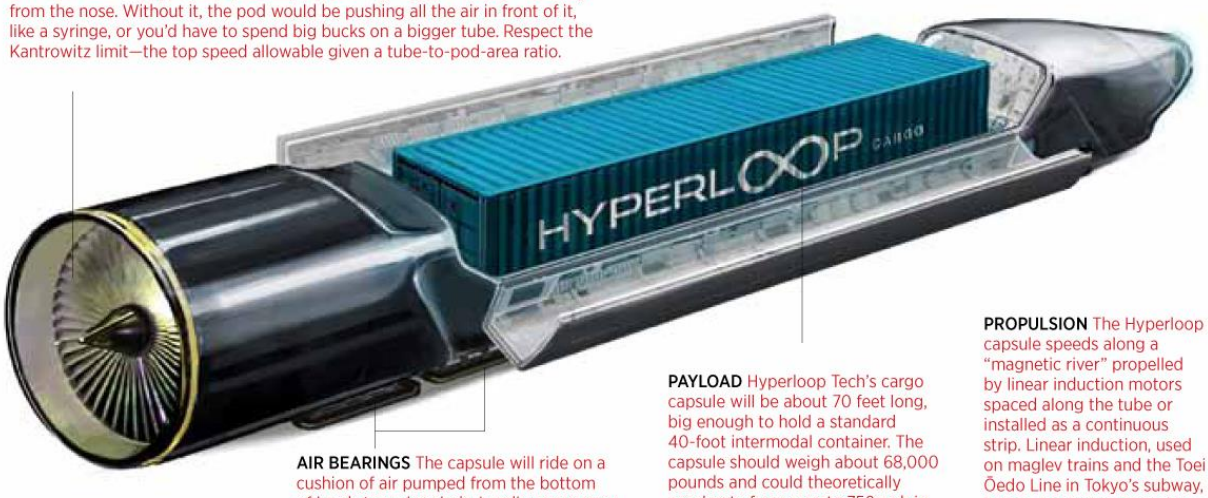
Ankush
Guha
2014-2018

HOW THE HYPERLOOP WORKS

Elon Musk said that if the Concorde, a railgun and an air-hockey table had a three-way, the hyperloop would be the love child. Here's a look inside Hyperloop Tech's high-speed cargo pod.

COMPRESSOR Mounting a giant compressor fan on the front of the capsule is what makes the hyperloop possible, transferring huge volumes of air away from the nose. Without it, the pod would be pushing all the air in front of it, like a syringe, or you'd have to spend big bucks on a bigger tube. Respect the Kantrowitz limit—the top speed allowable given a tube-to-pod-area ratio.

VACUUM TUBE Capsules will travel in a near-vacuum to reduce drag significantly. Valves and pumps will keep internal air pressure at about 100 Pascals, or one-thousandth the air pressure at sea level. A little nitrogen may be injected into the tube as a desiccant.

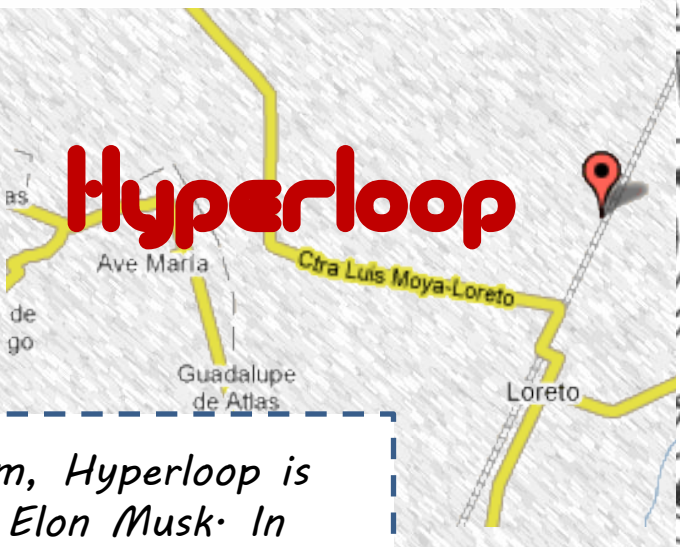


AIR BEARINGS The capsule will ride on a cushion of air pumped from the bottom of lunch-tray-size sleds. Landing gear may need to be deployed as it comes to a stop.

PAYLOAD Hyperloop Tech's cargo capsule will be about 70 feet long, big enough to hold a standard 40-foot intermodal container. The capsule should weigh about 68,000 pounds and could theoretically accelerate from zero to 750mph in less than a minute.

PROPULSION The Hyperloop capsule speeds along a "magnetic river" propelled by linear induction motors spaced along the tube or installed as a continuous strip. Linear induction, used on maglev trains and the Toei Ōedo Line in Tokyo's subway, has no moving parts and low maintenance costs.

The train containers would float using magnetic levitation. The pod would initially launch using an Electric motor before levitation takes place and can glide at high speed in low pressure environments



The futuristic transport system, Hyperloop is the brainchild of entrepreneur Elon Musk. In this the system commuters are whisked through a tube at speeds of the range 700mph. Hyperloop is a system of transport that would see containers travel at high speed through a tube that has been pumped into a near vacuum.

Arshad Wahab
2017-2020

MAGNETIC 3-D-PRINTED STRUCTURES

By controlling the magnetic orientation of individual sections in the structure, the researchers can produce structures and devices that can almost instantaneously shift into intricate formations, and even move about, as the various sections respond to an external magnetic field.

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Xuanhe Zhao and his colleagues, the Noyce Career Development Professor, have published their results in the journal Nature. The menagerie of structures that can be magnetically manipulated includes a smooth ring that wrinkles up, a long tube that squeezes shut, a sheet that folds itself, and a spider-like "grabber" that can crawl, roll, jump, and snap together fast enough to catch a passing ball. It can even be directed to wrap itself around a small pill and carry it across a table. The researchers fabricated each structure from a new type of 3-D-printable ink that they infused with tiny magnetic particles. By controlling the magnetic orientation of individual sections in the structure, the researchers can produce structures and devices that can almost instantaneously shift into intricate formations, and even move about, as the various sections respond to an external magnetic field. The team's magnetically activated structures fall under the general category of soft actuated devices — squishy, moldable materials that are designed to shape-shift or move about through a variety of mechanical means.

Samriddhya Ray Chowdhury
Faculty

07

TYPHOON TURBINE

A typhoon wing farm working for only 2-3 weeks all around the year can generate tremendous amount of power and still work during more peaceful time, even though their production will not be high. .

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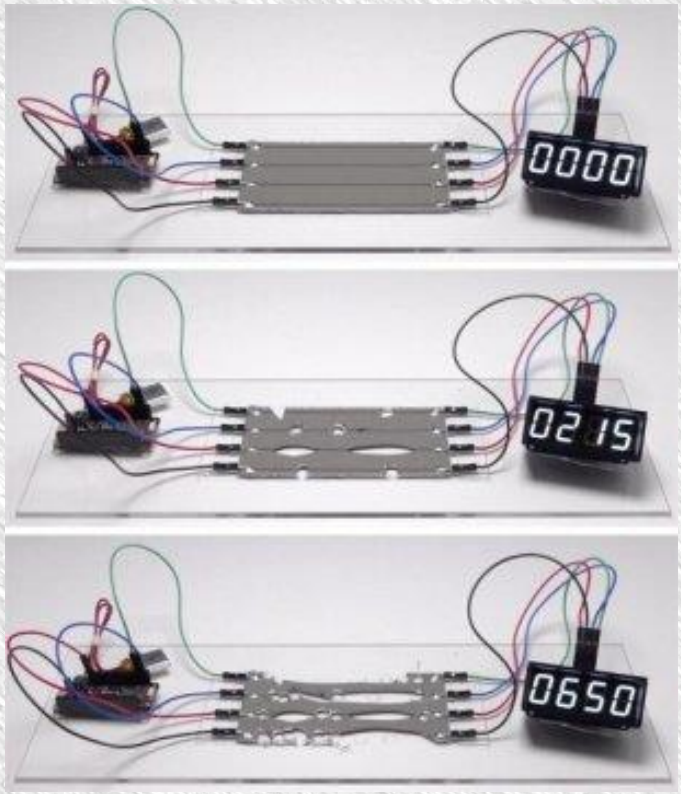
The machine actually does what it sounds. It harnesses the enormous typhoon and uses those waters to turn mammoth turbine, generating electricity. These wind turbines are insanely huge and are scheduled to be installed near all coasts of Japan. Typhoons have an energy level with wind speed up to 80ms (288kmh). This energy can be tapped with motor-wind micro-turbines. One 2MW machine with an average wind speed of 6ms has generated 3-4GWh.

Saurabh
Kumar
2016-2020



The unprecedented level of functionality of this self-healing material by Carmel Majidi and his team, can enable soft-matter electronics and machines to exhibit the extraordinary resilience of soft biological tissue and organisms.

SELF HEALING MATERIAL A BREAKTHROUGH FOR BIO INSPIRED ROBOTICS

Many natural organisms have the ability to repair themselves. Now, manufactured machines will be able to mimic this property. Researchers have created a self-healing material that spontaneously repairs itself under extreme mechanical damage. This soft-matter composite material is composed of liquid metal droplets suspended in a soft elastomer. When damaged, the droplets rupture to form new connections with neighboring droplets and reroute electrical signals without interruption. Circuits produced with conductive traces of this material remain fully and continuously operational when severed, punctured, or had material removed.

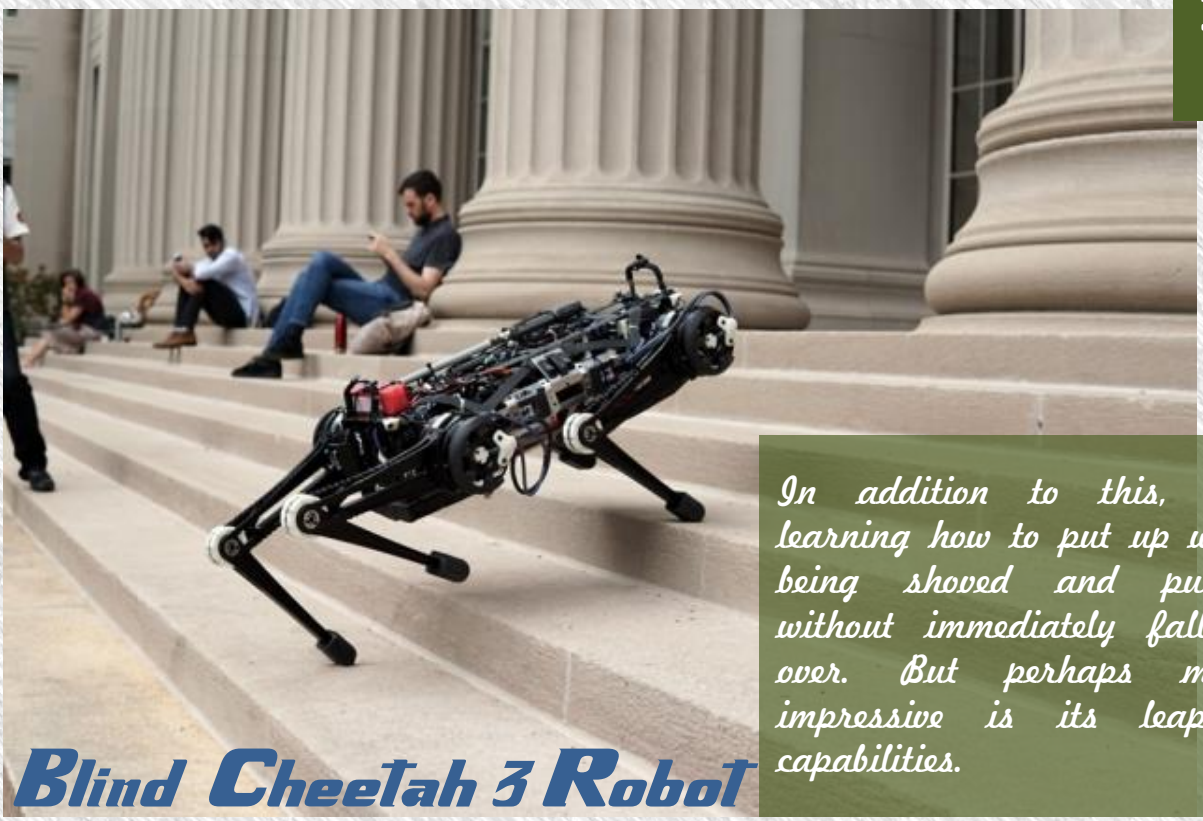
Samrat Majumdar
Faculty

Falcon 9 is known for its reusable rocket. The prima facie appeal of reusing rocket has always obscured the challenges of refurbishing at low cost, a rocket stage and engine block that has suffered the stresses

FALCON 9

SpaceX's cross-country rocket transport infrastructure, pointing towards an inflection point in the production and testing of new Falcon 9 Block 5 rocket boosters and upper stages. With Falcon Heavy completed and launched in February and the last non-Block 5 booster built, launched, and relaunched in the last three months, Falcon 9 Block 5 has for the first time been allowed to become SpaceX's near-singular focus for manufacturing and testing, both in the Hawthorne factory, the McGregor, TX testing facility, and SpaceX's three launch pads.

Tushar Swaminathan
2015-2019



Blind Cheetah 3 Robot

In addition to this, it's learning how to put up with being shoved and pulled without immediately falling over. But perhaps most impressive is its leaping capabilities.

Cheetah 3 robot can now leap and gallop across rough terrain, climb a staircase littered with debris, and quickly recover its balance when suddenly yanked or shoved, all while essentially blind. The 90-pound mechanical beast is intentionally designed to do all this without relying on cameras or any external environmental sensors. Instead, it nimbly "feels" its way through its surroundings in a way that engineers describe as "blind locomotion," much like making one's way across a pitch-black room.The Cheetah 3 is now able to rear back on its hind legs, leap into the air, and make a solid landing on a platform much taller than it is, though presumably this trick requires a little bit of visual input

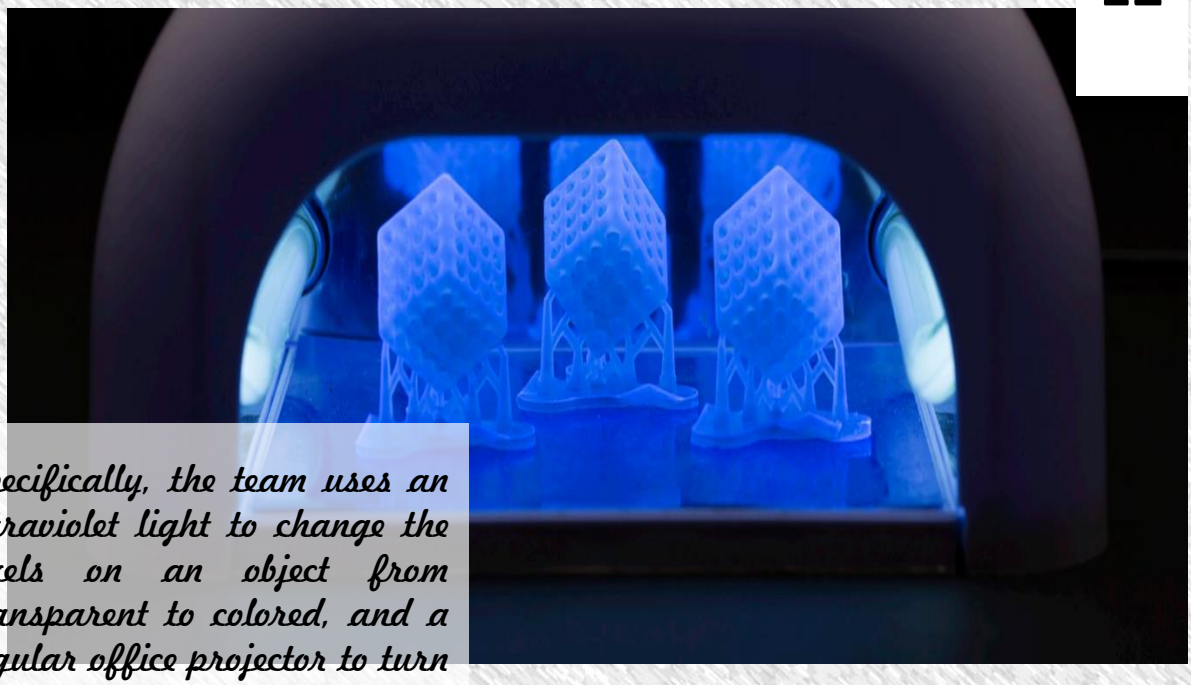
Ankan Kumar De
2014-2018

A fire-fighting robot is capable of navigating alone on a modeled floor while actively scanning the flame of fire. The robot could be used as a path guide in a fire place device or in normal case, as an emergency device.

FIRE FIGHTING ROBOT

With the development in the field of Robotics, human intrusion has become less and robots are more widely used. A fire-fighting robot is capable of detecting fire if a house catches fire while someone in the house is either sleeping or not present in the house.

Ramesh Das
2016-2020



Specifically, the team uses an ultraviolet light to change the pixels on an object from transparent to colored, and a regular office projector to turn them from colored to transparent.

CHANGING THE COLOR OF 3-D PRINTED OBJECTS

The major problem with 3D printed objects is that once objects are printed, they're final. If you need a change, you'll need a reprint. In a new paper, researchers present ColorMod, a method for repeatedly changing the colors of 3-D printed objects, after fabrication. ColorMod - a 3-D is a printable ink that changes color when exposed to ultraviolet light. To move beyond single-color systems, the team developed a simple hardware/software workflow. First, using the ColorMod interface, users upload their 3-D model, pick their desired color patterns, print their fully colored object, and using ultraviolet light to activate desired colors and visible light to deactivate others.

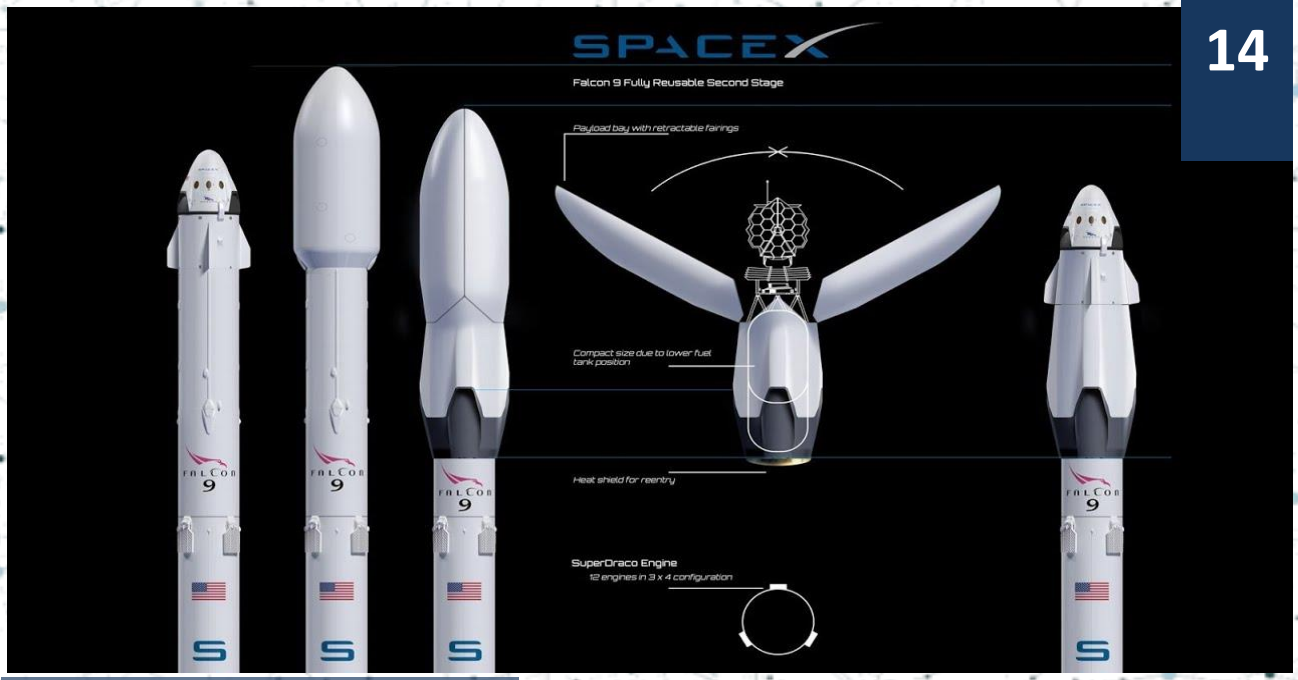
Milan Ghosh
2015-2019

Instead of designing a prosthetic foot to replicate the motions of an able-bodied foot, Olesnavage looked to design a prosthetic foot that would produce lower-leg motions similar to those of an able-bodied person's lower leg as they walk.

LOW COST PROSTHETIC FOOT MIMICS NATURAL WALKING

Prosthetic limb technology such high-tech designs can cost tens of thousands of dollars, making them unattainable for many amputees, particularly in developing countries. Now MIT engineers in collaboration with Jaipur Foot have developed a simple, low-cost, passive prosthetic foot that they can tailor to an individual. They've been making this foot for over 40 years, and it's rugged, so farmers can use it barefoot outdoors. But the design was unwieldy and the internal structure is made all by hand which creates a big variation in product quality. The team, led by Olesnavage, first looked for a way to quantitatively relate a prosthesis' mechanical characteristics to a user's walking performance — a fundamental relationship that had never before been fully codified.

Abhijit Roy
Faculty



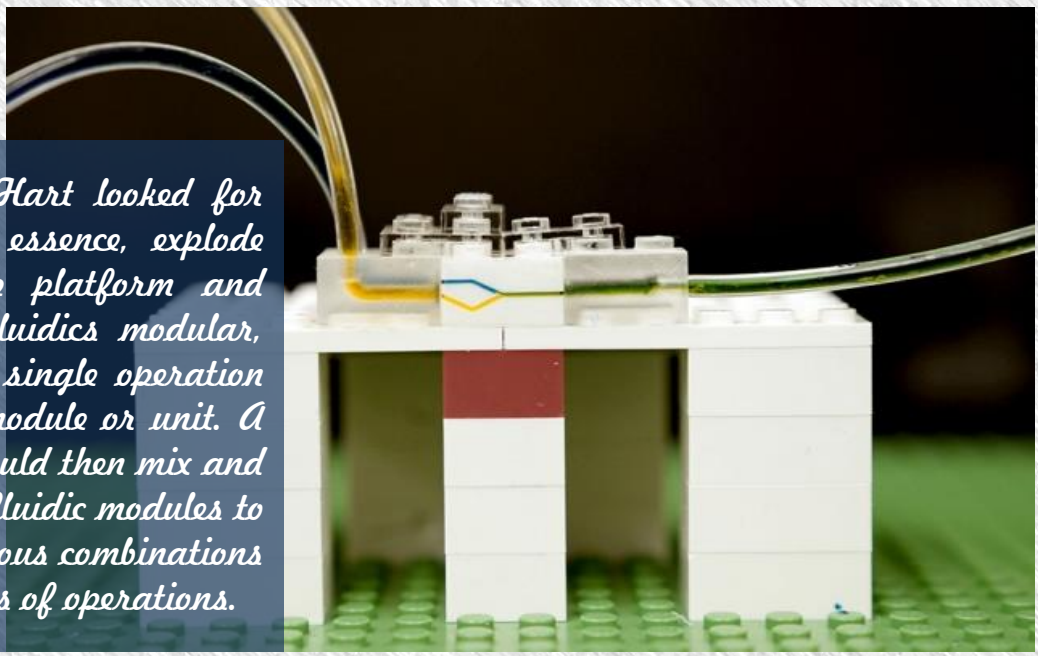
The main key feature of GSLV is Cryogenic Engine that makes GSLV different from PSLV. The engine is used at the 3rd stage of the rocket.

CRYOGENIC ENGINE IN GSLV MK-III

GSLV MKIII (Geosynchronous Satellite Launch Vehicle - Mark III) is a newly developed three stage heavy lift launch vehicle, developed by ISRO. GSLV has capacity of pay load to LEO (Lower Earth Orbit) is = 10,000kg and Payload to GTO (Geo-stationary Transfer Orbit) = 4,000kg. In a tank liquid O_2 and liquid H_2 is used in the engine. H_2 is used as Fuel and O_2 is as oxidizer.In this present time only six country have Cryogenic Engine. India is one of them.

Rudrajit Maity
2016-2020

MICROFLUIDICS FROM LEGO BRICKS



Owens and Hart looked for ways to, in essence, explode this one-chip platform and make microfluidics modular, assigning a single operation to a single module or unit. A researcher could then mix and match microfluidic modules to perform various combinations and sequences of operations.

The field of microfluidics involves minute devices that precisely manipulate fluids at sub-millimeter scales. Such devices typically take the form of flat, two-dimensional chips, etched with tiny channels and ports that are arranged to perform various operations, such as mixing, sorting, pumping, and storing fluids as they flow. In a paper published in the journal Lab on a Chip, the team describes micro-milling small channels into LEGOs and positioning the outlet of each "fluidic brick" to line up precisely with the inlet of another brick. The researchers then sealed the walls of each modified brick with an adhesive, enabling modular devices to be easily assembled and reconfigured. Most microfluidic devices contain all the necessary channels and ports to perform multiple operations on one chip. For now, a LEGO-based microfluidic device could be used to manipulate biological fluids and perform tasks such as sorting cells, filtering fluids, and encapsulating molecules in individual droplets.

Amartya Mukherjee
2014-2018

BMW had sent a R1200GS over to Lego Technic so as to have a model of it to be created. Lego took the parts and created a futuristic flying bike design, which was much appreciated by BMW, built a life size model of the motor cycle, which in effect is meant to hover.

FLYING BIKE

German luxury two wheeler maker BMW Motorrad partnered with Danish toy manufacturer LEGO Technic to transform one of the best motorcycles in the world into a LEGO model· Design teams from BMW Motorrad and LEGO Technic joined forces and jointly developed the LEGO Technic Hover Ride complete with innovative functions and the signatory GS flyline allowing all fans to rebuild the BMW Motorrad R1200GS Adventure into a unique design concept model that removes all limits to motorcycles and allows imagination to fly without vesting technical plausibility· BMW had sent a R1200GS over to Lego Technic so as to have a model of it to be created· Lego took the parts and created a futuristic flying bike design, which was much appreciated by BMW, built a life size model of the motor cycle, which in effect is meant to hover· It has been called R1200GS "Hover Ride Design Concept" built by students from the BMW Junior Company, Munich·

Siddhartha De
2015-2019

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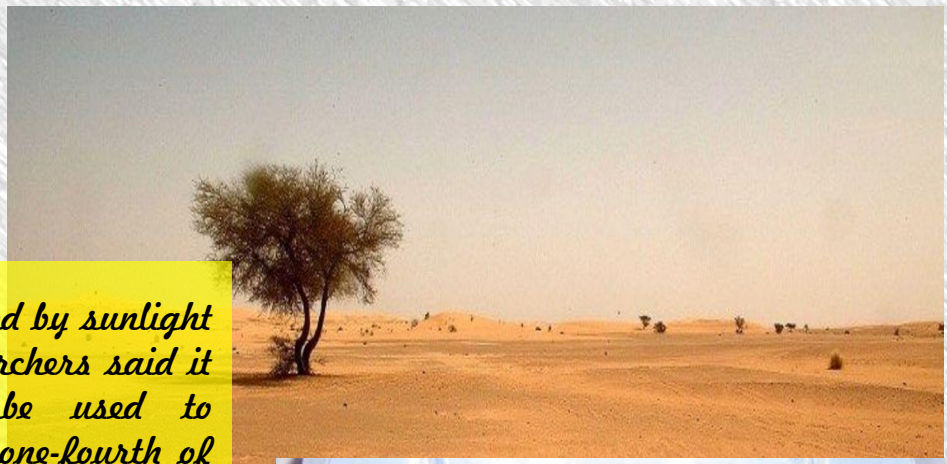
DEVICE HARVESTS WATER FROM DESERT AIR



The device is powered by sunlight only, and the researchers said it could eventually be used to provide more than one-fourth of a liter of water per kilogram of metal-organic framework each day

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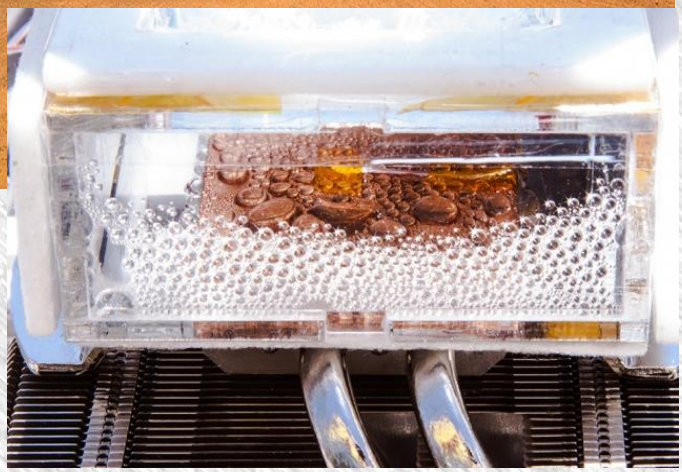

Even in the most arid places on Earth, there is some moisture in the air, and a practical way to extract that moisture could be a key to survival in such bone-dry locations. Now, researchers at MIT have proved that such an extraction system can work.The system, based on relatively new high-surface-area materials called metal-organic frameworks (MOFs), can extract potable water from even the driest of desert air, the researchers say, with relative humidities. Current methods for extracting water from air require much higher levels refrigeration-based systems, which also require large amounts of energy for cooling.

Abid Iqbal
2014-2018

As concerns of oil depletion and security of supply remain as severe as ever, and faced with the consequences of climate change due to greenhouse gas emissions, Europe is increasingly looking at alternatives to traditional road transport technologies. Battery Electric Vehicles (BEVs) are seen as a promising technology,

BATTERY ELECTRIC VEHICLE

As concerns of oil depletion and security of supply remain as severe as ever, and faced with the consequences of climate change due to greenhouse gas emissions, Europe is increasingly looking at alternatives to traditional road transport technologies. Battery Electric Vehicles (BEVs) are seen as a promising technology, which could lead to the decarbonisation of the Light Duty Vehicle fleet and to independence from oil. However it still has to overcome some significant barriers to gain social acceptance and obtain appreciable market penetration. This review evaluates the technological readiness of the different elements of BEV technology and highlights those technological areas where important progress is expected.

Amit Kumar Paul
2015-2019

19

HYBRIDIZED AUTOMATED MANUAL TRANSMISSION

Hybridized automated manual transmission has offered alternative methods of filling torque gap by developing independent and semi-independent torque path from the motor during gear-shifts.

Hybridization of transmission has been proposed by Guang Wu and Zoumin Dong from the University of Victoria, in Canada. They proposed a new form of hybrid power train system based hybridized automated manual transmission. However, there is a need to adapt manual transmissions technology to future technologies that enable even better fuel efficiency through advanced driver assistance systems (ADAS) and hybrid functions like recuperation, boosting and advanced sailing.

Sourav Ghosh
2017-2020

ELECTROMAGNETIC PISTON IN INTERNAL COMBUSTION ENGINE

The magnetization of the cylinder electromagnet generates magnetically attracting force between the cylinder and the piston to cause the piston to move in a one direction and thereafter magnetically repellent force to transfer the piston in the opposite direction. This series of the actions are repeated to provide a continual reciprocal movement of the piston.

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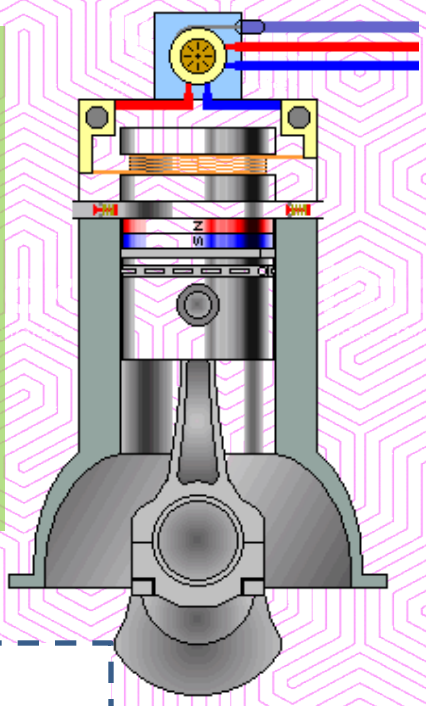

The electromagnetic piston engine capable of producing driving power by a reciprocal movement of a piston in a cylinder by electromagnetic force. The electromagnetic piston engine is provided with the cylinder and the piston made each of a magnetic material as well as with as the cylinder electromagnet having the inner wall of the cylinder magnetizable to a one magnetic pole and with the piston magnetization unit for magnetizing a portion of the piston engage-able with the cylinder to a single magnetic pole in a fixed manner.

Kaustav
Maity
2016-2020

Cultural Section

Life

Life is undefined, yet it can be defined.
Life is like an open box yet a paradox.

It's person with oddity.
A journey with brief stoppages.
A novel that is half written.
A mysterious wrapped packet.

Life is harsh yet beautiful.
It's loud yet amiable.
Its ironic yet simple.
Its painful yet a pain reliever.
It's a dream yet a reality check.

Life is as intimidating as Math yet it can be solved.
It's like those beautiful derivations of Physics that are all based on assumptions.

Life is not a synonym to struggle but an ongoing process.
Life is everything that can be defined yet it also something that's undefined.

Sishav Sekhar Patra
2015-2019

ভুল

জীবনের আলো আর ছায়া মোহনায়,
বারে বারে পথ ভুল করি
এবার ভুলের বোঝা যাক নেমে যাক
তুলে নিই মুঠি ভরে যা পেয়েছি পথের পাথেয়।
হয়তো সে কিছু নয়, শুধু ফাঁকি, শুধুই বঞ্চনা।

তবু কি ভুলের খেলা হয়ে যায় শেষ –
ভুলিতেই যারা ভালোবাসে।
হেথায় আমার ঘরে প্রদীপের শিখা জ্বলে
ছোট প্রেম ভীরু ভালোবাসে,
জীবন জরায়ে ধরে ঘুমের যতোন,
নেশাতরু মৃত্যুর ন্যায়।

তবু তো জাগিয়া উঠি শুনি কোথা বাজে বহুদূরে,
পথহারা পথিকের কোন একতারা,
রক্তে শুনি দীপক ঝঙ্কার - তারাদল ঢাকে কালো মেঘে
হৃদয়ের মাঝারে আলেয়ার মরন সংকেত
জানি হেথা কিছু নেই - জানি সব মিছে –
হয়তো শ্মশান কোলে শেষ চিতা নিভছে হেথায়।

আলেয়ার আলো তবু বারে বারে আমারে ভুলায়,
তীর ছাড়া নীড়হারা একাকী হরিণ-
তবু জানি এরও আছে শেষ,
অন্ধকারের পথে এই চলা হবে অবসান-
হৃদয়ের রক্ত দিয়ে ভুলের ফসল,
সেইদিন ফুটাইবে ফুল।।

Anubhab Mondal
2017-2020

For Syria

The trembling souls woke up at the sudden sound of firing,
It was the mid of march when everything seemed to be changing.
KABOOM!
Went the grenade that just blew two infants,
As bodies lie scattered, with the roads all blood painted.
Eyes were all wide as they couldn't believe the sudden changes,
With every passing minute, the horrific turn of events inflated.
Houses were burning with hopes all caustic,
As chaos rose, filling the night with more darkness,
Surviving souls tried to take shelter hoping, the morning would bestow upon them the Light,
Little did they know that it was the beginning of a fight.

With the rise of the dawn, allies took a step back,
The hostages realized about the counterfeit world and took a step to fight back.

Day in and day out, more people die,
But who are We people to give them a hand,
Since we are cold and Demons in disguise.

Sishav Sekhar Patra
2015-2019

Just Friends

When I see you in the morning
It brightens up my day,

There are so many thought on my mind,
So many word I want to say

You said that you loved me,
You said that you cared,
But once you were gone,
I was so very scared.

I know that I don't own you,
And perhaps I never will,
So my anger when you're with him
I have no right to feel.

I know that you don't owe me.
And I Shouldn't ask for more
I shouldn't feel so let down,
All the time when you don't call.

Would you care if we quit talking
Would you care if I went walking
I need to know how you feel
So, I know how to deal...‥

What I feel, I shouldn't show you,
So when you're around I wont,
I know I've no right to feel it,
But it doesn't mean I don't

You're like a star
On a midnight sky,
And I like a wind
That I cannot lie.

Kushal Gautam
2017-2020

Love

The drug that no rehab can cure.

A lullaby that makes one deaf,

A sensation that made him Embryonic,

A spectacle that made her Blind.

A Mythological Disease which spreads when a Arrow of Cupid pierces the Heart.

A word that is Evil (feel it backwards)

The wonder that even makes the & Wonder go weak.

The witch that casts a Spell on You.

A petition one should never sign.

Sishav Sekhar Patra
2015-2019

Heaven

We were out on a date in my daddy's car,
We hadn't driven very far.
There in the road, up straight ahead –
A car was stalled, the engine was dead.
I couldn't stop, I swereved to the right.
I will never forget the sound that night.
The painfull scream that I heard last.

When I woke up, the rain was pouring down-
There was people standing around.
Something warm runing in my eyes.
But somehow I found my baby that night!
I lifted her head, she looked at me and said,
"Hold me darling just a little while"
I hold her close. I kissed her our last kiss.
I found the love that I knew I would miss.

But now she's gone, even though I hold her tight
I lost my baby, my love, my life that night
Oh! Where can my baby be?
She's gone to heaven, So I got too be good
So *can see my baby when I leave this world.*
Oh! Oh! Oh! Oh!

Anubhab Mondal
2017-2020

Warriors

The body which is abused by them
Can endure pain that they cant even think of,

The colour red might give
You a cringe feeling but they hold it as their pride.

They grow up to hold the
Worlds most prestigiuos profession.

They are a life giver.
And
You think her soul is as fragile as a paper!

Thing again,
When time comes to take up the stand,
They can also turn into warriors.

Sishav Sekhar Patra
2015-2019

একটা ছেলের গল্প

ওই যে ছেলে আসছে ফেলে
স্কুল জীবনের আবেগটাকে,
দরজায় এসে দেখে চোখ মেলে
বিশাল এক কলেজ টাকে
যে ছিল একটু অসাধারণ
ছিল না তার কোন বারন,
তাই সবার কাছে হল সে আজ
ভালো লাগার একটি কারন।
সে ছিল এক Engineer (ME)
ছিল না তার কোন যন্ত্রের Fear
দিনের শেষে আসে সে যে Mess-এ
আবেগ ভরা সেই দুষ্টু হেসে।

Suman Kar
2015-2019


travel logue

Capture the Magic-Gangtok

In the year 2017, during my semester break, I went for a vacation to Gangtok with my gang. As we hardly catch up these days owing to our busy schedule therefore this vacation was a quite needed one. Soon we made our self busy with the planning of the vacation. At last, the train tickets were finalized for 03/01/2018. So we boarded the train to NJP, I was very excited as it was my first overnight train journey with my friends. The train was late for two hours & that kept me waiting impatiently as to when we will reach our destination. Finally we reached there at about 8 o'clock in the morning. We had a car waiting for us, which took us to our hotel in Gangtok.

travel tour

It was a 6 hour ride but I was not at all tired because I was overwhelmed by the scenic beauty of the Tista, that I saw in my way to Gangtok. At last we reached our destination at 5:30 pm. At the hotel we were asked to take rest for that evening. But it was quite impossible for us to sit quietly in the hotel & thus we went out to explore the famous shopping mall. The next day we went to explore the beauty of the famous seven points that is Hanuman Talk, Rope way, Suicide point, Flower garden, Waterfalls etc. The following day we took our cab to view the lake Tsomgo, Nathula pass & the famous Baba Mandir. The spots were mesmerizing & we gasped at the beauty of those places. It was quite exciting to view the spots with my friends & we clicked awesome pictures that became a lifetime memory in my photo album.

The next day we went to explore Lachung, Yumtham Valley & Zero Point. It was chilling cold but still we were so filled with the natural beauty that we can only feel the beauty of those places & our senses could not feel the freezing cold. We took our cab & came back to Gangtok & received our luggage from the hotel & checked out. The plan was to depart for Pelling. On our way to Pelling, the roads were filled with natural beauty & the tea gardens on the slopes of the mountains added an extra essence to that natural beauty. We reached Pelling after 8 hrs. We checked in our hotels & we were so tired that we went to sleep immediately. The following day was filled with positive vibes & happiness as we went for the side scenes. Pelling was an exceptionally beautiful city filled with greenery. After remaining in such places filled with white snow, the greenery of Pelling was very soothing to our eyes. It was like coming back to a normal life after a long time. That day, I realised the importance of green plants in our own city. The next day we boarded our train for Shealdah from NJP, the whole night in the train compartment I was busy thinking about the last 14 days. It was a blissful experience for all of us and will remain caged in our heart lifelong. Gangtok is a very peaceful & clean city & will always remain in my heart. Down the memory lane, I will always cherish the memories and experiences of Gangtok.

- Abirbhab Chatterjee,
2017-2020

travel our

THE 'QUEEN OF HILLS'
Darjeeling

Am just back from a holiday trip to Darjeeling along with two of my friends it was a three day trip and it was just an unforgotten experience, with the combination of beauty and nature· During our stay, we visited the famous seven points of Darjeeling, which is considered to be the most panoramic of all· We visited the three Buddhist monasteries· The view of the huge statue of Gautam Buddha was a wonderful experience, as I could come closer with the Buddhist culture, the symbol of love, and purely rejuvenating parns, the Ganga maiya (Goddess Ganges) · The rock garden park where I saw the replica of the famous Niagara falls· It was so lovely that we spent the whole day there giggling around and chomping good sniffs· I went to the famous botanical garden from where I could gather knowledge of various plants gather knowledge of various plants and flowers that were displayed·

travelogue

It was a great privilege for are to know that there are more than 60,000 medicinal plants used for producing medicines, especially for heart patients. I was so lost in the flower show that could in even presume when it went darn on day there; we went to visit the tiger hill, which is the ideal place to catch the glimpse of the famous snow covered peak of the Kanchanjunga Mountain. We were quite lucky that we got a glimpse of it. The other two friends of mine were so happy that they began to dance with joy. Those were the memories, I treasure and it still lingers in my heart, whenever I think of them.

travelogue

Trips to Darjeeling are like going back in time, to refresh and rejuvenate with the simple and childlike pleasures of life. The familiar lanes, shops, restaurants, hotels all promise a fun-filled stay. I think Darjeeling is an ideal place to visit because it not only makes are familiar to Buddhist pilgrimage but it also gives an idea about the beauties of nature which is so fascinating and unique in all respect. Besides giving an educative value, it also makes one closer to nature and its beauty.

-Argha Banerjee
2017-2020

travelogue

The Living Root Bridges

Back In October 2016 me along with some of my music loving friends decided to go to the one of the coolest music fest in India, The NH7 Weekender, Shillong, mostly because of Steven Wilson's performance. As it was around the puja vacation we all had a few extra days in hand for exploring few more places. So we did our research and made a list of few places on priority basis. One among them was the Living Root Bridges. So we boarded the train to Guwahati, I was very excited as it was my first overnight train journey that also with my friends. Thanks to our connections, we had a car waiting for us which took us around throughout the trip. If you are a rider like me, first thing that will hit you as you start climbing the NH6, what a big mistake it is for not bringing your motorcycle.

travel diaries

On the way to Shillong, this is a must stop, it is a reservoir made by damming the Umiam river. It is a great place to stretch your legs in between the rides and chew on some bhutta (roasted corn) as you soak in the colours of the nature. Anyways, after been done with the Weekender and things to do around the Shillong city like exploring Police bazar, Golf Course, Cathedral and restaurants like Shillong Cafe, Dylan's Cafe, etc., which was next level fun, it was time to head out to explore the other places. Of all the places we visited, I was most interested in the Living Root Bridges maybe because I'm a nature lover and an engineer at the same time. The East Khasi Hills—site of the many living root bridges constructed by the Khasi tribe—are a place with a rich cultural heritage. They weave these remarkable paths through the forest with remarkable skills and patients.

These hills also have another quite significant claim to fame. The village of Cherrapunjee is cited as being the rainiest place on Earth, an honour which is highly disputed by neighbouring Mawsynram, about 16 kms. to the east. Regardless of who is right, it is fair to say that this part of the world gets a hell of a lot of rain. So eventually we reached a lovely little village called Mawlynnong. Our driver talked to those local folks and arranged some tea and barbecue squirrel for us. The Khasi are a matrilineal society, meaning that a family's lineage is traced through the surname of the wife with the youngest daughter inheriting all the family's property. Clothed in their traditional Dhara, you can really feel the feminist spirit alongside a huge amount of community spirit when you spend a little time with the Khasi.

All Khasi villages are connected by a network of stone pathways known as the King's way which traditionally kept the local betel nut trade alive with the capital of Shillong. Throughout this network, hundreds of living root bridges form the bridle path over the water channels that criss-cross the area. As per the information we could collect, none of the people who planted these trees or helped in the primary phases of the construction are alive as it is a very slow process. Same will be the fate of the generation who are constructing the new ones and it takes a few generation to get to the fully finished bridge shown below. The view from above truly reveals the majesty of this masterpiece. Over the years, stones and earth have been lodged between the gaps of the banyan tree roots to form the beautiful pathway, and the ancient, organic meshwork weaves its beauty underneath. The development and upkeep of bridges is a community affair. Initially, a length of bamboo is secured across a river divide and a banyan plant, Ficus benghalensis, is planted on each later.Later still, the bridges are improved upon with the addition of handrails and steps. Lesser know than their cousins the living root bridges, but equally as fascinating, are the Khasi's living root ladders.Many Khasi farmers have now cultivated the land below their village, which is only accessible by traversing huge cliff faces. Sensationally, even here the versatile banyan tree can weave its brilliance by way of the ladders and suspended walkways that the Khasi have built in order to be able to scale these sheer faces of the hills. Even today these people are constructing amazing natural architecture that, even in one of the wettest places on Earth, will hold strong during the torrential rains of the monsoon.

-Abhishek Das
2014-2018

PHOTOGRAPHY & SKETCH

Captured By: Dipankar Majumdar
2017-2020

Captured By: Soumyanil Pramanik
2017-2020

Captured By: Soham Sarkar
2017-2020

Captured By: Avik Halder
2014-2018

Captured By: Amartya Mukherjee
2014-2018

Captured By: Samrat Majumdar
Faculty

Captured By: Argha Banerjee
2017-2020

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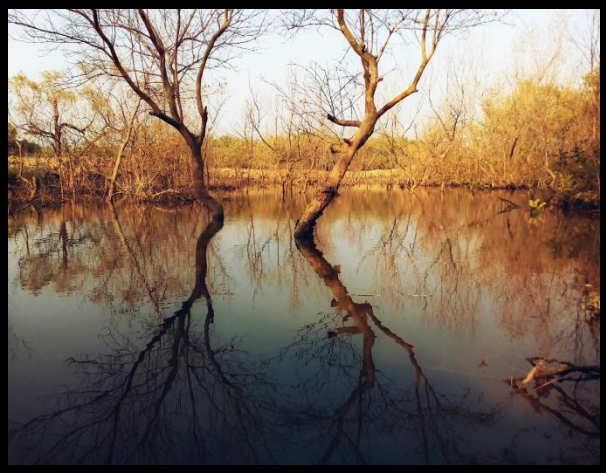

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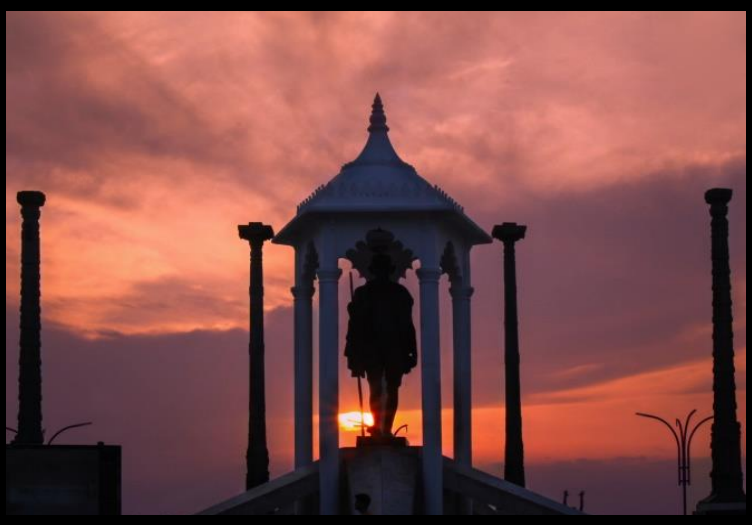

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2014-2018

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2017-2020

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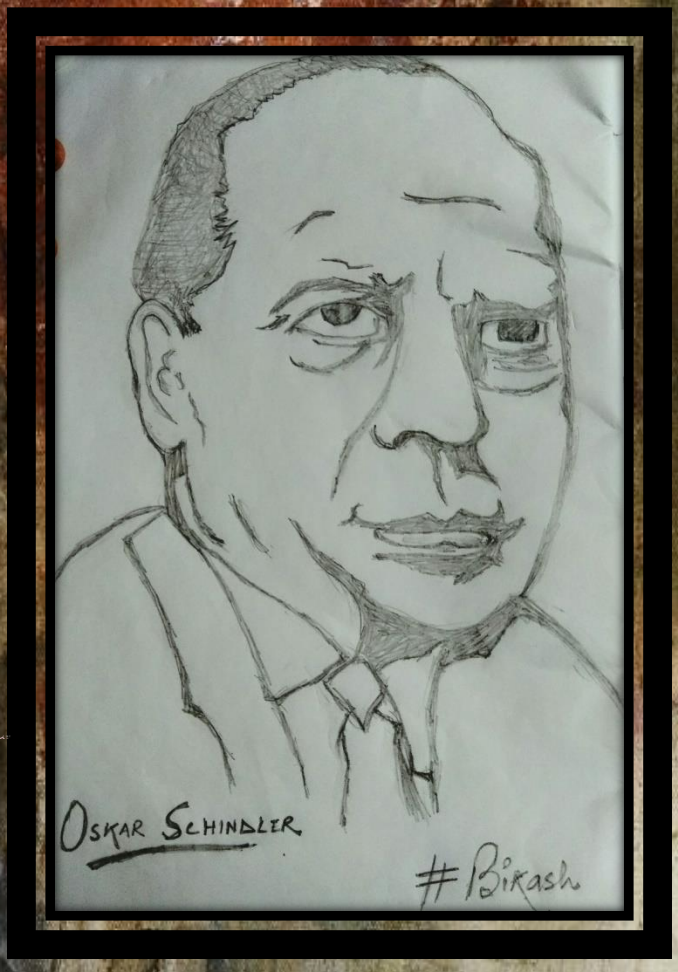
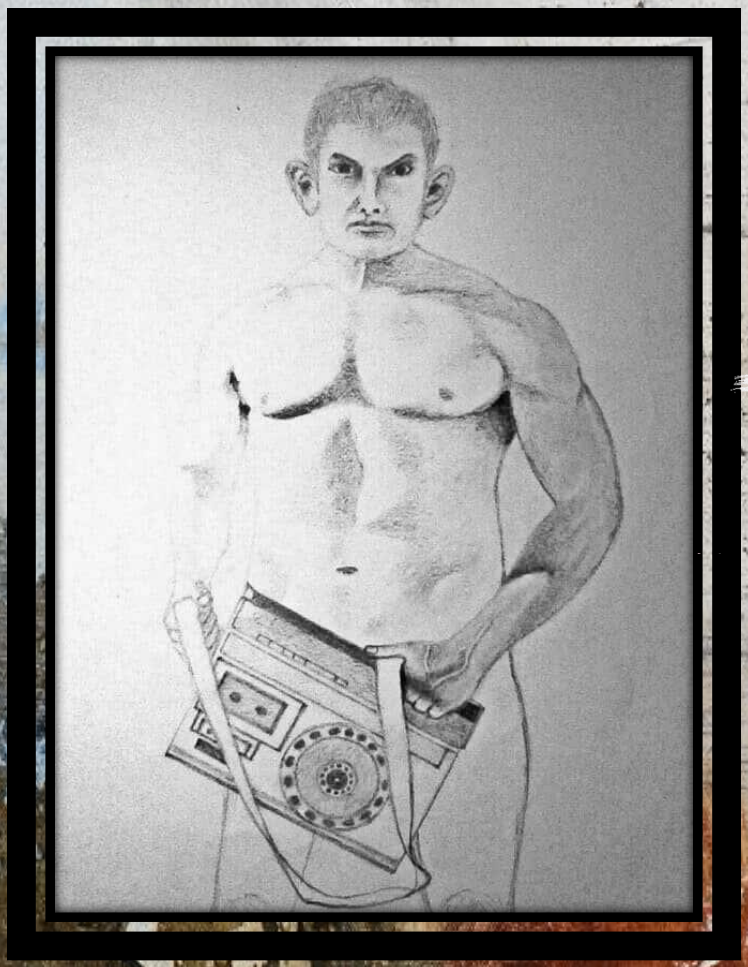
2015-2019

Captured By: Amartya Mukherjee
2014-2018

Anikesh Rana



Bikash Barik



Anikesh Rana

Pritam Saha

Arshad Wahab

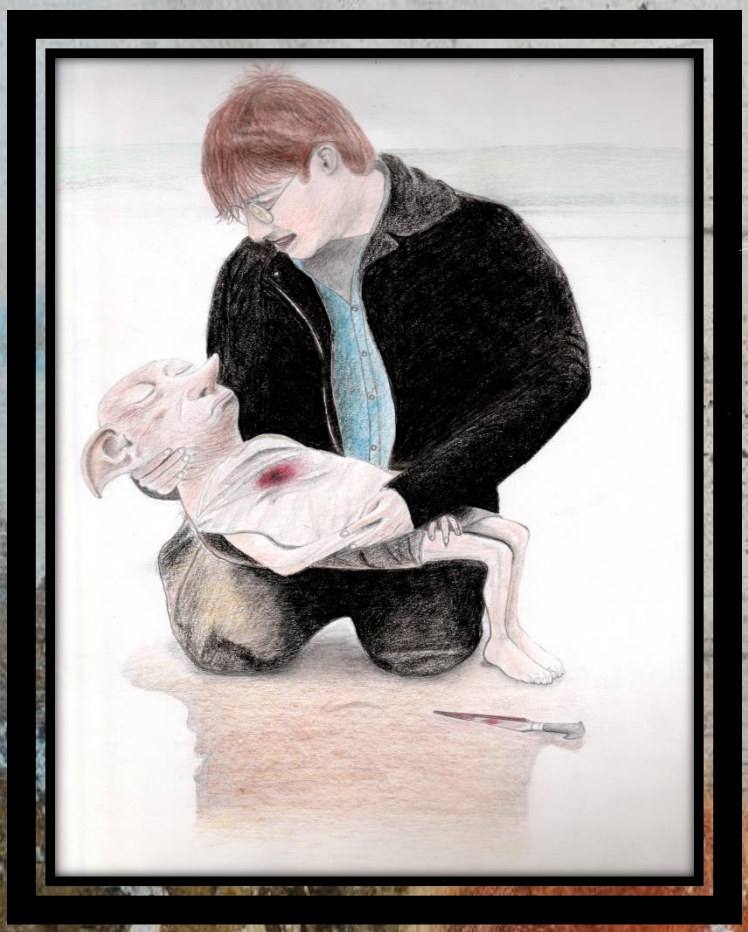
Anikesh Rana

Rudrajit Maity

Arshad Wahab

Pritam Saha

Arshad Wahab



Anikesh Rana

Pritam Saha

Rudrajit Maity

Pritam Saha

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