

# Mechanical Aspire

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 10

Predictions on 2013 Prizes

In early October, the 2013 Nobel Prizes will be announced, spotlighting some of the greatest scientific accomplishments of the last several decades. It's the Super Bowl, Eurovision, and Election Night of science, all rolled into one, and as with those touchstones of sports, culture, and politics, significant effort has gone into predicting the outcomes.

Perhaps the best annual prediction comes from Thomson Reuters' IP & Science division; analysts examine academic paper citations, sprinkle in some intuition based on past awards and subject matter, and generate a list of "Nobel class" researchers.

Since the analysis began, Thomson Reuters has correctly predicted 27 individual awardees, accounting for 15 of the 44 possible prizes in Economics, Physiology or Medicine, Physics, and Chemistry. This is a remarkable number, given the estimated 7 million publishing scientists in the world.

David Pendlebury is the analyst responsible for the special sauce predictive formula. "We look at the scientists who have published one or multiple highly-cited discovery accounts," he explains, "that have generally been cited thousands of times" by subsequent scientific journal articles.

And it's not necessarily a contemporary reading: the prizes generally recognize work done 20 or 30 years earlier, work that has stood the test of time and proved its worth in the context of larger scientific enterprise.

What follows are Pendlebury's picks for this year's – or future years' – Nobel prizes, your inside track to headlines of coming weeks. "We like to honor highly cited scientists who have made remarkable discoveries. Many of these people of Nobel class will never win, but at least we can shine a spotlight on their achievements."

Catch a glimpse of who may win this year's Nobel Prize at <http://www.wired.com/2013/09/predicting-the-nobel-prizes/?viewall=true>

*Reproduced from article by Jeffery Marlow - "The 28 Scientists Most Likely to Win the Nobel Prize: Inside the Secret Predictive Formula"*

*Also read <http://sciencewatch.com/nobel/2014-predictions> for the photos of the proposed winners and their research work contribution*

Teachers' Day celebrations were concluded on 19<sup>th</sup> September. Dr.Gana.Sirsabesan, Tamil Scholar graced the occasion with his hilarious talk. He drove home the point that Teachers love to see their students grow up in life, much beyond themselves. The satisfaction comes when someone who has achieved in life comes forward and says "I was your student, Sir".



Mr.Mathivanan Elangovan, *Senior Director - Learning Solutions & High Business Impact Learning @ Cognizant Technology Solutions* made an impressive speech on how to conduct ourselves for a good career.

He stressed a three point approach P-O-C (**Passion, Outcome and Context**) for career advancement.

- We enjoy doing something only if it is our passion.
- So, whatever you do, do with passion-or choose a job for which you have a passion.
- Measure the outcome regularly - not the output. For example, if you study ten hours a day that is the output of your hard work but whether you pass in the exam or not is the outcome of your studies. So, learn to measure and correct your approaches based on Outcomes.
- Whatever you do must be within the context-for example, if you design a great boat with passion and have got a good outcome of a beautiful boat but you try to sell it in college campus- how does it help? It is out of context for the people in campus. Ensure that whatever you do is relevant to the situation you are in. By following this three pronged approach of P-O-C, Mr.Mathivanan assures us that we can reach great heights in our career.

Prime Minister Narendra Modi, on Teachers Day, highlighted the importance of skill development and said it had the potential to prepare the youth for any kind of employment opportunity."There is a need for skill development across the world, and that is why students should also have talent and skill along with degrees. We have no dearth of plumbers or drivers in the country, but the only problem is that they are not properly trained.



So, skill development will prepare the youth for any kind of employment in the country," Modi said while responding to a question from students at the Manekshaw Centre here on the occasion of Teachers' Day.

He also said that skills have to be developed in accordance to the requirement of the region. "When the Nano (car) was being manufactured in Gujarat, I told them to start a syllabus on automobile engineering in the surrounding ITIs and train the youth. The company adopted a few ITIs around their plant and imparted the students with the required skills and once they started operation the youths were employed in the plants. There should be mapping this way," added Modi. He also pointed out that his government was focused on this aspect for which they have created a separate ministry for skill development.

A mere two percent of Indian workers are formally skilled and the Indian government has set an ambitious target of skilling 500 million people by 2022. -

### A Parent's reflections on Teachers' Day

As a Teacher do you feel your students are not paying attention to what you are saying in class? Well, it is because you are a Digital Immigrant trying to teach a Digital Native! How can an Immigrant be better than a Native? Excerpts from an article by Marc Prensky- sent by *Mr. Yogesh, Father of Shashaank (2nd year Mech) ....*

Current students are born in a digital world- They have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age. They can be called as Natives of the Digital World.

What about us-teachers?- Those of us who were not born into the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology are, and always will be compared to them, **Digital Immigrants**. But this is not just a joke. It's very serious, because the single biggest problem facing education today is that **our Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language.**

Digital Natives are used to receiving information really fast. They like to parallel process and multi-task. They prefer their graphics *before* their text rather than the opposite. They prefer random access (like hypertext). They function best when networked. They thrive on instant gratification and frequent rewards. They prefer games to "serious" work. (Does any of this sound familiar?)

Digital Immigrants don't believe their students can learn successfully while watching TV or listening to music, because they (the Immigrants) can't. Of course not – they didn't practice this skill constantly for all of their formative years. Digital Immigrants think learning can't (or shouldn't) be fun. Why should they – they didn't spend their formative years learning with Sesame Street.

Unfortunately for our Digital Immigrant teachers, the people sitting in their classes grew up on the "twitch speed" of video games and MTV. They are used to the instantaneity of hypertext, downloaded music, phones in their pockets, a library on their laptops, beamed messages and instant messaging. They've been networked most or all of their lives. They have little patience for lectures, step-by-step logic, and "tell-test" instruction.

Digital Immigrant teachers assume that learners are the same as they have always been, and that the same methods that worked for the teachers when they were students will work for their students now. **But that assumption is no longer valid.** Today's learners are *different*. "Www.hungry.com" said a kindergarten student recently at lunchtime. "Every time I go to

school I have to power down,” complains a high-school student. Is it that Digital Natives *can't* pay attention, or that they *choose not to*? Often from the Natives' point of view their Digital Immigrant instructors make their education *not worth* paying attention to compared to everything else they experience – and then they blame them for not paying attention!

Today's teachers have to learn to communicate in the language and style of their students. This *doesn't* mean changing the meaning of what is important, or of good thinking skills. But it *does* mean going faster, less step-by step, more in parallel, with more random access, among other things. Educators might ask “But how do we teach logic in this fashion?” While it's not immediately clear, we do need to figure it out. So we have to invent, but not necessarily from scratch. Adapting materials to the language of Digital Natives has already been done successfully. My own preference for teaching Digital Natives is to invent computer games to do the job, even for the most serious content. After all, it's an idiom with which most of them are totally familiar.

Read the full article at

<http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives.%20Digital%20Immigrants%20-%20Part1.pdf>



#### About the Author..

An internationally acclaimed speaker, author, and innovator in the field of education, Marc Prensky offers **deep experience and insight into updating our education for today's world, and into using technology in powerful ways to educate today's youth.**

Marc has been acclaimed as a **“thought leader”** – a forward-thinking innovator with ideas that are generally years ahead of the rest of the world. His track record—with games, cell phones, videos, programming and many other things— shows that typically he is right, and the world eventually catches up!

### Using Students for Effective Educational Planning

Marc believes strongly in the abilities of today's students, and thinks that, with the tools available to them today, they have the potential to be the best generation the world has ever seen — if we prepare them properly. Many of our educational problems, Marc believes, come from ignoring our students as creative individuals and focusing only on their test scores.

<http://marcprensky.com/students/>

Marc argues persuasively that effective education today cannot be designed or created only from the top down, but must involve large amounts of student participation in the design process. He therefore strongly recommends educators to listen more carefully to students. He encourages soliciting and incorporating student views on how they learn best and want to be taught into all the education we provide.



For over a decade, Marc has been including unique “student panels” in his talks – a way to get the voice of local students heard by their teachers and administrators — often for the first time. The goal is to start and encourage student-educator dialog about how today's kids learn, and want to learn.

**October 10<sup>th</sup> “ Energy Efficiency” by Dr.A.S.Ramana and Mr.B.Jayakishan**

Forthcoming Workshops

**October 17<sup>th</sup> “XFEM based Fracture Mechanics” by Dr.S.Sureshkumar and Dr.A.K.Lakshminarayanan**



## Department Update- external Recognition

Mr.C.Arun Prakash was invited to deliver a lecture on MATLAB (Lecture and Hands on session) in the workshop "Object Tracking Robot using Image Processing", organised by Anna University, MIT Campus on 06-09-14 and 07-09-14. About 31 teams (3 per team) participated in this workshop. **Arun's Reflections:** Students and Faculty from various colleges and persons from various companies in and around Tamil Nadu participated in this workshop. It was a wonderful experience for me to handle people from different designations. I thank the management and department for giving me permission to attend this workshop.



Dr. S. Rajkumar is invited to be a technical committee member in the National Conference on Energy and Manufacturing Scenario - 2015 (NCEMS - 15) to be held on 14.03.2015 in Kings College of Engineering, Pudukkottai.



Dr. S. Rajkumar is invited to be a technical committee member in the International Conference on "Emerging Trends in Engineering, Technology and Science" (ICETETS-2016) from 24th – 26th February 2016, conducted by Kings College of Engineering, Pudukkottai



Dr.B.Anand Ronald was invited as Chief Guest for inauguration at Jayasuriya Engg. College, for a Symposium "MechZio 2014" on 26 Sept. 2014.

Dr. B. Anand Ronald, reviewed a paper for the International Conference on Mechanical Manufacturing and Control (ICMMC 2014), November 21-23, 2014, Singapore



Dr. N. Nallusamy, delivered a lecture on " Bio-Diesel: An alternate fuel for Diesel Engines", in Technical symposium "MECHISAYU' 14" organised by ARJ College of Engineering and Technology, Mannargudi, Thiruvavur District.

Dr. N. Nallusamy, reviewed the technical paper "Effect of gasoline - ethanol blends on performance and emission characteristics of a single cylinder air cooled motor bike SI engine" for the Journal of Engineering Science & Technology, Taylor's University, Malaysia



Dr. K. Babu, Reviewed a technical paper titled "Optimization of Residential Roof Insulation Layer Thickness based on Economic Analysis by Grey Relation Method" for the Journal of Engineering Science & Technology.

## Research Publication

Dr. D. Ananthapadmanaban, published a paper entitled "Analytical study of General failure in prominent components" co- authored by V.R.Balaji, Amitesh Jain,V., Kirthivasan,D, in the International Journal of Multidisciplinary Educational research,Volume 3,Issue 9(2),September 2014.





Dr. M.S. Alphin



Dr. M. Nalla Mohamed

### Training Programs attended

Dr. M.S. Alphin, Ms. R. Rajeswari and Dr. M. Nalla Mohammed attended Faculty Development Programme on CAD using CATIA V6, a certificate Programme Co-signed by VIT and Daussault Systems, organised by VIT University, Chennai, on 26 sept 2014.



Ms. R. Rajeswari



Dr. R. Prakash

Dr. R. Prakash, attended the workshop on "Failure analysis and Design" at SVCE on 26 sept 2014

The Programme covered CATIA V6 Fundamentals – PLM, Fundamentals, Part Design, Assembly Design, Drafting, Wireframe and Surfacing CATIA V6 Advanced- Designing in Context- Advanced Surfacing - Working with Formulas and Parameters - Design Tables and Catalogs , Projects, Kinematics, Sheetmetal, CATIA V6 Surfacing. Toward the end of the programme Ms. Rajeshwari gave valid suggestions to improve the programme and also highlighted the good aspects of the workshop.

### Student Activities

- Abeshek, Anand, Vinay, Samuel and Tarun of II year Mech, won the Light Music Competition at MOP Vaishnav College
- Shashank Yogesh of II year Mech Won Kongu Trophy at Kongu Engineering College and at Anna university, in Table Tennis.
- Balaji VR of III year Mech presented a technical paper at Meenakshi Sundararajan College.
- Balaji VR and T. Anish III won third prize in the Paper Presentation at SRM University.
- Mohan S and Naveen Shankar of III year Mech participated in Modelling Event at SRM University in SAE Tier 2 Modelling.
- V.Naren Balaji and PM Prithvi of Final year Mech presented a Technical paper in ICMEM 2014 at IIT Madras
- Rohan H Singh, R.Prasanna and S.Nandha Kumar of Final year Mech participated in SAE Tier 2 Business Plan competition at SRM University
- B.Praveen Ramanujam, Vaibhav Prakash and Srikanth Prabhu of Final year Mech won III place in SAE Tier 2 Auto Quiz at SRM University
- Ashwin Clement H, R.Karthik and Arun Karthik of Final year Mech participated in the SAE Tier 2 Chuck Glider event at SRM University
- Present Final Year student Mr. Ganapathy S, who got selected for an internship at Saint Gobain during his Third Year, through last year's campus drive, has now been selected for the Final Interview round for GET Trainee Position at Saint Gobain. He is one among the few interns those shortlisted for the GET at National level based on the Performance during the summer internship.
- First year M.E. Manufacturing students attended a two day National Seminar on **Sustainable Manufacturing Strategies** at KCG College of Technology during 25-26 September, 2014

### Guest Lecture 2

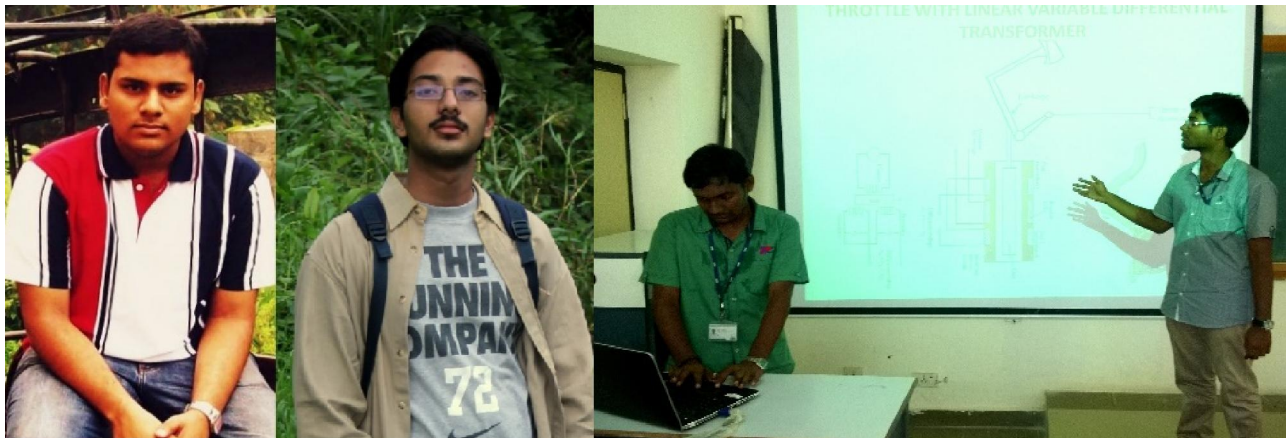
Mr. T. JAYARAMAN, Founder & Mg. Director, SECO Controls Pvt Ltd, Chennai , delivered a guest lecture on " **Basics of Energy Accounting** " for First year M.E. Energy Engineering students at **LH-4**, Mechanical Engineering Department on **17.09.2014(Wednesday) at 1.00 pm** .

SAEINDIA organizes Student Convention competitions every year as a part of their student activities. Student members from each institution's collegiate club participate in this event. The competition is conducted every year in three levels, namely Tier - I, Tier –II and Tier – III, with Tier-III being a National level event. Tier – I is an intra-college event wherein one winner is selected for each competition and the selected team or individual moves on to Tier – II, which is a regional level event.



The Student Convention comprises of events such as Auto quiz, Analysis, Aero Design and Fabrication, CAE, CAM, Modelling and Animation, Technical Paper Presentation, and Industry Problem Challenge. The participants go through a rigorous selection process and are judged by our faculty to decide the winner.

The Tier-I events were conducted successfully by our college's SAE Club with assistance from our department's faculty members. SAE Student members from our college took part in the Tier – II event which was held at **SRM University, Kattankulathur** on 21/09/2014. Our students showcased their skills in various competitions and were appreciated by the judges for their efforts. The judging panel for all the events consisted of leading industry experts from companies such as **Mahindra, Volkswagen Motorsport** etc. along with the faculty members of SRM University.



**Praveen Ramanujam.B and Srikanth Prabhu** of Final Year Mechanical secured Third place in the **Auto quiz** competition.

**Balaji V.R. and Anish.P** of Third Year Mechanical were awarded the Third place in the **Technical Paper Presentation** competition.

A team of three Final year Mechanical students consisting of **Rohan.H.Singh, S.Nandha Kumar and R.Prasanna** took part in the **Industry Problem Challenge** event and received special appreciation from the judges for their immaculate financial planning and market survey.



## Visit to IIT Madras

PG Manufacturing students were taken to IITM to get exposure in the latest advancements in research and get to know about the current facilities available for research. (10 september, 2014)



Visit to IITM was very informative as we had exposure to varied dimensions of research. IITM, one of the top notch research and educational centers has the newest of all facilities. The natural landscape of IITM, with its rich flora and fauna offered a warm and soothing welcome. We started with the central workshop. Workshops, which were always thought of only lathes, put us in awe with its advanced machinery and equipment.

Firstly we saw the operation of the horizontal machining centre and various grinding machines such as surface, cylindrical and centreless grinding machines. We came to know about the operation and the mechanism involved in the same, as practical running of the machine was made and the instructor explained every little detail with patience.

We saw the high speed lathe, which had a copying attachment and can machine any forms if a template was given. Then spark erosion and wire cut EDM operation was also explained. Ultrasonic drilling, cleaning and sonicator were our next learning. Then we came to know about the Tribometer which was on experimentation by an MS scholar, who gave many practical examples and answered patiently to all our queries. Our next session was a practical demo on gear cutting using various advanced machines followed by a session in the FRP lab, wherein many students were keen to clear their doubts regarding the fabrication of FRP's as it was their project area.

Post lunch we had a theory session by *Prof. Dr. Nilesh J. Vasa*, Head, Engineering Design department on the topic '*Advances in optical techniques for trace gas sensing in environmental monitoring*' followed by practical session at the Opto Mechatronics lab, wherein the PhD scholars explained each of their research area with a great interest. We then had a visit to the metrology lab, wherein we got to know about the operation of CMM and various other machines. Finally *Dr. B. Anand Ronald* elucidated about the perthometer, in which surface roughness measurements are done. He also briefed about the Abrasive Water Jet Machining and showed us the intricate profiles machined from AWJM and about the sheet metal forming. Though a single day was not enough to visit all the facilities, the visit to IITM opened our eyes to newer trends in research and was a great learning experience. In a nutshell, the **visit to IIT triggered our passion to pursue research** incorporating multidisciplinary fields of engineering!!



## Model United Nations- a new Initiative

## Vishal of Third year mech shares his thoughts...

SSN MUN 2014 was a Model United Nations conference held in SSN College of Engineering on the 12<sup>th</sup>, 13<sup>th</sup> and 14<sup>th</sup> of September 2014. MUNs are a simulation of the United Nations where students debate in the role of diplomats and representative of countries in various committees and organs of the UN such as the UN General Assembly, UN Security Council, UN Human Rights Council etc discussing various global issues such as the Israel-Palestine War, Usage of Drones, Issue of governmental subsidies etc .



SSN MUN 2014 was the first MUN in our college and was organised by a team of 12 members led by Vishal V from Mechanical along with 4 others from Mech.



The MUN was a grand success and over 180 participants from across the country took part along with 16 eminent judges. 5 committees were simulated this year viz. UN General Assembly: Disarmament and International Security, UN Human Rights Council, UN Security Council, Economic and Social committee and the African Union.



Having participated in over 20 MUNs across the country, I always wanted to organise one. My team and I were planning this conference for around 4 months and the management was incredibly supportive. I am not sugar coating it just because this is going to be published but I actually mean it. They understood our intent and commitment and did all they could to help us. Organising an MUN is not the same as organising a symposium or a cultural fest. This requires prior experience and we had to find like-minded and able individuals to take care of various parts of organising this huge task

We were able to arrange for very attractive cash prizes for participants and very good honorariums for our judges and everyone was left very satisfied.

There is a lot to learn from MUNing. It isn't just three days of debate but it is actually an experience to open your eyes into a wider world. A world not restricted by books, deadlines and tests but a world where you get to meet successful, talented, like minded people who are present to discuss pertinent global issues.

In the last 4 years, I have made plenty of great friends who have inspired me to achieve many things through MUNs. I now have my own company which conducts public speaking workshops for school and college students. I have won awards in over 15 MUNs and chaired 5 and organised 3.

What my team and I were ultimately glad of is that we were able to give the participants an experience into a world which moulds you into a better person and ultimately a better citizen. I think we did our good deed for the day.

Hope you are fine and everything is going good. Very happy to hear about the success of CRANKX.

It has been three weeks since I landed here in The Netherlands. It has been good till now and the introduction programme for the first ten days served as a really good platform to mingle with international students. Classes are really advanced and deep in the subjects and it takes a lot of basic reading to cover the courses.

How is everything in the department? Hope the placements are going good and so are the other activities. I have herewith attached the writeup for ASPIRE titled 'Unlearn to Learn'. I will follow it up with columns under the same topic with my experiences.



### Unlearn to learn

First and foremost, I would like to congratulate the entire student and the faculty team behind CRANKX 2014, for the overwhelming success it was. Sitting here and watching those photos and videos, it was just impossible to imagine myself not being part of something, which has played a very important part all across my four years at SSN. It is always good to see that our department is setting newer, higher benchmarks with every step forward.

Unlearn to learn - as weird it may sound, is one important phase in a student's transition from a Bachelor's degree at Anna University to a higher degree of education. [SSN has possibly one of those most comfortable cradles where we come, settle ourselves in, work our way through different things and find, or in some cases manage to show success in one field or the other.](#) The exposure and the freedom that we get through this institution has always a positive, but that has also made us stick to a habitude. This is where the unlearning comes into play. Universities abroad always cut a dash with the high standard of living they offer, their research facilities and of course the monetary benefits at the end of it all. It is always a dream to any student to experience this. But, it is [not every institution that offers us the same extent of comfort that SSN did. Most of us would have had those memories where we directly walk to one of our professors and tell them that you will be missing something academically important, to pursue something of your choice.](#)

Once you come out of it, they are entirely different things. It is the mindset first of all that needs to change : such as the willingness to accept our faults, the fact that we don't know certain things, the truth that we cannot always pass the exams with a last minute study routine. The western way of life goes such : People here do not worship people who achieve, rather more is expected of them because they set high standards. It is more of an individualistic culture, in contrary to the collectivistic culture at home, where people make and are responsible for their own decisions. The amount of influence by family and friends is minimum. People would not have time to come out of the way to help you, nor can they always spend time with you. It is mostly just one word answers to the point, and just a piece of advice that comes as input. Never can one expect a sibling type bonding that SSN creates among us. Not always are professors caring and lenient, atleast when it comes to your assignments. Deadlines mean deadlines. If one can manage a lot of things at the same time, it doesn't mean that he/she is great. It is just him/her. And people don't try to imitate. In short, we need to grow up to be more responsible, and be ever ready to take up challenges, because of the race we are now a part of. Hence unlearning a few of our assumptions and habits and converting our positives into virtues is vital for a success in your Masters.

Until the next column,

Good luck. [Girish](#)

### Info from Alumni -2

### Mahesh Raja creates an Alumni network

Respected Sir (addressed to Dr.N.Lakshmi Narasimhan)

Hope you are doing well. I have settled well in IIM Lucknow. The only major difference between our college and here is the alumni network. The old institutes have a string alumni network sir. The alums help in placements and mentor a certain number of students every year. I feel that as alumni of our college we (batch of 2013) should be doing lot more for the students. We have started a group in facebook to enable better interaction with students for placement purposes.



The purpose of this group is that any student having doubt regarding competitive exams or career choices can contact the seniors over there. We would ensure all the questions are answered. It is an informal group just to benefit the students. If there is any student who requires mentor-ship or guidance regarding any discipline do ask them to contact any of us sir.

The group was started by present final year student Bhargav. Ch on my request.

1)The group link is <https://www.facebook.com/groups/891426214220261/>

2)Name: SSN Mechanical Career Guidance

3)Students who have doubts can post directly in the group. Their queries will be answered by alumnus with relevant profile.

For example: A student preparing for GRE and having doubt regarding application process of a college can just post in the group. It will be answered by any one of the seniors currently/completed doing M.S in the relevant college. In case there is no alumni with relevant profile, we will ask for the same from our friends and try to give the most appropriate answer. We will make sure all questions are answered within 7 days of posting. Further if the student wants to clarify more queries he/she can request the alumni who replies to the queries for contact details.

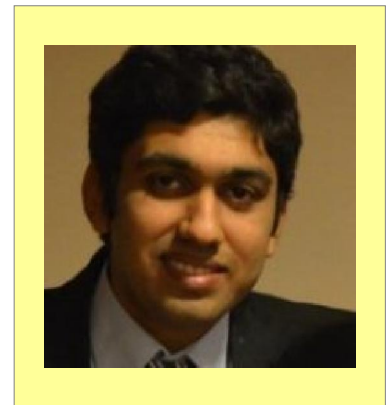
Thanks and Regards

**Mahesh raja R**

### Info from Alumni -3

### Karthik on need for MATLAB

I am D.Karthik from the 2012 mechanical batch of SSN, currently working in HSBC. Recently, I was having a discussion with one of my teammates in office regarding MATLAB. It is a very useful tool, used in analytics and other quantitative applications here. I continue to depend on Excel, since I don't have knowledge of the same. I have also heard that the same tool is also used by many students in their MS and M.Tech programs also, for varied applications.



I believe it will be really helpful for the students if the department can provide some basic training in MATLAB since I think we don't have it as a part of our current curriculum and I feel our students will greatly benefit during their higher studies and employment because of this. This is a humble suggestion from my side, based on my experience. It will be great if you can kindly provide your views on the same.

Thanks and Regards, **D.Karthik**



## Info from Alumni -4

## Tennis celebrity Irfan reflects on Life at SSN

**Respected Sir,**

Hope this mail finds you well. I have been wanting to mail you for quite sometime but I never did find the time to do so as I was travelling a lot these couple of months. First of all I am very grateful towards you and our department for supporting me the last 4 years. It would not have been possible to combine tennis and academics without your help. I am glad I somehow pulled through.

As I am extremely passionate about tennis I decided to not take up a job at the moment as it would make it hard for me to pursue the sport like I would want to (as the next few years are going to be crucial for my career). I have joined Anna university, CEG campus for a course in Manufacturing systems and management just a few weeks back. I got this course through merit.

I play tennis more or less full time now. I play for clubs in Chennai and also around the country and I am also in the process of striking good deals with clubs based in Germany. Hopefully I get to turn Pro soon. This is keeping me happy.

I look forward to reading ASPIRE every month to know what is happening to our department. Thank you very much sir.

Mohammed Irfaan



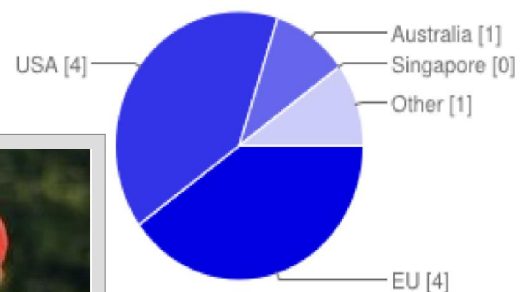
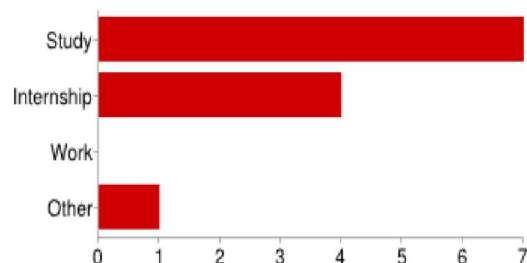
## Info from Alumni -5

## Alumni Tracking by Venkatesh Aditya

### Whereabouts of Batch 2009-13 who went abroad

Name	University	Location of the university	Master's study	Specialization
Venkatesh Adithya	Delft University of Technology	EU	M.S. Mechanical Engineering	Sustainable Energy
K S Karthikeyan	North Carolina State University	USA	Masters in Integrated Manufacturing	Quality and data analytics
mohammed mustafa sha	The Pennsylvania state	USA	M. Engr in Industrial engineering	manufacturing, supply chain
Shashank Suresh	Eindhoven University of Technology	EU	MSc Automotive Technology	Control Systems
Nitin Krishnan	TU/e	EU	Msc Automotive technology	Powertrains and control
chitra b s	university of wollongong	Australia	master of professional engineering	crystallography
Sharan Srinivasan	Stanford University	USA	Industrial Engineering	Operations Research
Sri Teja Kethineni	University of Michigan Ann Arbor	USA	MSE Industrial Engineering	Supply Chain
Sarah Ramji	University of Toronto	Canada	MASc Aerospace Science	Combustion
Tarun	KTH	EU	Engineering Design	Machine Design

### Current status



Venkatesh Adithya Shreedharan is a Graduate Student at Delft University of Technology, The Hague Area, Netherlands

## Dissecting the Strong Industry-University Bond in US



Every semester, the Ohio State University offers a certification program in Lean Six Sigma. The program has two components – 3 hours of classroom teaching every week, and a 15-week project where the students can apply the principles taught in class. For the project, the program director brings in local industries looking to implement Lean or Six Sigma in their organizations. The students are assigned to a specific project, and spend regular time at the industry-site and report back to their professor during the classes enabling them to continuously learn by application. The program has been a great success story for both the college – which is able to offer valuable project experience to its students, meeting the stringent certification authority requirements, and the industry – which gains from unpaid consulting from students and professors experienced in Lean Implementation and Statistical Quality Control.

This program is just one of the many examples in which industries and universities collaborate to produce value in the USA. Most universities in the United States pursue multiple programs at the college, the department and the professor levels aimed at attracting projects with industry partners. It is not considered merely an additional plus for a university to have active industry participation in its programs – it is an imperative! In fact, strong industry relationship is one factor that helps American Universities crowd top college rankings year after year in a variety of disciplines, especially engineering. In addition, professors receive significant incentives in consulting for external organizations – both from the university, and in terms of generating research content, be it publishing papers or competing for government sponsored grants. These also provide students with assistantship opportunities, or chances for employment, which in turn make a university an attractive destination for prospective students in future.

Collaboration can range from anything like the course-project structure instanced above, to long term development programs in which a new technology is developed or introduced by an organization. Programs can extend from 3 months to several years depending on the nature of the project. Long term projects usually have a financial component in which the industry compensates the professor for his expertise, sponsors tuition fees for a student if a Research Assistant is required and some fees to the university in overhead costs. Thus, the model successfully provides significant benefits to all the stakeholders driving further initiatives of this kind.

The most important factor in ensuring success in such initiatives is usually the accomplishment of objectives for the industry partner. For this to happen, clear definition of objectives right at the beginning is of great importance. It helps set a specific agenda for the professor and his team over the course of a few months. Well defined deliverables set to predefined check points on the calendar go a long way in improving the efficiency of delivery. Periodic meetings to exchange desired information or report progress, as frequent as weekly or fortnightly, help in maintaining accountability.

Commitment from the industry side includes providing required access to their data and facilities, and spending adequate time with the university in brainstorming at various stages of the project, and facilitating the understanding of their problems and objectives.

Often, challenges such as limited accessibility to proprietary information or data from the industry, and lack of a seamless interface between members of the team on both sides can often lead to delays, miscommunications and often shelving of projects. This is avoided by ensuring that both sides have significant benefits from the engagement. To put it simply, an industry partner signing a project to fulfill “Corporate Social Responsibility” is not as likely to follow through on its commitments on a project, as a partner who is really in need of technical expertise to solve a critical issue grappling their business. Contractual obligations signed at the beginning of a project provide both sides with the necessary confidence in investing time and resources into the project without worrying about uncertainties in execution.

In conclusion, the model of Industry-Institute partnership seen in the USA can have some valuable lessons for us to emulate. With a growing industry, and increasing need for imparting skill to the students to make them ready for the industry, pursuing such initiatives can have significant benefits for SSN College of Engineering.

Pointers on Successful initiatives:  
Well-defined time bound deliverables  
Ensuring significant benefits for both sides  
Weekly or Fortnightly review meetings  
Regular brainstorming to exchange ideas and solutions

## Alumni news

## Giving back to SSN....



Batch of 2010-14 created a first of sort approach by consenting to donate Rs.1000 each from their caution deposit to SSN Alumni Fund. Thanks to the following friends who conceived this idea and contributed.

Akshay Karthik	Jigar Golecha	A.Siddarth
Arjun H	Karthic Raja.J	Subash Sriram
Arun S	Kishore Kumar	Vignesh Ram .V
Ashwin Ramesh	Madhavan	Vijayakumaar S C
Balaji.A	Manimaran	Ashok kumar B
Deepak. R	Nandakumar L	Kalaiselvan.J
Dhanush Nandh	Pranav.P	Sadesh.M
M.Ezhilan	Radheesh D	S.V.Sembian
S.Gopalakrishnan	K.G. Sai Shreenaath	Nikkin. D

Deepak Ramu took the initiative of spreading this message- "Why should we wait till we earn. Why not part with some money that is going to be refunded from college- from our Caution deposit?".

Well, this thought occurred quite late and all had left college. Deepak Ramu took up this campaign through his social networking and was able to locate many of his friends to participate. Thanks to Deepak Ramu and all those friends who responded to his call by sending mails confirming their contribution.

## Amazing Innovations -1

## Foldscope- Origami based paper mcroscope

(source <http://www.foldscope.com/>)



Foldscope is an origami-based print-and-fold optical microscope that can be assembled from a flat sheet of paper. Although it costs less than a dollar in parts, it can provide over 2,000X magnification with sub-micron resolution (800nm), weighs less than two nickels (8.8 g), is small enough to fit in a pocket (70 × 20 × 2 mm<sup>3</sup>), requires no external power, and can survive being dropped from a 3-story building or stepped on by a person. Its minimalistic, scalable design is inherently application-specific instead of general-purpose gearing towards applications in global health, field based citizen science and K12-science education.



When [Manu Prakash](#), PhD, wants to impress lab visitors with the durability of his Origami-based paper microscope, he throws it off a three-story balcony, stomps on it with his foot and dunks it into a water-filled beaker. Miraculously, it still works.

Even more amazing is that this microscope — a bookmark-sized piece of layered cardstock with a micro-lens — only costs about 50 cents in materials to make.

In the video referred below, you can see his "Foldscope" being built in just a few minutes, then used to project giant images of plant tissue on the wall of a dark room.



Prakash's dream is that this ultra-low-cost microscope will someday be distributed widely to detect dangerous blood-borne diseases like malaria, African sleeping sickness, schistosomiasis and Chagas.

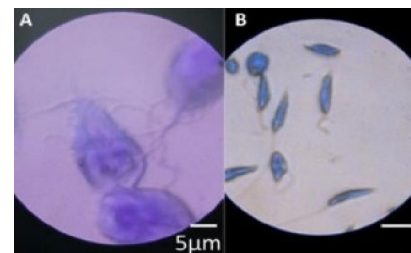
"I wanted to make the best possible disease-detection instrument that we could almost distribute for free," said Prakash. "What came out of this project is what we call **use-and-throw microscopy**."

The Foldscope can be assembled in minutes, includes no mechanical moving parts, packs in a flat configuration, is extremely rugged and **can be incinerated after use to safely dispose of infectious biological samples**. With minor design modifications, it can be used for bright-field, multi-fluorescence or projection microscopy.

One of the unique design features of the microscope is the use of inexpensive spherical lenses rather than the precision-ground curved glass lenses used in traditional microscopes. These poppy-seed-sized lenses were originally mass produced in various sizes as an abrasive grit that was thrown into industrial tumblers to knock the rough edges off metal parts. In the simplest configuration of the Foldscope, one 17-cent lens is press-fit into a small hole in the center of the slide-mounting platform. Some of his more sophisticated versions use multiple lenses and filters.

To use a Foldscope, a sample is mounted on a microscope slide and wedged between the paper layers of the microscope. With a thumb and forefinger grasping each end of the layered paper strip, a user holds the micro-lens close enough to one eye that eyebrows touch the paper. Focusing and locating a target object are achieved by flexing and sliding the paper platform with the thumb and fingers.

Because of the unique optical physics of a spherical lens held close to the eye, samples can be magnified up to 2,000 times. (To the right are two disease-causing microbes, *Giardia lamblia* and *Leishmania donovani*, photographed through a Foldscope.)



The Foldscope can be customized for the detection of specific organisms by adding various combinations of colored LED lights powered by a watch battery, sample stains and fluorescent filters. It can also be configured to project images on the wall of a dark room.

In addition, Prakash is passionate about mass-producing the Foldscope for educational purposes, to inspire children — our future scientists — to explore and learn from the microscopic world.

In a recent Stanford bioengineering course, Prakash used the Foldscope to teach students about the physics of microscopy. He had the entire class build their own Foldscope. Then teams wrote reports on microscopic observations or designed Foldscope accessories, such a smartphone camera attachment.

Watch the video at [http://www.youtube.com/watch?v=xUzZ\\_01N0eE](http://www.youtube.com/watch?v=xUzZ_01N0eE)

More info at <http://www.moore.org/grants/list/GBMF3797>

#### Technical details in the journal paper -

##### **Foldscope: Origami based paper microscope**

*J. Cybulski, J. Clements and M. Prakash*

PLoS ONE 9(6):e98781. doi:10.1371/journal.pone.0098781, June 2014

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0098781>

<http://www.hover-bike.com/MA/the-hoverbike/how-you-can-own-it/>



**A revolution in aviation**

**Malloy Aeronautics (MA), is a private limited company based in the county of Surrey, UK. What the manufacturers claim**

Our first Hoverbike prototype is a bi-copter. The vehicle is controlled by deflecting thrust from its two propellers using control vanes – these are a bit like rudders or ailerons on a plane. After extensive testing involving the manned vehicle and scale models, we moved to a proven quadcopter design, because with current technology we could not design a bi-copter cheap enough for safe and competitive sales.

The bi-copter is an elegant solution and vehicle – however the available technology is not ready yet for a practical vehicle with a bi-copter design. The most noticeable feature of the new Hoverbike and the 1/3rd scale drone is its unique patent pending offset and overlapping rotor blades, designed to reduce weight and platform area. Just like the manned vehicle, the ducting around the propellers is a safety feature, and the vehicle is lightweight and powerful, while folding to a compact size for transportation.

The Developers say : "We are in the final construction stages of the latest manned prototype of Hoverbike, and in a few months we will start flight testing. After the successful completion of test flights we will build a final engineering prototype for submission to aviation certification authorities. This all takes a lot of time and money and raising funds to achieve this is what this campaign is all about. We have a proven track record over the years, and our dedication to the Hoverbike development will continue beyond this kickstarter campaign until we are ready for sale of the manned Hoverbike. "

[https://www.youtube.com/watch?v=-A4ut\\_4fG6A](https://www.youtube.com/watch?v=-A4ut_4fG6A)

<https://www.youtube.com/watch?v=beko3CPHonQ>



Birds that stray into the paths of aircraft, eat crops, or spread disease from foraging in large numbers at landfills are, at best, a nuisance and, at worst, downright dangerous.

Over the years people have tried everything from scaring them away with loud noises to trapping them – all with varying results. Now a designer from the Netherlands has come up with robotic birds of prey that look and fly exactly like the real thing.

Dubbed "Robirds," these flying raptor creations are the brainchild of Nico Nijenhuis from Clear Flight Solutions. The remotely controlled, realistic looking birds actually flap their wings to fly, and in a way that makes them remarkably similar to the real thing. According to the

designers, this means that their artificial predator birds can fly in and around problem areas, encouraging nuisance birds to leave by exploiting the natural instinct of birds to avoid predators, particularly through silhouette and wing movement recognition.

In addition, the creators claim that – as the system is fully controllable by an operator on the ground with a remote control – especially difficult birds can be persuaded to leave by singling them out with the Robird to chase them away.

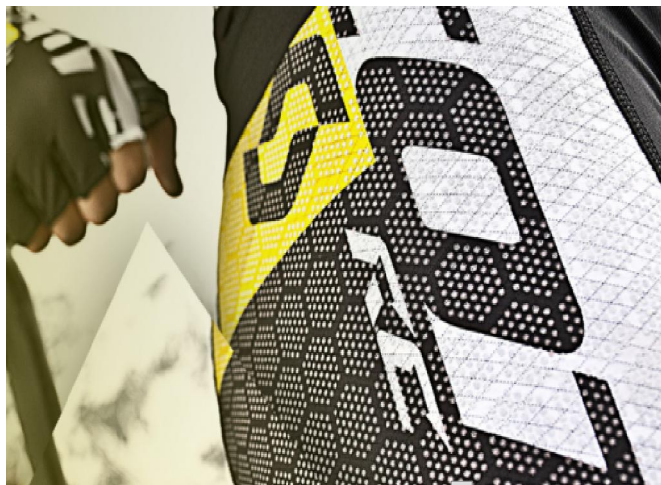
More info at <http://clearflightsolutions.com/>

Watch the animation on how bird hit causes flight accidents -at <http://vimeo.com/102212703>

Watch an actual Robird in action in an airport at <http://vimeo.com/98017489>

## Amazing Innovations -4

## Ceramic studded carbon fibre fabric



If you frequently ride a bike on asphalt, then it's entirely possible that sooner or later you're going to wipe out and end up with some nasty skin abrasions. While such "road rash" can occur just about anywhere on the body, the shoulders and hips are particularly prone to it, as they're the parts of the body upon which cyclists quite often end up sliding across the road. In order to help protect those areas, Scott Sports has announced a new line of cycling clothing made to protect against road rash ... with a little help from ceramics and carbon fiber.

Known as ITD ProTec, the material was designed in collaboration with Schoeller Textiles. It's used in the shoulders of Scott's RC ProTec jersey, and the hips of the RC ProTec bibshorts.

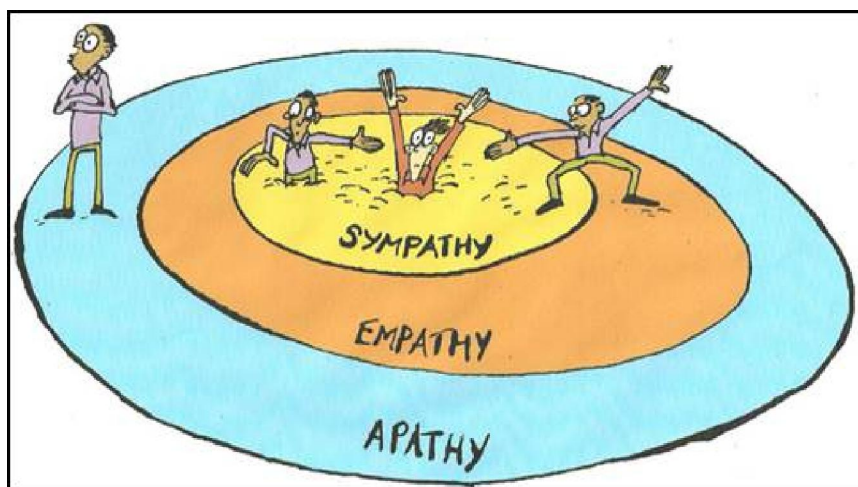


Instead of the usual nylon-based materials, ITD ProTec is woven from individual carbon fibers. Printed onto that fabric is a matrix of hard ceramic dots. This combination, according to Scott, results in "significantly better strength and higher abrasion resistance protecting the rider's skin from heavy abrasion in case of crashes."

Watch how it is tested for road wear resistance at <https://www.youtube.com/watch?v=ff5PcDYwjBU>

In this video, you'll see how the product developers compared classic fabric used by the bikewear industry to fabric featuring the new ITD ProTec technology. They used a belt sander to simulate the effect of a crash at high speed on an abrasive surface and wrapped two balloons with each fabric, which they then placed on the sander...See what happens to the balloons covered by the fabrics.





Mr.R.Ramakrishnan  
Advisor, GMR Group

### Sympathy

“ I understand you. Hence, I agree with you” . However, by all the time understanding and agreeing with you, I get taken for granted and sometimes even exploited.

In Sympathy, I don't feel respected in the relationship.

### Apathy

“ If I try to understand you,” I tend to agree with you and I feel taken for granted. So, I don't want to understand you..

I become indifferent and insensitive. I don't want to even listen. In apathy, I don't respect the other in the relationship.

### Empathy

“ I understand you”, I may or may not agree with you.

In empathy I just step into your shoes and see things the way you see it, irrespective of whether I agree with you or not..

In fact in empathy , I become “You” without losing “Me”.

Empathy validates that the relationships are not built on agreement but on understanding.

In empathy we agree to disagree without being disagreeable.

Empathy strengthens you, me and the relationship.

### Let us take an example of a how you deal with a beggar

In Sympathy, you tend to understand the other and also end up agreeing with him. That is why you feed the beggar.

In Apathy, you don't want to agree with the beggar and hence you don't even attempt to understand him. That is why you don't even turn to look at the beggar.

In Empathy, you see to understand the other end and make an independent choice on whether you want to agree with him or not. You can feel with the hunger of beggar, but you don't agree that begging is the solution. He could always take up work.

**Sympathy weakens you, but saves the relationship.**

**Apathy may not weaken you, but will destroy the relationship.**

**Empathy makes both you and the relationship stronger.**

**So resolve that Empathy will be the basis of your relationships. Empathy is the only way.**

Have a wonderful day & great week – Ramki.