

विचार

V E N T
V E R V E
V I B R A N T
V I V I D

NEWSLETTER OF IITRAM

Jan-May 2017 • Volume 01 • Issue 01

From the Director's Desk...

Objectives

- To impart knowledge and offer courses with specialization in Infrastructure and Management of Infrastructure along with the areas of higher education with focus on science, technology, management, etc.
- To organize advanced studies and promote research with a focus on basic and applied sciences, engineering, technology, and management.
- To develop training facilities for urban bodies, industries and technical institutes.
- To setup innovation foundation, technology parks, knowledge parks and technology incubators to foster entrepreneurship.

I am pleased to present the first issue of our Newsletter. This Newsletter provides glimpses of the efforts put in by the faculty, staff and students of IITRAM, during the year 2016-2017.

The events given in this Newsletter yet again show that IITRAM is joining the leading institutions of India in its endeavor to supplement the research and development, innovations, faculty development, live problems concerning community and development of technical professional with a human touch.

IITRAM has made tremendous strides in the areas of curriculum development, laboratory development and research, under the guidance of IIT Gandhinagar.

Brilliance with hard work and perseverance marks the technological revolution. Knowledge is the true strength of a nation: on these lines IITRAM is preparing a knowledge workforce comparable to the best in the world through instruction in cutting edge technology. IITRAM also lays emphasis on individual and grab projects.

The future projects of IITRAM are tremendous. IITRAM is establishing collaboration with industries and foreign universities.

With regards,



— Prof. A. U. Digaskar

Isagoge

V4-Vent (give free expression), Verve (vigor & spirit/enthusiasm), Vibrant (pulsating), Vivid (intensely bright) are the befitting qualities of the youth. V4-विचार, as addressed proudly, carries a very connotative meaning विचाराली इति आचार : a person's character is shaped by what he thinks.

V4 being the newsletter of the youth from a teen Institute, truly represents the real spirit of the endeavor. The youth of IITRAM has taken a vibrant thought of creating and composing a newsletter which will not only vividly present the verve and the vent of the Institute but will also present the creative genius of the students. The newsletter highlights the events in the Institute, achievements of Faculty and Students, along with the creative expressions vented by the students on current issues, latest technological innovations, motivational stories, etc.

The main motif behind this is to really stimulate the young minds to think in the positive direction and to ignite the creative critical thinking capabilities so as to make Engineers sustain this competent world.

Let V4-विचार become the epitome of expression for the youngsters to follow!!!

— Dr. Meera Vasani



Battery Tech: The Monopoly of Lithium(Li)

— Shubham Bhosale



Be it your smartphone, laptop, or even electric cars: they share one thing in common; they all require power from a small but efficient storage device (Batteries). The technology that goes behind all

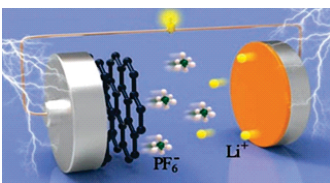
these electronic gadgets has got a tremendous boost in the last two decades. But the main thing is that the Batteries have been working on the same Lithium which was developed in 1970-90s. The efficiency and the capacity has increased; but by just altering Lithium metal.

The batteries made of Lithium are widely used in many gadgets just because they are light, rechargeable, and more efficient than the older ones(NiCd).The two major types of Lithium batteries are:

- 1.Lithium ion .
- 2.Lithium ion Polymer .

Both these are the best examples of any Lithium cell. But there are companies, which are trying to increase the capacity of this cell. Sion Power, a US based company, has developed Lithium-Sulfur batteries which have a high energy density as well as low cost. Sion had collaborated with Airbus Defense and Space to test their technology. Another tech company called Tesla has commercialised it's electric car Model S . Tesla, Inc. is spending a lot to increase the efficiency of their batteries. They are amongst the leading electric car manufacturers in the world and if they want to sell an electric car then they have to make them efficient. .When it comes to cars the recharging speed also plays a critical role. To reduce the recharging time supercapacitors are supposed to be the best as they charge and discharge very quickly.

Many alternatives for Lithium batteries are being tested all over the world. Graphene has turned out to be a reliable alternative for Lithium but it is under testing and even hybrids of Lithium and Graphene are used in many devices to improve the performance of batteries. A Research team, based in China, has developed an



entirely new technology. “Aluminum-Graphite, Dual-Ion Battery (AGDIB)” which is under testing offers reduced weight-volume, fabrication cost, as well as higher energy density compa-

red to the Lithium-Ion batteries (LIB).

The AGDIB mechanism follows a dual ion intercalation or alloying process. In AGDIB, graphite is used as cathode and Aluminum acts as a counter electrode. AGDIB can deliver a specific energy density of $\sim 222 \text{ Wh kg}^{-1}$ at a power density of 132 W kg^{-1} , and $\sim 150 \text{ Wh kg}^{-1}$ at 1200 W kg^{-1} . Compared with commercial LIB ($\sim 200 \text{ Wh kg}^{-1}$ at 50 W kg^{-1} , and $\sim 100 \text{ Wh kg}^{-1}$ at 1000 W kg^{-1}) and electrochemical capacitors ($\sim 5 \text{ Wh kg}^{-1}$ at 5000 W kg^{-1}) AGDIB shows an improved performance.AGDIB also uses Li^+ ion as a charge carrier.

Even though the Research in replacing Lithium and search for it's alternative is going on in labs, the fact is commercialization of these alternatives will take up nearly a decade. Many premium or costly batteries come with new tech inside but at last it is Lithium



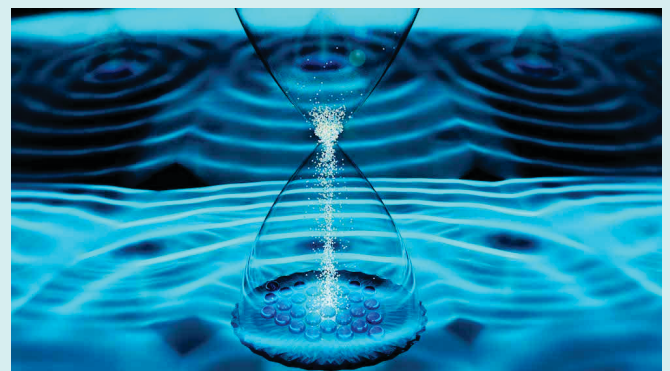
which has always appeared at the end . The search for better alternatives is ongoing but till the next leap Lithium will dominate the market and the world of batteries will remain “In the Monopoly of Lithium (Li+).”

Li Lithium
Weight: 6.941 u
Config: [He]2s¹



Pile of lithium batteries

Do You Know? — Prathamesh Bhat, IITRAM



New experiments suggest that a bizarre new state of matter seems to suspend the laws of thermodynamics almost indefinitely. This form of matter, known as a time crystal is essentially a collection of atoms or ions that are far apart but still interacting with each other. This form of matter keeps "ticking" indefinitely, without heating up or creating entropy, the natural state of disorder that always increases in the universe. Time crystals work because of quantum effects and the newly created matter joins a host of other exotic states of matter, such as superconductors, quantum-spin liquids and superfluids.

From the article "Time crystals created, suspending laws of physics" Originally published on Live Science



There have always been speculations about how the underworld controls bollywood. Some of you might not even believe it because you can't hear something against the people you idolize.

So let me ask just a basic question in the beginning. We know that there are a number of movies like Raees, Shootout at Wadala, Once upon a time in Mumbai (and its sequel), Company and many others. What's common

in them is that, your favorite heroes are playing the role of the Gangsters but it should be the other way around. Like if we ask anyone about the cast he/she would say that SRK was the hero playing Abdul Latif while Nawazuddin was a police officer trying to arrest him making him the villain. This is what we should think of when there's a film making a gangster the hero. Well the filmmakers say it is fiction; but the people know the truth.

Now coming to the facts: there have been numerous occasions when top B-Stars are spotted with some Dons or their goons.

- 1) Salman Khan with Dawood Ibrahim.
- 2) Then comes Anil Kapoor with Dawood Ibrahim enjoying a cricket match.
- 3) Sunil Dutt, father of Sanjay Dutt (charged for keeping arms used in the Mumbai blast of 1993) also shares a photo with Haji Mastan belonging to same class as Dawood.

And many more...

The connections can be simply described as business relations where the Underworld are the Angel Investors funding your movie or telling the Director or Producer to cast you while you return them back as promised.

And sometimes business is not done in good faith like Rakesh Roshan refused to share the profit of "Kaho Na Pyaar Hai" with the Underworld and in broad daylight he was shot in his arm and chest.

Same is with Gulshan Kumar (Founder of T-series music). He was filled with bullets and was shot dead in daylight by the Underworld.

Some of you might know that whenever Shah Rukh Khan lands at any US airport his detailed search is done every single time. His fans become furious but on asking Subramanian Swamy (MP Rajya Sabha) about this he said, "The Americans never



compromise with their nation's security and they hold him because they have links connecting him to the Underworld." He was asked as he is known for having confidential news. We here are not supporting his claim but it should make us think that this may be true. SRK never opposes this and stops visiting that country but in turn tries to make comments on the tolerance of our Nation.

Underworld is just like a Godfather for actors to succeed eg. How Anil Kapoor's son and daughter both got a break in acting, success of the Khans, etc..

There are honest actors; but even top directors like Mukesh Bhatt, Boney Kapoor and Rakesh Roshan have all admitted to receiving calls for sharing of profits, threatened with dire consequences if they didn't comply.

This doesn't mean that we completely boycott bollywood which is the largest film producing industry of the world. But watching movies without any sensible story, just because of the people involved is not sensible.

So whatever is earned by talent might be going to these gangsters, and later they only fund the attacks on our Nation. So it may be said that we are funding the people against our Nation.

Image courtesy:- scoopwhoop

The man with the vision — Devasree Guggiri

Blindfold yourself for one day and do your daily chores. Seems impossible, doesn't it? This man Srikanth Bolla has been living that way for the last 24 years but that didn't stop him from being the CEO and founder of a company which makes a turnover of 50 crores per year. He is the first international blind student to graduate from Massachusetts Institute of Technology.

He was born in Machilipatnam, Andhra Pradesh. Life was never easy for him as he was born blind. His parents paid no heed to the villagers or their relatives and supported him in every aspect. Even though he topped in his class 10 examinations, he wasn't allowed to pursue science in classes 11 and 12. He filed a case in the court and after a 6 month wait, he was allowed to pursue science at his own risk. And once again he topped his 12th board with a whopping 98%! Tragedy struck once again when he was denied admission to the IITs and NITs he said... "If IIT doesn't want me then I don't want IIT either." While half of India is struggling to get into an IIT, this man has achieved that task.

Did that stop Srikanth from pursuing engineering? No, it didn't. He applied for MIT and got selected. Which is still a dream for many of us. He became the first blind student to graduate from MIT. Srikanth said "The world looks at me and says, Srikanth you can do nothing. I look back at the world and say look at me, I can do anything." And yes he did exactly what people said he couldn't. He is the epitome of courage and determination.

Now he is the CEO and founder of Bollant Industries. The company manufactures eco friendly products such as trays, cups, plates, etc. Today, Bollant employs over 150 disabled individuals and has five manufacturing units. These are just some of the achievements to be added under his belt. It has been rightly said "Specially abled but not disabled."

बिहार के सॉफ्टवेयर मास्टर की सफलता



अमित कुमार दास का जन्म बिहार के अररिया जिले के फारबिसगंज कस्बे में रहनेवाले एक किसान परिवार में हुआ। उनके परिवार के सभी लड़के बड़े होकर अपने घरों की खेती में हाथ बंटाय़ा करते थे। मगर अमित इस

परंपरा को आगे नहीं बढ़ाना चाहते थे। वे एक इंजीनियर बनने का सपना देखते थे, लेकिन परिवार की आर्थिक हालत ऐसी नहीं थी कि इंजीनियरिंग की पढ़ाई का खर्च उठा सके। जैसे-तैसे अमित ने सरकारी स्कूल से पढ़ाई पूरी की और उसके बाद पटना के एएन कॉलेज से साइंस स्ट्रीम से 12वीं की परीक्षा पास की।

संघर्षों से रहा बचपन का नाता

12वीं तक आते-आते अमित के सामने सबसे बड़ी चुनौती आर्थिक मुश्किलों को हल करने की थी। ऐसे में उनके दिमाग में मछली पालन से लेकर फसल का उत्पादन दोगुना करने के लिए ट्रैक्टर खरीदने जैसे ख्याल आने लगे। लेकिन जब पता लगा कि इसके लिए कम से कम 25000 रूपए की जरूरत होगी, तो उन्हें अपना सपना धुंधलाता हुआ सा नजर आने लगा। स्थितियां उनकी समझा से परे थीं, पर आगे बढ़ने का सपना दिल में पक्का हो चुका था। परिवार की माली हालत सुधारने का जब कोई विकल्प सामने नहीं आया, तो अमित ने खुद को उस स्थिती से दूर किया। सिर्फ 250 रूपए लेकर वे दिल्ली की ओर रवाना हो गये। दिल्ली पहुंच कर अमित को जल्द ही अहसास हो गया कि वह इंजीनियरिंग की डिग्री का खर्च नहीं उठा पायेंगे। ऐसे में वह पार्टटाइम ट्यूशंस लेने लगे। साथ ही, उन्हें दिल्ली विश्वविद्यालय से बीए की पढ़ाई शुरू कर दी।

अंग्रेजी बनी रास्ते का कांटा

पढ़ाई के दौरान अमित को महसूस हुआ कि उन्हें कंप्यूटर सीखना चाहिए। इसी मकसद के साथ वे दिल्ली के एक प्राइवेट कंप्यूटर ट्रेनिंग सेंटर पहुंचे। सेंटर की रिसेप्शनिस्ट ने जब अमित से अंग्रेजी में सवाल किये, तो वह जवाब में कुछ नहीं बोल पाये, क्योंकि अंग्रेजी में भी उनके हाथ तंग थे। रिसेप्शनिस्ट ने उन्हें प्रवेश देने से इनकार कर दिया। उदास मन से लौट रहे अमित के चेहरे पर निराशा देख कर बस में बैठे एक यात्री ने उनकी उदासी का कारण जानना चाहा। वजह का खुलासा हुआ तो उसने अमित को इंग्लिश स्पीकिंग कोर्स करने का सुझाव दिया। अमित को यह सुझाव अच्छा लगा और बिना देर किये तीन महीने का कोर्स ज्वाइन कर लिया।

कोर्स पूरा होने के बाद अमित में एक नया आत्मविश्वास जाग चुका था। उसी आत्मविश्वास के साथ अमित फिर से कंप्यूटर ट्रेनिंग इंस्टीट्यूट पहुंचे और प्रवेश पाने में सफल हो गये। अब अमित को दिशा मिल गयी थी। छह महीने के कंप्यूटर कोर्स में उन्होंने टॉप किया। अमित की इस उपलब्धि को देखते हुए इंस्टीट्यूट ने उन्हें तीन वर्ष का प्रोग्राम ऑफर किया। प्रोग्राम पूरा होने पर इंस्टीट्यूट ने उन्हें फैकल्टी के तौर पर नियुक्त कर लिया। वहां पहली सैलरी के रूप में उन्हें 500 रूपए मिले।

बचत से शुरू किया ISOFT

कुछ वर्ष काम करने के बाद अमित को इंस्टीट्यूट से एक प्रोजेक्ट के लिए इंग्लैंड जाने का ऑफर मिला, लेकिन अमित ने जाने से इनकार कर दिया। वजह थी मन में अपना कारोबार करने की इच्छा। उस समय

पैसों की कमी के चलते रास्ते बदलते लोगों का सफर में टकराना आम बात है। लेकिन मामूली-सी रकम के साथ अपने घर को छोड़ कर बड़े शहर की ओर रूख करने के लिए हिम्मत, ललक और जुनून चाहिए होता है। एक ऐसी ही मिसाल पेश की है, अमित कुमार दास ने। बिहार के छोटे से कस्बे से निकल कर विदेश तक पहुंचना और अपना व्यवसाय खड़ा करना, यह अपने आप में काबिल-ए-तारीफ उदाहरण है। यह उदाहरण युवाओं को प्रेरित करने का पूरा दम रखता है।

अमित की उम्र 21 वर्ष थी। कारोबार की इच्छा रखने वाले अमित ने जॉब छोड़ने का फैसला लिया। कुछ हजार रूपये की बचत से दिल्ली में एक छोटी-सी जगह किराये पर ली और अपनी सॉफ्टवेयर कंपनी 'ISOFT' शुरू की। 2001 में इस शुरुआत से अमित काफी उत्साहित थे, लेकिन मुश्किलें खत्म नहीं हुई थी। कुछ महीनों तक उन्हें एक भी प्रोजेक्ट नहीं मिला था। गुजारे के लिए वे जामिया मिलिया इस्लामिया यूनिवर्सिटी में रात में 8 बजे तक पढ़ते और फिर रात भर बैठ कर सॉफ्टवेयर बनाते।

धीरे-धीरे समय बदला और अमित की कंपनी को प्रोजेक्ट मिलने लगे। अपने पहले प्रोजेक्ट के लिए उन्हें 5000 रूपए मिले। अमित अपने संघर्ष के बारे में बताते हैं कि लैपटॉप खरीदने की क्षमता नहीं थी, इसलिए क्लाइंट्स को अपने सॉफ्टवेयर दिखाने के लिए वे पब्लिक बसों में अपना सीपीयू साथ ले जाया करते थे। इसी दौरान उन्होंने माइक्रोसॉफ्ट का प्रोफेशनल एगजाम पास किया और इआरसिस नामक सॉफ्टवेयर डेवलप किया और उसे पेटेंट भी करवाया।

आइसॉफ्ट ने किया सिडनी का रूख.....

अब अमित के सपनों को उड़ान मिल चुकी थी। 2006 में उन्हें ऑस्ट्रेलिया में एक सॉफ्टवेयर फेयर में जाने का मौका मिला। इस अवसर ने उन्हें अंतरराष्ट्रीय एक्सपोजर दिया। इससे प्रेरित होकर उन्होंने अपनी कंपनी को सिडनी ले जाने का फैसला कर लिया।

'Isoft' सॉफ्टवेयर टेकनोलॉजी ने कदम दर कदम आगे बढ़ते हुए तरक्की की। आज उसने ऐसे मुकाम को छू लिया, जहां वह 200 से ज्यादा कर्मचारीयों और दुनिया भर में करीब 40 क्लाइंट्स के साथ कारोबार कर रही है। इतना ही नहीं 150 करोड़ रूपए के सालाना टर्नओवर की इस कंपनी के ऑफिस सिडनी के अलावा, दुबई, दिल्ली और पटना में भी स्थित हैं।

समाजिक जिम्मेदारी पर दे रहे हैं जोर

इस ऊंचाई पर पहुंचने के बाद भी अमित कुमार दास समाज के प्रति अपनी जिम्मेदारी निभाना नहीं भूले थे। वर्ष 2009 में पिता की मृत्यु के बाद उन्होंने कुछ ऐसा करने का सोचा, जिस पर किसी भी पिता को गर्व हो। कहीं-न-कहीं उनके मन में अपने राज्य में शिक्षा के अवसरों की कमी का अहसास भी था। बस इसी अहसास ने उन्हें फारबिसगंज में एक कॉलेज खोलने की प्रेरणा दी।

अमित ने वर्ष 2010 में यहां कॉलेज स्थापित किया और उसका नाम अपने पिता मोती लाल दास के पर रखा- मोती बाबू इंस्टीट्यूट ऑफ टेकनोलॉजी। उच्च शिक्षा प्राप्त करके कुछ बनने का सपना देखनेवाले बिहार के अररिया जिले के युवाओं के लिए इससे अच्छा उपहार कोई और नहीं हो सकता था।

Training and Placement Cell @ IITRAM

For the very first batch of placement the formal campus placements involving company interviews for the academic year 2016-17 started in August 2016. The students from Bachelor of Technology (B.Tech) programs in the fields of Civil and Electrical participated in the placement process.

In the batch of 52 students, a total of 50 students were eligible for campus placements 2016-17. Out of which 14 students enrolled for higher studies in leading Universities in India and abroad like California state University, Georgia Institute of Technology, Texas A&M University, Centre for Environmental Planning and Technology University (CEPT) and many more. Two students traversed through their entrepreneurial dream by starting iCreate (DST) funded start-up venture in the field of renewable Engineering named Eco-impulse. One student decided to support his father to run their technology driven family business. Around 20+ companies from Engineering & Technology,

Consulting, IT/Software and PSU sector participated in campus placement 2016-17 to recruit 33 students. Engineering and Technology students of IITRAM demonstrated a strong commitment to their core educational background in their choice of employment.

Majority of the students opted for science, engineering and technology oriented jobs. PSUs like GSFC, MNCs like TBEA (India) Pvt. Ltd, Hi-tech solutions LLP, and consultancies like Infinite Civil Solutions, Mars Consultancy and many more, interviewed our students during campus placement 2016-17 and approx. 70% percentage of the batch was placed with an average package of 2.67L/Annum. The highest salary offered of 4.5L/Annum was offered to 3 of our students by TBEA India Pvt. Ltd. With still 4 more companies lined for interview process it is expected to reach the milestone of 100% Placement.

Picking the Paseo

— Vishwas Rathod

Our country is under the era of transformation. We are lucky; being a tiddler; are witnessing the change, being an integral of it (as we constitute half the population of the country). Similarly, the juvenile phase that we are through is itself a period of great transformation; be it bio-chemical changes in the body or psychological changes. This is the phase when we establish our individuality, start taking the responsibility of our actions and start making decisions. The last one i.e. decision making is the most important as it eventually architects all the other aspects. The tricky part about it is that it follows the Heisenberg's

Uncertainty Principle and mostly we are never certain about anything. This reminds me of the tastefully chosen words of Robert Frost in "The Road Not Taken".

It was published in 1916; but even after a century it sounds so relevant to us. Every now-and-then we are in the same situation; which the poet expounds, choosing between the two paseos; reckoning about it till the farthest sight possible. Don't know whether this is because of lack of choice or availability of greater options, but we are always confused and it's good to be.

Depending on the psychology of their choice, youngsters could be sorted into four compartments:

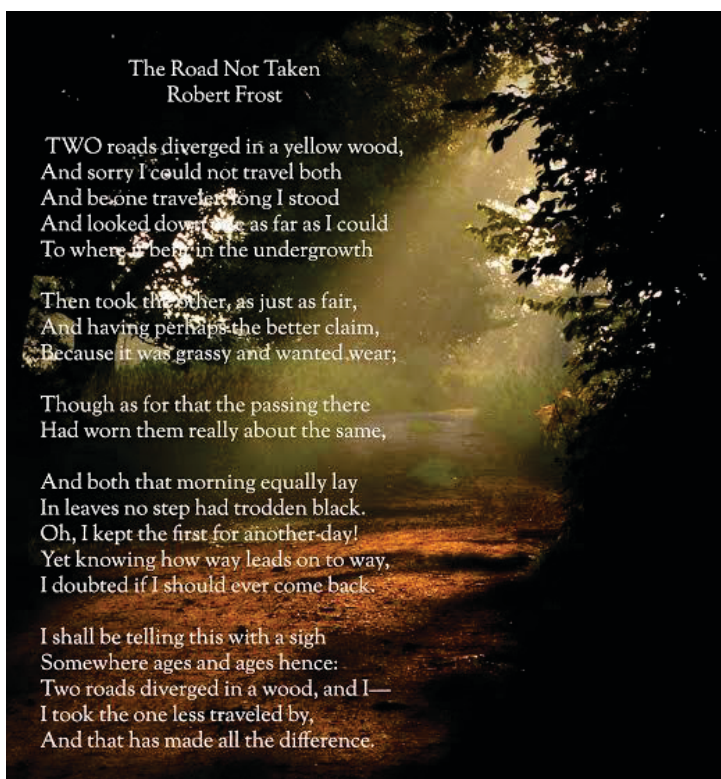
- Those who choose the most frequently used path – The Stereotypes.
- Those who could not select any of the path – The Confused.
- Those who select the fallow one just because the other one is very common – these are the one with 'Being Different' stigma.
- Lastly, the choosey one; who confuse themselves a lot just to make a wise decision – The Witty Over-thinkers.

Nobody can help you with your psychology; but follow your gut feeling and make sure whatever you choose makes you happy, because happiness is the key to success. None of the successful people knew the secret of success; all they were aware about was Happiness, and what makes them happy. The best way to make a better choice is to follow the inner instinct of your heart. And once you have chosen your trail, explore it to the extreme. It's your decision, so you should prove yourself. I would like to end with the words of Ratan Tata; the famous business tycoon.

"I don't believe in taking right decisions, I take decisions and then make them right."

But, choose wisely!

Stay Confused, Stay Happy and Always keep Smiling.



"Necessity is the mother of Invention."



The usage of plastics have become more despite the knowledge of how it pollutes and remains undegraded for hundreds of years. The only reason behind this is the absence of such cheap and handy material in the market. Many researches are going

on to replace plastic. If everything goes well, there will be a new type of plastic within two to three years. Basically, plastic products are the derivatives of crude oil. As that is a depleting resource, there is a great need for an alternative and this is the high time for it.

Plastic from Agricultural Products :

Efforts were made to produce plastic from agricultural products. It has been proved that plastic can be prepared by removing a protein from wheat, soya, sugarcane waste, and cotton. This new plastic degrades in soil within two to three months.

Nanopower to Plastic :

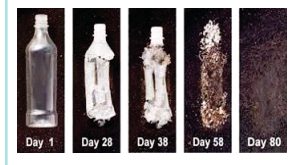
This new plastic is weak when compared to the normal one. So, for productive use, nanotechnology is introduced in the manufacturing. By reducing some proteins to nano level and adding it in the manufacture, the plastic is made stronger. For example, eggshells contain calcium carbonate. When we

incorporate this in it's nano level in plastic, the strength becomes double that of the normal one. Also, we can use this at high temperatures. Another new type can be prepared from waste tea extract as it has polyphenols and flavonoids to strengthen it. There is no need for extra nanotechnology here. Experiments are being conducted to bring this tea plastic to market level. It will be made in 2-3 years.



Bioplastic in medical field :

We know that neem, tulsi, turmeric, etc. have anti bacterial properties. So, we incorporate a film of these extracts and dip it in copper sulphate and silver nitrate solutions to develop the properties of plastic. It has been proved that this anti bacterial and bio degradable plastic protects injuries completely from various types of bacteria like e-coli, pencillium. This technology is also used in the manufacturing of cotton, bandaids and bed sheets used in hospitals. The speciality of these bed sheets is that the anti bacterial activity doesn't get washed away even after many washes. Cancer cells are also treated by the plastic containing the curcumin of turmeric, which has turned out to be a great success.



"Motivation is everything. You can do the work of two people, but you can't be two people. Instead, you have to inspire the next guy down the line and get him to inspire his people."
- Lee Iacocca

પ્રસ્તાવ: “જ્યાં ન પહોંચે રવિ ત્યા પહુંચે કવિ”. આજે અમુક આવારા તત્વોનાં મજાકથી આપણાં કવિ, લેખકો અને સાહિત્યનું સરેઆમ હનન થઈ રહ્યું છે. આપણાં સાહિત્ય અને લેખકોનાં માનને જાળવવા માટે અહીં લેખકની લાક્ષણિકતા દર્શાવવાની જરૂરિયાત પડી છે. અહીં લેખકની ભુમિકા અને કલ્પનાનો ચપટી એક ઉલ્લેખ છે.

‘લેખક’

જે કાદવમા પણ પંકજની કુસુમ શોધી આવે તે લેખક,

જે દરિયા ને આકાશ માં ડુબાડે તે લેખક.

જોવાનો નવો નજરિયો તે લેખક,

સાતમા આકાશનો નગરિયો તે લેખક.

લાગણીનો તહેવાર તે લેખક,

આઠમા દિવસનો વાર તે લેખક.

જે સંસ્કારનો સાક્ષાત્કાર કરાવે તે લેખક,

સમાજનાં સૈતાનોની સામેનો પડકાર તે લેખક.

સત્તાનાં મહેલનો ઘડનાર તે લેખક,

સત્તાનાં વૃક્ષનો ઉખાડનાર તે લેખક.

ભર આંગણેનાં યુદ્ધમાં જુસ્સો વધારે તે લેખક,

ઘોંઘાટનાં માહોલમા શાંતિ અપાવે તે લેખક.

ગહન વાતને મજાકમા સમજાવે તે લેખક,

સમજવામા નવી રમુજ કરી બતાવે તે લેખક.

પારણે બાળકની મિઠ્ઠિ નીદર અપાવે તે લેખક,

કુકર્મિની મધમધતી ઉંઘને ઉડાડે તે લેખક.

વિરહની યાદમાં બાળે તે લેખક,

બે દિલને મળાવે તે લેખક.

પહેલા મનને પથ્થર જેમ મક્કમ બનાવે તે લેખક,

પછી તે જ પથ્થર દિલને પીગાળે તે લેખક.

સમજો તો મહાન છે લેખક, ના સમજો તો પાપાણ છે લેખક,

છે એક લેખક સૌનો બાપ, પૂજે જેને દુનિયા કહી તેને જગતાત !!



Civil Engineering Department

The Department of Civil Engineering at IITRAM started along with the inception of the Institute in the year 2013. At present, the Department offers three academic programmes leading to B.Tech. in Civil Engineering, M.Tech. in Civil Engineering (with specialization in Urban Infrastructure) and Ph.D. in all major Civil Engineering sub-specializations.

Conference Paper

1. **Dr. Trudeau Dave:** "Reuse of Plastic Waste in Foundation Soil Reinforcement Applications" during 19th International Conference on Soil Mechanics and Geotechnical Engineering at Seoul, South Korea.
2. **Dr Yogesh:** IC Paper submitted- "Utilization of Waste Glass Cullet as degrate in Bituminous Mix" (31-Jul-2017)
3. **Dodhiya A., Dave M, Modi P., and Shah J.** "Accumulation Managing Pavement - Design, Construction and Performance for Confined Areas" Tenth International Conference on the Bearing Capacity of Roads, Railways and Airfields. BCRRRA, 28-30 June, 2017, Athens, Greece. (Abstract Accepted and Full paper Submitted)
4. **Dr. Manoj Langhi, Dr. Jaidevi Jeyaraman Dr. Mahesh Mungule and Jashvi Mehta:** "Assessment of Urban Heat Island for Ahmedabad City" International Conference on Technological Advances in Climate-Smart Agriculture and Sustainability (TACSAS-2017), Nanded, India (16-18, Jan-2017).

Journal Paper

1. **Dr. Maheshu Mungule, Dr. Jaidevi Jeyaraman and Dr. Manoj Langhi:** "Urban Infrastructure in India: Present Status and Challenges" (May-2017)

Patents Filed

Dr. Jiten Shah – 03 early publication published

1. Device And Method For Traffic Data Acquisition And Their Control System - (1) Dr. Jiten Shah (2) Dr. Dipankar Deb (3) Jashvi Mehta (4) Deep Patel (5) Yashwant Dadi.
2. Automated System For Mitigated Cleaning of Solar Panels - (1) Akshat Vyas (2) Dr. Jiten Shah (3) Mrunal Patel (4) Parth Modi (5) Jay Dave (6) Himmat Singh (7) Dr. Dipankar Deb.
3. Robotic Device And Method For Automated Cleaning of Wind Turbine Blades -(1) Dr. Dipankar Deb (2) Mrunal Patel (3) Himmat Singh (4) Dr. Jiten Shah.

Student Achievements:

1. Himmat, Akshat, Parth, Jay, Mrunal and Dr. Jiten Shah has submitted the project under the scheme "Start-up" and the

project titled with "Eco-Impulse-An Autonomous water free Solar panel cleaning Bot" is selected under ICREATE SPARK-UP IDEA FUND PROGRAM and get research fund/project fund of Rs. 50,000.00 initially. Base on progress, they (icreate-Incubation centre) will recommend for the further approval for financial assistance.

2. Deep Patel, Final Year B.Tech Civil Engineering student, has been received admit offer on his selection for MS in Urban Planning at Georgia Tech., Atlanta.
3. FY B. Tech. student Jashvi Mehta of Civil Engineering presented her research in international conference TACSAS in Nanded Maharashtra.

Projects Submitted:

1. Submitted a project to MOEF in collaboration with Dr. Jaidevi Jayaraman titled, "Waste Minimization through utilization of plastic waste in the fibre form for development of special character concrete".
2. Project Submitted to the Ministry of Indian Railways "Design and Development of Integrated Add-on Systems to a Railway Coach for Assistance of Elderly and Mobility Challenged Persons" (Project got cleared from Railway Minister "Suresh Prabhu" waiting approval from Finance department)

Expert Lectures held:

1. Prof. G.V. Rao, Ex- Professor and Dean, IIT Delhi visited IITRAM on 17.04.2017. During his visit to IITRAM, Dr. G.V. Rao presented expert lectures on the following two aspects:

Lecture 1: Earth - Our Heritage

Lecture 2: Geo-environmental Engineering Applications of Geosynthetics.



2015:
Outstanding
Engineering
Institute West
by ABP News



2016 :
Best Institute
in Skill
Development
Program by DNA



2016:
Outstanding
Engineering
Institute West
by ABP News



2016 / 2017 :
Top Institutes
of India Award
by CSR

Electrical Engineering Department

Publications:

Book/Book Chapter:

- B. Siva Kumar Reddy “Advancement in Wireless Technologies & Networks”, Springer, (Textbook)
- Abhishek Rawat . “Design Analysis of Octagonal-Shaped Microstrip Patch Antenna at 5.70 and 8.00 GHz” Proceedings of the International Conference on Nano-electronics Circuits & Communication Systems. Lecture Notes in Electrical Engineering, vol 403. Springer, Singapore (2017).

Research Paper Publications:

Journal Papers:

- B. Siva Kumar Reddy “Experimental Validation of Timing, Frequency and Phase Correction of Received Signals using Software Defined Radio Testbed,” IET Signal Processing, 2017.
- B. Siva Kumar Reddy “Design of a Transceiver for Defence Communication Applications using SIMULINK,” Wireless Personal Communications, 2017.
- B. Siva Kumar Reddy “Performance Analysis of Transmitter based Spectrum Sensing Techniques,” Journal of Circuits, Systems and Computers, World Scientific Journal 2017.
- M. Sharma “A new approach to characterize epileptic seizures using analytic time-frequency flexible wavelet transform and fractal dimension,” Pattern Recognition Letters, May (2017) [SCI indexed]
- M. Sharma “Determination of Instantaneous Fundamental Frequency of Speech Signals Using Variational Mode Decomposition,” in Computers and Electrical Engineering, Elsevier on April 20, 2017. [SCI indexed]
- M. Sharma, “A Parametrization Technique to Design Joint Time-Frequency Optimized Discrete-Time Biorthogonal Wavelet Bases,” Signal Processing, vol 135, pp. 107 – 120, (2017). [SCI indexed]
- M. Sharma, “Optimal Duration-Bandwidth Localized Antisymmetric Biorthogonal Wavelet Filters,” Signal Processing, vol 134, pp. 87-99, May 2017. [SCI indexed]
- M. Sharma, An automatic detection of focal EEG signals using new class of time–frequency localized orthogonal wavelet filter banks, Knowledge-Based Systems 118 (2017) 217 – 227. [SCI indexed]
- M. Sharma, Time-frequency localized three-band biorthogonal wavelet filter bank using semidefinite relaxation and nonlinear least squares with epileptic seizure EEG signal classification, Digital Signal Processing 62 (2017) 259 – 273. [SCI index]

Conference Papers:

- Member of Technical Committee in IEEE International Conference in signal processing and embedded systems RISE-2017.
- M. Patel, H. Singh, and D. Deb, "Automated Cleaning of Wind Turbine Blades With No Downtime," Proceedings of IEEE ICIT 2017, March 22-27, 2017, Toronto, CA.
- P. Patel, A. Shandilya, and D. Deb, "Optimized Hybrid Wind Power Generation With Forecasting Algorithms and Battery Life Considerations," Proceedings of IEEE PECE 2017, February 23-24, 2017, Urbana, IL.

US Patents

- D. Deb, S. Aramanekoppa, P. Srinivasan, M.N.R. Devarakonda, Method and Engine Controller for Diagnosing Waste Gate Valve Malfunction and Related Power Generation System, US 20170089286 A1, Filed: Sept 22, 2016, Pub date: March 30, 2017.
- P. Srinivasan, M.N.R. Devarakonda, W.C. Vining, E.O. Reinbold, D. Deb, Engine controller and methods for controlling emission and power generation system using the same, US 2017/0074138A1, Filed: Sept 15, 2016, Pub Date: Mar 16, 2017.
- P. Srinivasan, M.N.R. Devarakonda, J. M. Fritz, D. G. Norton, A. Aramanekoppa, M. Setria, W.C. Vining, D. Deb, Systems and Methods for Model Based Control of Catalytic Converter Systems, US 9605579 B2, Filed: Dec 12, 2014, Pub date: June 16, 2016, Grant date: March 28, 2017.

India Patents:

- A. Rawat, D. Deb, V. Rawat, D. Joshi, Methods and Systems for Data Rate Based Peripheral Security, No. 201721005324 A, Pub Date: Feb 24, 2017.

Awards and Recognition:

- Axaykumar Mehta: Selected as Member of Technical Committee on Variable Structure and Sliding Mode Control by IEEE Control System Society for 2017.
- Dipankar Deb has received Senior Membership of IEEE.

Expert lecture/invited session/session chair:

- Dipankar Deb “Intellectual Property Rights: An Introduction and Patents Related to Renewable Energy Sources Filed at IITRAM” – Plenary Talk presented at 1st National Conference on ETCE, SAL Institute of Technology and Engineering Research, Ahmedabad, March 3, 2017.

- Dipankar Deb “Adaptive Inverse Control in Nonlinear Systems,” – Invited talk presented at Instrumentation and Control Department, NIRMA University, Ahmedabad, April 18, 2017.
- Dipankar Deb “Application of ITS in Traffic Engineering,”– Invited talk presented at STTP on Soft Computing Techniques in Transportation Engineering, LD College of Engineering, May 4, 2017.
- Manish Sharma attended a short term course on Condition Monitoring of Mechanical and Electrical Systems using Advanced Signal Processing Techniques, at IIT, Indore 06-07 March 2017.

Seminars/Workshops/Guest lectures/Industrial visits organized:

- Prof. V M Gadre, Professor, IITB delivered a talk on "Building Excellence in Professional Higher Education"

for faculty and he also interacted with EE students on the subject 'Signals and System'. Coordinated by Dr. Axay Mehta.

- Prof. (Dr.) Ambesh Dixit, Assistant Professor, IIT Jodhpur delivered popular lecture on Concentrated Solar Power Technology: An Indian Perspective. Coordinated by Dr. Dipankar Deb.
- Industrial Visit to Gujarat Solar Park, Charanka, Patan by Students of Semester VI on 23-02-2017.
- Dr. Alok Kanthi Deb, Associate Professor, IIT Kharagpur delivered Expert Lecture on Automobile Engine Condition Monitoring on 15-03-2017.
- Dr. Abhishek Rawat, Assistant Professor, IITRAM and Electrical engineering Students, IITRAM have participated in National Technology Day at VSSE, SAC, ISRO, Ahmedabad.

Mechanical Engineering Department

Dr. Navneet Khanna

Lectures delivered at following organizations:

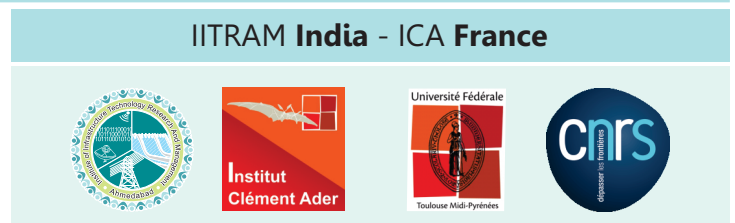
1. At **Institute of Clement Ader (ICA), Toulouse, France** (January 13, 2017) on "Manufacturing of Titanium Parts for Aerospace Companies and Future of CFRP/Ti Stacks in Aerospace Sector". ICA is a CNRS lab under French Ministry.
2. At **Faculty of Mechanical Engineering, Ljubljana University, Slovenia** (January 18, 2017) on 'Opportunities for Cryogenic Machining in Growing Indian Manufacturing Industry and Possible Areas of Joint Collaborations'. Ljubljana university ranks no. 1 in Slovenia.

Funding of approximately 38 Lakhs has been sanctioned by **SERB-DST, Government of India** for the project titled “Design and Development of Energy Efficient Cryogenic Machining Facility for Heat Resistant Alloys and Carbon Fibre Composites” in August 2016. This project on successful completion shall be helpful to the Indian Machine tool Manufacturing industry, Aerospace Manufacturing industry, Automotive Manufacturing industry, space parts Manufacturing industry etc.

International Research Collaborators

1. Dr. Suresh Palanisamy and Dr. Rizwan (Swinburne University, Australia)
2. Dr. Alokesh Pramanik (Curtin University, Australia)
3. Dr. Anil Srivastava (UTRGV, USA)
4. Dr. Anish Roy (Loughbrough University, UK)
5. Dr. Franci Pusavec (Ljubljana University, Slovenia)
6. Dr. Redouane Zitoune (ICA, France)

IITRAM conducted a Bilateral Workshop (IITRAM, India - ICA, France) on “Machining of Advanced Materials for Aeronautic Sector” during 26-27, May 2017.



UG & PG Projects Completed/undergoing In Collaboration with following Industry (Only few of them have been listed)

1. Bosch Rexroth (India) Pvt. Ltd.
2. Magma Machining Pvt. Ltd.
3. Miranda Tools (Division of PMP Auto Components Pvt. Ltd.)
4. Vijay Industries
5. Genius Ortho Pvt. Ltd.
6. Gopi Aluminium
7. Gujarat Apollo Industries Ltd.
8. Pushpak Trademach Ltd.

Results have been delivered to the industries and few results have been disseminated to the society in the form of research publications (4 papers have been accepted to be published in Elsevier Journal “Materials Today: Proceedings and 1 has been accepted to be published in an Inderscience Journal).

Dr. Ajit Parwani

- Proposal submitted to SERB-DST as PI, titled “Estimation of Thermal Boundary Conditions for a Cylindrical Tube Heat Exchanger using Efficient Inverse Heat Transfer Techniques”
- Organized expert lecture on topic "Development of Next generation Engines for Automobiles" delivered by Dr. PMV Subbarao (Professor, Mechanical Deptt. IIT Delhi) on 22 March 2017.
- Delivered expert talk on "Inverse heat transfer methods for the design of solar thermal collector" at MITS Gwalior for AICTE QIP sponsored Short Term Course on “Solar Energy Applications” during 1st March to 11th March 2017.
- Conference publication and Oral Presentation of paper titled as "CFD modeling for thermal performance of Closed Loop Pulsating heat pipe in bottom heated mode" in “Sixth International Conference On Advances in Civil, Structural and Mechanical Engineering - ACSM 2017” at Bangkok, Thailand dated 25-26 February, 2017.

Dr. Prasad Pokkunuri

- Started and successfully organised multiple faculty (both internal and external) and student presentations under the umbrella of Department Colloquium in the Even Semester
- External Expert on the Faculty Selection Committee in Mechanical Engineering at GSFC University
- Student Poster Presentation: Harsh Dave, Third Year Mechanical Engineering Undergraduate, “CFD Study of Aerodynamic Drag Reduction using Deflectors on a Ahmed Body” at the Computational Science Symposium in March 2017 at IISc
- Oral presentation titled “Simplified Modelling of Visco-Elastic Fluids for Use in Recoil Damping Systems” at the 19th International Conference on Advances in Fluid Mechanics, March 2017 in Tokyo
- Member of Board of Studies in Mechanical Engineering at GSFC University for a three-year term, starting April 2017.

Dr. PL Ramkumar

- Gave Invited lecture in International Conference on Advanced Polymeric Materials held in Kottayam, Kerala from 7 th to 9 th April 2017.
- First speaker in department colloquium (Gave a lecture on "Rotational Moulding").
- Organized a two week workshop on Design , Manufacturing , Advanced optimization tools and CNC Programming from 26 May 2017 to 6 th Jun 2017.

General Department

Chemistry

Dr. Mahuya Bandyopadhyay

● Publication in International journals:

1. “Mesoporous MCM-48 immobilized with aminopropyltriethoxysilane: A potential catalyst for Transesterification of Triacetin” *Catalysis Letters* (Vol. 147, 1040–1050, 2017, Springer Publishers) Mahuya Bandyopadhyay*, Nao Tsunoji and Tsuneji Sano.
2. “Design of highly active base catalyst through utilizing organic solvent-treated layered silicate Hiroshima University Silicates” *Dalton Transactions*, (Vol. 46, 7441-7450, 2017 Royal Society of Chemistry) Nao Tsunoji, Mahuya Bandyopadhyay, Yuya Yagenji, Hidechika Nishida, Masahiro Sadakane, Tsuneji Sano.

Dr. Sourav Das

- Funding of approximately 32 Lakhs has been sanctioned by **SERB-DST, Government of India** for the project titled “Design of multisite coordinating ligands for the assembly of molecular magnets based on 3d/4f and 4f metal cluster” in January, 2017. This project on successful completion shall be helpful to construct single-molecule magnets (SMMs) and molecular magnetic coolers (MMCs) which are expected to have potential applications including ultrahigh-density

magnetic data storage devices, spintronics and quantum computation at molecular level.

● Publication in International journals:

1. Heterometallic $[Cu_2Ln_3]$ ($Ln = Dy^{III}, Gd^{III}$ and Ho^{III}) and $[Cu_4Ln_2]$ ($Ln = Dy^{III}$ and Ho^{III}) Compounds: Synthesis, Structure, and Magnetism
Sourav Biswas, Prasenjit Bag, Sourav Das, Subrata Kundu, Jan van Leusen, Paul Kögerler* and Vadapalli Chandrasekhar*
Eur. J. Inorg. Chem., **2017**, 2017, 1129-1142. (Version of Record online : 23rd JAN 2017, DOI: 10.1002/ejic.201601210)
2. Homometallic Dy^{III} Complexes of Varying Nuclearity from 2 to 21: Synthesis, Structure, and Magnetism
Sourav Biswas, Sourav Das, Joydev Acharya, Vierandra Kumar, Dr. Jan van Leusen, Prof. Dr. Paul Kögerler*, Juan Manuel Herrera, Enrique Colacio*, Vadapalli Chandrasekhar*
Chem. Eur. J. **2017**, 23, 5154–5170. (Version of Record online: 27th MAR 2017, DOI: 10.1002/chem.201700471)
3. Synthesis, structure, fluorescent property, and antibacterial activity of new Cd(II) metal complex based on multidentate Schiff base ligand N,N'-Bis(3- methoxysalicylideneimino)-1,3-diaminopropane

Dhrubajyoti Majumdar,* Sourav Das*, Jayanta Kumar Biswas, Monojit Mondal

J. Mol. Struct. **2017**, *1134*, 617-624. (Version of Record online: 15th April 2017, DOI: 10.1016/j.molstruc.2017.01.002)

4. Synthesis, X-ray crystal structure, photo luminescent property, antimicrobial activities and DFT computational study of Zn(II) coordination polymer derived from multisite N,O donor Schiff base ligand (H2L1)

Dhrubajyoti Majumdar,* M.S. Surendra Babu, Sourav Das,* Jayanta Kumar Biswas, Monojit Mondal, Suman Hazra

J. Mol. Struct. **2017**, *ASAP* (Version of Record online: DOI: [10.1016/j.molstruc.2017.03.017](https://doi.org/10.1016/j.molstruc.2017.03.017))

5. Syntheses, X-ray Crystal Structures, Photoluminescence Properties, Antimicrobial Activities and Hirshfeld Surface of Two New Cd(II) Azide/Thiocyanate Linked Coordination Polymers

Dhrubajyoti Majumdar,* M. S. Surendra Babu, Sourav Das,* Chandrajeet Mohapatra, Jayanta Kumar Biswas, and Monojit Mondal

Chemistry Select **2017**, *2*, 4811-4822 (Version of Record online: 1st June, 2017. DOI: 10.1002/slct.201700743)

Economics

Dr. Pravin Jadhav

● Paper Presentations & Publications:

1. Presented paper on “Trend, Issues and Determinants of Public Private Partnership in Infrastructure: Evidences from Indian Economy” in 5th International Conference on Management of Infrastructure, 9-10 Feb 2017 held at University of Petroleum and Energy Studies.
2. Conducted workshop on Time-Series Econometric Analysis using E-Views at Auro University from 4th and 5th February, 2017
3. Chaired session in International conference on Imagi/Nation: India/Canada, Past, Present and Future from 25-27 March 2017

English

Dr. Meera Vasani

● Paper Presentations & Publications:

1. Presented paper in an International Conference on Imagi/Nation: India/Canada- Past, Present and Future on Dushkar - A critical study of Mahashweta Devi's novel on March 2017.
2. Presented paper in an International Event at IIT Gandhinagar titled Role of Animals and the Story of Origin in Berth Brand's Food and Spirits January 2017.

● Chairperson & Resource person

1. Chaired a session titled Rethinking Design and Human/Non-Human Agency in the Age of Anthropocene at the International Event on The Enigma of Nature/The Enigma of the Non-Human at IIT Gandhinagar in January 2017.
2. Chaired the session at the Indian Association for Canadian Studies sponsored 30th International Conference in March 2017.
3. Delivered an Expert talk on the Importance of Communication skills & Ways to improve it with the help

of VLE January 17 at Shri H. N. Shukla Homeopathic Medical College- Rajkot.

4. Rendered services as the Resource person at UGC- Human Resource Development Center in 85th Orientation Program on Online Platforms of Learning & Teaching English: MOOCs, Coursera etc. in June 17.

Mathematics Department

Dr. Gautam Borisagar

- Became a Fellow of Gujarat Science Academy for three years.
- Participated in Research Opportunities in Computer Science in February 24, 2017 at IIT Gandhinagar.
- Attended a workshop on “Integer factorization using general number field sieve” at Harish Chandra Research Institute, Allahabad during 05-08, July 2017.
- Attended conference on “Representation theory of p-adic groups” at IISER Pune during July 17 – 19, 2017.

Dr. Mohit Kumar Sharma

- Invited Lecture in Two Days Faculty Development Program on Engineering Mathematics, Parul Uni. on 18-May, 2017.
- Invited as expert member in board of studies meeting for discipline of Mathematics to review the syllabus for UG level.

Dr. Vikas Kumar Sharma

● Journal Papers published between 16 July 2016 and May 2016

1. Vikas Kumar Sharma, Bayesian Analysis of Head and Neck Cancer Data using Generalized Inverse Lindley Stress-Strength Reliability Model, *Communications in Statistics: Theory and Methods* (Taylor & Francis, Science Citation Index Expanded (SCIE), Scopus, Web of Science: Emerging Sources Citation Index, Impact Factor: 0.30), DOI: 10.1080/03610926.2017.1316858, 2017
2. Vikas Kumar Sharma, Sanku Dey, Sanjay Kumar Singh, Uzma Manzoor, On Length and Area Biased Maxwell distributions, *Communications in Statistics: Simulation and Computation* (Taylor & Francis, Science Citation Index Expanded (SCIE), Scopus, Web of Science: Emerging Sources Citation Index, Impact Factor: 0.39), DOI: 10.1080/03610918.2017.1317804, 2017
3. Sanku Dey, Vikas Kumar Sharma, Mhamed Mesfioui, A New Extension of Weibull Distribution with Application to Lifetime Data, *Annals of Data Science* (Springer), DOI:10.1007/s40745-016-0094-8, 2017.
4. Vikas Kumar Sharma, Hassan Bakouch, Khushoo Suthar, An Extended Maxwell Distribution: Properties and Applications, *Communications in Statistics: Simulation and Computation* (Taylor & Francis, Science Citation Index Expanded (SCIE), Scopus, Web of Science: Emerging Sources Citation Index, Impact Factor: 0.39), DOI: 10.1080/03610918.2016.1222422, 2016.
5. Vikas Kumar Sharma, Sanjay Kumar Singh, Umesh Singh, Khai Ul-Farhat, Bayesian estimation on interval censored Lindley data using Lindley's approximation, *International Journal of System Assurance Engineering and Management* (Springer, Scopus, Web of Science: Emerging Sources Citation Index), DOI 10.1007/s13198-016-0528-x, 2016.

- Sanjay Kumar Singh, Umesh Singh and Vikas Kumar Sharma, Estimation and prediction for Type-I hybrid censored data from generalized Lindley distribution, Journal of Statistics & Management Systems (Taylor & Francis, Web of Science: Emerging Sources Citation Index), Vol.-19, pp.-367-396, 2016.

● **Invited Talks:**

- Delivered a series of Lectures (as a resource person) on the topic “Computational Statistics using R-software” in UGC-Sponsored Seminar Cum Skill-Based Workshop on Statistical Computing Using R software, P.G. Deptt of Statistics, Utkal University, Bhubaneswar, Orissa, 27-28, March, 2017

● **Guest editor:**

- Guest editor for a special issue on topic “Lifetime data modelling” expected to be published in Dec 2017 at Austrian Journal of Statistics (Scopus Indexed and published by the Austrian Statistical Society, <http://www.ajs.or.at/index.php/ajs>).

Physics Department

Dr. Dheeraj Kumar Singh

- Funding of approximately 50 Lakhs has been sanctioned by **SERB-DST, Government of India** for the project titled “Molecular Structure and Vibrational Dynamics of Ionic Liquids and their Binary Mixtures with Solvents” in December, 2016. This project on successful completion shall be helpful to several applications in energy research, materials science, and medicine. Moreover in the granted project, the room temperature Ionic Liquids will be used for the capture of carbon dioxide (CO₂) in an effort to counteract global warming.

● **Invited Lecture:**

- Delivered an Oral Talk in “International Conference on Advances in Biological Systems and Material Science in NanoWorld “ABSMSNW-2017” during 19-23 February, 2017 at IIT BHU, Varanasi. The topic was “Antibiotic labeled metal nanoparticles and fluorescent metal quantum clusters and their bioapplication”.

● **Expert Talk:**

- Delivered an expert talk on “Saga of Raman Spectroscopy” on Science day celebration at IITRAM, Ahmedabad.

Dr. Brajesh Tiwari

- Project:** Early Career Research (ECR) award fellowship from SERB-DST : Project Title “Design of multisite coordinating legands for the assembly of molecular magnets based on 3d/4f and 4f metal clusters” (Total amount approximately Rs 32 lacs) with Dr. Sourav Das (IITRAM)

● **Publication in International journals:**

- Bhagwati Prasad Bahuguna, L. K. Sainia, Rajesh O. Sharma, Brajesh Tiwari 'Structural, Electronic and Optical Properties of Layered GaSe_{1-x}As_x' Computational Materials Science (Accepted for Publication) (I.F =2.29) (Publisher: Elsevier)
- S Dwevedi, B Tiwari 'Magnetic and Transport Properties of Mn₂Ni_{1.8}In_{0.2} Alloy Alloy' J. Sup. Novel. Mag. (2017) (still

online only) <https://dx.doi.org/10.1007/s10948-017-4235-x> (I.F=1.18) (Citation=0) (Publisher: Springer)

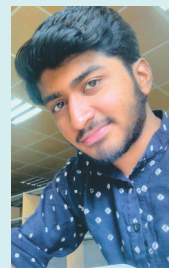
- A Prince Babbar, Brajesh Tiwari, Bhagyesh Purohit, Aleksandr Ivanishchev, Alexei Churikov, Ambesh Dixit 'Charge/discharge characteristics of Jahn–Teller distorted nanostructured orthorhombic and monoclinic Li₂MnSiO₄ cathode materials' RSC Advances, 7, 22990 (2017) <https://dx.doi.org/10.1039/C7RA02840G> (I.F =3.84) (Citation=0) (Publisher: Royal Society of Chemistry)

- **Workshop:** Delivered lecture in workshop sponsored by TEQUIP-II at SVNIT- Surat (2-6 January 2017) Roll of Physics in Technology development (RPTD2017)

**Team V4 विचार
Writers**



Vishwas Rathod



Diya Chauhan



Shubham Bhosale



Sarasbandrika



Hemendra Umat



Prathamesh Bhat



Devasree Guggiri

For contribution, contact:

Dr. Meera Vasani
Faculty Coordinator
vichar@iitram.ac.in