



Mechanical Engineering

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Wish You a Happy and Prosperous New Year 2019

All About Nobel Prize- Part 61

Nobel Week Dialogue

The Nobel Week Dialogue is a free of charge, full-day event and part of the official Nobel Week programme.

The event aims to stimulate discussion at the highest level on a topical science-related theme by bringing together Nobel Laureates, the world's leading scientists and experts, key opinion leaders, policy makers and the general public, online as well as on site. By bridging science and society, it's an opportunity to stimulate thinking, excite imagination and inspire greatness.



Nobel Week Dialogue

Science & Society

2018 Nobel Week Dialogue: Water Matters

This year the Nobel Week Dialogue turned its attention to a topic that is important to us all. How does humanity impact the ocean? Where does water get wasted? Can we change patterns of water use? As a resource, for our health, for the environment and in culture: Water Matters.

Watch the full discussion at: <https://www.youtube.com/watch?v=s2U2YoAt0zw> Program starts at 13:04.

Given its crucial importance, water has played a role in many of our laureates' work and research. Let's take a look at how our Nobel Laureates have been inspired to investigate this liquid further.

Peter Agre

Chemistry 2003 "for the discovery of water channels."

Transporting water molecules through the surface layer of cells is one of the fundamental processes of life. In 1990, Peter Agre managed to isolate a water canal protein that moves water molecules through the cell membrane. The protein was given the name aquaporin. Channels that allow the passage of water but not other substances are crucial for processes such as the kidney's capacity to recover water from urine.

Muhammed Yunus

Peace 2006 "for their efforts to create economic and social development from below."

Muhammed Yunus was born in 1940 in the seaport city of Chittagong. After becoming a professor, Yunus

established the Grameen Bank in Bangladesh in 1983, fueled by the belief that credit is a fundamental human right. His objective was to help poor people escape from poverty by providing loans on terms suitable to them and by teaching them a few sound financial principles so they could help themselves. As part of their work, Grameen Bank and Yunus promotes microfinance approaches to providing clean water.



Ernest Hemingway

Literature 1954 “for his mastery of the art of narrative, most recently demonstrated in *The Old Man and the Sea*, and for the influence that he has exerted on contemporary style.”

Ernest Hemingway’s short novel, ‘*The Old Man and the Sea*’ (1952) tells the story of an old fisherman’s journey and his long and lonely struggle with a fish and the sea.

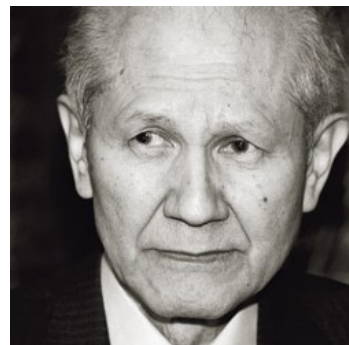
**“Old man’s got to be the old man, fish has got to be the fish.
You got to be who you are in this world, no matter what.”
– Ernest Hemingway**



Osamu Shimomura

Chemistry 2008 “for the discovery and development of the green fluorescent protein, GFP.”

After surviving the US bombing of Nagasaki, Osamu Shimomura became a marine biologist. After many years of hard work, he became known as the man who discovered Green Fluorescent Protein (GFP). Osamu Shimomura managed to isolate GFP from the jellyfish *Aequorea victoria* in the 1960s and found that the protein glowed green when illuminated with ultraviolet light. GFP is widely used in molecular biological research. By using GFP as a genetic marker, researchers are able to study how cellular functions take place.



Source: <https://www.nobelprize.org/water-matters-to-nobel-laureates/>

Group Update

Recognition for Ms.Roshni

Ms.Roshni Malhotra has been featured at #51 in the recent Forbes World's Most Powerful Women .
Details at <https://www.forbes.com/profile/roshni-nadar-malhotra/#1d8a3570726c>

Ms.Roshni Malhotra is CEO of HCL Enterprise, the holding company for all group entities and Vice Chairperson of the publicly traded company HCL Technologies.

- She's responsible for all strategic decisions for the \$8.1 billion enterprise, which operates in technology, healthcare and infosystems.
- Founded by her father, Shiv Nadar, in 1976, HCL became a central player in India's rise as an IT hub.
- Malhotra is also the Chairperson of the company's CSR Committee.
- She is a trustee of the Shiv Nadar Foundation, which is focused on education and has established some of India's top colleges and schools.



----- excerpts from Forbes site

Info to Alumni- Campus Update

Principal Dr. S. Salivahanan writes:

I am happy to inform you that our college has been identified as "Mentor Institution" under AICTE's Margdarshak scheme. According to this scheme, SSN will render the services of ten of its Faculty, to help nearby Institutions to improve their quality parameters and to apply for NBA accreditation.



Prof.S.Narasimman writes:

International conference on the Mathematical Methods, Modeling and Simulation in Chemical Sciences (ICMMSC2018) jointly organized by the Departments of Mathematics and Chemical Engineering, Society for the Advancement of Chemical Sciences and Education, Kalpakkam, was held on 06.12.18.



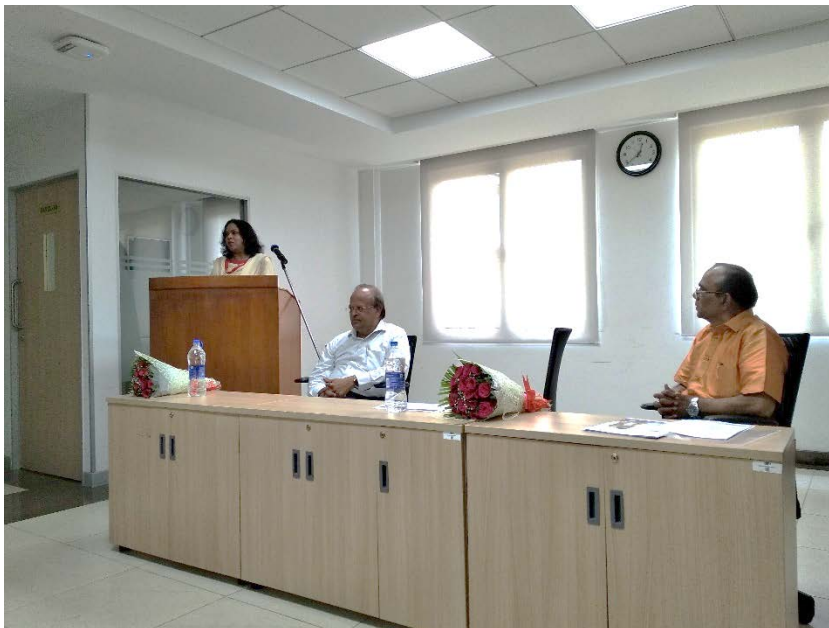
Mr.Krishnan Arumugam, IT Infra (CISCO) , writes:

In order to comply with the Green Policy, we have initiated to clear all the E-Waste from IT equipment like Desktops, Laptops, Printers, Scanners and Any Networking Active Resources or Items from Departments which were Idle for the Last 6 Months. Individual depts to identify the e-waste in their dept. IT- Infra team will coordinate with respective to E-Waste Vendors for clearance and for Certifying with due assessment and audit of the asset for E-Waste Clearance.

The National Conference on Mathematical Analysis and computation (NCMAC), organized by the department of Mathematics, was conducted on 13.12.2018. Prof. Om Ahuja, Department of Mathematical Sciences, Kent State University, USA and Prof. P. Devaraj, Head, School of Mathematics, Indian Institute of Science Education and Research, Thiruvananthapuram, Kerala, graced the inaugural function.

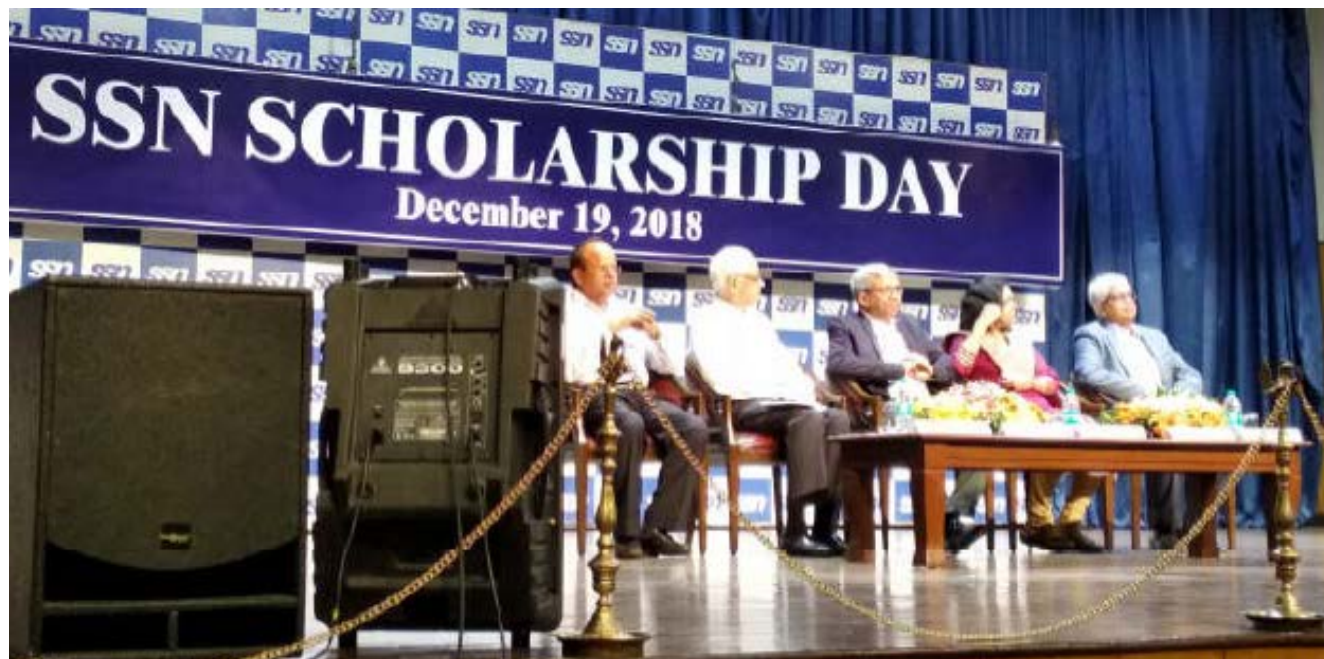


- Career Development Centre had arranged for placement training for all third years across all departments, from December 4 to 9, 2018.
- A workshop on "Organizational Commitment & Employee Motivation" by Mrs. Radha Subramaniam, Nalikka Behavioral Consultants was held on December 05, 2018, for all the non-teaching staff.
- HCL Healthcare-Executive Health checkup, was conducted at SSN premises for all faculty and staff, during first week of December.
- SSN Doctorate Scholars Day was conducted during 11-12th December 2018. There were 45 oral presentations and 94 poster presentations. In mech, Babu's Scholar Mr.Arularasan got best poster award.



Doctorate Scholars Day

- IQAC (Internal Quality Assurance Cell) meeting was conducted on 12-12-2018. Dr.G.Selvakumar and Dr.G.Satheeshkumar presented an outline of Targets for the academic year.
- The 20th Scholarship Award Function was held on 19.12.2018.



Info to Alumni- Department Update

External Recognition:

Prof. N. Nallusamy was appointed as the Chairman of the Central Valuation Board for Zone 31 at MNM Jain college of Engg.



Dr. N. Nallusamy



Dr. S. Rajkumar

Dr. S. Rajkumar, Associate Professor, reviewed a research paper titled "Characterization and evaluation of physiochemical properties of grape seed methyl ester using predictive correlations and ASTM standards for compression ignition engine application" submitted to the "Energy Sources, Part A: Recovery, Utilization, and Environmental Effects", Published by Taylor and Francis. [03.12.2018]

Dr. M S Alphin delivered a technical talk for two sessions on Design of Cams and Brakes in a two weeks Faculty development Program – Design of Transmission system approved by Anna University held at St Joseph’s Institute of Technology, Chennai. [07.12.2018]



Dr. M S Alphin presented an invited lecture on Vibration Instruments and Sensors for an Anna University approved two weeks faculty development training Program on Industrial Instrumentation held at Jeppiaar College of Engineering, Chennai. [30.11.2018]

Project Proposal

Dr. KL. Harikrishna submitted project proposal "Skill & Personality development for SC/ ST students" under AICTE for an amount of Rs. 24,43,750. [10.12.2018]

Dr. A.S. Ramana (PI) and Dr. M. Suresh (CO-PI) submitted a project proposal to MNRE on Thermal storage System for Greenhouse Drier Application [28.12.2018]



Dr. KL. Harikrishna



Dr. A.S. Ramana



Dr. M. Suresh

Research Activities

Dr. M S Alphin, Associate Professor/Mech, published a paper titled Influence of Geometric Design Variable and Bone Quality on Stress Distribution for Zirconia Dental Implants-A 3D Finite Element Analysis, November 2018,

Computer Modeling in Engineering and Sciences 117(2):125-141. DOI: 10.31614/cmcs.2018.01817. Co-Authors: Velmurugan.D [01.12.2018]

Jain A R Tony Benedict and Alphin M S (Associate Professor/Mech) published a paper titled "An Analytical Study- Dynamic Behavior of the Human hand to hold Mechanical handle with and without coating in Vibroengineering Procedia, December 2018, Vol. 21, pp. 137-142. (Scopus- 0.18) [15.12.2018]

Dr. S. Rajkumar, Associate Professor/Mech published a book chapter titled "Modelling and Experimental Studies of NOx and Soot Emissions in Common Rail Direct Injection Diesel Engines" in "Advanced Engine Diagnostics [Part of the Energy, Environment, and Sustainability]" Book series (ENENSU) by Springer Publications. [03.12.2018]



Dr. M.S. Alphin

Dr. S. Rajkumar, Associate Professor's research paper titled "Effect of biodiesel, biodiesel binary blends, hydrogenated biodiesel and injection parameters on NOx and soot emissions in a turbocharged diesel engine" has been accepted for publication (Clarivate Analytics Impact Factor – 4.908). [21.12.2018] ([More details in the faculty write up section](#))

Dr. K. Rajkumar, Associate Professor published the following papers in Materials Today: Proceedings 5 (2018): [21.12.2018]



Dr. K. Rajkumar

1. Mechanical strengthening effect by various forms and orientation of glass fibre reinforced isophthalic polyester polymer composite, 26850–26859 co-authors: A.Gnanavelbabu, P.Saravanan, P.Sabarinathan, S.Karthikeyan

2. Optimization of WEDM Process Parameters on Multiple Responses in Cutting of Ti-6Al-4V, 27072–27080 Co-authors: A.Gnanavelbabu, P.Saravanan, S.Karthikeyan, R.Baskaran

3. Cooperating Function of Graphite in Reducing Frictional Wear of Aluminium Boron Carbide composite 27801–27809 Co-authors: A. Gnanavelbabu, M. Solai Venkatesan, K.Rajagopalan.

Dr.S.Vijayan, Associate Professor, presented research papers titled

- "Impulse Analysis on Integrated Fixture Layout and Optimization Using Simulated Annealing",
- "Multi response optimization of FSW process parameters on dissimilar magnesium alloys AZ 31 and ZM 21 using taguchi based grey relation analysis"

in the International conference on Mathematical Methods Modeling and Simulation in Chemical Sciences. at SSNCE [6.12.2018]



Dr.S.Vijayan



Ms.R.Rajeswari

Ms.R.Rajeswari, Assistant Professor, presented paper on "Effect of Powder Mix and Ultrasonic Assistance on Pulse Train Based Specific Energy in EDM of D3 Steel", in the 7th International and 28th All India Manufacturing Technology, Design and Research conference 2018 (AIMTDR 2018), at College of Engineering Guindy, Anna University, Chennai [13.12.2018]

Dr. K. Jayakumar, Associate Professor, presented a paper titled " Wire Electric Discharge Machining (WEDM) studies on TiB2-15% SiC Ceramic Composite Processed through SPS Process" in the 7th International conference on "All India Manufacturing Technology, Design and Research Conference 2018 conducted by Department of Manufacturing Engineering, Anna University, Chennai. [13.12.2018]



Dr. K. Jayakumar

Mr. C. Arun Prakash Assistant Professor/Mech, presented four papers in Telangana State Science Congress jointly organised by National Institute of Technology and Telangana Academy of Sciences [22.12.2018]



Dr. Anand Ronald B



Mr. C. Arun Prakash

Co-authors:

Anand Ronald B (Associate Professor)

Third Year Students: Pranaav Shankar, Shubin, Navneeth, Rahul

B, Rakesh Kumar J, Vishnuvardhan K, Praveen Jerish K

Final Year Student: Subramanian R



Dr. D. Ananthapadmanaban

D. Arthur Jebastine Sunderraj, D. Ananthapadmanaban (Associate Professor/Mech), Arun Vasantha Geethan, S. Vijayananth, presented a paper titled Correlation between Mechanical Properties and Microstructure of Fe-Ti-Zn alloys fabricated by Powder Metallurgy in the International Conference AIMTDR 2018, Anna University. [14.12.2018]



Dr. K. S. Vijay Sekar

Workshop/Program Attended

Dr. K. S. Vijay Sekar, Asso. Professor, attended a one day conference on 'Digital Manufacturing', organized by CII, Chennai at Hotel Crown Plaza, Chennai. [20.12.2018] [\(More details in the faculty write up section\)](#)



Dr. N. Lakshmi Narasimhan

Industrial Interaction

Dr. N. Lakshmi Narasimhan presented before an Expert panel (Product Development), Preethi Kitchen Appliances, on his experimental results and heat transfer analysis carried out for an LPG burner that is currently under development in collaboration with the company. [28.12.2018] [\(More details in the faculty write up section\)](#)

Research Scholar update:

Full Time PhD Scholar (SRF) of Dr. M. S. Alphin, Dr. Jain A R Tony received his Ph.D Degree in the Convocation Function held in Anna University. [22.12.2018]



Mr. S.Prasath, Part Time Ph.D Scholar of Dr.S. Vijayan, gave synopsis seminar on the Title : Friction Stir Welding of Dissimilar Magnesium Alloys AZ 31 and ZM 21. [26.12.2018]

Mr. R. Arularasan, full time research scholar of Dr. K. Babu won the best poster presentation award for his poster presentation in "SSN DOCTORATE SCHOLARS DAY" [12.12.2018]



Dr. K. Babu

Student Activity

Shailesh Kumar, 2nd year, Completed 1 month internship at HAL(Hindustan Aeronautics Limited) [16.11.18]

Vimaleswar Babureddy and Pranav Shankar, Final Year/Mech, presented a research paper titled "Trajectory Planning of fingers in 4 - DOF Biomimetic hand using SMA spring as actuator, in 2nd International Conference on Advancements in Automation, Robotics and Sensing (ICAARS) 2018, held at PSG College of Technology, Coimbatore [14.12.2018].

Project proposals submitted for internal funding scheme

Dr.S.Rajkumar has submitted a proposal titled "Modelling and Experimental Investigations of Combustion and Emission Characteristics of Dual fueled Low Temperature Compression Ignition Engine"

Dr.M.Selvaraj has submitted a proposal titled "Development and analysis of active vibration absorber using smart composite"

Dr.Vimal Sam Singh has submitted a proposal titled " Development of PVDF Embedded Composite Material for Use in Stealth Applications" along with Dr. Esther Florence of ECE as Co-investigator.

Ms.R.Rajeswari has submitted a proposal titled " Indentation creep studies on friction stir welding of AA 7075".



Dr.M.Selvaraj



Dr.Vimal Sam Singh

7th International & 28th All India Manufacturing Technology, Design and Research Conference (**AIMTDR 2018**)

Date: 13th to 15th, December 2018

Venue: College of Engineering Guindy, Anna University, Chennai

AIMTDR is one of the best conferences in India, creating a platform for researchers, academicians, entrepreneurs, industrialists, practicing engineers, corporate executives, professionals, and budding engineers to share their experiences and exchange their ideas.



When my paper got accepted for oral presentation for this conference, I was very much excited. Eminent personalities from different parts of the world were invited for delivering key note speech.

On the first day of the conference Prof.S.Chandrasekar, Purdue University, USA delivered the first keynote lecture on metal cutting.

Mr.P.J.Mohanram, Indian Machine Tools Manufacturing Association, Bangalore, delivered a talk on future materials.

Prof. Bijoy Bhattacharyya, Jadavpur University, gave a talk on recent trends in electro chemical machining.

On the second day, the second keynote lecture was given by Prof. Mustafizur Rahman, National University of Singapore on metal cutting of ductile to brittle materials. The third keynote lecture was given by Prof. Kamalkar Rajurkar, University of Nebraska–Lincoln, U.S.A on getting research ideas from nature.

On the third day, fourth keynote lecture was given by Prof. Mohammad T. Khasawneh, Thomas J. Watson School of Engineering & Applied Science, New York, on manufacturing. All the lectures were technically thought provoking and were very useful in the research point of view. In all the three days, paper presentations were happening in parallel at different halls. There were oral presentations as well as poster presentations.

I had my oral presentation on the second day at 4pm at Linde hall, Mechanical Engineering Department, on “Effect of powder mix and ultrasonic assistance on pulse train based specific energy in EDM of D3 steel”.



On the first day, there were cultural programmes portraying the traditional dances of Tamil Nadu. On the whole, the hospitality and organization of the conference was good. It was a very useful conference as I met many researchers from different parts of the world and had a chance to have technical discussions with them.

I thank the SSN management for providing me the opportunity to participate in this conference.

I am pleased to inform you that my research paper titled:

“Effect of biodiesel, biodiesel binary blends, hydrogenated biodiesel and injection parameters on NOx and soot emissions in a turbocharged diesel engine” has been accepted for publication and available online in **“Fuel”**, Elsevier (**Clarivate Analytics Impact Factor – 4.908**).

Fuel 240 (2019) 101–118

Contents lists available at ScienceDirect

Fuel


journal homepage: www.elsevier.com/locate/fuel

Full Length Article

Effect of biodiesel, biodiesel binary blends, hydrogenated biodiesel and injection parameters on NOx and soot emissions in a turbocharged diesel engine

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^b School of Mechanical Engineering, Vellore Institute of Technology, Vellore 632 014, India




The link for this paper is <https://authors.elsevier.com/c/1Y9vY3iH44AJU>.

Anyone clicking on this link before January 22, 2019 will be taken directly to the final version of our article on ScienceDirect, and they can download it without sign up, registration or fees.

I have presented a paper titled "Wire Electric Discharge Machining (WEDM) studies on TiB₂-15% SiC Ceramic Composite Processed through SPS Process" in the 7th International conference on "All India Manufacturing Technology, Design and Research Conference 2018 (AIMTDR 2018, Dec 13 to 15), conducted by Department of Manufacturing Engineering, Anna University, Chennai. All papers from the conference will be published in a Springer's Journal.



AIMTDR is considered as one of the most prestigious conferences in the area of Manufacturing Engineering specially for Machining (Metal cutting) and held once in two years in all over India.

AIMTDR 2020 conference will be conducted at PSG College of Technology, Coimbatore.

I acted as the Session Chair in the same AIMTDR 2018 conference for the session "Unconventional machining processes" on 14-12-2018.

**CONFERENCE ON DIGITAL AGRICULTURE
ON 20th DEC 2018, ORGANISED BY CII CHENNAI
VENUE: HOTEL CROWN PLAZA.**

I had the opportunity to attend a one-day conference on digital agriculture organized by CII, Chennai and sponsored by Industries such as Danfoss and TAFE. The day-long program was split into four enlightening sessions: Digital Agriculture Technologies & New Business Models; Digital Technologies for Pre-Harvest Management; Digital Technologies for Post-Harvest Management and Blockchain Linking Agriculture to e-Market.



The speakers were drawn from Government and Private bodies with the theme being, how the digital revolution can contribute towards the development and sustainability of the agriculture sector by reaching out to the farmers and hand holding them towards better use of equipment, tools and technologies. From the time the farmer tills the land, to caretaking the land to harvest, there appears to be a number of areas where he can be supported to maximize his yield and also alleviate his efforts. There are equipment which help him use the right amount of water for his fields, which through sensors works automatically and helps him time his water requirements.



CII has taken many efforts in networking the Government, Private agri-based industries, digital solution providers and the farmers to oversee the design, development and implementation of end to end solutions - from pre-harvest, post-harvest and logistics management. Many success stories were laid threadbare such as helping the apple farmers and orange farmers from Kashmir and Punjab to grow, nurture and distribute the produce across the length and breadth of the country.

The Government on its part has developed the Uzhavan app which contains all the necessary information for the farmer - from where he needs to approach for his tools, equipment, insurance, seeds, markets, approximate pricing of commodities, weather information all rolled into one utility application. It was interesting to note that all the

speakers agreed that farming is going to dominate the Indian GDP map again and we will become the food capital of the world in a few decades, but such a success can be sustained only if all stakeholders work in tandem to support the digital push for the betterment of the sector.

From the application of IoT, robotics, sensors, weather stations, drones etc., one can generate an enormous amount of data, in whose analysis lies a treasure-house of information that can revolutionize the suffering agriculture sector and help the distressed farmers. ISRO has recently launched satellites which use hyperspectral imaging to capture the agriculture landscape and use image processing analysis to predict the health of crops.

As one of the speakers pointed out, it is time we fall in love with the problem and not the solution, to deeply empathize with the marginalized farmer and help him live a life full of zest and dignity. Digital agriculture aims to do just that.

Faculty Write up

Dr. N. Lakshmi Narasimhan, Assoc. Prof/Mech writes...

Industrial Interaction
Preethi Kitchen Appliances
Date: 28.12.2018

Post our MOU with Preethi Kitchen Appliances (PKA - acquired by Philips India), Chennai, the interactions have been healthy and encouraging with faculty as well as students from our department getting engaged in the design, development and testing of different products that are currently under development by the company.

Recently, I presented before the expert panel (Product Development), on the experimental results and heat transfer analysis carried out for an LPG burner that is currently under development in collaboration with the company.



The company informed that the earlier project designed by the student teams supervised by me, were fabricated and tested. The prototypes with few more modifications contributed by their R&D team were found to offer better results. Further testing is under progress.

As an outcome of the interactions thus far and sustained efforts, the company now looks forward to my proposal on setting up of a test facility at SSN as per the standards of BIS (India) to take forward the joint R&D on LPG burners.

At the outset, I place my humble thanks to our Principal, SSN Management and HOD/Mech for the due support and encouragement, paving way for this progressive industrial interaction.

I hope that, the interaction with PKA would serve as a value addition resulting in few more faculty joint R&D projects with the company, student internships, campus placements and so on.

As an observation, such discussions in person at the industrial premises with products/processes on-site helps the faculty member involved, to gain more insight into the problem being addressed.

We got placed in **TECHNIP** for the role of Graduate Engineering Trainee(GET) and would like to share our thoughts and experience about the placement process.

The process consisted 4 rounds.

Round 1: Aptitude test

AMCAT conducted an 80-minute online test at our college campus on 5th December. It consisted of four sections namely;

Quantitative and logical aptitude: 30 questions in 30 minutes; testing basic skills on profit and loss, ratio and proportion, time and work etc.

English vocabulary and comprehension: 20 questions in 15 minutes; testing simple vocabulary like synonyms, antonyms and error corrections.

Technical aptitude: 30 questions in 20 minutes; testing thermodynamics, mechanics, manufacturing and industrial engineering

Personality test: 90 agree and disagree statements in 15 minutes; testing on the teamwork and work ability.

Round 2: GD

15 students were shortlisted from the aptitude round and each student went to subsequent rounds, as there was no elimination.

The topic given was "**FOOD FOR MAN OR MAN ON MOON**". Each student was asked to give one point and the batch consisted of 15 students and the discussion went on for 12 minutes.

Round 3: Technical Interview:

The third round was a technical interview. We had one panel member who interviewed all 15 students.

Round 4: HR Interview:

The final round was an HR interview. The HR asked us about ourselves, our family backgrounds, goals, achievements and flexibility in various departments. They verified our certificates at the end of the interview.

Yogesha writes...

In the technical round, the interviewer asked me to introduce myself and he enquired briefly about my family. Then I stated my area of interest; which was in the field of manufacturing technology especially in welding and machine cutting. He asked questions from welding and inspection as my internship was in ULTRASONIC Non-Destructive Testing. Further, I briefly explained my final year project and my work in INVENTE as a core committee member. He asked me to draw where the weldment in the domestic gas cylinders will be and asked few questions regarding disadvantages due to Heat Affected Zone, iron carbide diagram and ultimately concluding with some practical applications of Total Quality Management.



During the HR interview, the interviewer asked me to introduce myself. I spoke about my family while explaining what each family member meant to me, the ups and downs in the professional career of my parents and how life was for me during my childhood.

Then he asked questions from my resume. I think the interviewers wanted candidates who had core values such as **safety, teamwork and integrity**. I was very interested in the testing and inspection role, but the company came to hire candidates for the designer role. As my area of interest was not in the field of design, I had to convince them that the strengths and skills I possessed would be useful for a designer. The HR interview went on for about **25 minutes**.

My recommendation for the juniors would be

- To be strong in basics of all core subjects, which is necessary for the first round.
- Before starting interview preparation for any company, see what they do in general including the industry as well as the market; and believe me, most of the questions would be from that field.
- Even if your area of interest doesn't match with their field of working try to manage and relate with your field, but it is better to be strong with their field.
- With proper structuring, voicing out your concern or opinion in a GD confidently would turn the HR's head towards you.

Srivarshith writes...

One wonderful aspect in the Technip selection process is that the GD and interviews are non-elimination rounds. This helps in the overall assessment of every student including communication skills, technical knowledge and so on. This provides an equal opportunity to every student.

It is of paramount importance to be well prepared before attempting the first round. A thorough research about the company and its field of work should be done well in advance. The test would not be very difficult if aptitude, reasoning and fundamentals of domains are known. The GD was on a very common topic and interviews went smoothly with questions only regarding basics of the students' respective domain. I was one of the 28 students who cleared the first round and 7 who got placed after all the subsequent rounds (4 mechanical and 3 chemical).

Suggestions:

Be confident, calm and composed during all the rounds.

Be honest, both in what you speak and what you state in your resume.

Choose your area of interest wisely and be well prepared in those subjects.

Please do not hesitate to contact me in case of any queries you would like to ask me anytime. My contact details are as mentioned.

Mobile: 9952964740

Mail ID: srivarshith15103@mech.ssn.edu.in

Jayakumar writes...

During the technical interview we had one panel member who interviewed all 15 students. He asked me the questions from my project, NPTEL course (which I had mentioned in the resume), In-plant training and area of interest (fluid mechanics).

The final round was an HR interview. The HR asked me about myself, my family background, goals, achievements and flexibility in various departments. He verified our certificates at the end of the interview.

Key points to remember:

- Be clear with basic concepts for the first round (SOM, Thermal, Manufacturing, Fluid Mechanics).
- Know more about your project and Internship (Objective, applications, experience at internship or in-plant training).
- Choose area of interest well in advance and prepare from basics (preferably related to your project and company).
- Good communication skills.



Shanmugam. S, Alvin Vinod
4th year
Mechanical Engineering

We got placed in HCL for the GET role and would like to share our experience. The HCL Technologies recruitment drive took place at SSN College of Engineering on 19-12-2018. The placement process consisted of three rounds.

Shanmugam writes...

1st round was an APTITUDE ROUND which lasted for an hour. It included basic aptitude, logical reasoning and simple technical questions from basics of joints, strength of material, manufacturing process, thermodynamic laws and cycles.

2nd round was a TECHNICAL INTERVIEW round. The interviewer asked basic questions from the field which I had given as my area of interest (robotics and automation, manufacturing process) in my resume. Apart from that, he gave me isometric problems in engineering graphics. They wanted me to explain my projects including design, program and working aspects. This session lasted for almost 45 minutes.

3rd round was an HR INTERVIEW round. The interviewer asked me about myself, regarding the difficult situations in my life and how I came out with a solution for the same. This session lasted for about 25 minutes.

Overall; it was a very smooth and convenient process and I would like to thank the Management, Placement officers and all Placement coordinators for helping me succeed.

Alvin writes...

I was recruited into their Engineering and R&D services (ERD) – Medical Devices and Services team. The recruitment process started off with their presentation. They talked about all the subdivisions in the ERD and had separate tests for each one.

We had the option of attending any number of tests that we wanted. Only the Medical devices and services team needed a mechanical engineer, so I took that test. The test had verbal ability, quantitative ability and domain knowledge questions. Five of us were shortlisted for the technical interview.

The technical interview tested our basic knowledge, ability to solve puzzles and knowledge of our projects. Standard questions like draw a bending moment diagram and development of a cone were asked.

Out of five, three were shortlisted for the HR round. HR round was simple and tested if you really wanted to work for them (i.e., how your interests, work, personality and goals orient towards their need) and how much you are familiar with the current trends in mechanical engineering.

I was asked questions about BS3, BS4 and if the permanent headlight-on feature was useful. There were no rejects in the HR round and all three of us were placed.



Things you should know:

- Basics of the important subjects
- Puzzles
- Current events in the industry
- About the company

Tips:

- Be calm and confident
- Know that ultimately no interview is perfect, and anyone can have a bad/unlucky day. So, relax and show them what you got.

Student write up

Placement Write-up (CRAYON DATA)

S Deva Prashanth
4th year
Mechanical

Earlier this month, I was placed in Crayon Data, an AI and Big Data Start-up with an ambitious vision "To simplify the world's choices". Their flagship product, Maya, is the world's only choice engine, delivering digital experience centered around taste. Primarily open only for CS and IT students, I was able to put forth a request to the HR team and appeared for the role of Data Scientist.



The process involved an **Online Test, Technical and HR Interview.**

The online test was moderately easy with 40 questions to be completed in an hour. It primarily tested your **Aptitude, Analytical and Logical Skills** but also included some Data Science related questions.

The technical interview was an hour long joy-ride for me. It started off with questions about my internship and then headed towards a discussion centered about their product.

The panel was very suggestive and understanding and played along with my ideas during the discussion. There were also 2 puzzles, only one of which I was able to directly answer. The latter half of the interview involved us talking about God and religion which was quite unconventional for a Technical panel. I was not tested on any coding or modelling techniques whereas the others were.

Nevertheless; I made it to the HR interview. After the interview, I was taken to another panel where I was informed that I have been given another role - Business Analyst Consultant. They were convinced that I'd satisfactorily perform in this role rather than that of a Data Scientist.

What I could derive from this experience was that it is important to understand the company before appearing for the interview. My knowledge of the company and my ability to relate to them paid off really well.

Secondly, one must understand that the Analytics domain is not merely Machine Learning (ML) and Algorithms. We are more than capable of understanding the underlying principles of it, so do not limit yourself.

Tunnel way for cars

Elon Musk and his Boring Company on 18th December showed off what he believes is the best way to eliminate the scourge of traffic congestion: electric, autonomous vehicles bearing an extra set of wheels, shooting through thin tunnels at speeds up to 150 mph.

Musk's presentation, aboard a Tesla Model X that traveled through the company's accent-lit, 1.14-mile test tunnel, filled in a few details about his ambitious plans to take on LA's traffic with new and improved tunnel-boring processes. But the test tunnel still seems to be a test tunnel, and the Boring Company still appears to be in a deeply experimental phase. A bevy of questions is yet to be addressed.

"I think this is, like, really a panacea," said Musk standing in front of the tunnel—which extends from a SpaceX parking lot into the city of Hawthorne.

The technology is also far from complete. The car that traveled through the test tunnel, which the Boring Company used to give demo rides to fans and journalists, only hit speeds of around 50 mph, not 150 mph. (Musk said it was capable of traveling 110 mph.) Musk also admitted that the ride was bumpy, and that his team "kind of ran out of time."

"The bumpiness will not be there down the road," he told. "It will be as smooth as glass. This is just a prototype. That's why it's just a little rough around the edges."





Hawthorne's city council allowed the company's project to be fast-tracked, through the environmental review process because it is a demonstration, not a functional form of mass transit, and because the city concluded that construction wouldn't disturb neighbors. Musk says the company digs so deeply underground that its tunneling isn't perceptible from above, and rightly notes that tunnels are safe in earthquake-prone spots like LA. The Boring Company spent just under two years and \$10 million building this test tunnel.

Transportation engineers and urban planners have criticized the plan, which they argue does not address the underlying causes of traffic—like bottlenecks at highway on- and off-ramps (or the elevator entrances and exits where cars will enter the system) and urban sprawl. The plan faces another foe: the public environmental review process, which can sometimes take more than a decade for an infrastructure project of similar ambition.

To pull this off, Musk has acknowledged he will have to bring down the cost of digging tunnels and speed up the process dramatically. Eventually, Musk has said, he would like his modified boring machine to beat his pet snail, Gary, in a race, increasing the standard boring pace by a factor of 14. The CEO also has said that his tunnels' reduced width—about 12 feet at their widest—will bring down costs as well.

This tunnel is just the first piece of what Musk hopes will become a sprawling network of tubes whizzing passengers beneath a city's congestion. He describes this as taking transport three-dimensional, in the same way office buildings and apartments have allowed us to expand upward rather than just horizontally, these tunnels will enable transport to do the same, albeit in the opposite direction.

"This is something I think will work, it is scalable," he said. "We have a demonstration tunnel here, and we expect to expand to cities all over the world to allow people to spend more time with their friends and family."

Read more at: <https://www.boringcompany.com/>



As it reads on their website:

About Us

The Company is a MSME Unit located in Plot No. New No. 57, (Old No.-67), SIDCO Industrial Estate, Ambattur, Chennai – 600 098, and was incorporated in the year 1975 as a Partnership Firm in the Name of FORGE PRODUCTS. This was changed in the year 2001 as Private Ltd. Company in the name and style of **CHENNAI FORGE PRODUCTS PVT. LTD.**

The unit has been planned to manufacture **steel forgings and machined components** for Automobile, Agricultural, Power, Earthmoving Equipments, Oil Sector and other Engineering Sectors. To mention a few, the unit produces Gear forgings, Rocker levers, Flanges, Jaw end, Eye end, Brake pedal pads, Cam bushes, small crank shafts and connecting rods, Levers of various descriptions, Sleeves etc. as per the requirements and specifications of the customers. The unit is capable of producing steel forgings ranging from 100 grams to 7 kilograms to cater to any end user.

Vision

" Strive to achieve Forging excellence with ability to understand customer needs and deliver unsurpassed quality and reliable products to meet customer (domestic & global) demands, with total dedication and commitment from our staff. "

We have our own **Tool Room** catering to our Die making needs. The Tool Room has one BFW VMC, two Spark Erosion Machines, TOS Milling Machine & HMT Milling Machine, two Shaping Machines, one Lathe and one Drilling Machine.

The company put up a separate **Machine Shop** Unit for supply of Finished Components (Machined). The unit has 27 CNC machines, 8 VMCs, 2 Cylindrical Grinding Machines, 3 Broaching Machines and other Conventional machines.

Chennai Forge Products Pvt. Ltd., had obtained ISO 9001 certification since the year 2003. In the year 2014, we completed the ISO/TS 16949: 2009 certification by TUV-SUD. In the year 2017, we achieved the **IATF 16949** certification by TUV-SUD.

Our Clients:

L&T Valves, SAC Engine Components, Wabco India Ltd, Ajax Fiori Engg, Gurupriya Teleauto, Ashok Leyland Ltd., - Ennore – Chennai, Greaves Cotton Ltd., - Petrol Engine Unit – Chennai, Wipro Infrastructure Engineering Ltd. – Chennai & Bangalore, Bharat Heavy Electricals Ltd (BHEL) -Ranipet & Chennai, Bharat Earth Movers Ltd- H & P Divn.- K.G.F. , Bonfiglioli Transmission Pvt. Ltd.-Chennai, Ormed Medical Technologies. – Chennai, Sundaram Fasteners – Autolec division, Lucas TVS Ltd.

For more details: <http://www.chennaiforgeproducts.com/index.php>

If interested to work here mail: info@chennaiforgeproducts.com

Amazing Innovation- 97

Plant that moves towards light

Researchers at MIT Media Lab have now created "cyborg plants" that can control a robot base to drive themselves where they want to go. The researchers call their cybernetic plant "Elowan," and at a glance it looks like a pot plant with some wheels attached. But this isn't just a robot that's programmed to seek out light because that's what plants like – the plant itself is actually in control.

Essentially, plants are already natural electronic systems. Through leaves and other organs, they sense changes in light, temperature, touch, wounds, pressure and other input from their environment. They then respond to these stimuli by sending electrical signals through their bodies. The MIT Media Lab taps into these signals with electrodes inserted into the plant's stems and leaves. They're naturally fairly weak, so the signals are amplified before passing to the robot, which then moves according to the plant's "wishes."



Making cybernetic plants could also help streamline the process of building robots and sensors – after all, if nature has already perfected a system that can sense and react to sunlight, why bother starting from scratch? So far, scientists have been able to turn flowers into touch controllers for a computer and spinach leaves into explosives detectors.

The team says that Elowan, which can be seen in action in the video below, is just one in a series of Cyborg Botany experiments.

Watch Video: <https://youtu.be/rptKlKZc7cs>

Source: <https://www.media.mit.edu/projects/elowan-a-plant-robot-hybrid/overview/>

Amazing Innovation- 98

Smart life-collar created by Lithuanian scientists will save lives

The startup company Smartmedic and a team of researchers of Kaunas University of Technology (KTU), Lithuania developed a smart life-collar prototype which inflates once in contact with water thus keeping the head of its wearer above the surface. Buddy, the Life-Collar can be vital for parents of young children, who are still not confident in water.



Drowning is one of the most often causes of accidental death among small children (1–4 years). Around 5 thousand children drown in Europe every year. This mostly happens in lakes and rivers, and parents' supervision is not always sufficient means of protection.

"Our smart life-collar is working similarly like an airbag in a car. Once the sensor installed into the collar touches the water, it activates the release mechanism, which fully inflates the airbags in 3-4 seconds, and they lift the wearer into the surface of the water. The head of the swimmer is kept over the water and he or she cannot drown", says Tadas Juknius, the author of the idea.

Source: <https://en.ktu.edu/news/smart-life-collar-created-by-lithuanian-scientists-will-save-lives/>

Amazing Innovation- 99

Sun in a box

Lithium-ion batteries are the ones consumers are most familiar with, so it seems like the obvious choice to scale them up for grid-scale energy storage – as Tesla did with the world's biggest battery in Australia. But since lithium is relatively hard to come by, it may not be the best choice. Researchers at MIT have outlined a new design they call a "sun in a box," which stores energy as heat in molten silicon and harvests it by tapping into the bright light it emits.



The new system, which the team calls Thermal Energy Grid Storage-Multi-Junction Photovoltaics (TEGS-MPV), is based on the molten salt batteries that sit at the heart of grid-scale energy storage systems like concentrated solar. But there are a few problems with salt as a storage medium – for one, it becomes quite corrosive when the heat is cranked up.

"The reason that technology is interesting is, once you do this process of focusing the light to get heat, you can store heat much more cheaply than you can store electricity," says Asegun Henry, lead researcher on the study. "This technology has been around for a while, but the thinking has been that its cost will never get low enough to compete with natural gas. So, there was a push to operate at much higher temperatures, so you could use a more efficient heat engine and get the cost down."

Source: <https://futurism.com/solar-energy-storage>

Amazing Innovation- 100

Harvard's sticky-footed inspection robot can climb through jet engines

It's tricky to routinely inspect jet engines and other machines without taking them apart, which is a costly and time-consuming process. Now, a team at Harvard's Wyss Institute has developed small, insect-like robots that can climb inside and through machines to inspect them, saving the trouble of pulling them apart if there's nothing that needs fixing.



The robots are based on the team's previous creation, which they call the Harvard Ambulatory Micro-Robot (HAMR). These small, four-legged robots scurry around like insects, and a more recent version gained the ability to walk across the surface of water.

The latest model has been named HAMR-E, where the E stands for Electro-adhesion. To climb vertical surfaces and cling upside down, the robots have new footpads that stick to the metallic surfaces through electrostatic forces. The pads are made of a polyimide-insulated copper electrode, and the robots can switch the electric field off to lift each foot off the surface, before turning it back on when it takes the next step. These pads are also flexible, so as to let the bots climb curved surfaces – a handy skill, inside a jet engine.

Source: <https://news.harvard.edu/gazette/story/2018/12/robots-with-sticky-feet-can-go-where-humans-cant-fit/>

Alumni Update 1:

Sylesh Kumar (B.E Mechanical Engg, Batch of 2018)

GET, Renault Nissan Technology and Business Center India

I am working at 'Renault Nissan Technology and Business Center India' in the Product Life-cycle Management team (PLM).



About my job:

My responsibilities involve monitoring and evaluating the engineering changes that the components under my perimeter (Electrical systems) are subjected to. PLM acts as a link between the design team and the supply chain team. Any component level changes with respect to design and quantity have to be processed by the PLM team. The job demands immense knowledge of the type of components used in diverse variants of each model.

Upskilling yourself:

Kindly evaluate your interests and potential and choose your area of interest by the end of the second year; for example, it could be design, thermal or manufacturing. An internship at the end of second year or a brainstorming session with an alumnus may help you to do this. Take up an academic or industrial project in your area of specialisation right from the start of the pre-final year. Industrial experts expect students to have completed two high impactful projects in their four years of engineering. Projects are given utmost importance over grades during interviews. Software knowledge can always be an added advantage. The following are the most widely used softwares in the automotive industry –

Design – CATIA and Nx CAD

Analysis – Ansys and Hypermesh

Production facilities - Microsoft Excel and Microsoft Powerpoint

Interview preparation:

Your communication skills have the same value as your technical skills. The prime rationale behind having a GD is to gauge your ability to articulate your thoughts. Hence, take communication labs seriously and use the opportunity to develop your command over the language. In face to face interviews, your resume drives the conversation. 99% of questions will be based on the following- candidates resume, core mechanical subjects (strength of materials, manufacturing technology and thermodynamics) and sector-specific questions (automobile, renewable energy etc). Frame each and every line in your resume carefully. Put yourself in the shoes of a sales executive while framing your resume. Imagine you are the sales executive; the interviewer is the customer and the product is "you".

“Participated in Go-Kart Design Challenge” is less effective than

“Represented SSN College of Engineering in GKDC, a pan India contest which witnessed participation from over 150 colleges across India”.

Get your resume reviewed by at least 5 alumni and change it according to their suggestions. A perfect resume will typically be your 25th iteration.

Targeting roles:

Always go with the thumb rule – “Choose roles, not companies”. Most of the students tend to go behind the brand name and salary package of the recruiter which is absolutely wrong. During the initial phase of your career, one must focus on gaining knowledge specific to one's area of interest. Hence, the role offered by the organization must be given a higher priority over the salary package.

Alumni Update 2:

(From a mail to VeA)

Naren Balaji of 2015 batch writes:

I am Naren Balaji, a graduate from SSN Mechanical Engineering department (Batch 2015).

I am glad to let you know that I have joined as a PhD candidate/University assistant at TU Wien (Vienna University of Technology) in Austria recently. The research work will be in the field of Experimental Fluid Mechanics focusing on particle tracking and hydrodynamic instabilities (using PIV, LDV, etc.).

The position also entitles teaching duties and guidance of B.Sc and M.Sc. students in the future.

I am extremely delighted in securing this position and I'm thankful to you and our department for building my academic foundation.



Alumni Article

Alumni article 1:

Vishal Onkhar (B.E Mechanical Engg, Batch of 2016)

MSc Mechanical Engineering (Vehicle Engineering)
TU Delft

Automotive Human Factors

I'm currently pursuing my master's in Vehicle Engineering at TU Delft in the Netherlands. I'm writing this article to promote awareness and interest among future students of SSN for my field of specialization which is Automotive Human Factors.



To start off, let me introduce automotive human factors as the list of topics that concern the people involved with automobiles. This includes subjects ranging from the body motions of an assembly line worker while making a brake component to the behaviour of a driver in a car during a tense traffic situation to the head accelerations and eye movements of a pedestrian as he attempts to cross a road. Thus, this field acts as a multidisciplinary bridge between different aspects of engineering in the automotive industry.

In my opinion, it integrates mechanical engineering, statistics, psychology, control theory, biomechanics, computer programming and ergonomic design. Its aim is to make every stage of human involvement with vehicles as safe and comfortable as possible. Hence, it is easy to see that this area of research is quite future-proof as there will always be human aspects of vehicles that need improvement.

Moreover, human factors have traditionally been focused on aerospace applications and so there is much to be discovered in the automotive domain. In my opinion, only since the last 30 years has there been a real interest among automotive manufacturers for human factors with the development of convenient systems in vehicles like driver assistance. Thus, automotive human factor is unlike topics such as IC engines which have been studied for over a century and for which there is minimal scope. In fact, today the growth is nothing short of exponential due to the public demand for a more and more comfortable driving experience.

Autonomous vehicles are the future. Despite current negative public perception, they will eventually replace regular cars because they are just so much safer, more comfortable and more efficient in terms of fuel, emissions, travel time and money. However, they will take longer than most people believe to come into widespread use because of technological and legal challenges.

The vehicle systems needed to reliably navigate complex environments like Sowcarpet or De Wallen district in Amsterdam simply do not exist yet. Thus, another aim of human factors is to enable a smooth transition from manual driving to automated driving over the next few decades.

What I really like about human factors is the broad experience and knowledge the field gives me. It provides a person with so many varied skills that make him highly employable in other related industries like aerospace, biomechanics and data analytics. It also poses no specific entry requirements which means you don't have to have a strong mechanical background if you want to study it. I have many colleagues whose bachelors' have been in computer programming, aerospace engineering and even psychology.

However, the learning curve is quite steep as there are so many new topics to learn in a short amount of time, so it helps if you know a bit of coding and understand the working of automotive systems.

To conclude, I recommend taking up automotive human factors if you are interested in any of its diverse range of topics. You'll get to design and conduct experiments in real vehicles and driving simulators, work with virtual reality, track eye movements of drivers and pedestrians, develop models of driver behaviour and even create new driver assistance systems.

The Netherlands, Germany and Sweden are especially great places to work with a lot of investment by governments and companies in automotive safety including human factors. Some good universities with years of excellent research in this field are TU Delft, University of Southampton, TU Eindhoven and TU Munich.

I hope this article was informative to you and encourages you to pursue research in automotive human factors. Otherwise, I'll still be glad if it inspires you to take up research in some other field of your liking either in India or abroad. Feel free to contact me if you have any questions. I wish you all the very best in your future endeavours!

vishal.march.96@gmail.com

Alumni article 2:

Inian Roy A (B.E Mechanical Engg, Batch of 2016)

MS, Manufacturing and Mechanical Systems Integration

Rochester Institute of Technology



Industry 4.0 – Connected Industries

Products have grown to be more complex. A modern car has more than 100 microprocessors onboard controlling everything from the passenger environment to the engine performance.

The ability of automotive companies to allow customers to configure their vehicles leads to complexity. Productivity, flexibility and quality are the three mutually related parameters that the manufacturer must decide upon to be profitable.

With automotive manufacturers providing numerous trim packages and customizations to customers, their capability to maintain cycle time and quality of the delivered product to the customers are affected. The more the market expects the manufacturers to provide flexibility and quality, the productivity suffers.

Industrial 4.0 is a high-tech project by the German government to establish Germany as a pioneer in deciphering the global challenges of our time. Initially started at the Hannover Fair, Industry 4.0 now promotes computerization of manufacturing globally. It is the horizontal and vertical integration of Internet of Things (IoT), Cyber Physics System, Cloud Computing, Big Data Analytics, Simulation and Additive Manufacturing Robots.

It involves the integration of cyber-physics systems into manufacturing and logistics, the use of internet of things within the industrial process and the use of big data to effectively handle the process. It plans on connecting the entire value stream under a single framework to enhance the interoperability of data. Industry 4.0 was designed on the four basic principles of interoperability, information transparency, technical assistance and decentralized decision.

I had the opportunity to integrate Industry 4.0 solutions to existing manufacturing lines, during my Co-op at Bosch, Charleston SC, USA. The scope of the project was to increase the transparency and traceability within the production system. ATMO, an internal Bosch supplier, provided the Industry 4.0 solution 'Open Connectivity – Manufacturing Execution System' (OpCon MES).

The Integration of Industry 4.0 solution to existing traditional manufacturing lines was more challenging than creating a new line with inbuilt Industry 4.0 solutions.

Manufacturing industries are evolving continuously and require more explicit use of Industry 4.0 to enhance transparency and traceability. With the revolution; comes complexity and risk, as manufacturing industries face an uphill task in integrating and adapting the technical change.

This needs to be the focus of large corporations and governments alike, to come up with standards and solutions to improve manufacturing sectors of all scales. Pushing research and experimentation in such fields are essential.

January 2019

- Department of EEE, Kongu Engineering College, Erode is organizing a CSIR (Council of Scientific and Industrial Research) sponsored two days National Seminar on “Emerging Trends in Smart Grid and Energy Storage Technologies for Sustainable Energy Management” during **04-05 January 2019**.
Details: <https://goo.gl/u38mr2>
- The Department of Mechanical Engineering KPR Institute of Engineering & Technology is organizing a Two-day Workshop on “Computational Fluid Dynamics and its Industrial Applications” on **04.01.2019 and 05.01.2019**.
- VIT Vellore will be conducting a Three Day Value Added Program from **Jan. 8th to 10th** on Survival Skills for Scientists. This is a condensed version of a graduate course at Laval University, Canada and is useful for young researchers in any field.
Topics that will be discussed: Scientific survival, job market, writing quality papers, publish or perish planning research, project management tools for research projects, improving communication skills, effective criticism, international research, ethics and funding.
Fee- Scholars and students Rs.600. Faculty Rs.800.
Register at: http://info.vit.ac.in/events-vit/Developing_Scientific_Survival_Skills/apply.asp
- Department of EEE, Kongu Engineering College, Erode, is organizing a DST- SERB (Department of Science and Technology) sponsored two days National Seminar on “Research Trends on Smart Waste Management System for Batteries” during **11-12 January 2019**. Details: <https://goo.gl/NrFMcx>

February 2019

- Department of EEE, Kongu Engineering College, Erode is organizing a CSIR (Council of Scientific and Industrial Research) sponsored two days National Seminar on “Emerging Advancements in Smart Materials Applications” during **21-22 February 2019**.
Details: <https://goo.gl/8vMSMt>

January 2019

- The 1st International Conference on Mechanical Power Transmission (ICMPT 2019) will be held at IIT Madras Campus, Chennai, India during 11-13 July 2019. More information is available at <https://web.iitm.ac.in/icmpt2019/>. Online abstract submission by **Jan 15, 2019**.
- The 16th International Conference on Tribology - **SERBIATRIB '19** will be held in Kragujevac (Serbia), at the Faculty of Engineering, University of Kragujevac, May 15-17, 2019. paper submission by **Jan 31, 2019**. Details at <http://www.serbiatrib.fink.rs/>

February 2019

- CIPET is conducting the 10th International conference Advances in Polymeric materials, with a theme of "Innovations in Polymeric product development and manufacturing" from **8 to 10 February, 2019**.
- Amity University in collaboration with International Solar Alliance (ISA) is organizing the International Conference on 'Efficient Solar Power Generation and Energy Harvesting' (An Industry – Academia Meet) from **12th - 14th February 2019** at Amity University, Noida.
- The Department of Chemical Engineering of SSNCE is organizing the 4th International Conference on "Recent Advancements in Chemical, Environmental and Energy Engineering (RACEEE 2019)" during **14th and 15th February 2019**. Interested participants can send their abstract to raceee2019@ssn.edu.in.

Further details can be found from the site <http://www.ssnraceee2019.com/>

March 2019

- Department of Mechanical Engineering of Bannari Amman Institute of Technology is organizing a two day International Conference on Materials, Manufacturing and Machining (ICMMM 2019) from **8– 9 March 2019**. Last date for Full Paper Submission is **03.12.2018**. For more information visit www.icmmm19.com
- Department of Mechanical Engineering of SSNCE is organizing the Second International conference on "Sustainable Energy Resources, Materials and Technologies (ISERMAT 2019)" from **March 14-15, 2019**.
- The Department of Mechanical Engineering, National Institute of Technology Delhi (NITD) (an autonomous institute under the aegis of MHRD, Govt of India and an institute of national importance) is organizing 1st National Conference on Advances in Mechanical Engineering (NCAME) on **March 16, 2019**.

A detailed information has been uploaded on the following link:

<https://sites.google.com/nitdelhi.ac.in/ncame2019/home?authuser=0>
<https://easychair.org/cfp/NCAME-2019>

April 2019

- Department of Mechanical Engineering of SSNCE is conducting the International Conference on Mechanical Engineering Design (ICMechD2019) from **18-19th April, 2019**. The deadline for abstract is **28 February 2019**. In addition, Early-Bird Registration at a reduced rate for delegates is available if paid before **30 December 2018**.

For more information, visit <https://sites.google.com/ssn.edu.in/icmechd>

May 2019

- Fentress Global Challenge: In line with the speculative nature of the competition, participants should seek to improve every dimension of the airport terminal building. All entries should delve into one or more broad topic related to airport architecture and the future of aviation such as mobility, urbanization, globalization, technology, flexibility, security, project feasibility, and passenger experience in 2075.

For more details, visit <https://fentressglobalchallenge.com/competition-brief>

Last date for submission: 31 May 2019

Boeing Contest

Boeing - IIT National Aeromodelling Competition for college students in India is sponsored by Boeing, and conducted in collaboration with IIT Bombay, IIT Delhi, IIT Kanpur, IIT Kharagpur and IIT Madras. Logistics support for this event is provided by Skyfi Labs.



The competition is launched with the vision to provide a unified national platform for students interested in aerospace and related engineering disciplines - to demonstrate their aero-modelling expertise.

This would be a two-staged pan India Competition:

- Zonal Level: The Zonal would be held in conjunction with the Technical Festivals of IIT Bombay, IIT Kanpur, IIT Kharagpur and IIT Madras. The First three teams from each of the Zonal competitions, a total of 12 teams from the Zonal competitions, will participate in the National level.
- National Level: The National Level Competition will be held at IIT Delhi for all the toppers from the Zonal Round to decide the champion.

For more information visit:

https://www.skyfilabs.com/boeing-competition-2019?utm_source=boeing_announcement&utm_medium=newsletter&utm_campaign=boeing_competition_2019&utm_content=competition_announcement

Smart India Hackathon

Info from Principal:

Smart India Hackathon is a non-stop digital product development competition, one of the largest Hackathon in the world. SIH 2019 has both Software and Hardware editions like previous year.

SIH look for bright, motivated technical students from India - to come up with life changing solutions to their problems. Grab this unique opportunity to solve problems of the common man and Government by creating a new 'Smart' India! There are 464 problem statements on date. This year, in addition to problem statements by participating Government ministries, Private corporate sectors have also given problem statements.

Participate in Smart India Hackathon 2019 and win exciting prizes, which can change your life forever. The SIH 2019 has the following themes:

1. Smart Communication
2. Healthcare & Biomedical devices
3. Agriculture & Rural Development
4. Smart Vehicles
5. Food Technology
6. Robotics and Drones
7. Waste management
8. Clean water
9. Renewable Energy
10. Security & Surveillance
11. Miscellaneous (Technology ideas in tertiary sectors)

Registration for student teams and idea submission are open. Every team has a Team leader and five team members (Team size is Six, including Team leader). Every team can have two mentors, faculty or from industry. However, mentor registration is done for the qualifying teams after declaration of initial submission results.

The last date is 20 January 2019. Dr. K. Madheswari, Asso. Prof./CSE and and Dr. S. Joseph Gladwin, Associate Professor, Department of ECE are appointed as 'College SPOC' for Smart India Hackathon 2019. For mech Dr.K.S.Jayakumar and Dr.Vimal Sam Singh will co ordinate.

The students can contact their respective department faculty coordinators and College SPOC for 'Institution authorization letter' during proposal submission.

Education News

Indian Railways opened the doors of India's first railway university in Vadodara, Gujarat on Saturday. It is the first of its kind institution in the nation and the third in the world after Russia and China. Named the Rail and Transportation Institution (NRTI), this deemed university will offer professional courses in technology and management of transportation networks. The NRTI started operation on September 5 earlier this year. The first batch of 103 students - 62 for BSc in Transportation Technology and 41 in BBA in Transportation Management - have already been shortlisted. Both courses are the flagship three-year programmes offered by the railway university.

<https://www.businesstoday.in/current/economy-politics/piyush-goyal-dedicates-india-first-railway-varsity-to-nation-all-you-need-to-know/story/301092.html>

DST - India Science and Research Fellowship Programme (ISRF-2019)

SCOPE AND DURATION OF FELLOWSHIP

India Science and Research Fellowship is to provide opportunity to scientists and researchers to work in contemporary research areas across **all major disciplines of science and technology including engineering and medical sciences** at premier research laboratories and academic institutions in India.



Dr. Muthu Senthil Pandian
SSN Research Centre

Up to 80 fellowships (10 per country) will be awarded annually under this scheme. The fellowship applications will be considered once a year by a Selection Committee.

FEATURES

- Ø Enable to undertake cutting edge research work in India
- Ø Open to faculty, scientists and researchers in science, engineering and medicine
- Ø Monthly sustenance allowance and one time contingency grant
- Ø Return airfare

TYPE AND DURATION OF FELLOWSHIP OFFERED

Visiting Fellowship: for durations between 3 to 6 months

DEADLINE FOR RECEIVING APPLICATIONS

31st January 2019

ELIGIBILITY

Ø The applicant should be actively engaged in research at a University or research institution in their country in various areas of science and technology including engineering and medical sciences.

Ø Minimum Qualifications: Ph.D /M.Tech /M.Sc /MBBS with 3-5 years research or teaching experience. Applicants registered for a Ph.D degree in home country may also apply.

Ø Must be below 45 years of age (as on 31st December 2018)

Ø The applicant should possess a valid passport

Ø Must not hold any visa for temporary or permanent residency in India

VALUE OF AWARD

Fellowship Allowance:

- Rs. 50,000/- per month which includes accommodation and medical facilities as available to host institutes.

Contingency grant to Fellow Scientist:

- Rs. 10,000/- as one time contingency grant.

Contingency research grant for host scientist (through institution):

- Rs. 20,000/- as one time grant

Airfare:

Round trip air ticket by economy class from the place of employment in their own country to the Indian host institute, through shortest route. Local transport by Road / rail between the nearest airport and the host institute in India.

Visa fee:

- Will be reimbursed

Website link: <http://www.dst.gov.in/callforproposals/india-science-and-research-fellowship-programme>

Inspiring Life Stories

Son: Dad, may I speak with you?

Dad: Go ahead.

Son: Among all my classmates, I am the only one without a car. It is embarrassing.

Dad: What do you want me to do?

Son: I need a car. I don't want to feel odd.

Dad: Do you have a particular car in mind?

Son: Yes Dad (smiling)

Dad: How much?

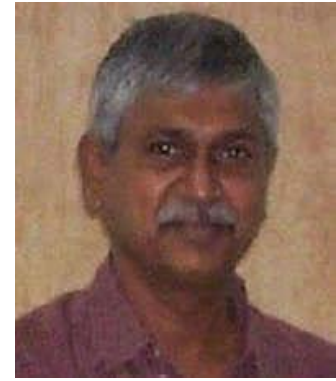
Son: 5 Lakhs

Dad: I will give you the money on one condition.

Son: What is the condition?

Dad: You will not use the money to buy a car but invest it. If you make enough profit from the investment, you can go ahead and buy the car.

Son: Deal.



Mr. Kishore Babu

Schwing Stetter

Then, the father gave him a cheque of 5 Lakhs. The son cashed the cheque and invested it in obedience to the verbal agreement that he had with his father.

Some months later, the father asked the son how he was faring. The son responded that his business was improving. The father left him.

After some months again, the father asked him about his business again and the son told him that he is making a lot of profit from the business.

When it was exactly a year after he gave him the money, the father asked him to show him how far the business has gone.

The son readily agreed and the following discussion took place:

Dad: From this I can see that you have made a lot of money.

Son: Yes Dad.

Dad: Do you still remember our agreement?

Son: Yes

Dad: What is it?

Son: We agreed that I should invest the money and buy the car from the profit.

Dad: Why have you not bought the car?

Son: I don't need the car again. I want to invest more.

Dad: Good. You have learnt the lessons that I wanted to teach you.

- You didn't really need the car, you just wanted to feel among. That would have placed extra financial obligations on you. It wasn't an asset then; but a liability.

- Two, it is very important for you to invest in your future before living like a king.

Son: Thanks Dad.

Then the father gave him the keys of the latest model of that car.

Moral of the story:

1. Always invest first before you start living the way you want.
2. What you see as a need now may become a want if you can take a little time to get over your feelings.
3. Try to be able to distinguish between an asset and a liability so that what you see as an asset today will not become a liability to you tomorrow.

Thanks & Regards –

Kishore Babu
HR - Department
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Corporate Wisdom 61

The thief called "Success"

Success is a thief. That is why success is not something to be pursued. The thief brings only unhappiness to those who pursue it. The best chance of capturing this elusive thing called success is to look within us. It may be hiding, but is right there! However, almost all of the 7 billion people on earth try looking for success outside of them.

The problem is that they think of success in other's context. That is why they relentlessly pursue the acquisition of things that others can readily see- wealth, status and recognition. Such success is a thief.

A thief has 3 characteristics.

- 1) First a thief is not recognized by you as being a thief.
- 2) Second, he or she robs you of what you have, without realizing it at that time
- 3) Third, a thief leaves you feeling very foolish after you have been robbed.

So, it is with Success. We assume that visible symbols of success make us happy. But such success increases the chances that we will be robbed of our happiness, and further, after losing our happiness, we feel foolish that we have lost our success.

Let me give you some examples

- Charles Michael Schwab was born in 1862. At the age of 35, he became the president of US Steel, later Carnegie steel. He was big, rich and famous. He built an ambitious 75 room private house, Riverside for US \$ 7 Million. He lost all his wealth in the 1929 crash and died in 1939 with a debt of US \$ 0.3 million.
- Howard Hopson was born in 1882. By the early 1920s he put together AGECO, an association of electric and gas companies in New York, Ohio and Pennsylvania. He then indulged in what turned out to be shenanigans. He faced trial in 1940 and died in Brooklyn Sanatorium.



All of these “Successful People” lost the perspective of context.

The plain fact is that success has to be seen within a context, and that context is our own self, not outside of our self. Strip away the context and we see it completely different.

To most of humankind, success means having wealth and status, with which others can be impressed.

But the trick of showing something is not to retain it. The blue object looks blue because the object sends back the blue wavelength of light and retains none of it. Similarly, a successful person returns success and retains none of it.

“ It is not what we gather, but what we scatter that tells what sort of life we have lived”.

So, beware of the thief called Success and do not be lured by it!

#WishingMostAndMore

Have a wonderful day

R.Ramakrishnan

Info to Alumni: You are cordially invited to attend SSN’s Annual Alumni Meet, TRIBUTE



This edition of Aspire was compiled by Nitin Joy, with support from Sowmya K, CT Alagappan and Srivasupradha R



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Sowmya K



CT Alagappan



Srivasupradha R