

Mechanical **Aspire**

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 45

The Science of Success

Smoot, the winner of the 2006 Nobel Prize in Physics, said **he never entered the field to win accolades. It's the excitement of new discoveries that keeps him going.**



"I wanted to know about the universe, about where we came from," he said. "There's a certain thrill that I get as a person from learning about the universe, whether I personally did it or if some of my colleagues did, it's just a thrill to see that kind of progress."

Wüthrich, winner of the 2002 chemistry prize, said his first major failure was not winning a medal in the Olympics.

"I started to study my blood, because I thought that this was the cause of my failure to make it to the Olympics, which turned out to make me a well-known scientist within less than two years," he recalls. The success bred more setbacks when he failed in devising an effective technology to study proteins. However, this caused Wüthrich to write a monograph in 1975, which "opened my eyes to what we had to do". This research led him down the path to further discoveries, and his consequent Nobel Prize.



Chalfie, shared his 2008 chemistry prize with Japanese organic chemist Osamu Shimomura. "In 1945, [Shimomura] was told he had to quit high school and start working in a paint factory. It turned out to be a very good thing for him to do, not because it disrupted his education, but because the city he was in was Nagasaki." Chalfie described how the unexpected move to the factory outside the city protected Shimomura from devastating effect of the atom bomb.

Years later, Shimomura spent a whole summer trying to discover why a particular jellyfish produced light. After rounding up plenty of failed experiments, he threw his fish samples into the sink and walked off, turning off the light. "And he looks back at the sink and he sees the sink is glowing," Chalfie said. This experience triggered the realisation the calcium in seawater was what allowed the production of light.

Wüthrich grew up on a farm, where, at a young age, he managed a trout river. Flicking to a slide in his presentation depicting him as a young adult, holding an enormous fish: **"What I learnt at a very early age is that you have to catch a big fish to attract attention."**

"Once you have a big fish," he said, smiling, moving to the next slide, "then you go to Stockholm and you get the handshake from the king."

Smoot said successful innovators usually worked in teams of four or five.

"There's some creative disagreement in the group. If they are all exactly the same, nothing they do is creative – they just make whatever they think they can make," he said. "But, if there's tension in the group, that's what they do and that's where the learning process is."

Chalfie praised the role universities play in supporting research.

"My university does not know what I do – they just want me to do something," he said. **"But they support me in that, and that's very important** – that I have the freedom to do the research that I want to do. Grant support is also very important, because it's not a contract. Nobody tells me I have to ask for money to do specific things, but that the project itself is important. I justify the project and then it's assumed that I'm not going to slavishly do what I said I was going to do, I'm going to do what's best for science."

Info to Alumni- Campus Update

Dr.P.Balaji writes..I am happy to inform that the annual sports fest of **SSN TROPHY 2K17** (All India Inter Collegiate Tournament) for the 15th year commenced on 15th August and went up to 21st August 2017.The inauguration ceremony was presided over by the Chief Guest **Shri. AKILAN PARI (Indian Basketball Team Captain)** on the 18th of August,2017



A Workshop on "Effective Implementation of Autonomous System" was conducted by Dr. S. Baskar, Professor and Head, Department of EEE, Thiagarajar College of Engineering, Madurai on Monday the 28th August 2017 between 11.00 a.m. and 3.30 p.m. He discussed on Choice based credit system, Curriculum Design and Autonomy status.



Dr.Shiv Nadar Visits SSN Campus



Dr.Shiv Nadar was in campus on Aug second, to attend Research Advisory Committee meeting. During the event, he addressed a gathering of SSN team. His speech

When I was in the US, I had a chance to meet Ms.Indra Nooyi, CEO of Pepsico. We had met earlier, when HCL was going about recruiting MBAs.

She was graduating from IIM Calcutta, when HCL was looking for MBAs with Engineering background. She was with Science background and so we did not have a chance to take her.

I said "We are very proud of you, for whatever you have achieved here in the US".

She said, "I know you and we are also very proud of what you have achieved. I am from Chennai. **There is no single household in Chennai which does not have either a student or a parent aspiring to get into SSN**".

While we might have done so much with HCL, it is what we did with SSN that was noticed by her.

When I had a lot of money and I was able to make a lot of savings, I built a house and repaid my debts. But my mother asked, "This house will benefit only you and your family. What will you do for others?".

I said, "I will do something after my retirement:".

She causally said,

" அலை ஓஞ்சதுக்கப்பறம் சாமி தரிசனம் பண்ணனும்னா தரிசனம் பண்ணவே முடியாது ".

(If we wait for the waves to subside and then only want to pray, we will never get to pray. *Context-In Thirchendur, there is sea in front of the temple.*)

That was an eye opener. Immediately, we started doing things for the society. Whatever we did, we did it extremely well, be it in HCL or in SSN. For example, when the mandated land for any engineering college was only 10 acres, we decided to buy "all land around" and ended up in buying 240 acres of land for SSN.

So, there is no specific time for giving back to Society.

When you go out and do things, when success comes your way, learn to put aside some part of your earnings for the benefit of others.

Do when you think and do it well.

Dr,K,Kasthuri writes..

You may be aware that I will be laying down my office of Dean of this college on Thursday the 31st of this month. It is more than 20 years since I started my second career at this college as Principal and then as Dean. Twenty years is an insignificant period in the life of an institute but it is a period to reckon with, in the life of a person.

All the while, I must say, it has been a good going. If I had a successful innings at SSN, it is all because, I was blessed with a philanthropic visionary at the helm of affairs, both at the SSN Foundation and the Management Board. I am singularly fortunate to have good colleague like you, shouldering all the piquant moments that arose, without any rumblings, and sharing with grace, all the achievements with me, in spite of you being the key player. I am happy for all the kindness you have showered on me, despite all my infirmities



Prof.K.Subbaiah and
Prof SR Koteswara Rao honouring
Our beloved Dean
With a memento



Dean, enjoying
the speech of
Prof KSubbaiah



Dr.Kasthuri shared his thoughts on the dept

"This dept is a very cohesive dept. In Tamil we say "**pala marathu pisin madhiri**" meaning, "like the gum of the Jackfruit tree" .

I wish you continue the same kind of cohesion for all future activities."

The dept of mech engineering organized a very brief Farewell to him on 30-8-2017.

Dr,K.Subbaiah reflected on his long association with the founder Principal.

Arul Noble writes..

I am currently in my final year in Mechanical.

I have mentioned below the details of CIYF, where **I was announced as 1st Runner up.**

The Chennai International Youth Fest'17 (CIYF '17) - World's Biggest Youth Conclave in India, which is jointly organised by Youth Development Consortium (YDC) with Ministry of Youth Affairs and Sports, Government of India & hosted by Govt. of Tamil Nadu happened between 13th and 20th August, 2017 in various locations around the state.



As part of the Conclave, a Project Expo "The Innovators" was held on 16th August at Veltech Dr.SR and Dr.RR University. In the Expo, I presented my Road safety Innovations which comprise of "Motorbike Safety Mechanism" and "Heavy Vehicle Pedestrian Collision Prevention Method".

Since the Innovations found immense usage in improving the Transport Industry of India, I was announced as 1st Runner Up for the event.

The grand Prize Distribution ceremony was organized at Mayajaal and Lieutenant Governor of Pondicherry, Kiran Bedi graced the occasion with her presence along with various other eminent personalities.

While the official photos are yet to be released, I have attached a few photos taken by my friend.

External Recognition



Dr.L.Poovazhagan, Assoc.Prof./Mech., reviewed a paper titled "Manufacturing and characterisation of an aluminium based nanocomposite at optimised stir casting parameters obtained through CFD" for the "Journal of Engineering Science and Technology, School of Engineering, Taylor's University, Malaysia"



Dr. K. Jayakumar, Associate Professor/Dept. of Mech. Engg, reviewed a paper titled "Measurement of Tribological Properties on Cu and Ag based Nanolubricants for Metal Cutting " for the " International Journal of Machining and Machinability of Materials (IJMMM), Inderscience Publishers, UK.

Programs attended



Dr.R.Prakash, Associate Professor, Participated in the SIEMENS Education Day workshop in Chennai (4-8-17)

Programs conducted



Dr.K.S. Vijay Sekar, Asso.Professor, organised a One day workshop on Hand Gliders for II Year Mechanical Engineering students, coordinated by III and IV Year Mechanical Engineering Students.(12-8-17)

Dr.K.S. Vijay Sekar & Dr. S. Suresh Kumar, Asso.Professors, conducted a One day Training program on Ansys FEA Software for the IV Year Civil Engineering Students of SSN. (12-8-17)



Publications

Dr M S Alphin, Associate Professor, published a paper titled " De implant materials, implant design, and role of FEA- A brief review" in Evolution Med. Dent. Sci. 2017;6(44):3487-3492, D 10.14260/Jemds/2017/753. Co Authors: Velmurugan D, Alphin M SarateSG (Thomson Reuters.)



Dr. R. Damodaram, Associate Professor, Published a paper titled "Friction welding of selective laser melted TiAl4V parts" in Material Science and Engineering A, Volume 704, 2017, Page No: 66-71.



Dr. N. Lakshmi Narasimhan, Associate Prof, got a paper accepted for publication in the Journal of Mechanical Science and Technology, Springer. Title of the paper : "Analysis of a thermal storage unit containing multiple phase change materials dispersed with high conductivity particles", coauthored by our past student G. Srinivasan

Jayakishan's paper titled "Chemical ignition delay of candidate drop-in replacement jet fuels under fuel-lean conditions: A shock tube study" has been published in FUEL (Elsevier publication) with a **Thomson Reuters Impact Factor of 4.72**.



Dr. S. Suresh Kumar and Mechanical Engg and passed out students H. Ashwin Clement and Karthik Reddy have published two journal papers

First paper titled "Mixed-Mode Stress Intensity Factor Determination of Riveted Lap Joints Used in Aircraft Fuselage Structures" in the Journal of Failure Analysis and Prevention, Volume 17, 2017. (SJR impact factor 0.24)

Second paper titled "Mixed Mode Fracture Analysis of Multiple Cracks in Flat and Curved Stiffened Panels of Aircraft Fuselage Structures" in the journal of Archive of Applied Mechanics, [Thomson Reuters \(1.49\)](#) – **accepted for publication.**

Conferences

Mr Jain Tony, PhD scholar of Dr M S Alphin, Associate Professor presented a research paper titled, Predicting the Hand-Arm Vibration Response Characteristics from the Handles With Coating Using a Lumped Parameter Model Designed, International Conference on Vibration , Sound and System Dynamics held at Universiti Sains Malaysia. (2-8-17)



Projects Applied

1

Dr. S. Suresh Kumar and V. Ramesh Babu (scientist-D, NSTL Vizag) has submitted a project proposal titled "Investigations on the Effect of Corrosion Fatigue Cycles on Shock resistance of DMR 249A Steel Plates and Welded Joints" to Naval Research Board (Grant-in-aid scheme). The project cost is 41, 11,000.

2

Dr. S. Suresh Kumar has submitted a project proposal titled "Contact Ballistics and Shock Performance of Carbon Nano Tube blended GLARE Fiber Metal Laminates for Military Aircrafts" to DST. (SERB – ECR scheme). The project cost is 24, 10,400.

3

Dr. N. Lakshmi Narasimhan, Associate Prof, submitted two project proposals to Autodesk, Bangalore for financial support. The total funding requested was Rs. 1.23 Lakhs. (4-8-17)

4

Under the guidance of Dr. B. Anand Ronald, S. Diwakar of IV year submitted a project entitled "STUDIES ON ROLE OF PATTERN GEOMETRY ON THE CASTABILITY OF MAGNETIC MOULDED Al ALLOYS" to Tamilnadu State Council for Science and Technology under the Student Project Scheme (SPS) (22-8-17)

Other Activities

Dr. N. Lakshmi Narasimhan, Associate Prof, arranged for an **industrial visit** to KKM Soft Pvt. Ltd., for the students of Mech, CSE & EEE. The planned dates are Aug 29, 30 and 31, 2017. The purpose is to see the 3D Virtual reality facility of the company that is employed for various design and development of products across Manufacturing/IT sectors.

Dr. B. Anand Ronald & Dr. Nalla Mohammed, arranged a **Guest Lecture** on "Additive Manufacturing" by Dr. G. Balaganesan, IITM for 2nd Year Mech "A" students.(11-8-17).

Dr.K.S. Vijay Sekar, Asso.Professor and **Mr.C.Arun Prakash**, Asst.Professor won the **FIRST Prize** in the Quiz Event during the Teacher's Day Cultural program organised by SSN.(12-8-17)

Dr. B. Anand Ronald & Dr. R. Prakash, Assoc. Prof/ Mech., won the **SECOND Prize** in the Quiz Event during the Teacher's Day Cultural program organised by SSN. (12-8-17)



Team comprising of Dr. S. Rajkumar, Dr. B. Anand Ronald, Mrs. R. Rajeswari & B. Jayakishan, won the **FIRST prize in the Game show event** during the Teacher's Day Cultural program organised by SSN. (12-8-17)

Dr M S Alphin, Associate Professor, Conducted Quiz Program in Teachers day cultural Events for 2017. (12-8-17)

Alumni Support / Interaction

Dr. N. Lakshmi Narasimhan, Associate Prof, forwarded the resume of Dhineshkumar A., an immediate passed batch to TVS Brakes India, Sholinghur.

Dr. N. Lakshmi Narasimhan, Associate Prof, arranged an Alumni Talk on "Master Life in Abroad" by our past student Radheesh D currently a Masters in Applied Mechanics students at the Prestigious, "Chalmers University of Technology", Sweden. Date of the invited Talk: 11.08.2017.

Dr. N. Lakshmi Narasimhan, Associate Prof, forwarded four resumes of 2017 passed out batch students to Mayekawa India Pvt Ltd. Interview was on July 31, 2017.

Vimal Sam Singh organized an Alumni Talk-interactive session with Mr.Adityan, who is moving abroad for higher studies, after a two year's stint in Ford.



Student Activities

- Pratheeshhkumar C N, of Third year, Won “Best Student Team Award In Madras Open Quiz 2017” (20-8-17)
- Arunkumar R and Harish V, of Third year ,qualified for the virtual round presentation for Hybrid vehicle challenge conducted by ISIE India at Vijayawada, Andhra Pradesh.(19 and 20-8-17)
- Aravind M, of Final Year, Interned at Integrated Computational Materials Engineering (ICME) lab at Dept of Metallurgical and Materials Engineering, IITM. (5/6 to 5/8, 2017).
- Adithyun S, Anand S, Aravinth P, of Final Year, Visited CUMI Ltd and working under Dr.Xavier Kennedy for a project on grinding wheels.(9-8-17)
- Yeshwant V, Venkatesh R , Vetri selvan K , of Final Year, won second place in the Non Tech Quiz of Surge 2K17, Symposium of Velammal engineering college (12-8-17)

National Board of Accreditation (NBA) team visited Mechanical Dept.(25-27 Aug 2017)-Detailed report in Annexure

Faculty Write up 1

ANSYS Software Training for Civil students



The Department of Mechanical Engineering trained the B.E.Civil Engineering Final year students in "Ansys Finite element analysis software" on 12.08.2017 in the CAD/CAM Lab. **Dr.K.S.Vijay Sekar and Dr.S.Suresh Kumar** organised and coordinated the training program with the support of **Mr.Giridharan** of the CAD/CAM Lab. The training program was organised on the request received from the Civil Engineering Department. It consisted of theoretical session and hands on session on the design and analysis of trusses, beams and plates. The program was received well and the students thanked the teachers for their knowledge sharing and the Lab instructor for the hands on session.

REPORT ON ANNUAL GLIDER WORKSHOP

Conducted on: 12th August 2017

The Saturday started off well with around 25 enthusiastic, 2nd year students from Mechanical A and B sections put together assembled in one of the 2nd year classrooms. The Glider Workshop started off with Dr. K S Vijay Sekar introducing the organisers and volunteers of the workshop to the students and also giving more than a couple of inspirational quotes to them. A brief presentation about **Gliders and the Basics of Flight** was delivered by Adhyanth G Ajay, one of the organisers of the workshop, for 20 minutes and the students were then taken to the EG Hall to start the glider modelling process.



Cutting Balsa wood...

At 2:45pm, the students assembled near the basketball court to launch their glider into the air. Proper launch instructions were given by the organisers and volunteers. Trials were made by each student and the corrections in launching method were conveyed as well. During the timing stage, each student was given two chances to make their glider fly for the longest time and after the two flying sessions, the top two contestants with the best time were chosen.



Teaching in progress



The product made...

KombaRajan and Varun Narayanan obtained the 1st and 2nd positions respectively with only 0.2 seconds between their glider's time of flight, with the former recording a time of 4.95 seconds and the latter coming in with a time of 4.75 seconds. For their accomplishment, their workshop registration fee of Rs. 400 was refunded and a contribution of Rs. 500 was also given by the SAE SSNCE Club. Certificates for the participants and the two winners were handed out as well.

This is part of our BLP-Basisc Learning Program, a Beyond Syllabus Activity



The participants during the flight test

Faculty Write up 3

Guest Lecture-4



*Dr. G. Balaganesan, IIT Madras
giving an enlightening talk on
Additive Manufacturing*

Dr. B. Anand Ronald & Dr. M. Nalla Mohammed, Assoc. Prof, Mech, organised a Guest Lecture on “Additive Manufacturing” for 2nd year Mech. “A” students on 11 Aug. 2017. They were also shown some of the Additive Manufactured components

Faculty Write up 4

Guest Lecture- 5

Dr. M. Nalla Mahamed, Dr. R. Damodaram, and R. Prakash jointly organized a Guest Lecture on the topic “New Techniques for Transmission Electron Microscopy” on 08-08-2017 for II Year ME Manufacturing Engineering students at seminar hall in the Mechanical Engineering Department. This lecture was part of the beyond syllabus coverage for the ME Manufacturing Engineering students.

The invited speaker is Dr. M. Jaganatham, Manager, Research and Development Division, Wheels India Ltd. He completed his Ph D from IIT Madras, Department of Metallurgical Engineering. He did his M.Tech from NIT Trichy.



Faculty Write up 5

Report for Workshop attended on Siemens Education Day

Dr. R. Prakash, Mr. B. Jayakishan, Mr. S. Nagarajan

Siemens and VI Microsystems together organized a technical demonstration workshop on Siemens PLM software (NX CAD, CAM, CAE, & LMS Amesim) and its applications in the mechanical and automotive sectors. The workshop took place at The Westin Hotel, Chennai on 04/08/2017. Siemens PLM software is a company that caters to manufacturers needs to develop and deliver innovative products and technologies through their multi domain simulation software solutions inorder to compete globally.

The workshop was began by Mr. Gopala Naidu, regional sales manager who welcomed the guest speakers and audience. He initiated the workshop by explaining about the effect of Digitalization in the modern age and how we should connect reality with simulation. He also emphasized on the needs of all industries trying to bridge the gap of training needed to train a fresh student coming out of college quickly. The workshop was then resumed by three guest speakers for the day. First Prof. Hariharan, Manufacturing Engineering Department, Anna University mentioned how Siemens helped him setup an advanced CNC and CAD/CAM simulation centre at AUFRG.

Many OEM manufacturers across Chennai attended this workshop. So, the second speaker of the day Prof. L. Chandrasekaran, Dean, RMK Engineering College addressed to all the OEM manufacturers in an

industry point of view. He advised them on the topic “if the customer is the king, you should know how to keep them happy and satisfied”. He asserted that the industry has to follow the most important step of creating a strategic design which should be customer focused, team centered and technology driven.

Faculty Write up 6



My first book -a collection of poems, titled “Mudhan Mudhalai” was released on 7-8-17.

The Publisher,
Mr.C.Arivazhagan, is a Final year student
Of mech, who has started his
Own book Publishing company,
Mathi Publishers,

A student, publishes his Faculty's book.
That is quite interesting-VeA





Draft Manuscript for Review

Mixed Mode Fracture Analysis of Multiple Cracks in Flat and Curved Stiffened Panels of Aircraft Fuselage Structures

Journal:	Archive of Applied Mechanics
Manuscript ID:	AAM-16-0560.R1
Manuscript Type:	Original
Date Submitted by the Author:	08-May-2017
Complete List of Authors:	Sundaram, Suresh Kumar; Sri Sivasubramaniya Nadar College of Engineering, Mechanical Engineering H, Ashwin Kumar; Sri Sivasubramaniya Nadar College of Engineering R, Karthik; Sri Sivasubramaniya Nadar College of Engineering
Keywords:	stress intensity factor, mixed mode fracture, uniaxial and bi axial loading, crack depth ratio, stringer, curved panel

Our paper titled “Mixed Mode Fracture Analysis of Multiple Cracks in Flat and Curved Stiffened Panels of Aircraft Fuselage Structures” in the journal of Archive of Applied Mechanics, [Thomson Reuters \(1.49\)](#) – accepted for publication.

Ashwin Clement is presently doing his MS at Purdue University in School of Aeronautics and Astronautics.

Karthik Reddy is right now working at Saint – Gobain India Pvt. Ltd, Chennai

Ashwin’s write up,

Dear Dr. Suresh Kumar,

- We are really happy to see the second paper being accepted into a good journal under Springer publication.
- We would like to re-iterate that it wouldn’t be possible without your care and support, even though we are away and couldn’t really contribute much for the corrections and submission process associated with the publication.
- We thank you for giving us the opportunity to work under you and enriching our knowledge and skill in upcoming fields/ tools.



Mr Jain A R Tony, PhD Scholar of Dr M S Alphin Presented his research paper titled Predicting the Hand-Arm Vibration Response Characteristics from the Handles With Coating Using a Lumped Parameter Model Designed, in International Conference on Vibration, Sound and System Dynamics (ICVSSD 2017), 2nd August 2017 conducted by Vibration Lab, Universiti Sains Malaysia (USM) with the collaboration of Universiti Kuala Lumpur Malaysian Spanish Institute (UniKL MSI) and Tunku Abdul Rahman University College (TARC).

He also received permission for doing join project/collaborative research in their labs.



Student write up-1

Two days into mech and out comes a project proposal



1.Sudarsana murthy, 2.Sathyajhith, 3.Vijay, 4.Shri Hari, 5.Subramaniam

Just two days into orientation and classes-and Dr.Sureshkumar is able to inspire his students to apply for projects.

I am Sathyajhith S S from mechanical department (sec B) 1st year. Me and my team members have proposed our idea in KPIT sparkle 2018.

Team members are

1. Vijay (mechanical secB) 1st year
2. Subramaniam(mech secB) 1st year
3. Sathyajhith (mech secB) 1st year
4. Sudarsana murthy (mech secB) 1st y
5. Shri Hari(mech secB) 1st year

Our mentor is S. Suresh Kumar sir from mechanical department. We proposed the idea of how to ensure safety for the bike riders where the suit they wear is of airbag and new fabrication.

Student write up-2

We are a batch from 3rd year Mech A. We have submitted an idea for KPIT Sparkle Innovation Challenge

Title: Design and Development of Crash Bumper for Two wheeler Rider Safety

Team members (3rd year Mech A)

- 1) Nirmal Kumar A
- 2) Namratha G
- 3) Manoj S

Mentor: Dr. S. Suresh Kumar

With Regards,
Nirmal Kumar. A,
3rd year Mech A.

KPIT Sparkle 2018

Let your intelligence be an inspiration for a generation!

Every journey needs a progressive path and the fourth edition of 'KPIT Sparkle 2018' promises just that.

Do you have an inspiring idea, practical prototype or just a curious concept that could blow the 'winds of change' in the direction of positive nation building? Brace yourselves for KPIT Sparkle 2018, where you as an innovator, get to introspect, indulge and involve with professors and technologists to present a project nationally and be termed as 'Pioneers' for the future!

-a report by Final year student Neil Ashwin



The workshop was organised by the Association of Mechanical Engineering and was completely focused on clearing the dilemma of students regarding how and where to pursue their higher studies.

The workshop started at 10 a.m and was addressed by Dr V E Annamalai, Mechanical Department HoD who introduced our first speaker of the day, Adithyan karunakaran.



Adithyan came out as a very dynamic and charismatic person and attention grabbing orator. His speech was aimed mainly towards those who were in that stage of engineering where in they are indeed not interested in technical and engineering subjects but want to shift to more management related courses and jobs. He also made it clear that a shift into management field would not necessarily mean that a person must not require technical skills, even management require a fair set of technical skills as well.

Then he moved on to talk about a few things he regretted not doing in college, in this part of his speech he asserted that the college years are the best time to prepare for any competitive examinations like GATE, GRE or even non Engineering related exams like CAT or IAS. He pointed out that since he had not taken his competitive examinations during college years he faced difficulties in preparations afterwards. He described his job as being very hectic, since he frequently had to travel and ended having only 6 to 7 hours of sleep thus making studying very difficult.

At the end of his speech Dr M Suresh, gave a short note about him. He talked about him as being a very active person, who would involve himself in many activities, including the organising works of Crank-x and Instincts.

Two Alumni came back to campus To guide students on higher studies-VeA

The next segment was given by Radheesh, who is currently pursuing his postgraduate studies in Chalmers University in Sweden.

His words were very helpful for those aiming to pursue graduate studies in USA or the European Union. He talked about the required examinations and compared the education system of USA and European countries. He also gave a separate speech where he talked about his life experiences in Europe and about the people there.

He spoke about the importance of time amongst European people specifically. The session ended with a short note by Mr.Vimal Sam Singh



SUBJECT: Narrative report on attending Hybrid vehicle challenge(HVC)

Virtual round conducted by ISIE INDIA at Vijayawada on 20.08.2017(Sunday).

Sir,

- This has reference to the virtual round that we attended at KL University in Vijayawada(AP) on 20.08.2017 which was conducted by the ISIE (Imperial society of Innovative Engineers) INDIA for the HVC (Hybrid vehicle challenge) contest.
- This competition was conducted for those teams who got qualified in the pre-virtual round conducted at SRM University.
- This virtual round was conducted for the selection of teams from different colleges for the final dynamic round.
- Five of us of our team went to attend the competition representing TEAM PRECISIO.
- The event was organized with eight judges attending each and every team individually with two of them for each team.
- The whole sum of teams registered were grouped into 3 slots and we were allotted as the first participant in 3rd slot.
- We submitted both the hard and soft copies of our vehicle's report to the judges at the time of our presentation.
- We divided our presentation topics into five of us and our presentation continued for 17 minutes.
- The presentation was also simultaneously monitored along with the evaluation of our submitted report of our car.
- Following our report and presentation evaluation, there was an interactive viva session.
- We were questioned from nuke and corner regarding the construction of our vehicle.
- The marks were allotted regarding our performance in the virtual round.
- The total timing of that interactive event was about 80 minutes.
- The result will be announced two to three days after the completion of the virtual round.
- This session ended in a question and answer session in which queries were resolved and answered.

Thanking you,

Yours obediently

R. Arunkumar

HVC Team member

The Charles Kuonen Suspension Bridge, **which is a steel construction**, runs between 1,600m and 2,200m above sea level, with views of the Matterhorn, Weisshorn and the Bernese Alps in the distance. It replaces a previous bridge that had been damaged by rock falls.

It is the longest hanging bridge for pedestrian use in the world. It is located in Randa, Switzerland. The bridge spans 494 meters (1621 feet), and upon its inauguration in July 2017 became the longest suspension bridge built for pedestrian travel.

The bridge runs 85 metres (279 feet) above the ground at its highest point. It **employs 8 tonnes (7.9 long tons; 8.8 short tons) of steel cables**, and has a system that prevents it from swinging. The bridge is part of Europaweg, a hiking path between the Swiss villages of Zermatt and Grächen.



It cuts the journey across the valley from three to four hours to a mere 10 minutes. (The total journey time between Zermatt and Grächen is about two days.) While the bridge's height has removed the risk of rock fall, more height-averse hikers may want to plan ahead before making the trek.

Interestingly, it took engineers from Swissrope and Lauber cableways just 10 weeks to erect the bridge. The structure, which is just 65cm wide, takes 10 minutes to cross; a journey that previously took hikers four hours. It breaks a record previously set by a glass-bottomed suspension bridge completed last year in China.





ZF Steering Gear (India) Ltd. (**ZF INDIA**) was incorporated in the year 1981 as a joint venture with **ZF Friedrichshafen AG**.

ZF INDIA is a Pioneer in Manufacturing and Supply of **Ball and Nut Integral Hydraulic Power & Worm and Roller Mechanical Steering System** in India. Its plant is located at Village Vadu Budruk, Taluka- Shirur, 28 km away from Pune, on Pune - Ahmednagar Highway, in the western part of India. Pune is a major automotive hub with OEM like Force Motors, General Motors, Mercedes Benz, Mahindra Trucks & Bus Ltd, TATA Motors, etc. Present installed capacity of the plant is 2,00,000 units of Worm and Roller Mechanical Steering Gears and 3,75,000 units of Ball and Nut Integral Hydraulic Power Steering Gears.



ZF INDIA has state of the art technology in Design & Manufacturing various types of Power Steering Systems and Mechanical Steering Systems based on customers needs. It is continuously in the process of widening its product base to meet the increasing demands of automotive market and is keen to diversify in appropriate product lines.

ZF INDIA has an established business management system with certification for **QMS vide ISO: TS: 16949:2009 and ISO: 14001**. It has created service and spare parts network of around 60 dealers uniformly spread all over India, Nepal, Middle East, South Africa and Bangladesh to address to all its customer's needs.

ZF INDIA has an established structure for carrying out various facets of manufacturing functions as per business process defined by ISO: TS: 16949:2009. It has adopted lean manufacturing systems and has employee strength of around 1000 personnel.

ZF INDIA's Product Range:

- Ball and Nut Integral Hydraulic Power Steering Gears for Heavy Commercial vehicles
- Integral hydraulic Power Steering Gears for Medium and Light Commercial Vehicles
- Power steering gears for SUV and off road vehicles
- Cast Iron Vane Pump
- Aluminum Vane Pump
- Bevel gear boxes
- Worm and roller mechanical Steering systems for Tractor and Light Commercial Vehicles and all accessories for the same
- Power Rack and Pinion Steering system for Passenger Car
- Mechanical Rack and Pinion Steering System for One Toner Passenger and Goods Carrier
- Double Barrel Steering gear
- Tractor Hydraulic power assisted Steering gear

Manufacturing Concepts:

1. Lean cellular manufacturing
2. Adaptation of principles of 5S.
3. Continuous Improvements - Kaizen.
4. Kanban, First In, First Out
5. TQM and TPM

In House design facilities for:

2D and 3D Modeling
Pro E, IDEAS, Auto cad software
Finite Element Analysis
SAP ECC 6.0 ERP System
PLM

ZF INDIA's valuable customers are:

Power Steering Gears:

- AMW Motors Ltd.
- Ashok Leyland Ltd.
- Daimler India Commercial vehicles Pvt. Ltd.
- Force Motors Ltd.
- KAMAZ Motors Ltd.
- Mahindra Trucks & Buses Ltd.
- MAN Trucks India Pvt. Ltd
- SML Isuzu Ltd
- Tata Motors Ltd.
- VE Commercial Vehicles Ltd.
- Volvo Group
- Captain Tractors

Mechanical Steering Gears:

Action Construction Equipment Ltd.
Bajaj Auto Ltd.
Escorts Ltd.
Force Motors Ltd.
International Tractors Ltd.
Mahindra & Mahindra Ltd
New Holland Fiat india Pvt. Ltd.
Piaggio vehicles Private Ltd.
Same Deutz-Fahr India Private Ltd.
TAFE Motors & Tractors Ltd.
Universal Construction Machinery
Mahindra and Mahindra --Swaraj
Tractors
Preet Tractors--Punjab

Subsidiary Group Company at Coimbatore

- Zf Wind Power Coimbatore Private Limited is a Private incorporated on 20 December 2006.
- It is classified as Subsidiary of Foreign Company and is registered at Registrar of Companies, Coimbatore.
- It is involved in Manufacture of structural metal products, tanks, reservoirs and steam generators
- For careers at ZF India, visit <http://www.zfindia.com/career.php>



Amazing Innovation- 33

Device to identify ladder stability

Everybody knows, it's dangerous to climb an unsupported ladder. Australian startup Balco Lifestyle is trying to make things at least a little bit safer, however, with its currently-crowdfunding Step Smart – it's a device that lets you know when the ladder is starting to lose stability.

You start by using the Step Smart's telescoping bracket to attach it to the bottom of the ladder, so it sits parallel to the rungs. Using its integrated electronic level, you then make sure that the ladder isn't leaning to one side, or that it isn't placed at too steep of an angle. An LED display guides you in the process.



Once you climb up the ladder and start moving around, it's possible that it may start leaning sideways or backward with you.

This is particularly likely if it's sitting on soft ground. Should this happen, the Step Smart's sensors will detect it, and sound an alarm to let you know.

The idea is that in this way, you'll know to stop leaning *before* it causes the ladder to fall over.

One charge of the aluminum-bodied device's battery should be good for about 70 hours of use.

<https://www.kickstarter.com/projects/963229215/step-smart-stability-sensor-for-ladders/description>

Amazing Innovation- 34

The Non-rocking table



The problem is simple enough – a three-legged table will always sit flat, but they're unstable and easy to knock over. A four-legged table gives you a good stable base, but if the ground's not perfectly flat beneath it, it's going to rock back and forth between two triangles, spilling your coffee and causing all sorts of unnecessary angst. Heyring has built what he calls the No-Rock table – a four-legged table that's designed to sit perfectly stable on all four legs, whether the floor is even or not.

It's mechanically simple; it's all in the shape of the table feet, which are designed to fit loosely together when there's no load on them. When you place the table down, the feet lean on each other to create a stable base in which each leg can settle at the height of the floor beneath it. The technology works with a bunch of different aesthetic designs. There's also a terrace version which easily folds the table down and lets you store a bunch of them in a nested formation that's easy to keep out of the way. No-Rock is already rolling the system out in Europe, Australia and North America. https://youtu.be/_DqHrvYozYU

Amazing Innovation- 35

From Aluminium foil to bio fuel

According to researchers at Queen's University Belfast, around 20,000 metric tons of aluminum foil is tossed away in the UK each year – enough to stretch to the Moon and back. This prompted chemistry researcher Ahmed Osman to look for new ways to put all that waste to use. Working with the school's engineers, Osman has now come up with a way to turn used tinfoil into a catalyst for biofuel that could not only be more environmentally friendly, but more cost-effective too.

The trouble with recycling aluminum largely stems from how we used it the first time around.

While aluminum cans can be taken to treatment plants, cleaned and reprocessed, the foil that accompanies food items is typically contaminated by grease and oils, which cause damage to the plant's recycling equipment.

Most of it is dumped in landfill or incinerated.



So for Osman, whose work focuses on developing cheaper and easier ways to produce biofuels from waste, it presented as the perfect material. After rounding up some aluminum foil from the university's building laboratories, he began work on a new kind of crystallization method in an attempt to turn it into something useful.

This new technique involves dissolving the foil in acidic solutions and keeping them there until single crystals form. Ammonia precipitation is then used to turn those into the 100 percent pure single crystals of aluminum salts, a green method the team says produces no emissions or waste.

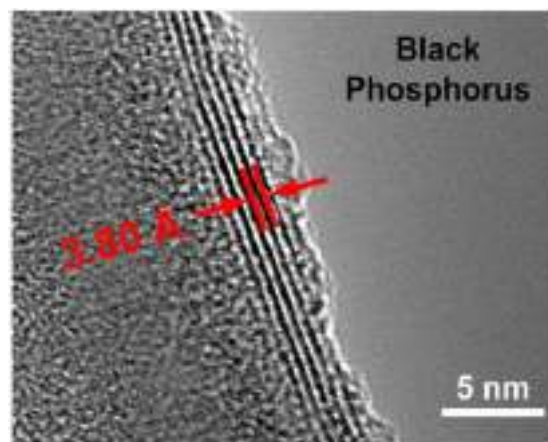
These aluminum salts can be used as a starting material of alumina catalyst, which in turn can be used to produce dimethyl ether, a clean, non-toxic biofuel. Current approaches to producing alumina catalyst require mining bauxite ore in places like West Africa and Australia, which causes considerable environmental damage.

The research was published in the journal [*Nature Scientific Reports*](#).

Amazing Innovation- 36

In the future, we might overcome anxiety about a dying phone battery by doing a few star jumps. A team from Vanderbilt University is developing an ultra-thin device that can generate electricity from motions as subtle as sitting down, opening up the possibility of clothes that charge phones or light up like an LCD screen. .

Different materials are designed to tap into the different types of energy we waste in our day-to-day movements. There are fabrics that [generate a charge](#) through friction, [thermoelectric devices](#) that harvest body heat, and [piezoelectric](#) systems that work on mechanical stress. The Vanderbilt team's device falls into the latter category. The system is made with tiny layers of black phosphorus, each just a few atoms thick. When the material is bent or squeezed it produces a small electric charge, and its thinness means it can do so from even the smallest movements a person might make in their daily activities. That way, star jumps might not be necessary, as the device works just from walking or even standing.



"Compared to the other approaches designed to harvest energy from human motion, our method has two fundamental advantages," says Cary Pint, director of the research project. "The materials are atomically thin and small enough to be impregnated into textiles without affecting the fabric's look or feel and it can extract energy from movements that are slower than 10 Hz — 10 cycles per second — over the whole low-frequency window of movements corresponding to human motion."

The material can produce 40 microwatts of power per square foot, and maintain a constant current through extremely slow movements, right down to 0.01 Hz.

As for applications, the energy harvested by the device could be fed into phones to keep them topped up, or further down the track, it could power LCD-embedded clothing or more natural, wearable VR controllers.

The research was published in the journal [*ACS Energy Letters*](#), and the team demonstrates the system in the video at https://youtu.be/4j4w_36X0nU

Forthcoming events

Workshops and Seminars

1 PSG College of Technology , Coimbatore, is organizing a seminar on “Computational and Experimental Analysis for fluid Dynamics” during 14-15, September, 2017.

2 NSIC is a Government of India Enterprise supporting small scale industries in our country. NSIC Technical services centre is located at Ekkaduthangal, Chennai serving MSME units in and around Chennai.

NSIC is conducting various skill development programs for the benefit of Engineering students at Chennai centre. We are conducting one day workshop on 3D scanning and 3D printing.

The following topics will be covered during the workshop.

- 1) How to develop a model using Solidworks software
- 2) Transferring the model from CAD to Rapid prototyping software
- 3) Rapid prototyping basics
- 4) Demo on 3D printing
- 5) Reverse Engineering basics
- 6) Demo on 3D scanning

No of participants is limited to 20 nos.

Registration fee for the workshop is Rs.590/- per student. Payment may be done through Debit card/Credit card/ DD on the day of workshop.

Interested candidates can register themselves at <https://tinyurl.com/nsic-3Dworkshop>

Confirmation mail will be sent to the participants 5 days prior to the scheduled workshop date.

3

Auto Enthusiasts- catch a glimpse of research and test facility at ARAI at

https://www.araiindia.com/cpanel/Files/NEW_6282017113300AMARAI_Update_Index_Issue_2016-2017.pdf

Forthcoming events

September 2017

7th International Conference and Exhibition on 3D Printing & Additive Manufacturing Technologies - AM 2017, 7– 8 Sept, 2017, The Lalit Ashok, Bengaluru

October 2017

Indian Science Congress Association, Coimbatore Chapter & Kongunadu Arts and Science College, Coimbatore are organizing a National Level Conference on Reaching the Unreached Through Science and Technology - Concepts, Principles and Application of Science and Technology for Nation Building. During 9-11 October 2017. Abstract by 20.9.2017

2nd International Conference on Advances in Materials Science and Technology (ICAMST-2017), 9-11 October 2017, Centre for Crystal Growth, VIT University, Vellore-632014, Tamilnadu

November 2017

The Department of Physics, B.S.Abdur Rahman University, Chennai, is organizing a Two days National conference on "RECENT TRENDS IN FUNCTIONAL MATERIALS" during NOV 15-16, 2017. : www.bsauniv.ac.in
Last date for paper submission : 01.10.2017

December 2017

National Conference on Advanced Materials (NCAM-2017), 12-13 December 2017, Department of Physics, PSG College of Technology, Coimbatore. www.ncam2017.in

Important Dates

Abstract Submission opens: 01-08-2017 . Last date for abstract submission: 14-09-2017

Registration Faculty: Rs.2300 Research Scholars: Rs.1700

International Conference on Nanotechnology: Ideas, Innovations and Initiatives-2017 (ICN:3I- 2017), December 06-08, 2017, Indian Institute of Technology (IIT) Roorkee, India
(<http://www.iitr.ac.in/icn3i2017/>) **Last date of abstract submission -September 15, 2017.**
Selected papers will be published in *Materials Today Proceedings*: Elsevier

July 2018

8th International Conference on Engineering Failure Analysis (ICEFA VIII) will be held in Budapest, Hungary, 8-11 July 2018. **submit abstracts by 8 December 2017** . Run by Elsevier.

<https://www.elsevier.com/events/conferences/international-conference-on-engineering-failure-analysis/submit-abstract>

September 2018

The **4th International Conference on BioTribology (ICoBT 2018)** will be held in Montreal, Canada, on 26-29 September 2018. submit abstracts by 20 April, 2018.
<https://www.elsevier.com/events/conferences/international-conference-on-biotribology>

Prestigious All India Manufacturing Technology, Design and Research (AIMTDR) 2018 , **13th-15th Dec 2018 – Anna University**. Submission of paper 31 March 2018.

Alumni Info 1

Alumni Tracking

Messages
from NLN

Hope you are doing well.
After my last visit to the college I wanted to gather what the other students of my batch was doing and began sending out forms for them to fill.
I received 56 responses (not too great, less than 40%) from both section A and B.

It would be great to send this detail out to the current mechanical students if they would like to get in touch with anybody they would want to connect with.



Aravind Muralidharan,
SSN - Mechanical Engg., Batch of '15
Young India Fellow - Batch of '17

An analysis of the 56 responses I have received :

- 1) **14 have gone/done higher studies** of which 11 are doing it abroad, from Eindhoven, Purdue, UIC, etc while 12 have done it in Indian institutions like IIT, IIM-B, Ashoka University, Great Lakes, etc
- 2) Out of 40 who joined work after graduation, **12 had quit their first job** (4 of them working in core sectors) in search of better opportunities or have gone for higher studies.
- 3) **2 of them are preparing for civil services examination.**

Most of the students of the batch '15 have shared their stories so as to inspire the current batch students, and if they feel like reaching out to us for any sort of mentorship regarding personal or professional life, I am sure we will be there for them.

Any guidance on building this platform into a larger base of alumni network with broader reach to our older batches would be much appreciated.

Alumni Info 2

Dear Sir,

I am Vaibhav Prakash of the 2011-15 SSN Mechanical batch. I also served as the president of AME for my batch and I hope you remember me. How are you doing?

After my bachelors degree, I came to TU Delft (The Netherlands) for a Masters in Mechanical Engineering with a specialization in sustainable process and energy technology. I successfully completed my Masters on 25-08-2017 and my thesis research work was appreciated highly by the committee of professors here.



Now, I will be proceeding to the next stage of my life as a Process Engineer at Bosch Transmission Technology in the Netherlands. I am excited to start in this company of huge repute. I am mailing to thank you for all the support and encouragement you gave me during my time at SSN.

It is now time to give something back to SSN. If you need any help or assistance in guiding juniors, do not hesitate to contact me. You were the one of the souls who tapped my potential and molded me into a better person. Thanks a lot sir. Lets keep in touch! Kind Regards,
Vaibhav Prakash, MSc. Mechanical Engineering- Sustainable Process & Energy Technology
TU Delft, The Netherlands

Challenge Info

1



National Solar Vehicle challenge 2017-18 going to be held on **20-24 March 2018**.

The Event intends to accelerate the resonant growth of E vehicle by taking consideration of India's Renewable Energy Industry and contribute to the sustainable economic development of the country.

The 2nd Season **National Solar Vehicle challenge 2017-18** will going provide an excellent platform for organisations to capitalize and penetrate this lucrative growth in all round way.

To Register your College /University kindly visit www.nsvc.in

2



Registration for participating in 3rd IISF is open. Please Register at : www.scienceindiafest.org

Last Date For Registration: **10th September 2017**



Dr.Muthu Senthil Pandian
SSNRResearch Centre

- 1 Kalam Young Researcher Conference (KYRC-2017)** organized by Research Scholars Forum of CECRI in association with **Research Scholars Alumni Association, Central Electrochemical Research Institute (CECRI) Karaikudi, Tamil Nadu, India** on **October 16, 2017**.

The aim of the conference is gathering together the scientists, researchers, academicians, industrialists and students to create valuable discussions and inter-exchange the scientific information among the researchers working all around the world in the field of Electrochemical materials science.

The conference website given below.

<https://kyrccecri.wixsite.com/kyrc-cecri>

- 2** In need of any book(pdf) relating to any subject/field or topic? go to your browser and type: www.pdfdrive.net and you will get access to millions of books you need for free. Unlimited downloads. You may browse by title or author, etc. Currently 274376478 books are available for free and every minutes around 50 new books are added to the database. All downloads are free.

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PDF Drive is your search engine for PDF files. As of today we have 278,354,349 e-books for you to download for free. No annoying ads, no download limits, enjoy it and don't forget to bookmark and share the love!

- 3** CSIR-CECRI organizing a **"Three days school and hand-on Training on Photovoltaics for Solar energy Harvesting"** during **18-20 September, 2017** in association with SAEST. The tutorial course and practical classes will be conducted by one of the pioneer in photovoltaic scientist **Prof. Kuppuswamy Kalyanasundaram, EPFL, Swiss Federal Institute of Technology, Laussane, Switzerland**, who is working with the father of dye-sensitized solar cells, Prof. Michael Grätzel.

<https://solarschool2017.wixsite.com/cecri>

Registration Fees

Research Scholars/PG Students: Rs.1000

Post Doctoral/RA: Rs.1500

Faculty/Scientist: Rs.2000

Deadline for the Registration and payment of Fee is **10th September 2017**.

A young man in his thirties used to stand on the footpath opposite the famous Tata Cancer Hospital at Mumbai and stare at the crowd in front- fear plainly written upon the faces of the patients standing at death's door; their relatives with equally grim faces running around.. These sights disturbed him greatly..



Mr/Kishore Babu
Schwing Stetter

Most of the patients were poor people from distant towns. They had no idea whom to meet, or what to do. They had no money for medicines, not even food. The young man, heavily depressed, would return home. 'Something should be done for these people', he would think. He was haunted by the thought day and night.

At last he found a way-

He rented out his own hotel that was doing good business and raised some money. From these funds he started a charitable activity right opposite Tata Cancer Hospital, on the pavement next to Kondaji Building. He himself had no idea that the activity would continue to flourish even after the passage of 27 years. The activity consisted of providing free meals for cancer patients and their relatives. Many people in the vicinity approved of this activity. Beginning with fifty, the number of beneficiaries soon rose to hundred, two hundred, three hundred. As the numbers of patients increased, so did the number of helping hands.

As years rolled by, the activity continued; undeterred by the change of seasons, come winter, summer or even the dreaded monsoon of Mumbai. The number of beneficiaries soon reached 700.

Mr Harakhchand Sawla, for that was the name of the pioneer, did not stop here. He started supplying free medicines for the needy. In fact, he started a medicine bank, enlisting voluntary services of three doctors and three pharmacists. A toy banks was opened for kids suffering from cancer. The 'Jeevan Jyot' trust founded by Mr Sawla now runs more than 60 humanitarian projects. Sawla, now 57 years old, works with the same vigour. A thousand salutes to his boundless energy and his monumental contribution!

Takeaways from the narration:

- Crores of devotees hunting for 'God' in different places of religious faith but may never find 'HIM'.
- God is in our vicinity. We, like mad men run after 'god-men', who have become multi-millionaires.
- But our difficulties, agonies and disasters persist unabated till death.
- For last 27 years, millions of cancer patients and their relatives have found 'God'!

Contribution: Mr. Sathish Macherla, TKG Global Consultants

Forwarded by Mr.Kishore Babu, Schwing Stetter.

Without achieving excellence in single task, excellence in multitasking cannot be achieved. Focus is not only your ability to say “Yes” to the one, but also the discipline to say “No” to the other ninety-nine distractions. So, how do you develop this focus?



- Firstly, start using pen and paper. True, we live in a world revolutionized by technology, but nothing can give a direction to thinking and also keep the mind focused like the use of pen and paper. Without pen and paper, we will be thinking vagabonds. While we write by hand, the neuro-linguistic association is such that, it does not allow our mind to wander.
- Secondly, if you want to train a wild elephant, it has to be first tamed. Practicing “concentration of mind” will progressively tame your mind. Mind control is the only self-control, and once mind is controlled, everything else is controlled. So, every day, hold your mind in concentration on any object of your choice—it could be watching your breathing, regulating your breath, chanting mantra, staying connected and offering prayers at your chosen altar of God or just watching a glowing lamp or the waves of the sea.

I wish to quote Dr. Ambedkar, He said “ I have never claimed to be a universal leader of suffering humanity. The problem of the untouchables is quite enough for my slender strength. I do not say that other causes are not equally noble. But knowing that life is short, one can only serve one cause and I have never aspired to do more than serving the untouchables.”

Wishing you most & more

Have a wonderful day & great week !