

mechanical **Aspire**

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize – Part 3

Prize amount and Medal

At the Nobel Prize Award Ceremonies on 10 December the Nobel Laureates receive three things: a [Nobel Diploma](#), a [Nobel Medal](#) and a [document confirming the Nobel Prize amount](#).

The Nobel Prize Amount

Alfred Nobel left most of his estate, more than SEK 31 million (today approximately SEK 1,702 million) to be converted into a fund and invested in "safe securities." The income from the investments was to be "distributed annually in the form of prizes to those who during the preceding year have conferred the greatest benefit on mankind."

The Nobel Prize amount for 2013 is set at Swedish kronor (SEK) 8.0 million per full Nobel Prize.

This is approximately 1.23 million USD or around Rs. 7.60 crores.

The Nobel diploma

Each Nobel Diploma is a unique work of art, created by foremost Swedish and Norwegian artists and calligraphers.



The Nobel Medals

The Nobel Medals in Physics, Chemistry, Physiology or Medicine and Literature are identical on the face: it shows the image of Alfred Nobel and the years of his birth and death (1833-1896). Nobel's portrait also appears on the Nobel Peace Prize Medal and the Medal for the Prize in Economic Sciences, but with a slightly different design. The image on the reverse varies according to the institution awarding the prize. Up to 1980 the "Swedish" medals, each weighing approximately 200 g and with a diameter of 66 mm, were made of 23 carat gold. Since then they have been made of 18 carat green gold plated with 24 carat gold. The inscription reads: *Inventas vitam juvat excoluisse per artes* loosely translated

"And they who bettered life on earth by their newly found mastery."

The Nobel Medal for Physics and Chemistry

The medal of The Royal Swedish Academy of Sciences represents Nature in the form of a goddess resembling Isis, emerging from the clouds and holding in her arms a cornucopia. The veil which covers her cold and austere face is held up by the Genius of Science.



The Nobel Medal for Physiology and Medicine



The medal of the Nobel Assembly at the Karolinska Institute represents the Genius of Medicine holding an open book in her lap, collecting the water pouring out from a rock in order to quench a sick girl's thirst.

The Nobel Prize Medal for Literature



The medal of the Swedish Academy represents a young man sitting under a laurel tree who, enchanted, listens to and writes down the song of the Muse.

Around the upper edge are the words: *Sveriges Riksbank till Alfred Nobels Minne 1968* (The Sveriges Riksbank, in memory of Alfred Nobel, 1968)

The lower half displays the bank's crossed horns of plenty.

This design distinguishes it from the medals of the five prizes awarded under the terms of Alfred Nobel's 1895 will. The name of the Economics Laureate is engraved on the edge of the medal.

The Nobel Peace Prize Medal



The face of the medal of the Norwegian Nobel Committee shows Alfred Nobel in a pose slightly different from that of the other medals. The inscription is the same. The other side of the Nobel Peace Prize medal represents a group of three men forming a fraternal bond.

The Medal for Prize in Economic Sciences in Memory of Alfred Nobel

The medal for The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel shows the North Star emblem of the Royal Swedish Academy of Sciences, dating from 1815, with the words "Kungliga Vetenskaps Akademien" (The Royal Swedish Academy of Sciences) around the edge.



The upper half of the face of the medal depicts Alfred Nobel, but in a pose different from the one appearing on the Nobel Prize Medals.



At what age do you think one can win Nobel Prize?

Youngest Laureates

| Category | Name | Year of Award | Age of Nobel Laureate |
|------------------------|------------------------|---------------|-----------------------|
| Physics | William Lawrence Bragg | 1915 | 25 |
| Chemistry | Frédéric Joliot | 1935 | 35 |
| Physiology or Medicine | Frederick Banting | 1923 | 32 |
| Literature | Rudyard Kipling | 1907 | 42 |
| Peace | Tawakkol Karman | 2011 | 32 |
| Economic Sciences | Kenneth J. Arrow | 1972 | 51 |

Most awarded research Areas

| | |
|--------------------------------|------------------|
| Physics Laureates | particle physics |
| Chemistry Laureates | biochemistry |
| Medicine Laureates | genetics |
| Laureates in Economic Sciences | Macroeconomics |

Why the word Laureates?

The word "Laureate" refers to being signified by the laurel wreath. In ancient Greece, the laurel (*Laurus nobilis*) was sacred to God Apollo and as such sprigs of it were fashioned into a crown or wreath of honor for poets and heroes.



In Greek mythology, the god Apollo is represented wearing a laurel wreath on his head. A laurel wreath is a circular crown made of branches and leaves of the bay laurel (In latin: *Laurus nobilis*). In Ancient Greece, laurel wreaths were awarded to victors as a sign of honour - both in athletic competitions and in poetic meets.



Bay laurel was used to fashion the laurel wreath of ancient Greece, a symbol of highest status. A wreath of bay laurels was given as the prize at the Pythian Games because the games were in honor of Apollo, and the laurel was one of his symbols.



Hence the word "Laureates" signifying the highest order of respect.



14th Graduation Day was held on 8th Feb 2014

Sri. B.S. RAGHAVAN, IAS (Retired), (Former Adviser to UN (FAO) and Former Chief Secretary to Govt. of Tripura) graced the occasion as Chief Guest.

At an age of 87 , he was much energetic than most of us!. He held us all spell bound with his inspiring thoughts. Have a glimpse of what he said....

I am proud to be in such a World Class Institution. This greatness comes from three aspects. The first and foremost is the Vision of Dr. Shiv Nadar who spared no efforts in making this a jewel of an Educational Institution. The Second aspect is the Leadership provided by the Management, the Teaching and the Non-Teaching staff and their synergy of working together. I bow my head in appreciation. The Third aspect is you- the students-who are contributing by your studiousness, industriousness and commitment. You people bring name and fame to the Institution and to India itself. So, it is an indescribable pride in being amidst all of you.

You must have read how students of India have become heads of many MNCs. I wish you be one among them to make India Number one. Bring out what talent each one of you possess. Channelise your energy without dissipating it. If you work hard, India would be number one , as Dr.Abdul Kalam always said.

Does India have nose, eyes etc? It is an abstraction. India is you-each one of you. Unless each one of you become number one, each student, parent, Principal, Faculty all become number one individually, India cannot become number one. So, never accept any situation where you are not number one.

In the Tamil word vetri, if you remove the mid letter tr, it sounds like veri. Unless there is veri (passion), there is no Vetri (success). If your passion is in a positive direction, there is nothing that cannot be achieved. Whatever we want, can be achieved. வெற்றி என்ற சொல்லில் நடுவில் உள்ள ற் என்ற எழுத்தை நீக்கி விட்டால், வெறி என்ற சொல் உருவாகிறது வெறி இல்லையேல் வெற்றி இல்லை. ஆக்க பூர்வமான வெறி இருந்தால், ஆகாத காரியமில்லை . என்ன வேண்டுமானாலும் செய்ய இயலும்.

How do people who studied in simple rural schools here, manage in colleges abroad? You have to create the environment. Normally, we talk ill of ourself. In Bible, there is a message that says “Don't curse the darkness, Instead light a small candle.” See what difference it makes. Don't lose trust .You can do great things.

I don't see you as students. In each one of you, I see a Vivekananda, a Tagore, a Barathy, a C.V Raman. You can be if you want to be. I have no doubt that you will grow faith in yourself and grow the Nation.

I am 87 years old. About 50 years ago, the sum of knowledge available, doubled once in 50 years. But now, it is doubling once a year. What does it mean? This means, the degree you get now will become irrelevant tomorrow. If you are complacent, it is dangerous. For example, there is no use now for Periodic Table. This is called Arivupppuratchi-a knowledge revolution. You have to be updating, upgrading and reinventing yourself everyday. Decide to stand at least one inch ahead tomorrow in terms of your knowledge. At least one word of learning must be achieved every day. Otherwise, we will become rusted and useless.

அறிவுப் புரட்சி உருவாகி இருக்கிறது .அறிவைத் தீட்டிக் கொண்டே இருக்கா விட்டால், துருப் பிடித்து உருப்படாமல் போய் விடுவோம் .Also learn to improve your Social Awareness and Commitment. There are many below us in living standards. There is a revolution of rising expectations. In olden days whatever was accepted as “God's destiny” is now not acceptable. சமூக உணர்வை வளர்த்துக் கொள்ளுங்கள். எல்லாம் கடவுள் செயல் என்று ஏற்றுக் கொண்டது ஒரு காலம்.

Learn that your duty is to wipe every tear from every eye. I came here out of love for all of you. I wish you all a Golden Future. Let the word “no” be non existent in your lives. அன்பினால் வந்தேன். பொன் மயமான எதிர் காலம் உருவாஹட்டும். இல்லை என்ற சொல்லை எங்கும் இல்லை என்று ஆக்குங்கள்.

Inspired by his words, when we searched for his other thoughts, this is what we landed up with...

He has written an autobiography charmingly titled as “**Fading footprints**” that is worth reading. Check his blog at <http://bsraghavan.wordpress.com/2013/12/27/making-it-to-the-ias-i/>

Look at what he says about student teacher relationship...

Both teachers and students have given up on reading books by original authors and have come to depend on skimpily written notes, many of them replete with howlers. One seldom comes across teachers with a passion for teaching and abiding interest in students, enabling them to come up in life. Even if there be one or two here and there, they are mortally scared of undertaking any vigorous efforts to implant in students the right attitude to studies, or enforce discipline and respect for authority for **fear of being insulted by the students and traduced by the parents, if not stabbed or shot to death.**

Things have, in short, become topsy-turvy: **Teachers are afraid of students and parents are afraid of their children.** The break-up of joint families in India has removed the salutary influence of elders as well. The dominant trend is one of a highly individualistic and self-centred attitude, prone to consumerism, materialism and attendant self-indulgence, and resistant to any form of regulation or control. Grandparents trying to put into the children growing in this environment some sense born out of their experience, are ticked off to their faces for being “silly”, “stupid” and “ridiculous”.

<http://bsraghavan.wordpress.com/2013/12/15/early-influences-ii/>

Sports news from Dr.P.Balaji



Our college tennis team comprising of Vishwajit Tirumurti (final year, mech), IB Akshay (first year, mech) , Vishwesh S (second year, chemical) and Irfan Hussain (final year mech) won the Tamilnadu Inter Engineering Sports (TIES) for the fourth time in a row.



I am happy to inform you that our college won the overall championship for the games in the women's category in the TIES 2014 (Tamilnadu Inter Engineering Sports). The event was organized by Kongunadu Engineering College, Thotiyam from Feb 10th to 13th, 2014. This is the first time we are winning the overall championship for the women category. We had secured winner position in the Badminton, Tennis, Chess and Runners up in Basketball & Table tennis. We secured an overall points of 42.



Cricket match at new ground

Faculty Teaching Cricket team won credibly (2-0) in Tri series Cricket at SSN Cricket ground for 2014

Faculty teaching cricket team won the three match series convincingly against non-teaching staff cricket team by 2-0 after many losses in the past years. It was an immense team effort by the faculty team members Dr Senthil Kumar (Chem), Mr. Ebenezer (Mech), Mr. Vinob Chandler (IT), Mr. Harshavardhan (Chem), Dr. Alphin (Mech), Dr. Sachin (BME), Dr. Mahesh (BME), Dr. Sunderaswaran (Maths), Dr. Prakash (Mech), Mr. Balasubramanian (EEE), Mr. Vimal Sam (Mech), Mr. Selvaraj (Mech) and Mr. Jaikishan (Mech).

First Match- Teaching faculty team won by difference of 50 runs:

Teaching team won the toss, elected to bat and scored the total of 136 for 7 wickets in 20 overs (Mr. Vinob- 42*, Dr. Sunder-23, Dr. Senthil-19). For non-teaching staff side Mr. Devasirvatham (Library) conquered 3 wickets giving 21 runs. But in response non-teaching staff team was all out for 87 runs in 16 overs. For teaching side Mr. Vinob has the best bowling figure picking 4 wickets for 22 runs.

Second Match- Teaching faculty won by 9 wickets:

Non-teaching side won the toss, elected to bat and made a total of 120 (Mr. Mohana Krishnan - 28, Mr. Devasirvatham- 15). Teaching bowling card was Dr. Prakash - 2 wickets for 9 runs, Mr. Vinob - 3 wickets for 33 runs and Dr. Alphin - 2 wickets for 21 runs. In reply teaching crossed the target with 9 wickets to spare in 13.4 overs (Dr. Senthil - 52*, Mr. Ebenezer- 31).



All the players felt that it is indeed a great experience to play in a cricket ground of international standards that too within our SSN campus. They were also thankful to the Management, Principal and Dr. Balaji for the great opportunity and encouragement.

Department Update

In a nutshell



Research Activity

D.Elil Raja and Dr.S. Vijayan presented their paper on " INTEGRATED FIXTURE LAYOUT OPTIMIZATION" in the INTERNATIONAL CONFERENCE ON MODELLING,OPTIMISATION AND COMPUTING (ICMOC – 2014) at NI University, Kumaracoil, Nagercoil (24 Feb 2014)



Dr. D. Ananthapadmanaban's paper on "Friction welding of Aluminium to Copper with Nickel interlayer" accepted for presentation at The International Conference at Noorul Islam University. All accepted papers to be published in International Journal.

Research paper titled "Mechanical and metallurgical properties of Dissimilar 304 - 430 stainless steel welds" was presented by A. Arun Mani (PG student) in international conference on structural integrity ICONS2014-IGCAR, KALPAKKAM, FEB 4-7, 2014, authored by A. Arun Mani, Dr.D. Ananthapadmanaban, Dr.A.K.Lakshminarayanan

Dr. B. Anand Ronald's paper titled "Hole Accuracy during Deep Hole Drilling for Hydraulic Cylinder Application" co-authored by R. Clifford Benjamin Raj, A. Velayudham, Prasmit Kumar Nayak has been accepted for presentation in the "International Conference on Recent Advances in Mechanical Engineering and Interdisciplinary Developments" (ICRAMID '14) to be held on 7 & 8 March 2014

Praveen Ramanujam, Vaibhav Prakash, Sanjeev Nivedan of III year Mech B section and Prof. N. Nallusamy presented a technical paper titled "Theoretical and experimental investigation on spray characteristics of diesel and biodiesel for various chamber pressures in a constant volume chamber" in IEEE National Conference on Recent Advances in Mechanical Engineering conducted by Saveetha University, Chennai. (07 Feb 2014)



Dr.K.Rajkumar and R.Rajan presented a paper "MICROWAVE HEAT TREATMENT ON ALUMINIUM 6061 ALLOY-BORON CARBIDE COMPOSITES" in the International Conference on Structural Integrity ICONS2014-IGCAR KALPAKKAM FEBRUARY 4-7, 2014

Dr. M.S.Alphin (Associate Professor/Mech.) and Mr K. Kaushik Balaji (II M.E Manufacturing Engg.) presented their paper titled "Computer Aided Human Factors Analysis of Industrial Vehicle Driver Cabin to Improve Occupational Health" at OCCUCON 2014 - International Conclave on Occupational Health Organised by Indian Association of Occupational Health, was held in Goa from February 11 – 14, 2014 (12 Feb 2014)

Invited Reviews

Dr. A. S. Ramana reviewed an article for Energy Sources, Part B: Economics, Planning and Policy Journal

Dr. D. Ananthapadmanaban, Completed a review for the International Journal of Control Engineering and Theory



Workshops Attended



Dr.K.S.Vijaysekar and Dr.S.Sureshkumar alongwith 2 ME students underwent Abaqus FEAs software training (2 days)

Dr.A.K.Lakshminarayanan attended a one day national workshop on "High Temperature Properties of Materials" organised by department of manufacturing Engineering, Annamalai university (01 Feb 2014).

Dr. D. Ananthapadmanaban, Attended 1 day workshop on Testing and Analysis of Welds on Feb 20th, 2014 conducted by Mech Dept, SSN College.

Workshops conducted

Dr.A.K.Lakshminarayanan and Dr. S.Sureshkumar organised a one day national workshop on "Testing and Analysis of Weldments" (20 Feb 2014)

Proposal efforts

Dr. M.S.Alphin , G.Ramanathan, Vaibhav Prakash, and Vimallesh.M (III Mech. B) Submitted a research Proposal Titled "Harvesting energy from passenger seat interface" to ANRC (Aerospace Network Research Consortium) a co-operative research entity formed by The Boeing Company, Wipro Technologies, HCL Technologies and IISc.

Dr.S.Sureshkumar submitted a research proposal titled "**Swash plate based energy generating mechanism using passenger self weight**" to ANRC, alongwith student members V. Naren Balaji and Prithvi P M .

Student Activity

A batch of 24 students of II year Mech 'B' and 22 students of II year Mech 'A' have participated in one day workshop on "Automotive technical cum practical training" conducted by M/s. GOODWIN MOTORS at SSNCE. Faculty incharge: Dr. N. Nallusamy (04 Feb 2014 for A and 06 Feb for B sections)

Mr. Paul Chandra Kumar (PhD Scholar/Mech.) , Mr. Karthick (PhD Scholar/Mech.), Mr Sai Saran (III Mech A), Mr Jason Christopher (III Mech A), Mr. Karthikeyan (I M.E Manuf.), Mr. Siddharth (I M.E Manuf.), Mr Sriram Kaushik (I M.E Manuf.) and Mr Selvaarasan (I M.E Manuf.) have participated in " Mimics-Hands on training " held at Biomedical Engineering Department , SSN College of Engineering.(10 Feb 2014)

| Activity done during the month |
|---|
| Maniraj K and Arun KVJ, II year Mechanical, Attended NSS camp at Echangadu village school. |
| Adithya Vignesh J (Vocalist) and Kailash Sridhar (Percussionist), II year Mechanical, Won the third place in the band music in Techofes, Culturals of the College of Engineering, Guindy, Anna University. |
| IRFAN HUSSAIN of IV year, Mechanical - 1) Winner of the singles event in the All India Inter collegiate individual tournament hosted by GEC college in Gudiwada, Andhra Pradesh 2) Winner of the annual inter college tournament hosted by the KCG college Karapakkam 3) Semifinalist at the All India (AITA) Ranking 50k tennis tournament held in chennai4)Winner of the prestigious Tamilnadu inter engineering sports (TIES) hosted by Kongunadu Engineering college, Trichy |

Selected highlights

Dr. M.S.Alphin (Associate Professor/Mech.) and Mr K. Kaushik Balaji (II M.E Manufacturing Engg.) presented paper titled "Computer Aided Human Factors Analysis of Industrial Vehicle Driver Cabin to Improve Occupational Health"

OCCUCON 2014 - International Conclave on Occupational Health incorporating the 64th National Conference of Indian Association of Occupational Health, to be held in Goa from February 11 – 14, 2014. The conference theme is "Health and Well-being at the Workplace – Key Drivers for Sustainability". It is widely accepted that sustainability requires reconciliation of Economy, Environment and the Society.



Understanding its importance, increasing number of organizations' are embracing the concept of sustainability. Workplace Health and Well-being are key drivers for sustainability in more than one way. At one end is the effect of the processes, chemicals and workplace conditions on health that need to be minimized. At the other end, positive health and well-being of the workforce enhances productivity of the organizations' thus contributing to the initiative of Sustainability.

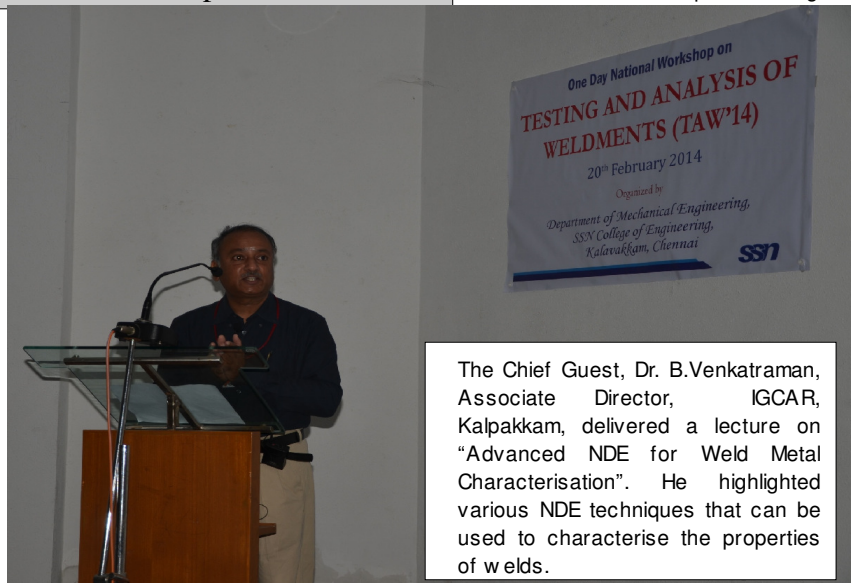
The highlight of the conclave will be scientific deliberations by eminent national and international faculties in the field of

Occupational & Environmental Medicine. The scientific feast includes Professional Development Courses, Orations, Symposia, Panel Discussions and Guest Lectures providing a platform for exchange of ideas and sharing best practices in Medical & Occupational Health.

The proceedings of the conference will be compiled and forwarded to concerned government agencies, nodal authorities in the field of Occupational and Environmental Health as well as industry bodies thereby emphasising the significance of Workplace Health and Well-being.

Workshop conducted

Dr.A.K.Lakshminarayanan and Dr. S.Sureshkumar organised a one day national workshop on "Testing and Analysis of Weldments" (20 Feb 2014)



The Chief Guest, Dr. B.Venkatraman, Associate Director, IGCAR, Kalpakkam, delivered a lecture on "Advanced NDE for Weld Metal Characterisation". He highlighted various NDE techniques that can be used to characterise the properties of welds.



Dr. A.K. Lakshminarayanan delivered a lecture on "Mechanical and metallurgical characterisation of welds". Dr.S.Suresh kumar delivered a lecture on fracture mechanics and weldments. He demonstrated the use of abacus to analysis the crack growth in welds. There were 37 external participants and 33 internal participants who benefited from this workshop.

Industry Interaction



On Feb 8th, Prof. Ve.Annamalai was invited by Ford Tech Solutions for a lecture on "TRIZ-a tool for industrial problem solving".



Prof.N.Nallusamy, Dr.M.Suresh, Dr.R.Prakash and Dr.A.S.Ramana visited Turbo Energy Ltd. Their report will be covered in next issue (since this issue is overflowing with plenty of items to read...

On 27th, President visited the dept for interacting with students and faculty.

President visits department

During the meeting, **three Challenges** were identified

1. Getting Alumni to give back something to the Institution .
- 2.Placement for PG students
- 3.Reducing the "Non -eligible for placement" category.



President's Response..

Your students are quite enthusiastic and it was a pleasure talking to them.PI focus on addressing the three challenges that you have mentioned. Regarding the first challenge, in my experience, the initiative of the alumni giving back is always spearheaded by one dynamic alumnus - it was Anand in Chemical Engineering, Sudarshan in ECE, Shyamal in IT and Sivapathy in Rural Students category to name a few. So you have to identify such an alumnus, motivate him and he will do the rest.

Our Sincere Thanks to Principal, Mr.Ganesh Prasad, Mr.Jayakumar and Mr.Suri who accompanied President during the visit.

Guest Lecture 1



As part of the SAEINDIA SSNCE collegiate club and AICTE-IIPC industrial lecture series this semester, two guest lectures were arranged for our second year students, by Dr.N.LakshmiNarasimman and Dr.M.Nalla Mohamad.



The first lecture was delivered by **Mr. Bakthavachalam, G.M. (Manufacturing), Turboenergy Ltd.**, Chennai, on 27th. The speaker shared his industrial experiences and threw light on the expectations on freshers from an industrial perspective. Various aspects such as the role of a fresher as a GET, Do's and Don'ts in a company, industrial safety requirements, discipline, code of conduct, ethics, performance appraisal of GETs during the training, Quality systems, Seven QC Tools, and Six Sigma were covered during the talk. The lecture ended with a brief brainstorm session on "achievement of 100% placement" as a case study. Overall, the lecture was highly informative and well received by the audience.

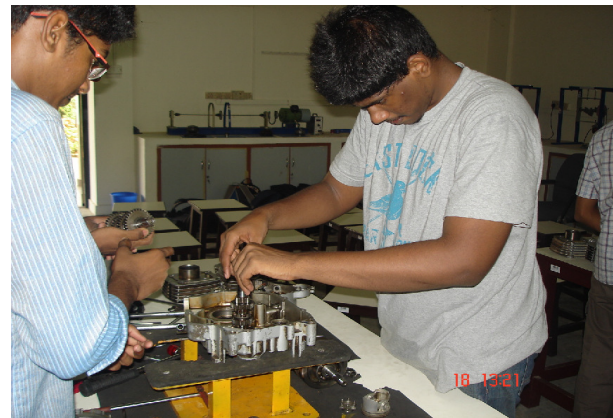
Guest Lecture 2



The second lecture was delivered by **Mr. K.Sivakumar, Senior General Manager-Manufacturing** from **TVS Brakes India**, Sholingur, on 28th. He spoke on "Quality System and Six Sigma". He touched upon the need for reducing waste in production and how various aspects like 5S and Six Sigma can be utilised for waste reduction. From the assembly line concept by Ford till the Toyota Production System, how manufacturing has learnt to improve efficiencies were presented lucidly. The concept of Takt time was also presented with a lot of clarity. This was an eye opener for students to learn more about Industrial Practices.

Experiential Learning Program

Professor Nallusamy has been anchoring this activity of training students hands on – through an external trainer- in aspects of automobile engineering. It has been a much sought after program. A glimpse of how students enjoy and learn....



Visit to IIT -through IIT Alumni Club initiative



B. Jayakishan and Vimal Sam Singh of mech had the opportunity of visiting IIT Madras in a conducted tour organised by PALS-alumni club. They cherish the learnings...

Attention: final year students
who want to enroll for direct Ph.D.
Get to know all the facilities available
For various research areas at IITM



The PALS organisation frequently organises visits to various industries and academic institutes. As part of their 2013 program, they arranged a visit to the department of mechanical engineering, IIT Madras for various academic faculties to communicate and collaborate with many of their ongoing and future proposed research projects. A total of 11 engineering colleges and universities around Chennai participated in the event on 13th Feb 2014 to visit the several department divisions inside IIT, Madras. From SSN College of Engineering, we had the opportunity of joining this visit. After the initial gathering in the seminar hall, the welcome address for the event was given by Prof. Dr. T. Sundararajan, the head of the mechanical engineering department, IIT Madras. A department video was also shown to the visitors where we viewed the various department divisions we were about to visit in the tour.

The first division we saw was the [Precision Engineering division](#) where the prime research area was [robotics](#). This was a state of the art laser calibration facility which is only available at IIT Madras installed at a cost of Rs.1 crore. Industries and other centres can avail this facility to calibrate their CNC, CMM machines by using 3D imaging devices to solve many dimensional metrology problems. The calibration performed characterizes about 27 ISO parameters required by 3D laser scanning. This is a DST funded project headed by Dr. Singaperumal (for details visit www.faro.com) and is available for outsiders at a nominal cost. The division was also setting up an [autonomous intelligent robotics lab](#) where they use fuzzy logic and neural networks to improve the artificial intelligence of cars. This is based on the concept employed by Berkley University for making the Google car. The lab is handled by Dr. P. V. Manivannan who also explained about setting up of an additional virtual lab for control of multimobile robots as part of MHRD project. They are also planning to open this [Virtual Remote Robotics lab](#) for remote access by many industries and academic institutions in and around Chennai. The micromachining lab displayed 5 axis contour surface micro machine with onboard camera for accurate tool axis control.

In the [hydraulics and pneumatics lab](#), a project on active suspension for car wheels was presented by the name "A quarter car road vehicle model", where magnetic particles were suspended in the car suspension system. When the suspension vibrates due to bumps on the road, the magnetic particles starts to oscillate, increasing the viscosity of the suspension liquid and hence increasing the cushioning effect.

Next we headed onto the Ranganathan Building where a research facility was established through a joint initiative of TVS and IITM for [projects in Sheet metal research](#). There are state of the art equipments available for [water jet machining](#), [ultrasonic precision micro-machining](#) and is equipped with facilities for measuring and analyzing the characteristics of tool wear using [stereo microscope](#). The lab is also equipped with a [High speed turning machine \(6000 rpm\)](#) for precision milling and 5 axis turning.

After Lunch we visited the [thermal laboratories](#) starting with the [Internal Combustion Engines division](#). Many projects were presented by research scholars who were working in areas such as [laser diagnostics for emission monitoring](#), [particle image velocimetry to study turbulence inside the combustion chamber](#), [biodiesel study on modified CI Engines](#), [Gas Chromatography analysis of vegetable oils](#), [bio fuels](#), etc and [hi speed image capturing of combustion effects inside various combustion chamber designs](#).

In the [refrigeration and air conditioning division](#) a new type of [mixed refrigerant technology](#) was demonstrated where up to cryogenic temperatures can be easily reached in a single stage process itself by

mixing HydroFluoroOlefins (HFO) and HydroFluoroCarbons (HFC) with a straight chain low hydrocarbon ($C_1 - C_5$) which can also attain a low global warming potential (GWP). G. Venkatarathnam has published a book on 'Cryogenic Mixed Refrigerant process based on the outcomes of the research. There is research going on for developing [an effective hydrogen storage device](#). They are also in the process of [building a desalination system](#) in association with NIOT by employing thermal diffusion process to convert seawater to drinking water.

In the [combustion thermodynamics division](#), we visited the [shock tube laboratory](#) where [combustion acoustic studies](#) were being investigated. Then a [project on droplet combustion](#) was presented by a research scholar who was studying the effect of the size of a fuel droplet during combustion inside a turbulent flow field. Another [project including nanofluids](#) was also presented where they prepared an advanced kind of water/oil mixture with a small concentration of nanometer-sized solid metal particles such as Fe_2O_3 in suspension. These nanofluids can be potentially used in heat transfer applications including microelectronics, fuel cells, pharmaceutical processes, and hybrid-powered engines for enhanced thermal conductivity.

Finally, we visited the [machine design and machine dynamics divisions](#) where [pressure fatigue testing and non-destructive testing](#) were the most important avenues of research. In the pressure fatigue testing, high-force mechanical testing was carried out for determining the performance and durability properties of large, high-strength composite materials. They used a MTS testing system model with a 100KN max pressure for determining the fatigue life of composites. In the NDT section [radiography and thermography techniques](#) were utilized in which ultrasonic wave frequency was used for measuring both surface and sub surface discontinuities with no hazards. The machine dynamics lab was equipped with a facility to study the fault identification systems using vibration and the non linear motion study between rotor and stator dynamics system for [detecting fault in shafts](#). The lab is also equipped with [Impedance tube experiment](#) to measure absorption coefficient of different materials. Research is carried out on a LG 19 Kg washing machine to reduce the noise and vibration. This is a consultation assignment done for LG. After the visits we returned to the mechanical engineering department where the concluding address and vote of thanks were given by the PALS co-ordinator Ms. Anuradha Ramanujam.

IITM also offers a [summer internship program for B.E. students](#). Currently 20 seats are available for this internship every year, and a stipend of Rs.1000 along with accommodation would be given to the students. Also there is a possibility of the [students getting admitted into the direct PhD programme](#) in IIT through this internship. However though there are only 20 research seats with stipend available but students can come forward to do internships without the stipend support and avail the diverse lab facilities in IIT, Madras.

Amazing Innovation 1

Anti-sinking alarm

iSwimband is a wearable accessory which will alert your Bluetooth-enabled phone, tablet, or music player if a swimmer has been submerged beyond a preset time limit, or if a non-swimmer (such as a toddler) enters the water. While nothing replaces diligent human supervision, iSwimband provides an extra layer of protection in and around the water. A portable, simple-to-use safety system that works in pools, lakes, rivers – even in the bathtub. More info at <https://www.iswimband.com/About/>



Amazing Innovation 2

Glasses that reduce eye fatigue



Designed for those who use computers for an extended period of time — either as part of their job or through gaming — the lenses of the black-framed Wink Glasses 2013 turn from transparent to translucent for around 0.2 seconds every ten seconds — brief enough to avoid distracting wearers, but nevertheless causing a blink reflex. The glasses contain a small battery in the left arm, which sends an electrical current across layers of liquid crystal inside the lenses. When powered, the liquid crystals align and let light through the glass as normal — a momentary drop in current causes the particles to disperse, creating a brief, translucent flicker. Users can adjust the duration of each fogging by intervals of 0.1 seconds using a switch on the right arm.

more info at <http://ajw.asahi.com/article/economy/technology/AJ201312090067>

Passion Parade

Visveshwar N, of first year mech B shares his interest in Flute.....

"On Feb 22nd, I performed a concert in Devakottai, organised by Sri Thyaga Brahma Sabha.

I am glad to inform you that they presented me a certificate as "Veinkuzhal Ilaval" meaning "Young Prince of Bamboo Flute".



I am thankful to the Almighty and my Gurus for blessing me with conducive environment and opportunities to learn and sustain the interest for playing flute. Over the years I have developed a passion for music.

My grandfather Shri Singanallur Ramaraja, is my first guru for Flute. Though he did not perform on stages, he is capable of playing and teaching Veena, Violin, Flute and Vocal music. I am presently learning music from my grandfather and Dr R.S.Jayalakshmi, Retired Professor of Music in Madras University.

When I was 5 years old I was put to vocal music classes alongwith my brother. Though not regularly, we attended the classes for about 3 years. But, we were feeling shy of singing other than in the class.

One fine day, my grand father asked me and my brother to try violin and flute. At 8 years then, I found it very difficult to put the bow for violin, where as blowing flute came easily. My brother had difficulty in blowing the flute but easily picked up violin. We were happy that our vocal classes were stopped and it was easy to play the instruments since we had already learnt the basic lessons in vocal classes.

When I was about 9 years, I was blessed with an opportunity to perform in the local (Nanganallur) Perumal Temple. My brother's classmate was learning Mridangam and all the 3 of us had our Arangetram (maiden stage performance) at the lotus feet of Lord Narasimha. It proved out to be an auspicious beginning for the three of us. Unimaginable for beginners, but we started performing concerts (?) with what little we had learnt at the local temples and functions in our relatives' houses. Together we performed about 50 concerts.

My brother and his friend started concentrating on studies and a new wider path guided me in my musical journey. Shri [Abaswaram Ramjhi](#) took me into his team of talented young children viz Issai Mazhalais. Thanks to Shri Ramjhi I started performing in different parts of Chennai including some Sabhas and outstations as well.

I performed in Tiruvaiyaru Sri Thayagarajar Aradhana in Jan 2008. A senior Ghatam Artiste, Shri Adhambakkam Sankar, after listening to my music told that he will support in all my endeavours, in another 2 years, if I practiced and performed well. By now, I started playing concerts regularly and as promised, Shri Shankar introduced me to senior artistes and helped me to perform concerts accompanied by them on Violin, Mridangam and he himself played Ghatam. I am able to learn the nuances even while performing the concert with the seniors guiding me to scale up myself on the stage itself and after the concert as well.

I have performed on more than 500 stages in various cities and towns in India and in Malaysia.

I have given programmes in various TV channels as well.

I received the Best Instrumentalist Award in the Spirit of Youth Festival 2010 conducted by the Music Academy, Chennai and received the same at the hands of Nobel Laureate Shri Venkatraman Ramakrishnan 01.01.2011.

I have also been blessed with titles like Venu Ila Maamani, Veinkuzhal Ilaval, etc.

Of all the tributes I have received, I value the following words of Dr N.Ramani, living legend of flute music, who blessed me after a concert about 6 years back.

"I have not seen my guru Flute maestro Mali playing in his childhood. I now think Flute Mali would have played like Visveshwar, in his childhood."

The senior vidwans with whom I came into contact always used to tell me to concentrate on studies also, earn a good degree and job for my future. They advised that if I could establish myself as a much sought after artiste then I may think of taking to music as full time profession.



I took this guidance seriously and studied well in +2. When I got selected for Law School of Excellence and SSN I chose SSN and I now feel happy for having taken the right decision.

I am grateful to the College authorities and the faculty for encouraging me and enabling me to perform concerts on week days and at outstations. I am also a proud recipient of Scholarship for fine arts.

I am sure you will be interested to listen to some of my performances in the following youtube links.

Maaye Twam Yahi - <http://www.youtube.com/watch?v=5uiOrEWFBDU>

Sankarabaranam Raagam - <http://www.youtube.com/watch?v=evMjsgD-Oc8>

Poorvikalyani Raagam - <http://www.youtube.com/watch?v=-LldWO9C2Z8>

Thaye yasodhe – a small portion towards the end -<http://www.youtube.com/watch?v=kKxYY4904zQ>

Visveshwar N

WWW.FLUTEVISVESHVAR.COM

www.facebook.com/flutevisveshwar

The ThinkEdu Conclave 2014, which saw a cornucopia of bureaucrats and politicians take the stage to debate on issues pertaining to education and literacy, was organized by the New Indian Express and hosted by ITC Grand Chola on January 30th and 31st. [Eight of the best colleges from across the city were invited to participate, SSN included.](#)



Day 1 of the Conclave was [inaugurated by Anna Hazare](#) who, in his address, stressed on the need to revamp education to ensure a more holistic approach. [Rakesh Mittal](#), co-chairman of the Bharti Foundation, [J.S.Rajput](#), former director of NCERT and [Kiran Bedi](#), among others, were part of a panel discussion on 'The National Policy on Education needs to be redrawn.' Most of them agreed that after the RTE, enrolments in schools have skyrocketed but ironically, the level of learning has taken a huge fall.

The second day had a slew of political powerhouses including the likes of [Farooq Abdullah](#), [M M Pallam Raju](#), [Chandrababu Naidu](#) and [Arun Shourie](#) debating on the motion 'India needs to check its brain drain.' The majority of them however, appeared to be sagacious critiques of the idea that the country had more to gain from this phenomenon, owing to the fact that returning Indians went on to do a lot for our growth but the resounding theme seemed to be that we are killing excellence in the pursuit of equality.

Other eminent speakers who justified their views on a myriad of topics ranging from the implementation of changes to HEIs and synergistic partnerships between the public and private sectors, included [Kris Gopalakrishnan](#), [Hamid Ansari](#), [Ghulam Nabi Azad](#), [Anupam Kher](#) and [Anbumani Ramdoss](#).

The final session of the opening day was an inter-collegiate debate on the motion, 'we are producing people of business and not leaders'. [Eight of the best colleges from across the city were invited to participate, SSN included.](#) There were several interesting arguments that were put forth, making it amply clear that there is but a thin line distinguishing great leaders from efficient managers. The experience, nevertheless, was undoubtedly insightful.



Info from Alumni 1

Venkatesh Aditya ,S.
Graduate Student, 3mE
Delft University of Technology



Dear Sir

I had the fortune of meeting Dr. John Cohn during TEDxDelft and found it to be a really enriching experience. During his talk at TEDxDelft, he spoke about “Sam Stones”, which he created in memory of his son who passed away due to a road accident. Upon his death, the Cohn family donated his organs to people in need of transplants. Sam stones are a symbol of hope and it is a reminder for us to live our life to the fullest. We constantly crib about the past and worry about the future, missing out on enjoying our present.

Dr. Cohn changed my outlook towards life that day! I came home and ordered Sam stones for myself (of course its free!). I had a great time during my bachelors at SSN, thanks to the liberal ways of our department. **I wanted to place a Sam stone in our department in memory of all the good times, it was almost like my second home!** I hope you can find a place for it in our department. Dr. Cohn speech at TEDxDelft can be viewed on youtube : <http://www.youtube.com/watch?v=I-NT1-BdOvI> . His blog is worth a read too (<http://johncohn.org/base/>) with plenty of crazy project ideas! Dr. Cohn is not just a scientist, but a musician too, this music video (<http://www.youtube.com/watch?v=Y0DxmthvkKU>) shows his other side.

It was nice meeting you after a long time. Thanks for keeping us all updated about the department through aspire! Its really great of you to keep it going despite your busy schedule!

Out of curiosity when we looked for Sam and Sam stones..... It was quite moving...

“Sam was born on May 28, 1992. He was hit by a car on November 20, 2006 in Florida while visiting friends. His beautiful body stayed strong long enough for organ donation. He gave his heart, liver, kidney, and kidney-pancreas so that four others would live. His spirit continues on through them and surrounds us today. Sam lived his life to its fullest on this planet. Sam was an exuberant boy with a 1000 watt smile. He loved his friends, family, dog, and bird deeply. Sam was passionate about guitar, snowboarding, lacrosse, and having fun. His favorite times were when he would jamming with one of his friends, or his big brother Max. It is hard to capture Sam's true spirit in a few paragraphs. He taught us so much. Mostly he taught us to have fun, ease up, and to be there for each other. He is a true best friend to many and deeply missed”-Dr.John Cohn.



Sam



Sam's father Dr.John Cohn

The website reads as “SamStones are made with love. They are small fired clay rocks that have Sam’s name and our website on them. We make these stones by hand in community gatherings where we all come together to have fun and to heal. We give the stones out to anyone who wants them and invite them to keep them, pass them on or place them in a special place. We hope that anyone who finds a SamStone picks up a little of Sam’s joyous spirit . We also hope they find their way to this website where they can tell us about where they found the stone and/or where they placed it.”

<http://www.tedxelft.nl/2013/10/john-cohn-bring-a-playful-spirit-into-your-work/>

<https://www.youtube.com/watch?v=I-NT1-BdOvI>

Info from Alumni 2

Sports quota job

Good morning sir ! This is your student SENTHIL KUMAR R(2009-2013 batch). I am a table tennis player. Hope your doing good and everything is fine at your end.

I just wanted to share my happiness that I got a [central govt job through sports quota](#) in the ACCOUNTANT GENERAL's OFFICE (Trivandrum,Kerala). I take this is an opportunity to thank you and our department faculties for supporting me throughout these years both in my academics and sports activities. Wherever we go we are always a part of SSN Mechanical and your blessings will be needed.
Thank you for everything sir.



Corporate Wisdom-3

The Chinese Bamboo Tree

[This is for all those who want to jump jobs-read carefully...](#)



Mr.R.Ramakrishnan,
President,
Mytrah Energy

Source: Matt Morris

Unlike most other plants, Chinese bamboo is quite unique on its own. When this bamboo is planted, watered, and nurtured for the whole growing season, it does not outwardly develop even just for an inch. Then, on the next growing season, the farmer must continue to irrigate, fertilize and care for the bamboo tree and yet nothing happens – it fails to sprout just the same.

And as the seasons go in and out, the farmer has to continue caring for the bamboo for four consecutive years. What could really be discouraging is the farmer has nothing substantial to demonstrate for all of his labor in caring and growing the tree. Four lonely years of hard work and caring and yet you have nothing!

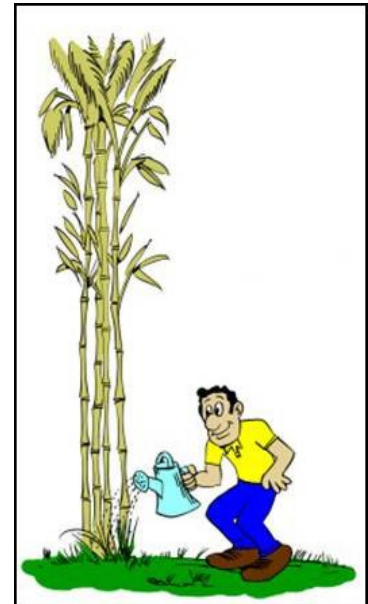
And then on the fifth year, something so amazing and incredible Happens!

All the hard work seems to be paid off on the fifth year because that Chinese bamboo tree seed at last grows and not just growing as we normally see with other plants. The bamboo tree shoots up to more than 80 feet all in just one growing season! Now, that is a very astonishing demonstration of the power of nature!

Now, you might be thinking: Did the small tree choose to be inactive for four years and then just decides to grow dramatically on the fifth? I think the answer is quite clear for us to see. [The little tree was actually developing itself underground by expanding its root system to make it tough enough to sustain its impending external growth in the fifth year and even beyond.](#)

Now, had the tree failed to build up a strong and able underground foundation, it would be impossible for it to keep on growing when it is time to sprout outside into the outside world.

A great lesson of patience, persistence and hard work can be learnt from the story of planting Chinese bamboo.



This story is very much true in our bid to achieve our goals – in our academics, relationships, body, jobs etc. we have to patiently exert efforts in self-discipline, develop the right values and adopt stronger character while at the same time defeat many difficulties and different challenges.

This is the hard part for most of us. We get so excited about the idea that's been planted inside of us that we simply can't wait for it to blossom. Therefore, within days or weeks of the initial planting, we become discouraged and begin to second guess ourselves, or worse, quit.

Sometimes, in our doubt, we dig up our seed and plant it elsewhere, in hopes that it will quickly rise in more fertile ground. We see this very often in people who change jobs every year or so. We also see it in people who

change organizations and even spouses in the pursuit of greener pastures. More often than not, these people are greatly disappointed when their Chinese bamboo tree doesn't grow any faster in the new location.



Other times, people will water the ground for a time but then, quickly become discouraged. They start to wonder if it's worth all of the effort. This is particularly true when they see their neighbors having success with other trees. They start to think, "What am I doing trying to grow a Chinese bamboo tree? If I had planted a lemon tree, I'd have a few lemons by now." These are the people who return to their old jobs and their old ways. They walk away from their dream in exchange for a "sure thing."

Sadly, what they fail to realize is that pursuing your dream is a sure thing if you just don't give up. So long as you keep watering and fertilizing your dream, it will come to fruition, just like the Chinese Bamboo Tree. It may take weeks. It may take months. It may even take years, but eventually, the roots will take hold and your Chinese bamboo tree will grow. And when it does, it will grow in remarkable ways.

We've seen this happen so many times. Henry Ford had to water his Chinese Bamboo Tree through five business failures before he finally succeeded with the Ford Motor Company. Another great bamboo grower was the legendary jockey Eddie Arcaro. Arcaro lost his first 250 races as a jockey before going on to win 17 Triple Crown races and 554 stakes races for total purse earnings of more than \$30 million.

Well, you have a Chinese Bamboo Tree inside of you just waiting to break through. So keep watering and believing and you too will be flying high before you know it.

Did this story of the Chinese Bamboo Tree resonate with you? Do you feel more inspired? What will you start doing differently as a result of this little, yet powerful story of the Chinese Bamboo Tree?

Forthcoming Event

Awareness & Training Program

on

Solar Photovoltaic System

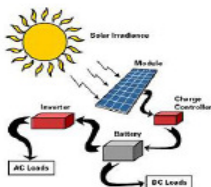


Organized by

IES, Anna University, Chennai

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The programme covers the following topics:

1. Energy Scenario and Government Initiatives
2. Fundamentals of Electrical and Electronic devices
3. Basics of Solar Energy and Solar Radiation Geometry
4. Solar PV system and Components
5. Stand Alone and Grid PV system
6. Practical training on SPV system along with field visit

Date & Venue

- Batch 1: From Feb 26th to March 1st
- Batch 2: From March 5th to March 8th
- Batch 3: From March 12th to March 15th

Venue : Institute for Energy Studies, Anna University

Address for Correspondence

Dr. R. Velraj

Prof. & Director

Institute for Energy Studies

Anna University, Chennai – 600025

Email : energytraining2014@gmail.com