

# Mechanical **Aspire**

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 37

Laureates of 2016

On Dec 10, 2016, Nobel Laureates were awarded

## The Nobel Prize in Physics 2016

"for theoretical discoveries of topological phase transitions and topological phases of matter"



David J Thouless



F.Duncan M.Haldane



J.Michael Kosterlitz

## The Nobel Prize in Chemistry 2016

"for the design and synthesis of molecular machines"



Jean Pierre Sauvage



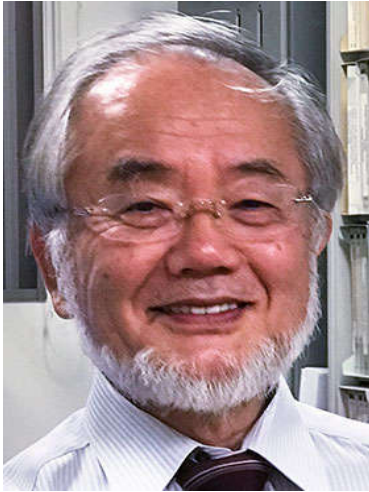
Sir J. Fraser Stoddart



Bernard L. Feringa

The Nobel Prize in Physiology or Medicine 2016

"for his discoveries of mechanisms for autophagy"



Yoshinori Ohsumi

The Nobel Prize in Literature 2016

"for having created new poetic expressions within the great American song tradition"



Bob Dylan



Juan Manuel Santos

The Nobel Peace Prize 2016

"for his resolute efforts to bring the country's more than 50-year-long civil war to an end"

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2016

"for their contributions to contract theory"



Oliver Hart



Bengt Holmstrom



Dr.G.Sethuraman



Dr.Chitra Babu

NPTEL- National Program for Technology Enabled Learning- is a body of e-learning content. This year, IIT Madras introduced a scheme to popularise the courses among students. As part of the exercise, Dr.ChitraBabu, HoD- CSE and Dr.Sethuraman, Librarian spearheaded the activities at SSN for student participation for these courses. Based on our students' registration and performance in the course evaluations, SSNCE has been recognized with a rating of AAA. More details at

[http://nptel.ac.in/LocalChapter/college\\_homepage.php?collegeid=111](http://nptel.ac.in/LocalChapter/college_homepage.php?collegeid=111)

### Conference on Reliability and Safety Engineering



Department of Mathematics, SSN along with Society for Reliability and Safety (SRESA ), BARC, Mumbai , organized 3rd **National Conference on Reliability & Safety Engineering ( NCRS-2016)** during December 01-03, 2016. Dr.S.Narasimman was one of the Convenors of the Conference.

D.R.Sujatha and Dr.R.Sundareswaran offered Secretarial Support for the conference.



Selected papers will be published in *SRESA Journal of Life Cycle Reliability and Safety Engineering* . This journal is published by Springer.

### Doctorate Scholars' Day

SSN Doctorate Scholars Day was conducted on Dec first. All Full time Scholars made presentations (Oral / poster) highlighting their work. Best presentations were awarded by President and Principal.

Visveshwar of Final Year Mech writes...

I am happy to share with you that I have received the award "Bala Kala Rathna" from BKS trust at Bharatiya Vidhya Bhavan.

Also, I have been upgraded to "B - High" grade from All India Radio.

This Margazhi music season has been eventful for me as I performed 10 concerts at different Sabhas including Karthik fine arts, Indian fine arts, Brama gana sabha, Bharath kalachar, Parthasarathy swami sabha, Papanasam sivan sangeetha sabha.



Extract from AIR letter

This is with reference to your audition by the Central Audition Board held on the basis of your recital recorded at our studios on 7/9/2015 for upgradation. We are glad to inform you that you have been placed in "B High GRADE" i.e. higher to the one in which you were placed prior to your audition referred above.



External Recognition 2 – Invited Lectures

Dr. M.Selvaraj, Associate Professor, delivered invited talk on 'Friction and dynamics of rigid body at Jeppiar SRR Engineering College for a Faculty Training program of Anna University. [19-12-2016]

Professor SRKoteswara Rao was invited to deliver a lecture on NDT at Tagore Engg College on 1st Dec 2016, as part of their 2 day FDP on NDT (Non Destructive Testing).



Dr.K.S. Vijay Sekar, Associate Professor, delivered three lectures (one day session) in the Anna University sponsored Faculty Development and Training Programme on "Finite Element Method", held in the Department of Aeronautical Engineering, Jeppiaar Engineering College on 24th Nov 2016.



Dr. Satheesh Kumar Gopal, Associate Professor has delivered an invited talk in the FDTP programme on "Engineering Mechanics" organized by Jeppiaar SRR Engineering College on 20.12.2016

### External Recognition 3 – Invited reviews



Dr.Rajkumar.K, Associate professor, reviewed the article titled " A Comparative Analysis on Tensile strength of Dry and Moisture Absorbed Woven Kenaf/Glass Hybrid Polymer Composites with and without reinforcing fly-ash particles" for the International journal of industrial textiles.



Dr. A.K. Lakshminarayanan, reviewed 10 research papers for Materials and Manufacturing Process, Taylor and Francis



Dr.K.Subbaiah, Professor, reviewed a research paper for Springerlink International Journal of Minerals, Metallurgy and Materials.



Dr. N. Lakshmi Narasimhan, Associate Professor, Reviewed a Research Paper for the Int. J. Refrigeration (Elsevier)

### Research Activities



Dr M S Alphin, Associate Professor, Convened Confirmation DC meeting for Mr. B. Rajesh kumar (PhD Scholar/Part-time). Dr N. Arunachalam, IIT M was present for the meeting. [18-12-2016].



Dr. M.Nalla Mohamed, Associate Professor and his PhD Scholar (Mr. A. Praveen kumar) presented 3 papers titled "Crush performance analysis of combined geometry tubes under axial compressive loading" "New insight to improve energy absorption characteristics of long circular tubes with stiffeners as controllable energy-dissipating devices" and "Numerical and experimental study of the effect of orientation and stacking sequence on petalling of composite cylindrical tubes under axial compression" in the 11th International Symposium on Plasticity and Impact Mechanics (Implast 2016) organized by Indian Institute of Technology-Delhi on 11-14th Dec 2016 [14-12-2016]



Dr. K. Jayakumar, Associate Professor and his PhD student (Mr. A. Madhan Kumar) presented a paper with the title of "Drilling studies on Particle Board composite" in the International Conference on Material Sciences (SCICON' 16) organized by Amrita University, Coimbatore (December 19 to 21, 2016). [20-12-2016].



Dr. B. Anand Ronald, Assoc. Prof., Presented paper in the 6th International & 27th All India Manufacturing Technology, Design and Research Conference, (AIMTDR), College of Engineering, Pune. [16 to 18-12-2016]

## Papers published / accepted

Dr. Nallusamy, Professor published a technical paper titled "Spray Characteristics of Biodiesel Fuel in Constant Volume Chamber using Multi-response Optimization Technique" in the International Journal of Thermal Science, Vol.25, No.6 (2016), pp. 581-588. Thomson Reuters impact factor: 0.543 (First author: Mr. P. Raghu, SVCE)

Dr.D.Ananthapadmanaban, Associate Professor-Paper titled Corrosion Studies in Friction welded Aluminium to Copper with Nickel Interlayer-Accepted for publication in Transylvanian Reviews Journal

## Program Attended



Dr.R.Prakash, ASP/Mech., Dr.S.Vijayan, ASP/Mech., and Mr.B.Jayakishan AP/Mech., attended an one day conference with the theme "Exploring Advances in Automotive Electronics" on 09.12.2016 at Hotel ITC Grand Chola, Chennai conducted by Tamil Nadu Technology Development & Promotion Center of CII.



## Project News



Three projects have been submitted by Mech Faculty in December .

Dr.D.Ananthapadmanaban, Associate Professor submitted a Project proposal on "Solid state welding of dissimilar metals and effect of cryogenic treatment on mechanical properties" to DST-SERB under EMRC Scheme . Fund Requested Rs.15 lakhs, over a period of three years.[23-12-2016]



Dr. M. Dhananchezian, Associate Professor, submitted a Project proposal on "The effects of sustainable hybrid cryogenic cooling on machinability, surface integrity and product performance in turning of Waspaloy 300 and Haynes 230 alloys." under the Scheme: Extra Mural Research Funding (Individual Centric). Total Cost (in Rs.): 14, 71,000 [26-12-2016]



Prof.N.Nallusamy (PI) and Mr. Jayakishan (Co-PI) submitted a proposal titled "Composition Effects of Oxidised Paint Waste Oil on Combustion and Emission Characteristics in a Reactivity Controlled Compression Ignition Engine" to DST-SERB under EMR scheme. Amount requested is Rs. 23,86,250/-



## STUDENT ACTIVITIES:

Muruges of Final Year Attended the NSS program of SSN [2-12-2016]

Murali T S of Second Year did an Internship at Wheels India limited [20--12-2016]

Diwakar S of Third Year is undergoing an internship at IIT Madras [since 4-12-2016]

Narmadha of Third Year attended an Inplant training at Chennai Vehicle Assembly and Engine Plant, Ford [starting 5-12-2016]

PA Shankar of Final Year participated in a GIAN course on mechanics of fracture [19-12-2016]

### Faculty Write up

**Dr. B. Anand Ronald**, presented a paper (poster) titled "*On the comparison of Properties of Magnetic Moulded Al/ SiC<sub>p</sub> Metal Matrix Composites with other Fabrication Methods*" in the 6th International & 27th All India Manufacturing Technology, Design and Research Conference, (AIMTDR 2016), held at *College of Engineering, Pune* from **16 - 18 Dec. 2016**.

The co-authors were: *C. Arun Prakash (Research Scholar), M. Suba Karthik (JRF)*.

This paper was based on the Department of Science and Technology (DST) project under Start- up Research Grant (Young Scientists) – No. SB/ FTP / ETA – 67/2013. The participants of the conference were from the length and breadth of the country in the broader domain of manufacturing.



Prof. L. Vijayaraghavan, IIT M visiting the Poster Stall

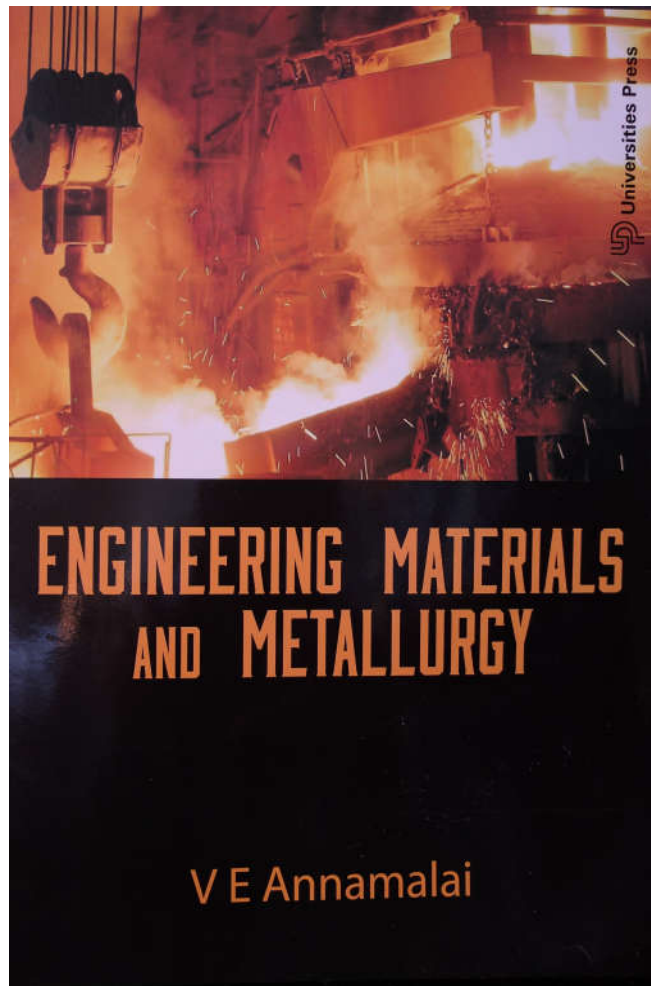
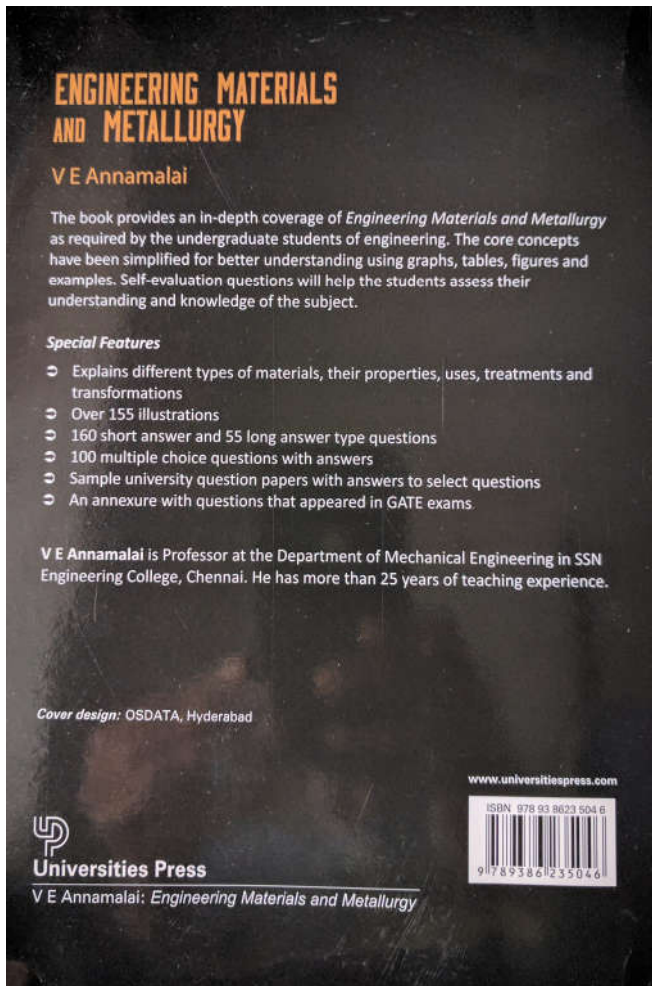


Explaining the paper to the Judges



## Book Released

Professor V.E. Annamalai's book on Metallurgy has been released by Universities Press (Taylor & Francis)



### Foreword by Dr.A.Mani, IITM

In this book, the author has taken proactive initiative, useful for the students in learning and understanding the subject fundamentals, apart from covering the syllabus from the university examination point of view, in the area of Material Science and Metallurgy. To cite one example from this book, the author has explained the step by step development method for sketching Iron-carbon equilibrium diagram. In my opinion, this approach may give the students a feel and the experimental data build up behind the particular theory. Also, to make this topic interesting, he has attempted to introduce a new method of explanation, and also included the memory aids- mnemonics for the easy remembering for the examination.



This book is written to cater to the requirement of Anna university syllabus by covering Material Science to metallurgy, by including iron-carbon diagrams, alloys of iron, heat treatment of iron, material testing, alloys of copper and aluminum, ceramics, polymers, etc. This book is user-friendly for the university students, containing university question papers and short question and answer section, which helps the students to prepare for the university examinations, placement preparation, GATE examination, etc. Finally, I would like to appreciate and congratulate the author for introducing a student-friendly and useful book for the society which may widen the technical knowledge in materials and metallurgy.



Shahsank Yogesh , of Final Year mech writes..

I had recently learnt that TamilNadu has now got the World's largest solar power plant and is to be fully functional from next year.

I found this article to be delightfully surprising and students can be motivated to learn about the engineering behind this massive project. I hope it can be featured in next month's Aspire.



The country is on schedule to be the world's third biggest solar market next year. The facility in Kamuthi, Tamil Nadu, has a capacity of 648 MW and covers an area of 10 sq km. This makes it the largest solar power plant at a single location, taking the title from the Topaz Solar Farm in California, which has a capacity of 550 MW. The solar plant, built in an impressive eight months and funded by the Adani Group, is cleaned every day by a robotic system, charged by its own solar panels. At full capacity, it is estimated to produce enough electricity to power about 150,000 homes.

The project is comprised of 2.5 million individual solar modules, and cost \$679m to build. The new plant has helped nudge India's total installed solar capacity across the 10 GW mark, according to a statement by research firm Bridge to India, joining only a handful of countries that can make this claim. As solar power increases, India is expected to become the world's third-biggest solar market from next year onwards, after China and the US.

Despite the fast-growing solar power industry, India will still need to increase its take-up of solar panels if it is to achieve the ambitious targets set by the government. By 2022, India aims to power 60 million homes by the sun. It is part of the government's goal to produce 40 percent of its power from non-fossil fuels by 2030.

This aim has been praised by environmental groups and is hoped will also help reduce the country's problem with air quality. At the beginning of this month, the pollution level in the capital New Delhi reached its [worst levels in 17 years](#).

<http://www.aljazeera.com/news/2016/11/india-unveils-world-largest-solar-power-plant-161129101022044.html>

Student write up 2

Attended a GIAN Course at IITM

Sir,

I attended a GIAN (Global Initiative of Academic Networks) course on "Mechanics of Fracture" from 19-12-2016 to 23-12-2016 at IIT Madras. GIAN courses are organized by Human Resources Development of India in which specific topics on different domains are taught by reputed international professors. Mechanics of Fracture was taught by Dr Ravichandar Krishnaswamy from University of Texas at Austin and Dr K Ramesh of IIT Madras. GIAN courses are conducted all over India and it is a good platform for students to interact with professors and technical experts and to expand their knowledge in respective domains. Though my course was advanced for B.E. students, I was able to learn valuable insights about fracture mechanics.

Shankar PA, Final Year mech



Student write up 3

Presented a paper in conference



I am glad to inform you that I have presented a paper on queueing theory at VIT University, Chennai on the 16 and 17th of this month (December). It is a work that has several applications in the field of communication systems and networks.

I did this research along with Prof Dr.S. Sophia, Department of Mathematics, SSN. I now look forward to solving some problems in the field of production processes. It is due to be accepted by International Journal of Pure and Applied Mathematics for which I am currently writing the paper.

Yours respectfully,

Murali T.S.

II year, Mech A

Thanks to Dr.Sophia  
for such a good support



Dr.Sophia

**Report on Industrial training at Chennai Vehicle Assembly and Engine Plant, Ford India**

Narmadha, Third Year Mech B

I attended the industrial training at Chennai Vehicle Assembly and Engine plant, Ford India from 05 to 09-12-16. I am much obliged to Prof Lakshminarasimhan N, SSNCE and Er. Manoj Kumar, Ford. Around 40 participants from different institutions all over the country attended the training.

Ford manufactures and exports vehicles including the Ford EcoSport and all-new Ford Endeavour and engines made at its integrated manufacturing facilities in Chennai, Tamil Nadu and Sanand, Gujarat.



The first session was on "Stamping and Blanking" following which we were taken to the Stamping and Blanking units. The second day was an unexpected holiday due to sudden demise of CM of TN. On the third day, we were taken to "Trimming Chassis and Final" unit where the body of the car and mechanicals are married together. On day four, we were taken to the "Quality Control" unit, followed by "Paint shop" Orientation. The final day we had a visit to "Engine Assembly" unit followed by "Body shop" Orientation.

- The process of turning out the automobile from raw materials and components at Maraimalai Nagar starts with Tisco supplied steel rolls fed into Esmech blanking facility. Blanks are cut out for the Endeavour and EcoSport.
- There are three press lines - the Schuler, the Komatsu and the Napres which are fully automated 2500 tonne pres lines with ability to execute 15 strokes per minute.
- A white light scanner scans components to check tolerances.
- Adjoining the press shop is the body shop. Here the stamped panels are welded together to make the body-in-white. A total of about 90 robots execute welding, hemming and sealing operations. The body-in-white is transferred by conveyors to the paint shop.
- The paint shop incorporates Three-Wet High-Solids painting system which ensures better gloss and reliability and 16 of the painting robots which ensures complete automation. The painting robots apply paint coats successively- four for primer coat, eight for base coat and four for clear coat. The body runs through the oven only once to save costs.
- Painted bodies are transported to the final assembly line referred to as TCF where the body and mechanicals are married and the trim fitted. Consisting of a door line, kitting line, PU sealant line, end-of-testing line, shower test and engine fitment, the TCF has been extended for flexible assembly capability, taking advantage of centralized bulk material feeding, in-sequence feeding of key supplier components and the delivery of engines via overhead conveyors.
- The plant has a 3.2 km test circuit to verify quality before vehicles are shipped, a squeak-and-rattle testing track for finished vehicles, a dynamic water-wading test-bed and a four-post hydro-lifter for wheel alignment and extreme road condition simulation testing. The engine shop houses a fully integrated, high volume engine manufacturing facility. The Chennai plant manufactures 500 cars per day.
- The workers and staff members at Ford taught us indirectly about the importance of discipline, safety and punctuality.

## Scholar News

During the Doctoral Scholars' Day function, Mr.A.Praveen Kumar , scholar working under the guidance of Dr.M.Nalla Mohamed, was awarded for the category of “Best Oral Presentation”.

He has done significant progress in his research work, which was appreciated by the Reviewing panel members.



The SSN Doctorate Scholars day was conducted on 1<sup>st</sup> Dec. 2016. Dr. P.Ramasamy, Dean (Research) welcomed the gathering and presented the report on research work carried out during the academic year 2015-16.



Full time research scholars from various departments presented their research works. 94 presentations from college and 8 presentations from mechanical department.

Dr. V.E Annamalai, Prof. & Head and Dr. K.Subbaiah, Prof. evaluated the oral and poster presentations of mechanical department.

Mr. Praveen Kumar. A, JRF/Research Scholar was awarded cash prize of Rs.2000 for best oral presentation.

The French Minister for the Environment, Energy and Sea, Ségolène Royal, has today (Dec 22<sup>nd</sup>, 2016) officially launched a kilometer long solar road project in Normandy. Nearly 3,000 Wattway panels running through a small village in north-west France are expected to produce an average of 767 kWh of electricity per day, peaking in summer months to as much as 1,500 kWh. Some 2,880 photovoltaic panels have been installed between the south exit of Route RD5 at Tourouvre to where it meets the N12 at le Gué-à-Pont for the Wattway trial. Each panel has been designed to withstand the punishment of regular road traffic and can be linked to electrical equipment and networks.

The installation is expected to produce somewhere in the region of 280 MWh of electricity each year, and an information display alongside the solar road powered by the PV array will provide locals with electricity production updates, as well as a running total figure. The electricity produced will be fed into the network operated by Enedis.



Colas is now able to combine its expertise in roads with that of photovoltaic technology, paving the way to Wattway, **the world's first photovoltaic road surface**.

As the energy transition becomes reality, imagine a road able to harvest solar energy and produce energy locally.

#### **The world's 1<sup>st</sup> ever photovoltaic road surface**

Wattway is a patented French innovation that is the fruit of 5 years of research undertaken by Colas, world leader in transport infrastructure, and the INES (French National Institute for Solar Energy). By combining road construction and photovoltaic techniques, Wattway pavement provides clean, renewable energy in the form of electricity, while allowing for all types of traffic.

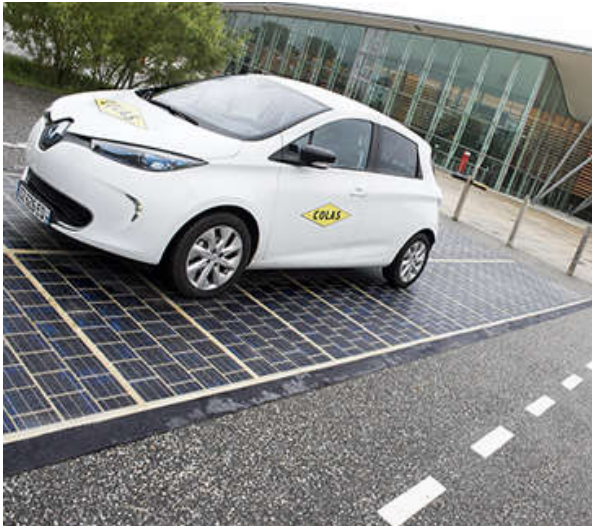
#### **A new vision for roads**

Wattway produces electrical energy without overtaking farmland or natural landscapes, and contributes to increasing the share of photovoltaic electricity in the energy mix, both in France and worldwide.

#### **ENERGY PERFORMANCE**

Pavement is only occupied by vehicles some 10% of the time. Imagine the solar resources of this surface area, facing the sky.

20 m<sup>2</sup> of Wattway panels provides enough electricity to power a single home. (Source ADEME/CEREN 2014 – average French household for 1,000 sun hours/year – not including heating).



#### GRIP AND RESISTANCE

**How to reconcile the fragility of photovoltaic cells and the robust structure of a road?** Wattway is composed of cells inserted in superposed layers that ensure resistance and tire grip. The composite material is just a few millimeters thick, making it possible to adapt to thermal dilation in the pavement, as well as vehicle loads, a guarantee of durability and safety.

**Installed directly on existing Pavement**  
**If Wattway is so revolutionary, it's also because of the way it is installed!** No need to rip out the existing structure, Wattway can be applied directly on the current pavement, without any need for civil engineering work.

Reproduced from Gizmag and <http://www.wattwaybycolas.com/en/>

#### Amazing Innovation- 1

UPC researchers, in collaboration with the companies COMSA and GMN, create a new material from textile fibres of old tyres (Dec 19,2016)



Lluís Gil, of the Laboratory for Technological Innovation in Structures and Materials (LITEM), and Xavier Cañavate, of the POLQUITEX research group, both on the UPC's Terrassa Campus, in collaboration with the companies COMSA and GMN, have developed a new textile material from disused tires. Professor Teresa Vidal, of the UPC's Paper Engineering Research Group (CELBIOTECH), also participated in the project.

Vehicle tyres are essentially made of three materials: latex, fabric and steel fibres. The only thing that could not be reused up to now was the fabric, which ended up in landfills or incinerators. After several tests, the key to obtaining the new material was the combination of three components: fibres, recycled paper pulp and white glue. The new material has proven to be very effective in the construction sector and for railway projects because it is a good insulator.

According to Lluís Gil, **“this new material is technically equivalent to the rock wool and glass wool materials previously used for thermal and acoustic insulation of buildings, but it is cheaper”**.

Xavier Cañavate says **“our material can reuse millions of tons of fibres that were previously sent to landfills at the end of the tyres' life, thus saving energy and CO2 emissions. It also incorporates recycled paper pulp, which is very difficult to reuse”**. The new material was created thanks to the participation of the companies COMSA and GMN and **funding of €130,000** from the INNPACTO programme of the Spanish Ministry of Economy and Competitiveness. In addition, the project has generated eight bachelor's theses and a master's thesis.

Reproduced from <http://www.upc.edu/saladeprensa/al-dia/mes-noticies/upc-researchers-in-collaboration-with-the-companies-comsa-and-gmn-create-a-new-material-from-textile-fibres-of-old-tyres>

A chance discovery in a physics lab at Rice University has turned up an ultra-hard material that could usurp the [titanium](#) commonly used in today's knee and hip replacements. Scientists have found that by melting gold into the titanium mix they can produce a non-toxic metal that is four times harder than titanium itself, raising the prospect of more durable, longer lasting medical implants.

Emilia Morosan, a professor of physics at Rice University, was carrying out experiments on a magnetic material made from nonmagnetic elements, more specifically, a titanium-gold mix with a one-to-one ratio. Part of her team's process in developing new compounds like this one is to grind it up into powder so that it can be X-rayed, which helps them identify things like its composition, structure and purity.

"When we tried to grind up titanium-gold, we couldn't," she says. "I even bought a diamond-coated mortar and pestle, and we still couldn't grind it up."

It proved a tough nut to crack, but Morosan and her team carried out a series of tests to work out how hard this compound really was, along with a few other titanium-gold compounds that had been used as comparisons in their earlier work. Part of this mix was one alloy containing three parts titanium to one part gold, which had been formed at high temperature.



Emilia Morosan (left) and Eteri Svanidze

Preparing the compound at high temperatures, as it turns out, creates an almost purely crystalline form of the beta version of the alloy, with four times the hardness of titanium.

The researchers point out that the compound is actually not a new one, nor is it difficult to make, but they are the first to come across its impressive properties.

They say that the reason for this is the high temperature at which they had cooked up the material. When prepared at lower temperatures, they say they atoms arrange themselves in a cubic structure as the alpha form of the so-called titanium-3-gold, with a hardness similar to regular titanium. It seems, therefore, the scientists that had previously assessed its hardness were working with materials consisting of this alpha arrangement of atoms.

"[Beta titanium-3 gold] is about three to four times harder than most steels," says Morosan. "It's four times harder than pure titanium, which is what's currently being used in most dental implants and replacement joints."

The researchers say that material could lend itself particularly well to use in medical implants, as it is made of titanium and gold, which are up there with the more biocompatible materials and are commonly used for that reason. But **testing showed their titanium-3-gold to be even more biocompatible and wear-resistant than pure titanium. The team is exploring whether treating it with chemicals can make it even harder again.**

Reproduced from <http://news.rice.edu/2016/07/20/titanium-gold-new-gold-standard-for-artificial-joints-2/>



### Amazing Innovation- 3

## Electricity free mobile refrigeration technology to keep food fresher, longer using only sun and water

Evaptainers solves a huge problem in the food production infrastructure of developing markets by intersecting modern design, materials, and production with time tested evaporative cooling technology creating a effective, scalable, electricity free, mobile refrigeration solution. Evaptainers harness the power of evaporative cooling to keep food fresh.

Evaporative cooling is something you have experienced: when you get out of the water after swimming, a wind blows and suddenly you feel a bit chilled; that is evaporative cooling in action.

So how do you use evaporative cooling to make an evaporative cooler?



Evaptainers combine time tested evaporative cooling techniques with modern design and production to create a lightweight, efficient cooling system that can be used in a wide variety of applications. The diagram to the right shows the Evaptainer's basic construction.

Reproduced from <http://www.evaptainers.com/>

### Amazing Innovation- 4

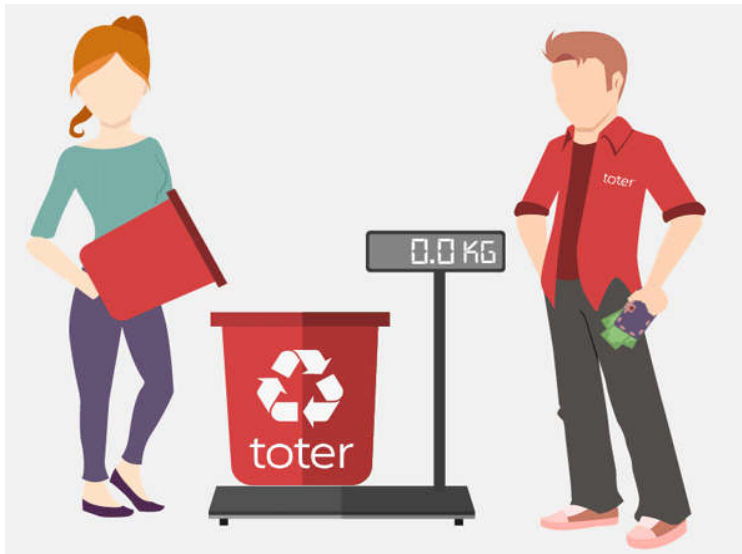
## Uber Beacon

Uber Beacon, a device that goes on a driver's windshield and uses color-pairing technology to help drivers and riders more quickly connect at night, particularly at crowded venues. With this technology, riders can personalize their pickup by selecting from an endless number of colors for the Beacon to glow on their driver's vehicle. And it's instantly recognizable with the same design as the rider app icon.



Last year in Seattle, we pioneered this concept through our SPOT pilot, and found it reduced the need for riders and drivers to contact one another and lowered cancellation rates in historically tricky pickup locations. Based on this feedback, we've been exploring additional ways to use our color-pairing technology in hardware to improve both the rider and driver experience.

reproduced from - [uber innovation https://newsroom.uber.com/beacon/](https://newsroom.uber.com/beacon/)



Waste Ventures India is a waste management social enterprise that is moving India's solid waste sector to models that are simultaneously environmentally and financially sustainable. They offer professional waste collection and processing services to households, corporate clients and waste pickers. Since late 2013, they have averted over 3,000 tons of waste from Indian dumpsites.

They offer Hyderabad's first digital doorstep recyclable pickup service.

#### Features:

**Single Point:** Organic waste ,Low value recyclables , one-stop recycling shop

**Technology Driven:** Scheduled pick-up, Unrivalled Professionalism, Instant payment

**Green Guarantee:** All recyclables sent to certified recyclers or upcyclers

**Fair Labor :** Equitable Pay, No child labor.

#### The Impact

3,000+Tons of waste averted, 1,900+ Tons of CO2 averted, 20,000+ Households Served

1,000+ Waste pickers reached

#### Households Services

They offer Hyderabad's first digital recyclable pickup platform for Households and Small & Medium Enterprises. They also provide a customized recycling services larger housing societies.

**Seamless pickup:** Scheduled, hassle-free, convenient, doorstep pick up.

**Earn money:** Earn more money by recycling more types of recyclables. Digital weighing, transparent pricing, and on-the-spot payment.

**Go green:** Network of PCB certified recyclers to ensure all your waste finds a green end point.

**Responsiveness:** Any issues, we're just a call away.



#### Sanjeevini Compost

Sanjeevini Premium Organic Compost is a 100% organic compost that contains nutrients that outperforms nutrient values for typical organic and vermicomposts on the market. Highest quality compost in Telangana, lab tested. This nutrient-packed Sanjeevini Compost also retails on Amazon

For career options, apply online at <http://wasteventures.com/careers.html>

## Forthcoming Events

## FDP / Workshops

Jan 2017

1 The Department of Robotics and Automation, PSG College of Technology is organizing a One day Workshop on "Interaction of social robot with Humans" on 21.01.2017. Course fee Rs.600. Contact Ms. K. Vidya, K 309, Centre for Industrial Automation, Department of Robotics and Automation Engg. e.mail : [cia@psgtech.ac.in](mailto:cia@psgtech.ac.in), Ph: 8973509825.

Workshop on Bio Diesel

2 **Brooklynn Innovative Research and Development (BIRD)** is organizing a workshop on "**BIO DIESEL PROCESSING AND QUALITY CONTROL**" at **CLRI (Central Leather Research Institute)** Chennai. The workshop is been scheduled on **24th and 25th of January 2017** at CLRI Campus. Scientist from CLRI is going to be handling the sessions and participants will be provided with a Central Government Certificate at the end of the session. It would be well beneficial to the students, faculties and Research scholars and a good platform to gain knowledge on Bio diesel. Registration link:

<http://training.birdindia.co.in/registration/?course=Bio%20Diesel%20Processing%20and%20quality%20control>

Feb 2017

3 Department of Mechanical Engineering of S.V.National Institute of Technology(SVNIT) Surat is going to conduct a TEQIP-II sponsored one week short term training program on "Advanced Engineering Optimization Through Intelligent Techniques" during 06-10 February 2017. The last date to apply for the training program is 03/02/2017. For more details, visit: [www.svnit.ac.in](http://www.svnit.ac.in)

## Conferences

March 2017

1 International Conference on Nanomaterials and Nanotechnology (ICNANO-2017), 1-3 March 2017, Vinoba Bhave Research Institute (VBRI), Allahabad-221508, Uttar Pradesh

2 The **Department of Mechanical Engineering** of SVCE, Sriperumbudur, is organizing a National Conference on **EVOLUTION OF GREEN AND MATERIALS PROCESSING TECHNOLOGY (NCEGMPT2K17)** during **02 & 03 March 2017**. This conference aims to explore the recent developments of green energy in transport, industry, power sectors and materials processing technology. Last date for paper submission Jan 8. For details contact [ncegmpt2k17@svce.ac.in](mailto:ncegmpt2k17@svce.ac.in).

3 S K P Engineering college, Thiruvannamalai has planned to conduct two day Second International Conference on Design and Advances in Mechanical Engineering (ICDAME - 2017) on March 3 & 4, 2017 Abstract Submission by Jan 2<sup>nd</sup>.

4 Shree L. R. Tiwari College of Engineering, Thane, is hosting a 2 Day International Conference on 'Emanations in Modern Technology and Engineering' on March 4th and 5th, 2017. Submission of papers by Feb 5<sup>th</sup>. More details at conference website [www.icemte.org](http://www.icemte.org)

5 International Conference on Recent Innovations in Production Engineering (RIPE-2017), 24-25 March 2017, Department of Production Technology, MIT, Anna University, Chennai. The last date for submission of full length paper is **31<sup>st</sup> December 2016**. Details at [www.ripe2017.mitindia.edu](http://www.ripe2017.mitindia.edu)  
[http://www.mitindia.edu/Mit\\_upload\\_materials/departement/RIPE%20Brochure%20Final.pdf](http://www.mitindia.edu/Mit_upload_materials/departement/RIPE%20Brochure%20Final.pdf)

- 6 The Department of Automobile Engineering jointly with School of Agricultural Sciences, Kalasalingam University, Krishnankoil, Tamil Nadu, India, with technical partners Universiti Putra, Malaysia and Aerospace Manufacturing Research Centre, Malaysia is organizing an “International Conference on Automotive Systems, Agricultural Equipments and Manufacturing” on 24<sup>th</sup> and 25<sup>th</sup> March, 2017 at Kalasalingam University, Krishnankoil, Tamil Nadu, India.

The conference announcement, paper submission details, registration details and online transfer details are available at conference website [www.icaam-klu.in](http://www.icaam-klu.in)  
Last date for paper submission Jan 31<sup>st</sup>.

- 7 Department of Mechanical Engineering and Department of Science and Humanities of Sri Sai Ram Institute of Technology, Chennai, are jointly organizing an International conference, titled “International Conference on Advances in Materials, Manufacturing and Applied Sciences (ICAMMAS-17), 30<sup>th</sup> - 31<sup>st</sup> March 2017 at Sri Sai Ram Institute of Technology, Chennai, India. Conference website <http://www.icammas17.com/> submission of full paper Jan 5.

#### April 2017

- 8 2nd International Conference on Mechanical and Manufacturing Engineering (ICMME-2017) organized by Department of Mechanical Engineering, SCSVMV University on 6th & 7th April 2017. Submission of full paper by Jan 31<sup>st</sup>.
- 9 First International Conference on Renewable and Sustainable Energy has been scheduled at Hindusthan College of Engineering and Technology, Coimbatore, India on 12th and 13th of April 2017. Submission of abstracts 10 Jan.

#### June 2017

- 10 **International Conference on Recent Advances in Materials, Mechanical and Civil Engineering (ICRAMMCE -2017)**, 1-2<sup>nd</sup> June 2017 at Marri Laxman Reddy Institute of Technology and Management, Hyderabad . Abstract due by Dec 10<sup>th</sup>. Fee Rs.10,000 for faculty, Rs. 8,000 for Scholars. Publication in Applied Mechanics and Materials. For more details please visit the conference website <http://icrammce.com/> .
- 11 12th International Forum on Knowledge Asset Dynamics, St. Petersburg, Russia, is conducting an International conference on the theme Knowledge Management in the 21st Century: **Resilience, Creativity and Co-Creation**, during 7-9 June 2017, at the Graduate School of Management, St Petersburg University. 15 January 2017 - Abstracts Submission Deadline

#### January 2018

- 12 Second International Conference on Science and Engineering of Materials (ICSEM-2018), 6-8 January 2018, School of Engineering and Technology, Sharda University, Noida-201306, Uttar Pradesh .Last date for Abstract Submission : 8th Sept. 2017



1 Scholarship Info

சென்னை : முழுநேர முனைவர் பட்டம் (Full Time Ph.D.) பயிலும் தாழ்த்தப்பட்ட - பழங்குடியின (SC/ST) மாணவர்கள் ரூ .50 ஆயிரம் ஊக்கத்தொகை விண்ணப்பிக்கலாம் என தமிழக அரசு அறிவித்துள்ளது .

இதுகுறித்து , மாநில அரசு வெள்ளிக்கிழமை வெளியிட்ட அறிவிப்பு :

முனைவர் பட்டம் பெறும் மாணவர்களது குடும்ப ஆண்டு வருமானம் ரூ .2 லட்சத்துக்கு மிகாமல் இருக்க வேண்டும் . முதுநிலை (Post Graduate) பட்டப்படிப்பில் 50 சதவீதம் மதிப்பெண்களுடன் தேர்ச்சி பெற்றிருக்க வேண்டும் . மாணவருக்கு அனுமதிக்கப்பட்ட படிப்புக் பிரிவுக் கால அளவுக்கு மட்டும் ஊக்கத்தொகை அளிக்கப்படும் .

முதல் ஆண்டு சேர்க்கையின் அடிப்படையில் , இந்தத் திட்டத்தின் கீழ் ஊக்கத்தொகை வழங்கப்படும் . இரண்டாம் ஆண்டு முதல் நான்காம் ஆண்டு வரை மாணவர் பயிலக்கூடிய படிப்புப் பிரிவின் துறை தலைமை அலுவலர் , ஆராய்ச்சி வழிகாட்டி (Ph.D. Supervisor) அலுவலரால் முந்தைய ஆண்டுகளால் மாணவரால் மேற்கொள்ளப்பட்ட ஆராய்ச்சியின் திருப்திகரமான முன்னேற்றம் குறித்து அளிக்கப்படும் சான்றிதழின் அடிப்படையில் ஊக்கத்தொகை கொடுக்கப்படும் .

**விண்ணப்பப் படிவத்தை தட்டச்சு செய்து , பூர்த்தி செய்யப்பட்ட விண்ணப்பங்களை பிப்ரவரி 9 ஆம் தேதிக்குள் அனுப்ப வேண்டும் .**

விண்ணப்பங்கள் அனுப்ப வேண்டிய முகவரி :

**இயக்குநர்**

**ஆதிதிராவிடர் நலத் துறை**

**எழிலகம் இணைப்புக் கட்டடம்**

**சேப்பாக்கம்**

**சென்னை -5**

**விண்ணப்பங்களை பதிவிறக்கம் செய்ய வேண்டிய இணையதள முகவரி :**  
<http://cms.tn.gov.insitesdefaultfilesformsPhdFTIncentive161216.pdf> <http://www.acsce.edu.in>

## **DST- NSTEDB Sponsored FDP From 16-01-2017 to 30-01- 2017**

2

Faculty Development Programme on Entrepreneurship Development is organised by ACS College of Engineering # 207, Kambipura, Mysuru Road, Bengaluru-560074 Karnataka,India.

3

**International Seminar on Present Scenario & Future Prospectives of Research in Engineering and Sciences, (ISPSFPRES-17)** Date: **January 21, 2017**, at **Integral University, Lucknow.**

Paper submission by using E-mail: [ispsfpres17@gmail.com](mailto:ispsfpres17@gmail.com)

4

Women Scientist Scheme, is a flagship programme of Department of Science & Technology (DST) under KIRAN (Knowledge Involvement in Research Advancement through Nurturing). Through one of its components- 'Women Scientist Scheme-C (WOS-C)'- it provides employment opportunity to women scientists having break in their career through management of Intellectual Property Rights.

Patent Facilitating Centre (PFC) of Technology Information, Forecasting and Assessment Council (TIFAC) has been entrusted with implementation of WOS-C. It encompasses training of women, having qualifications in science/engineering/medicine or allied areas, in the field of Intellectual Property Rights (IPRs) and their management, for a period of one year and eventually develops a pool of women geared to create, protect and manage intellectual property in India. These trained women can start their own venture after clearing patent agent exam or may work in law firms, scientific organizations, etc.

### Eligibility

1. Women in permanent position are not eligible to apply
2. Age: Minimum 27 years; Maximum 45 years as on 01-01-2017
3. Minimum essential qualification: Master of Science; Bachelors in Engineering/Technology or equivalent
4. Desirable qualification: Proficient in handling computerized database, collection, collation, analysis and report preparation

### Stipend

1. M.Sc., in Basic or Applied Sciences/B.Tech or equivalent degree: **Rs.20,000 p/m**
2. M.Phil/M.Tech/M.Pharm or equivalent degree: **Rs.25,000 p/m**
3. Ph.D. in Basic or Applied Sciences or equivalent degree: **Rs.30,000 p/m**

Last date for submission of application: **9th January 2017**

Online application: [http://115.112.95.114/wosc/online/Control.do?\\_main=488t3s](http://115.112.95.114/wosc/online/Control.do?_main=488t3s)

## Alumni Info

Sadesh M of 2010-14 batch writes..

Dear Sir,

I am happy to inform you that I am currently working with Mando Automotive India as Procurement Engineer. Previously associated with Lucas TVS as Purchase Engineer for 2 years. MANDO AUTOMOTIVE INDIA LIMITED is an Information Technology and Services company located in Kanchipuram.

It has been a great pleasure to see Aspire every month.

Regards,  
Sadesh



### Message from Sankar Raju (to Dr.N.LakshmiNarasimhan)

Dear Sir,

Hope you are doing great. First of all, I wish to thank you for your continuous dedication, support and encouragement that you had endeavored through my important phase of my life.

I have been appointed as a **Contracted Research Student at Fraunhofer Research Centre-ITWM (FCC)**. This appointment comprises of my first year Research project, Second year Masters Thesis and my career ahead as a Applied Researcher at Fraunhofer-Gesellschaft (Fraunhofer Society).



This achievement wouldn't have been possible without your continuous effort to develop me in the field of CFD and Fluid Dynamics as a whole. I'm proud that I'm your student.

Also, I was happy to know that, through the Letter of Intent (LoI) signed between Europe's largest Applied Research Organisation-Fraunhofer and IITM, **some part of my research work will be implemented in India through IITM in the development in the field of Automotive.**

At this point, I could not forget the efforts put by Dr.Somasundaram to learn opensource CFD software. Every student is made notable only when he/she is molded by a passionate teacher. And this is certainly what you had been.

Speaking about the course at Chalmers. I would certainly encourage any research motivated, talented and passionate student in the field of Fluid Dynamics to choose the masters course in Applied Mechanics at CTH without any second thought as this has been chosen by the top industries (like Volvo, Vattenfall, GKN Aerospace, etc) and top research organisations as one among the top 5 fluid courses being delivered across the world. And certainly based on its description, the course is meant only for the adroit ones.

I remember, the most important key move made by you at the last minute to help me choose my varsity by the factor of credible Research work and Scholarship and not by disguised rankings. And certainly, this has been proved true.

The tough times have passed away sir. It's time to give some valid contributions to the society.

Awaiting for your call.

Sankar Raju

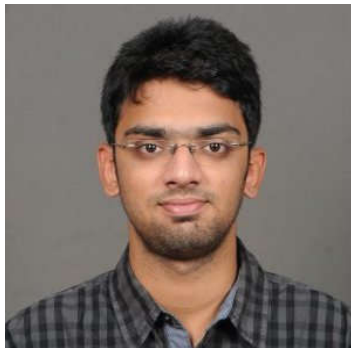
## Alumni Tracking



Subrahmanya Siddarth T of 2012-16 batch, is now Acquisition Marketer at Freshdesk



Vinayagavel S, of 2012-16 batch, is now Student at Indian Institute of Management, Indore



Abinav Sunder, of 2012-16 batch, is now Graduate Student at University of Michigan-Ann Arbor

Anish Pasumurthy, of 2012-16 batch, is now Associate Mechanical Engineer at The Dow Chemical International Pvt. Ltd.



Sagar Malhotra of 2012-16 batch is now Business Development Executive at Freshdesk



Akhilnandh Ramesh of 2012-16 batch is now Graduate Engineer Trainee, Brakes India Private Limited



Adithya Vignesh J, of 2012-16 batch, is now Grader at Purdue University



Santhosh Manikandan of 2012-16 batch is now Application Development Analyst at Accenture



Anandam Mallik, of 2012-16 batch, is now GET at Toshiba Machine Pvt. Ltd



Ajai Thangaswami.M, of 2012-16 batch, is now Graduate Student at Purdue University.



Kirthivasan Arul, of 2012-16 batch, is now Executive trainee at Ashok Leyland MDC



## Message from President



Indian Railways has decided to conduct the following five challenges for the current year:

1. Innovation Challenge for 'Design of Wagons for efficient loading and transportation of new traffic commodities'.
2. Innovation Challenge for 'Easy Accessibility to Trains from Low Level Platforms'.
3. Innovation Challenge for ' New Idea/Suggestion to improve the working of Indian Railways'.
4. Innovation Challenge for 'Increasing Passenger Carrying Capacity of Coaches of Indian Railways'.
5. Innovation Challenge for 'Developing New Digital Capabilities at the Stations of Indian Railways'.

Details of Innovation Challenges viz., participation procedure, terms & conditions, eligibility, guidelines etc are available at website <https://innovate.mygov.in>. Last date for submitting the online application is **20.02.2017 up to 6pm IST**.

## Project and Innovation Calls

## Funding Opportunities

(A STATUTORY BODY OF THE GOVERNMENT OF INDIA)  
Nelson Mandela Marg, Vasant Kunj, New Delhi-110 067  
Ph. : 011-26131575-78, 80, Website: [www.aicte-india.org](http://www.aicte-india.org)

### AICTE Quality Improvement Scheme (AQIS) 2016-17

All India Council for Technical Education (AICTE), invites applications from AICTE approved institutes / Universities / Departments eligible for financial assistance under the following schemes of Quality Improvement during financial year 2016-17.  
Mode of Application: On AICTE Portal through Institute Login (i. e. Online Mode)

Sr. No.	Name of Scheme
1	Unnat Bharat Abhiyan
2	Adjunct Faculty
3	Skill and Personality development Programme centre for SC/ST Students
4	Share and Mentor Institutions (Margdarshan)
5	Research Promotion Scheme (RPS)
6	Modernisation And Removal Of Obsolescence (MODROBS)
7	Faculty Development Programme (FDP)
8	Travel Grant - Faculty
9	Seminar Grant
10	Grant for Organising Conference
11	AICTE scheme for writing Technical Book in Regional Languages
12	Hostel for SC/ST Students

For detailed information about the schemes, eligibility criteria, requirements, terms and conditions, please refer to AICTE website at <http://www.aicte-india.org>Bureaus/RIFD/schemes>> AQIS guidelines & Process Handbook. The last date for submission of application for the above schemes is 10.01.2017.

### AICTE schemes implemented through INAE

Sr. No.	Name of Scheme
1	AICTE – INAE – DVP (Distinguished Visiting Professor)
2	AICTE – INAE – TG (Travel Grant Scheme)
3	AICTE – INAE – TRF (Teachers Research Fellowship)

Applications for above three schemes of AICTE are implemented through INAE, and are to be submitted to Director, Indian National Academy for Engineers (INAE), 6th Floor, Vishwakarma Bhawan, Shaheed Jeet Singh Marg, New Delhi, website: <http://www.inae.in>.

## Message from Principal



All India Council for Technical Education (AICTE) invites online applications from eligible AICTE approved Institutes/Universities/Departments for financial assistance under the schemes of Quality Improvement during financial year 2016-17. An advertisement to this effect has been published in the leading National Newspapers on 25.12.2016.

For detailed information about the schemes, eligibility criteria, requirements, terms and conditions, please refer to AICTE website at <http://www.aicte-india.org>Bureaus/RIFD/schemes>> AQIS Schemes and Guidelines 2016-17.

**You are requested to submit proposals under various schemes online well before the closing date i.e. 10th January, 2017.**

## Saving the Ailing Trees



Prop in position to hold the tree vertically, till such time the roots take over again



Head of Construction and Facilities, Mr. Ganesh Prasad and team have done a wonderful job of saving as many trees as possible, by trimming the branches, reorienting the trunks, packing the soil for roots to reinforce and propping the trunks till the roots anchor again. Kudos to their team-VeA



Broken branches trimmed off  
And trunk alone reoriented  
In position

Soil loosened,  
Root put back in position  
And packed well  
For re-anchoring of roots



## Group News

Message from Amit Tyagi



Shiv Nadar University Recognized as  
**UNIVERSITY OF THE YEAR**

(In existence for less than 10 years category) at

3rd FICCI Higher Education Excellence Awards 2016

Thank you for your support!

## Inspiring Life Stories

*An \*elephant took a bath\* in a river and was walking on the road. When it neared a bridge, it saw a \*pig fully soaked in mud\* coming from the opposite direction.*

*The elephant quietly moved to one side, allowed the dirty pig to pass and then continued its onward journey.*

*The unclean pig later spoke to its friends in arrogance, \***“See how big I am; even the elephant was afraid of me and moved to one side to let me pass.”**\**

*On hearing this, some elephants questioned their friend, the reason for its action. \***Was it out of fear?**\**

*The elephant smiled and replied, \***“I could have easily crushed the pig under my leg, but I was clean and the pig was very unclean. By crushing it, my leg will become dirty and I wanted to avoid it. Hence, I moved aside.”**\**

***Moral of the story: Realized souls will avoid contact with \*negativity\* not out of fear, but out of desire to keep away from impurity though they are strong enough to destroy the impurity. You need not react to every opinion, every comment, or every situation .***



Contribution:  
Ms. B. Niranjana,  
Sr. Associate,  
Visteon Automotive India Pvt. Ltd.

Forwarded by Mr/Kishore Babu, Schwing Stetter

## Getting Inspired



People keep saying that you should “ Stay Positive , have positive emotions”.

The question is how do you overcome the negative emotions. One such negative emotion is Jealousy.



R. Ramakrishnan

### Jealousy

By being jealous, you are telling your subconscious, “ I have a lack” . By being jealous, you are telling your subconscious, “ I am less”.

On the other hand , by being inspired, you are telling your subconscious, “ what is mine will remain mine, and I don't have to feel insecure about it. What won't be mine will never be mine, and don't have to feel insecure about it., I don't have to be desperate about it. More importantly what one human can achieve is proof enough that every human can achieve it, and I too can achieve it.

Jealousy is just a sense of perceived lack but because “ like begets like” your subconscious will, in reality, create that lack in your life and make you less.

Instead, get inspired and let your subconscious draw “more” of everything into your life.

- When someone has something that you don't have or is able to produce results that you are not able to produce, and you are unable to accept that, the resultant emotion is jealousy.
- When someone has something that you don't have or is able to produce results that you are not able to produce and you are able to accept that- the resultant emotion is inspiration.
- Accept others when they do things that you can't do ,and get inspired!

Wishing you most & more

Have a wonderful day & great weekend

Ramakrishnan