



Mechanical

Aspire

Achievements in Sports, Projects, Industry, Research and Education

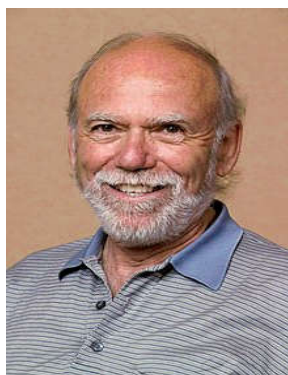
All About Nobel Prize- Part 65

Gravitational Waves

Rainer Weiss, a professor at the Massachusetts Institute of Technology, and Kip Thorne and Barry Barish, both of the California Institute of Technology, were awarded the Nobel Prize in Physics in 2017 for the detection of ripples in space-time known as gravitational wave. That discovery, which was announced in February 2016, opened up a new field of astronomy, in which scientists listen to the space-time vibrations emitted by some of the Universe's most cataclysmic events. It confirmed the existence of gravitational waves, which Albert Einstein had predicted a century before.



Rainer Weiss



Barry Barish



Kip Thorne

Gravitational waves:

In 1915, Einstein showed that accelerating masses, such as those occurring in an exploding star, create gravitational fields that radiate from their sources much like ripples spreading from a stone dropped in a lake. These fields, which warp the shape of space and time and travel at the speed of light, are called gravitational waves. They are difficult to detect because they interact so weakly with matter.

LIGO, the Laser Interferometer Gravitational-Wave Observatory, is a collaborative project with over one thousand researchers from more than twenty countries. Together, they have realised a vision that is almost fifty years old. The 2017 Nobel Laureates have each been invaluable to the success of LIGO. Pioneers Rainer Weiss and Kip Thorne, together with Barry Barish, who brought the project to completion, ensured that four decades of effort led to gravitational waves finally being observed.

More about LIGO:

LIGO comprises three detectors in the United States -- two at Hanford and one near Livingston, LA. The detectors work in concert to detect gravitational waves, which are distortions of space-time caused by accelerating masses, such as exploding stars or vibrating black holes.

The LIGO detector comprises mirrors suspended in vacuum on fine wires at the corner and end of a long "L." A highly stable laser beam is split, the two halves are sent back and forth about 100 times between the mirrors on the two arms, and then the beams are recombined. A passing gravitational wave will cause very small motions of the mirrors at the ends of the L, which scientists will observe by the changes they cause in the amplitude of the recombined light.

The LIGO detectors are set up in such a way that the very slight distortions of space-time in the vicinity of the detector's arms will cause perpendicular laser beams to go out of phase. To reach maximum sensitivity, LIGO employs a sophisticated computer-based control system to hold mirrors at the ends of the two arms in their proper locations with subatomic precision, while bouncing a laser beam back and forth between them.

By detecting these waves, the scientists are able to reconstruct the cataclysmic events that created them. Scientists can determine the mass of the black holes and how far away they are, roughly map where in the sky they are, and distil some information about the shape of their orbits. Scientists hope that they will open a unique window into the innermost and densest regions of space and provide information about violent events in the regions where they originated.

Source: <https://www.nobelprize.org/prizes/physics/2017/>

Info to Alumni- Campus Update

1-4-2019

Our Trust office / Administrative Office has been shifted from Mylapore to the following address at Adyar.



Photo Courtesy: Prof. N. Venkateswaran.

Shiv Nadar University / SSN Trust / SSN Institutions,
Old No. 19, New No. 8, 3rd Main Road,
Kasthuribai Nagar, Adyar, Chennai – 600020.
Ph: 2441 1646 / 2441 6474

5-4-2019 President had a session on placement interaction with all the PG (ME/ M Tech) students from 2020 batch.

11-4-2019

The NSS unit of SSN, in association with Citizen Consumer and Civic Action Group (CAG) , organized a talk on "Banking Charges Awareness". Speakers were from the Centre for Financial Accountability (part of Financial Accountability Network) based in Delhi and Mr. Thomas Franco, from Bankers' Association.



(Info from Ms.P.Kaythry, NSS Program Officer.)

29-4-2019

Internship Program for High School students

President launched a new initiative SHAPE (SSN High school Awareness Program in Engineering). This is a two-week (10 working days) summer internship program for school children entering XII Std. This is given the name SHAPE since this program aims at helping the school students understand the potential of the various engineering disciplines and make an informed choice for shaping their career. The schools participating in this program are the top schools in Chennai and the students enrolling for this program are the top scorers in their respective schools. They are potential brand ambassadors for SSN .Prof Nagarajan is in charge of overall designing of this program and Prof Thiruvengatasami is in charge of coordinating with the various schools. Each department will have some interns



When the interns visited Mech dept, Dr.K.S.Vijaysekar briefed on Mech activities, Dr.M.Suresh briefed on Mech projects and Dr.N.Lakshminarasimhan briefed on Placement opportunities. It was followed by lab visits and a brief interaction . Overall, Mrs.R.Rajeswari will be in charge of the interns who reach mech.

Info to Alumni- Department Update



External recognition

Ms.R.Rajeswari, Assistant Professor has won the **Best Paper Award** at the **7th International and 28th All India Manufacturing Technology, Design and Research Conference 2018 (AIMTDR 2018)**, held on December 13–15, 2018, at College of Engineering, Guindy, Chennai, India

Dr.R.Vimalsamsingh reviewed a paper for the Journal of IEEE/ASME Transactions on Mechatronics

Dr. S. Suresh Kumar, has delivered an invited lecture titled “Dynamics of Machines” at **SRM Valliammai Engineering College** on 25th April, 2019. The FDP was focused to faculties handling design stream courses for third year Mechanical Engineering students. The importance of free and forced vibration on machine component design was discussed. Around 20 faculty members were attended the program.



Research and Publications

Dr.Ananthapadmanaban, Associate Professor, Department of Mechanical Engineering, SSNCE and Dr Arun Vasantha Geethan, Professor and Head, Department of Mechanical Engineering, St. Josephs Institute of Technology have published a book chapter entitled “Role of intermetallics in lead free alloys” -InTech open online publishers.(9-4-19)



Dr. M S Alphin, Associate Professor published a Journal paper titled, Finite element analysis to assess the biomechanical behavior of a finger model gripping handles with different diameters, Volume/Issue: Volume 11: Issue 1, pp: 69–79, Apr 2019. Co-Authors: Benedict Jain A.R. Tony and M. S. Alphin [Indexed by Clarivate Analytics (formerly Thomson Reuters)]



Dr. N. Lakshmi Narasimhan, Associate Professor/Mech, got his paper published in the Journal of Energy Storage (Elsevier). The title of the paper is "Assessment of Latent Heat Thermal Storage Systems Operating With Multiple Phase Change Materials".



Dr. K. Rajkumar, Assoc. Professor's research paper "Tailoring of tensile and dynamic thermomechanical properties of interleaved chemical treated fine almond shell particulate flax fibre stacked vinyl ester polymeric composites" has been accepted for publication in the international journal, Journal of Materials Design and Applications, Clarivate Analytics impact factor:1.281.

Dr.R.Vimalsamsingh published a paper on the title " "A Compact Microwave Device for Fracture Diagnosis of the Human Tibia," in the journal of " IEEE Transactions on Components, Packaging and Manufacturing Technology" Volume 9 , Issue 4 , April - 2019 , 661-668 . Co-authors : Dr.Malathi Kanagasabai ; Dr Esther Florence



Dr. K. Jayakumar, Associate Professor presented following three papers in the International Conference on Mechanical Engineering Design (ICMechD 2019) held on 25-26 April, 2019.

1. Comparative study of ball nose and flat end milling processes on A356 alloy/SiCp metal matrix composite.
2. Optimization of process parameters for drilling of Inconel alloy 625
3. Quality assessment studies on AA7075 plate in rolling process.



A.K.Lakshminarayanan's fulltime scholar Mr. Rajasekaran's research paper titled **"Role of welding processes on microstructure and mechanical properties of nuclear grade stainless steel joints"** is now accepted for publication in journal of materials design and application (Clarivate Analytics impact factor 1.281). This is a collaborative work with two Scientists of IGCAR, Kalpakkam.



Dr.D.Ananthapadmanaban acted as Co-Chair for the Session on Engineering Management, 2.00-3.30 P.M 25.04.2019 ICMechD International Conference, SSNCE (25-4-19)

Dr. B . Anand Ronald, Assoc. Prof. / Mech, chaired a session in the International Conference on Mechanical Engg. Design (ICMechD 2019) held at SSNCE. (25-4-19)

D. Arthur Jebastine Sunderraj, D.Ananthapadmanaban, Dr. T. Vigraman , Arun Vasantha Geethan presented a paper entitled "Manufacture , Mechanical Testing And Characterization Of Aluminium Matrix Composite Reinforced With Iron" in the International conference on Mechanical Engineering and Design, SSNCE, April 26th ,2019

N.Arun Kumar, N.Sathish kumar, D.Ananthapadmanaban, N.E.Arun Kumar presented a paper entitled "Experimental Study and Analysis of delaminated carbon nanotubes in polyacrylonitrile matrix" in the International Conference on Mechanical Engineering Design, SSNCE, 26th April, 2019

Research
Review

On 22-4-2019, President started her Annual research review with mech faculty. She was accompanied by Principal and Dean Research . In the first meet, the research progress/ productivity of the Professors was discussed suggestions offered for improvement.

Conference conducted

International Conference on Mechanical Engineering Design (ICMechD 2019) was conducted by the Dept. of Mech. Engg. Convenors: Dr. S. Vijayan & Dr. M. Selvaraj, Co-Convenors: Dr. M. S. Alphin, Dr. G. Selvakumar, Dr. M. Nalla Mohammed and Dr. G. Satheesh Kumar (25&26-4-19) (Details in separate write up)



Dr.M.Nalla Mohamed and his team presented the following papers in the International Conference on Mechanical Engineering Design(ICMechD-2019) held on 25-26th April 2019, at Sri Sivasubramania Nadar College of Engineering, Kalavakkam

1. M Nalla Mohamed, R Sivaprasad, “Experimental study on energy enhancement of folded tubes bonded with adhesives under quasi-static loading”.
2. M Nalla Mohamed, J Renius Abraham, S Suriya, S Vigneshvaraa , “An experimental investigation for enhancing energy absorption efficiency of cylindrical tubes through graded wall thickness”.
3. M Nalla Mohamed, R Sivaprasad, “An efficient energy absorber based on welded fold tubes for automotive applications”.
4. M Nalla Mohamed, G V R Sakthivel, “Investigation on suitability of kenaf fiber reinforced composite materials as orthopedic implants for femur bone prosthesis”
5. M Nalla Mohamed, R Sivaprasad, “Comparison of bending characteristics of plain folded and adhesive bonded fold tubes under quasi-static loading”.
6. M Nalla Mohamed, R Sivaprasad, “The effect of patternised through-hole discontinuities on crushing characteristics of aluminium square tubes-Experimental investigation”.

Projects Sanctioned

The following two projects were approved for internal funding by SSN Management.

- 1.Dr. R. Vimal Samsingh, Mechanical & Dr. S. Esther Florence, ECE
“Development of PVDF embedded composite material for use in stealth applications” (Rs.4.2.lakhs)



- 2 Dr. S. Rajkumar, “ Modelling and experimental investigations of combustion and emission characteristics of dual fuelled low temperature compression ignition engine” (Rs.5.2.lakhs)

External Funding received

(Prerana – Scheme for preparing SC/ST Students for Higher education)

The principal coordinator for the scheme is Dr. S. Suresh Kumar, Associate Professor, and Mechanical Engineering Department.

AICTE has sanctioned **Rupees 7,31,000 (Seven Lakhs and Thirty one thousand)**

under the scheme “PRERANA” (Scheme for preparing SC/ST Students for Higher education) to SSN.



This scheme aims to promote degree students of pre-final and final year to go for post graduate courses. In addition, it also provides financial support to institutes who are willing to put extra efforts for encouraging and training SC/ST students for GATE/GPAT/CAT/CMAT and GRE. The broad objective of the scheme is to help aspiring SC/ST students seeking higher education through admission test like GATE/GPAT/CAT/CMAT/ TOEFL/ IELTS and GRE.

The duration of the Scheme shall be for a period of 2 Years. Both pre -final and final year students can make use of this scheme. Under this scheme, faculty Members can be invited for conducting sessions at Rs. 2000/- per class of minimum 2 hours. In addition, students will be paid the application fee for such exams through this Scheme.

Student Activities

Second Year -S Aravind, got selected for the second round of SIH (10-4-19) and he also presented a paper on Dynamics of legged Robot in ICMechD

Third Year Ramakrishnan R performed as a lead role in a drama and also performed in a stand up comedy show conducted by Saaral (15-4-19)

Third year Sivanesan C, presented a Paper in MERS 2019 titled "Automated paper separating and sorting machine" (30-3-19)

Faculty Write up

International Conference on Mechanical Engineering Design

(ICMechD 2019)

Reading maketh a full man; conference a ready man; and writing an exact man.

- Francis Bacon

INTRODUCTION

We are delighted to partake the high points of the recently concluded iconic conference of SSN College of Engineering, the 2nd edition of International Conference on Mechanical Engineering Design (ICMechD19) during 25th-26th April 2019. This conference provides major technical sessions in the areas of Design research, Applications and Case studies, Welding and Composite Mechanics Design, Design of Thermal power systems, Simulation studies, Mechanical Behavior, Interdisciplinary research, Tribology in Design, Structural Dynamics/NVH and Biomedical Research. Any product development starts with plentiful ideas of design supported by suitable materials subjected to production and successful commercialisation of the product, while eco friendliness, economy and aesthetics play an important role. The 1st edition was a grand success on many scales and has imparted many valuable lessons that we have carried forward to this edition.



The foundation was laid in the month of October 2018 with the launch of the website happening along with the call for paper. Owing to the consistent efforts in publicizing the event 495 submissions were received. A 16-member technical program committee was formed along with a review committee of about 40 qualified reviewers from different institutions. For each paper two reviewers were assigned with one member from technical program committee and the other member from the list of reviewers. The evaluation process had several stages: assignment of papers to reviewers, reviewing, discussions among reviewers, decision making by program committee, and consolidation of decisions. As a result of these efforts, 295 papers were accepted for the book of abstracts and the technical program finally featured 238 papers from different geographical regions from as far as South Africa and Nigeria.

INAUGURATION

A good start is half the work done!

The inauguration was a planned pompous event which attracted many commendations for the splendid show put-up by the coordinators while heavily synchronized by volunteers. Dr. Nachiappan Subramanian, Professor, University of Sussex, United Kingdom was the Chief Guest and delivered the inaugural address. Dr. K. Sankaranarayanan, Director, NIT Puducherry was the Special Guest of Honour. Dr. Kheng-Lim Goh, Professor, Newcastle University in Singapore was the Guest of Honour (in absentia). Dr. Nachiappan also delivered a marvellous keynote lecture. Dr. Ramasamy, Dean (Research), SSNCE presided over the function and our HOD delivered the preamble of the conference.



The paper session was a gargantuan undertaking that was deftly handled by the coordinators and the volunteers with 238 papers to handle, but the volunteers stole the show, on both days. There were 4 parallel sessions happening in Mini-audi, Central seminar hall, CSE seminar hall and IT seminar hall. Each session had at least 13 papers. 121 papers were presented on day one including skype presentations. 117 papers were presented on day two.

The stage was set with the guests setting clear goals for those two days. A few, to mention was the clarion call to be agile as engineers. By agility it was meant to have a business topping for your every engineering design solution as it is the current norm. IOT, Automation, Robotics and AI were the themes that were suggested to be looked out for, for the delegates. Mementoes were shared and the abstract was released to everyone's delight. Needless to say it was one grand memorable event.

TECHNICAL SESSIONS & PUBLICATIONS

**“Discussion is impossible with someone who claims not to seek the truth, but already to possess it.”
— Romain Rolland, Above the Battle**

The keynote sessions were well received leading to lot of deliberations on and off the topics. Apart from the external speakers our faculty member Dr. A.K. Lakshminarayanan keynote also was a laudable effort. The changing face of Engineering was extensively discussed and thus brought in a new dimension to the conference. All the keynotes were vivid with relevant examples and comprehensive and it is certain there was a takeaway for everyone.

The main purpose of a conference is to exchange ideas and also to measure up to each other's work with a positive attitude. For the budding researchers it is a good opportunity to get a first-hand experience in presenting their work. Our session-chairs and co-chairs were patient enough to listen to each and every paper and give out comments and suggestions till the end of every session.

Eminent people from various institutes were playing the role of session-chairs. Some of our chairpersons for each session are: Dr. R. Ravi Raja Malar Vannan, Saveetha Engg. College, Dr. A. X. Amel Rebin, Hindustan, Dr. Leo Dev wins, Karunya, Dr. K. Jayabal, IIITDM, Dr. N. Lenin, Vel Tech, Dr Arokya Selvakumar, VIT Chennai, Prof. Ramesh Babu, SVCE, Dr. S. Ilayavel, SVCE, Dr. Badrinathan, SVCE, Dr. M. Kannan, SCAD, Dr. Mohandass, SVCE, Dr. Philip Selvaraj, Karunya, Dr. K. Venkadeshwaran, Jain University. They were ably supported by the co-chairs (faculty members from our department) and student volunteers. Hence a seamless exchange of knowledge was ensured between the stakeholders and the feedback that we have received confirms that.

Skype session was a story in itself. To ensure that skype was up and working in the mini-audio was challenge given the incessant interruptions in the connections on both sides. However, thanks to Dr. R. Vimal Samsingh and Datacentre team the event went on so smoothly with lots to remember for both the parties across the screens. A dedicated system for this cause would save so much of repetitive efforts.

Publication: After due review accepted papers will be published in Scopus Indexed International Journal in Lecture Notes in Mechanical Engineering, Springer in two volumes:

Vol. 1: Recent Trends in Mechanical and Bio Medical Design

Vol. 2: Manufacturing and Engineering Management

HOSPITALITY

செவிக்கு உணவு இல்லாத போது சிறிது
வயிற்றுக்கும் ஈயப் படும்

(When there is no food for the ear, give a little also to the stomach)

The banquet dinner was one refreshing event that would stay in the memories for years to come. The food was sumptuous, the ambience pleasant and the mood of the people electrifying. An informal event always gives an effervescent effect on the minds of the people mingling. Conference lunch on both days was living up to the reputation of SSN's hospitality. It was ensured that everybody had it to their heartful.

NOTE OF GRATITUDE

"If you want to go fast, go alone. If you want to go far, go together."

Our deepest gratitude is expressed for the magnanimity of the management of SSN for the potential to envision and support institute building activities of this scale and also for placing impartial trust on our team. We would like to thank each and every faculty member, non-teaching staffs, scholars and students for showing direct and indirect involvement in the conference activities. Right from the inception of the conference to inauguration to being the session chair and for key note, the role that you have played is invaluable and never to be forgotten. We also wish to thank our Guest editors Dr. Ramkumar, Assistant professor, IIT Madras, Dr. K. Sankaranarayanamsamy, Dr. Nachiappan Subramanian and Dr. Esther Akinlabi, University of Johannesburg for spending their time in editing the proceedings of the book series to be published by Springer. The role of other departments and the support extended is highly appreciated and would be duly compensated.

We also would like to thank from the bottom of the heart each and every staff personnel from security section, administrative office, finance, hostel, estate, electrical maintenance, transportation unit and other external agencies involved with ICMechD 2019.

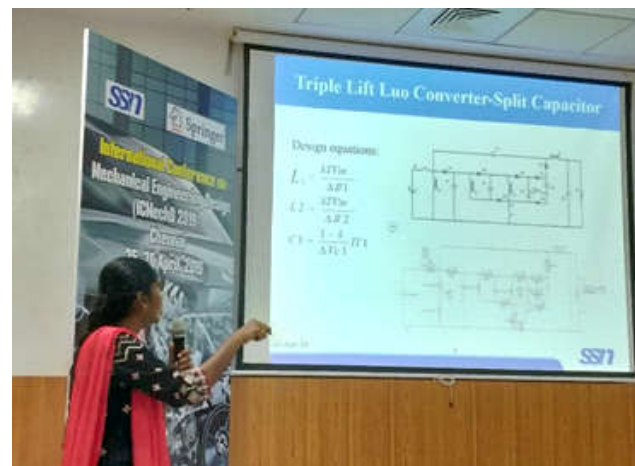
We are proud to be a part of this wonderful team of youngsters (irrespective of their age) of our department, for showing their mettle by showcasing the best in every aspect of the conference.

CONCLUSION

An international conference transcends borders to bring innovative ideas to deliberate about and ensures that new information is exchanged among experts. It helps bring together people who have a common interest allowing them to focus on the energy of like-minded individuals. And hence serves as a platform for consultation or discussion, especially one with a formal agenda. A good conference assures networking for future collaborations. Finally, it leads to the overall improvement in the net-added research value of all the stakeholders involved. With much to learn, we believe that our conference certainly lived up to all those prospects.

“Making a mark while on spotlight is not unique, but doing it time and again is.”

- **Convenors**



Faculty completes NPTEL course



Mr.C.Arun Prakash, Asst Prof, has completed an NPTEL course on Matlab Programming, with a consolidated score of 75%

Students Internship details – April 2019

Third Year Mechanical Engineering				
Sl.No	Register No	Name	Sem	Company
1	312216114025	Balakrishnan R	VI	ICF Chennai
2	312216114020	Arun Rajesh	VI	CSIR
3	312216114062	Abdul Rahman Basheer	VI	ICF Chennai
4	312216114001	V.M Mari Murugan	VI	Ashok Leyland, Chennai
5	312216114123	Vijay D	VI	Ashok Leyland, Chennai
6	312216114087	R.Ramakrishnan	VI	Ford Chennai
7	312216114097	K.Santhana Krishnan	VI	TIDC-India
8	312216114069	Mouliswar R.R	VI	Ford Chennai
9	312216114092	Sachin Abishek	VI	Ford Chennai
10	312216114072	Naveenraj P	VI	Ford Chennai
11	312216114095	Sakthi Vigneshwaran	VI	Ford Chennai
12	312216114032	Deepak S	VI	Ashok Leyland, Chennai
13	312216114079	Praveen Jerish	VI	Ford Chennai
14	312216114007	Ajay Kumar J	VI	Royal Enfield, Chennai
15	312216114075	Pavithraprabha	VI	NIT
16	312216114015	Anupa Sri	VI	IIT-Madras
17	312216114014	Anirudh Sai T	VI	IIT-Madras
18	312216114702	Niranj Kumar V.K	VI	Sundaram Fasteners
19	312216114039	Gnananselvan	VI	Southern Railways
20	312216114038	Gnanakumar T	VI	Southern Railways
21	312216114050	Joseph Anada Raj	VI	Southern Railways
22	312216114057	S.Krishnan	VI	Southern Railways
23	312216114052	V.Karthick	VI	Southern Railways
24	312216114047	M.R Hemanth Kumar	VI	Southern Railways
25	312216114019	M.Arun Prakash	VI	Southern Railways
26	312216114018	T.Arun	VI	Southern Railways
27	312216114305	Jayasundaram K	VI	Southern Railways
28	312216114049	Jerin Joseph	VI	Southern Railways
29	312216114041	Gokul R	VI	SCHWING STETTER
30	312216114007	Ajay Kumar J	VI	Rane Brakes Lining Ltd

Second year Mechanical Engineering students

Sl.No	Register No	Name	Sem	Company
1	312217114097	J.Sriram	IV	IGCAR Kalpakkam
2	312217114085	Sai prashanth	IV	IGCAR Kalpakkam
3	312217114094	Shri Hari	IV	WABCO INDIA



Hyundai's luxury brand has unveiled a new compact concept called the Mint. Appropriately in green, the all-electric Genesis Mint Concept is a lightweight, compact two-door, two-seater designed for upper-crust city drivers.

A vented matrix that Genesis calls the "G-Matrix" pattern dominates the very lowest portion of the car, encircling the bottom of the Mint like a lower body halo, and directs airflow to the batteries underneath the vehicle's floor. This helps cool them while leaving the rest of the Mint Concept's bodywork smooth and curvy. This pattern is echoed in the Mint's wheels and as a design element on the interior.

The smooth bodywork and simplistic overall exterior design of the Mint Concept are interesting, evoking a kind of callback to compact coupes and buggies of an earlier time. The interior of the Mint, however, is very different.

Inside, the G-Matrix pattern is seen as dark lines running through a light brown base, with the center console able to be folded down to turn the front bench seat into a settee. There's a squared steering wheel and round pedals – although the car is battery electric, there are three pedals instead of two. Genesis does not explain why. Other elements inside the Mint include copper-colored graphical user interfaces and a large tablet-like screen inset into the steering wheel.

Behind the seating is a sort of cargo shelf behind and above the rear seats, with the interior's mesh pattern becoming literal mesh, ostensibly to strap the cargo in place. Access to the Mint Concept's cargo area is through two reverse butterfly hatches, which open up and out to the rear of the car.

Genesis says that the Mint Concept is made to get about 200 miles (322 km) of range per charge and can use 350-kW fast charging.

<https://www.genesisnewsusa.com/en-us/releases/146>



Creintors Automation Solutions PVT LTD

From the website:

Creintors Automation Solutions Pvt. Ltd. (CASPL) is one of the companies of Creintors Group, which is an emerging innovation oriented organisation providing technological solutions in India and abroad. CASPL was formed in 2017 to cater to the demand of Indian Manufacturing Sector for providing simple automation/innovation. CASPL delivers simple automation for Indian manufacturing sector. They provide affordable automation services to various SMEs.

They have their headquarters in Belgaum, Karnataka. CASPL develops and delivers simple innovative solutions for applications that have not been automated previously. CASPL's products are conceptualized and created after extensive research and testing to meet customer's latent needs. CASPL designs and manufactures automation technologies that were considered too complex and expensive to implement into simple innovative solutions for companies.

CASPL design and manufacture a versatile line of products that have various applications in multiple industries. From aviation to retail, these products reduce overall storage footprints while increasing employee safety and efficiency which generates a quick return on investment (ROI) through a combination of cost cutting techniques and increasing revenue generating activities.

Their services include consulting services from location to assessment, SKU analysis, space and operations design, to systems execution, training and launch assistance and also operation and maintenance services.

If interested to work here, mail your resumes to: rahul.k@cautomate.com

Amazing Innovation- 113

Multi purpose cutting tool



Where you'd normally need to dig a fingernail in to flip out the other tools, the Free gear uses a new thumb-release mechanism that pops all the tools of a single bank out much more easily, after which you lock out the desired tool with a satisfying click and flip the others back into place in the handle.

That's basically it. Beyond the new opening and closing mechanisms, the Free gear is much the same as the Leathermans you've known and loved. But the company says this single switch in design philosophy is the biggest step it's taken since the release of the original Leatherman "Pocket Survival Tool" back in 1983.

The Free P4, pictured above, packs in 21 tools, including the all-important bottle opener, and there's a slightly smaller version called the Free P2 that omits the saw and replaces the serrated and smooth knives with a single combo blade.

The Free P4 will retail around the US\$140 mark, and the P2 around \$120. They're already available in some markets and both will come with Leatherman's standard 25-year guarantee.

Amazing Innovation- 114

Electricity from Snow

Snowy places aren't ideal for harvesting solar energy – panels can't do much if they're buried under blankets of snow, of course. Now a team from the University of California Los Angeles (UCLA) has developed a new device that can produce electricity from snow itself. The team calls the new device a snow-based triboelectric nanogenerator, or Snow TENG.



As the name suggests it works off the triboelectric effect, meaning it uses static electricity to generate a charge through the exchange of electrons. These kinds of devices have been used to make generators that pull energy from [body movements](#), [touchscreens](#), and even [footsteps on floors](#).

Snow is positively charged, so rubbing it against a material with the opposite charge allows energy to be drawn out of it. After a comprehensive series of testing, the team settled on silicone as the most effective material.

The Snow TENG, which is 3D printable, is made with a layer of silicone attached to an electrode. The team says it could be integrated into solar panels, so they can continue generating electricity even when covered with snow, making it similar to an earlier [hybrid solar cell](#) that also harvested energy from the movement of raindrops on its surface.

<http://newsroom.ucla.edu/releases/best-in-snow-new-scientific-device-creates-electricity-from-snowfall>

Amazing Innovation- 115

Super Fast Cooler

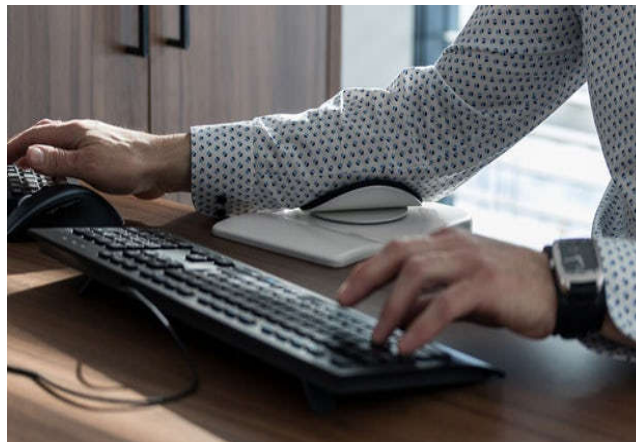


Blue Quench's super-fast beer cooler is about to drop on Indiegogo, and this thing means business, as long as the business is a party. When nothing but ice-cold is good enough, and a minute's the longest you can wait, this thing chills beers faster than anything outside a cryogenics lab. The Cooler's secret weapon is rotation. It spins cans and bottles at 500rpm, churning up the ice water to expose them to fresh coldness at much higher rates than when they're sitting still. Heat gets carried away fast, and according to Blue Quench, the smooth spinning motion doesn't churn your drinks up and make 'em froth all over you when you go to open them.

<https://bluequench.com/>

Amazing Innovation- 116

Ergonomic arm rest



The reality of modern life is that many of us spend hours and hours each day in front of a computer. Shoulders are tense and sore, wrists hurt from not being supported when using your mouse ... and the list goes on. Computers and technology have become such a demanding part of our lives, but the pain that comes with it doesn't have to be.

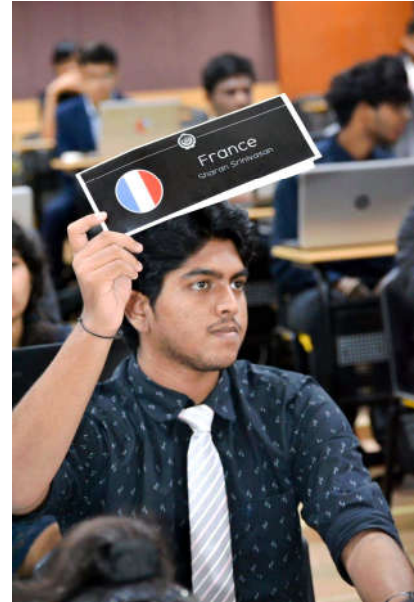
What if there was a solution to the pain? Relief from all those aches that are just part of the territory? Sign me up! **Mouzen** is the answer to your problems.

The revolutionary and sleek design adds comfort to your day and won't be an eyesore among your office décor. Mouzen allows you to optimize the positioning of your wrist and arm while working with your computer mouse. Thanks to the ERGOFlow technology, you are able to move your arm and wrist freely, all while maintaining an upright position without compromising your posture. Computer related injuries becoming more common and scientists are now learning how harmful sitting all day in front of a computer can be later in life.

<https://www.kickstarter.com/projects/gasperkumprej/mouzentm-worlds-most-beautiful-ergonomic-armrest?ref=7uppa2&token=ded28c20>

Alumni Info

For this month's aspire Sharan Srinivasan, would like to share his interaction with Visveshwar Nagarajan (2013-2017 Batch)...



Alumni Update – Vishveshwar

I introduce to you, Visveshwar who is currently pursuing his Masters in Engineering Management at Cornell University, Ithaca. After completing his BE in SSN CE he gained some work experience at TVS Srichakra Limited (June 2017-May 2018) where he worked in areas such as Marketing Analytics and IOT Implementation along with reputed consultants such as McKinsey.

He worked in the field of analytics along with Dr Vimal Sam Singh even during his time at SSN and also became interested in consulting which pushed him to take up Engineering Management as it provides the flexibility to take up any area such as Tech, Data Science, Consulting, Finance, Entrepreneurship, Supply Chain, etc. He had applied to universities such as Cornell, Dartmouth, Columbia, Northwestern, Duke, Purdue, USC (Southern California) and was accepted into almost all of them. Cornell being an Ivy League institution, attracts a huge number of companies for info-sessions and networking (Helps with Job hunting) and was his preferred choice.

Please find below the response provided by Visweshwar to the questions I had asked him on some key aspects of Higher Education in the US.

1.GRE Preparation

You should start preparing for GRE the moment you see this sentence. It is good to have great vocabulary. I'll say maybe 3 to 4 months (7 hrs every week) before you take the exam should be ideal to get 320+ score. Getting your GRE and TOEFL score by May will give you some space to write it again if you feel you haven't gotten the sufficient score. I don't recommend any coaching for GRE. The Original Guide (The official GRE book) and maybe some online resources like Magoosh (Don't spend more than 7 k) will be enough.

2. Engineering Management

The course gives you an option to mix and match many domains, which helps you during your job search. There are no specific required courses. For example, Operations research major will need optimization course as a mandatory one. Engineering Management does not usually have anything like that. You can choose whatever subject you want. (That is the case with Cornell and many other universities).

3. Winters on Campus

Winters are really harsh here at Ithaca. While I'm typing this sitting in the library, the temperature outside is -18 deg C. With proper dressing/protection it should not be a problem. To be honest, I haven't faced any difficulty. This comes from a guy who takes a hot water bath even during the summers in Chennai.

4. Career Path

Product Management (The most lucrative job right now), Consulting, Data Science/Software, Process Engineering (Mech people generally tend to do this), Supply Chain.

5. Job Situation

To be honest it not easy to get a job even when you are technically sound and have the right amount skills. I have had a considerable number of companies calling me for interviews based on my resume and then declining me because I am an international student and that I would require Visa sponsorship. But there are still many companies who sponsor for the Visa. There is an element of luck/God's grace to get the interview call from these companies and get jobs. But having work experience will definitely help because many companies (Who don't generally hire international students) tend to sponsor Visa/Hire for senior roles which has pre-requisites of 2 to 3 years of work experience in the relevant field.

Please write to sharan16103@mech.ssn.edu.in if you feel there is something specific other than the areas covered, you would like to ask Visveshwar. Please feel free to send in your feedback as well.

Alumni Update – Avinash Reddy

I am Avinash. I am currently working as an intern at Exactech Inc. and also pursuing my M.S. Industrial and Systems Engineering at University of Florida. After my under-graduation, I wanted to work for automotive industry. So I got an opportunity to work for WABCO India Limited, Chennai. At WABCO, I was introduced to various management techniques and optimization methods. I found myself indulged especially in cost reduction projects. That was the time, I decided to pursue M.S. in U.S. I studied for GRE and TOEFL while working with passion to succeed. This passion and motivation, helped me reach where I am now. When I visited India during summer 2018, I worked for Caterpillar India as an intern on Argon gas cost reduction project. We as a team achieved a projected savings of about \$50,000 per year within one month of project completion. In sum, I would like to say that always follow your passion and find the job that gives you a feeling of satisfaction. That will always help you financially as well as mentally.

Advice to students prior to graduation semester: Choose a career path and no matter what stick to it. There might be ups and downs in your journey to success. But never give up. You will reach where you intend to reach. All the very best!

Advice to students applying for Masters:

- Choose the degree which interests you (not your peer groups suggestion)
- If applying for Fall Semester, write your GRE and TOEFL in the month of June/July and complete your

application process by December first week, so that you are not missing out on the scholarship opportunity.

- The internet is the best source for researching for the universities.
- Remember: Companies are always looking for top talent. Make yourself indulge in activities that will help you career wise. Be competitive enough and companies will take you in. Be one above the crowd.
- Please don't worry about jobs after completion of master's. You will eventually get it if you are competitive enough.

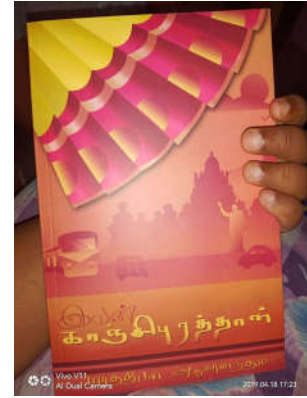
You can contact me via email: ilu.avinash.reddy@gmail.com

Info from Mr.C.Arun Prakash

Our Alumnus Arivazhagan's Kaithadi magazine completed two years successfully. A function was celebrated on March 31st, 2019 to mark the second anniversary of Kaithadi Magazine.

In that function Arivu's Madhi Publication released 10 books. "Ivan Kaanchipurathan" a book authored by our Alumnus Parthiban Azhaganantham was also released.

Myself and Sakthi Vigneshwaran of current 3rd year Mechanical wrote poems in one of the book "Oru Kootu Paravaigal". Our Saaral team received award for best Tamil Mandram.



Mhd Raseem, of 2008-12 batch, has got admission to **Harvard University**.

He went to MS industrial Engg at Virginia Tech and then got placed at Cummins,USA, in 2016.

After three years in Cummins, he has now decided to pursue MBA.



Srivatsan of 2013-17 batch, did his Masters in Industrial engg 2017-18 at Columbia University, New York. He is now Machine learning Engineer at Tellus, San Francisco.

Tellus is a Hospital & Health Care startup, with a tagline, "Radically Improving Eldercare with Cutting-Edge Technology "

Their Website reads as

"At Tellus, our vision is to radically improve eldercare with cutting-edge technology. We've built an AI-enabled device is that is non-contact (no wearables or cameras) and smart. Tellus is growing, mission-driven, health-tech start-up with alumni from Stanford, Google and Apple. The team has recently closed a ~\$3M round of fundraising by investors Phil Libin / All Turtles, Digital Garage, University of Tokyo, University of Kyoto and Docomo. Tellus' primary market is the aging population in Japan and the team has made exciting progress in their product and business development."

Abishek Ram Natarajan, of 2013-17 batch, did MS Mfg Engg at University of Michigan during 2017-18.

He is now a Sourcing Specialist at Schlumberger , Oil & Energy , Sugar Land, Texas



Akhilnandh Ramesh (2012-16 batch), is now Quality assurance engineer at Brakes India Pvt Ltd. He has posted an article on Artificial Intelligence for manufacturing at

<https://www.linkedin.com/pulse/artificial-intelligence-framework-robust-process-design-ramesh>



Alumnus Vijay Srinivas of 2014-18 batch is now Application Support Analyst at Larsen & Toubro Infotech, Mumbai.



Alumnus Sibi Varshan, of ME Mfg 2012-14 batch, who joined Danfoss, Chennai Post Graduate Program in Supply Chain Management (2014-16), was now posted in Denmark in 2016, as SCM Consultant. Now, he is Project Manager, European Supply Chain, of Wavin Group, Denmark.

Alumnus Adithyan Karunakaran, of 2011-15 batch, entered ITC as GET, from Campus. He later went to Dartmouth College, Hanover, for MS in Engineering / Industrial Amangement (2017-19). Now he is Supply Chain Project Manager at Signify. An extract from their website:

“Signify is the new company name of Philips Lighting. We are the world leader in lighting and provide our customers with high-quality, energy-efficient lighting products, systems and services. We turn light sources into points of data to connect more devices, places and people through light, contributing to a safer, more productive and smarter world. The choice of our new company name originates from the fact that light becomes an intelligent language, which connects and conveys meaning.”



Shalom Samraj P of 2010-14 batch, is now Business Leadership Trainee – Procurement, at Polycab India Pvt Ltd, Mumbai.

After one year as Installation Engineer at Kone Corporation and around two years as Purchase engineer at Mecho Projects, he joined IIM Rohtak for his MBA (2017-19). While at IIMR, he was the co-ordinator for Placement preparation Committee

Forthcoming Events

workshop / Seminar

Sardar Patel College of Engineering, Andheri, Mumbai, a Government Aided autonomous Institute, is organising a Research Symposium 2019 on Recent Trends in Engineering and Industry 4.0 on 6th-7th May 2019. Details at

http://www.spce.ac.in/Documents/News&Events/v10_Brochure_Reserach_Symposium.pdf

IIITDM Kancheepuram, Chennai is organizing a ***Short-term Training Program (STTP) on Design for Additive Manufacturing (DfAM 2019)***, during May 6-10, 2019. Detailed information of the STTP is available at www.iiitdm.ac.in/dfam2019/

Sri Muthukumaran Institute of Technology, Mangadu, Chennai, is organizing Anna University's Six-Day Faculty Development Training Program on ME8593 DESIGN OF MACHINE ELEMENTS which is planned to be held from 06.05.2019 to 11.05.2019

Starting from May13th, **TVS Training & Services**, Plot No.61, Reddy Street, Athipattu-Vanagram Main Road, Athipattu, Ambattur Industrial Estate, Chennai, Tamilnadu-600058, conducts several programs on Industrial Training Program on Industry 4.0.

Program Fee: INR 3900/- for One week program, INR 7080/- for Two week program

Engineering Staff College of India, an autonomous organ of the Institution of the Engineers (IEI), India is organizing a Workshop on "Quality Initiatives in Institutions in Compliance to NBA & NAAC Accreditation" from 27 – 29 May, 2019 at ESCI Campus, Gachibowli, Hyderabad.

Confederation of Indian Industry (CII) is conducting a Workshop on "Industry 4.0 - From Strategy to Implementation" on Friday, 31 May 2019, at Hotel The Crowne Plaza, Adyar Park, Chennai.

The Department of Mechanical Engineering, Karpagam College of Engineering, Coimbatore, is conducting one week short term training program on "**BIOFUELS AND ITS APPLICATIONS IN I.C ENGINES**" on **June 10-14, 2019**.

Conferences

2nd International Conference on Nanoscience and Nanotechnology (ICNAN-19), 4-6 December 2019, Centre for Nanotechnology Research, Vellore Institute of Technology (VIT), Vellore-632014, Tamilnadu..A Special Lecture by Nobel Laureate Dr. Ada E. Yonath (Nobel Laureate in Chemistry – 2009)

paper submission by May 30 <http://www.vit.ac.in/icnan>

Department of Mechanical Engineering of Adhi College of Engineering & Technology organizes a international conference (ICMECh'19) during May 8-10, 2019. For Template and Payment method go through the link <https://www.icmech.net/template-for-paper-submission>
Please visit the conference web site www.icmech.net

Global 3D Print Alliance, is organizing an International Conference "3D Print Futura 2019", **during 24th – 25th May 2019** in Bangalore, at the Royal Orchid Resort and Convention Centre. The conference will bring together national and international representatives from 3D Printing / Additive Manufacturing Technology industry creating a platform for network development with both Industries and Academia to drive your sales.

Link to register to conference www.global3dprintalliance.com/register-2/

Amal Jyothi College of Engg. , Kanjirapally, Kottayam Dt., Kerala-686 518 is organizing its Annual International Conference on Emerging Research Areas (AICERA,19) during 18th-20th, July 2019.

Paper Submission Deadline : 02.05.2019

Registration : <https://www.aicera.in/registration.html>

Conference Website : <https://www.aicera.in/>

Mail-id : aicera2019@amaljyothi.ac.in

Submission of Papers shall be through

<https://www.easychair.org/conferences/?conf=aicera2019>

PPG Institute of Technology, Coimbatore, is organizing [AIP International Conference on Inventive Material Science Applications \[ICIMA 2019\]](#), during September 25-26, 2019.

*The Mechanical Engineering Department of The Northcap University, Gurugram will be organizing a two-day International conference titled "**4th International Conference on Emerging Trends in Mechanical & Industrial Engineering (ICETMIE-2019)**" during **October 10 & 11, 2019.***

They have recent tie-up with various renowned Journals like:

1. **Lecture Notes in Mechanical Engineering (LNME), Springer**
2. **Facta Universitatis, Series: Mechanical Engineering**
3. **SAE International Journal of Materials and Manufacturing**

Please see the Conference Website Link: <http://icetmie-2019.ncuindia.edu/>

Paper Submission: <https://easychair.org/conferences/?conf=icetmie2019>

The Department of Energy Science & Engineering at IIT Bombay organizes a biennial conference titled "**International Conference on Advances in Energy Research**" (ICAER), from **10 – 12 December 2019** at Indian Institute of Technology Bombay. The last date for full paper submission is **15 May 2019**.

For more information, browse through <http://www.es.e.iitb.ac.in/icaer2019/>.

Sardar Vallabhbhai National Institute of Technology (S.V.N.I.T.), Surat , Gujarat, is organizing the 5th International Conference on Industrial Engineering (ICIE 2019) during December 12- 14,2019.

Amrita Vishwa Vidyapeetham, Coimbatore, is organizing an International Conference on Advanced Materials SCICON '19 during December 15-17, 2019. Details at <http://scicon.in/> Abstract submission by 31-July. **Selected papers will be published in Scopus Indexed Journal**

Research News from MSP

1. India-Sweden collaborative proposal call

Please find the attachment and website links.

This may include, but is not limited to:

- Transport & mobility; Electrical vehicles, Autonomous vehicles, Traffic safety, Mobility as a service, Reduction in traffic congestion, Digital solutions, etc.
- Environmental technologies; Eco-system services, Clean water and air, Waste management, Renewable energy, etc.
- Circular and Bio based economy, Bio based materials, Bio-fuels, Resource efficiency in consumption and production, Waste-to-wealth, etc.
- Energy; Reduced energy consumption and carbon dioxide emissions, Alternative fuels and mobile energy sources, Renewable energy, Energy storage, Resource-efficient infrastructure planning, etc.
- City planning, ICT for urban technical supply, Geodata, tools for dialogue with citizens etc.,

Last date for submission of project proposal: **19 August 2019**



Dr. Muthu Senthil Pandian
SSN Research Centre

Website Links:

<http://www.dst.gov.in/callforproposals/india-sweden-collaborative-industrial-rd-programme-and-rfp-2019>

<http://www.dst.gov.in/>

2. SERB - Call for Proposals under Teachers Associateship For Research Excellence (TARE-2019)

Please find the attachment and website links.

This scheme aims to facilitate mobility of faculty members working in a regular capacity in State Universities / Colleges and in private Academic Institutions to carry out research work in an established public funded institution such as IITs, IISc, IISERS, National Institutions (NITs, CSIR, ICAR, ICMR labs and other central institutions) and Central Universities, located preferably nearer to the institution where the faculty member is working. Research work will be carried out in such a manner to ensure that PI continue to work in the host institute as well as his / her parent institute on mutually agreed terms between the PI and Mentor.

Eligible Researchers can submit the proposals till **May 14, 2019**

Website Links:

<https://serbonline.in/SERB/Tare>

<https://serbonline.in/SERB/HomePage.do>

Info to Students

Opportunity to choose subjects from other disciplines-Open Electives

The first opportunity to take up subjects from other depts.- under "Open Electives" scheme, comes up next sem for V Sem students. Subjects that Mech students can take up are as below:

ORO551 Renewable Energy Sources (offered by EEE)

OAN551 Sensors and Transducers (offered by ECE)

OIT551 Database Management Systems (offered by IT)

OIT552 Cloud Computing (offered by IT)

OBM552 Medical Physics (offered by BME)

OCE551 Air Pollution and Control Engineering (offered by Civil)

Instructions on how to register, will soon reach you by mail.

Inspiring Life Stories

Once a stranded Tiger entered the washroom in a Corporate Office and hid in a dark corner. Since there were people outside the washroom through the day, the Tiger was afraid to come out.

Many people frequented the washroom, but the frightened Tiger didn't touch anyone. However, after four days it couldn't bear hunger anymore, so it caught a man who had come in, and ate him.

This man happened to be an Assistant General Manager in the organization, but nobody noticed his disappearance. Since nothing untoward happened, the Tiger became bolder and after two days caught another man and ate him.

This man was the General Manager of the organization.

Still, nobody worried over his disappearance (Some people even happy that he was not seen in the office).

Next day, the Tiger caught the Vice President who was a terror in the organization.

Again nothing happened. The Tiger was very happy and decided that this was the perfect place for him to live.

The very next day the happy Tiger caught a man who had entered the washroom while balancing a tray of teacups in one hand. The frightened man fell unconscious. Within fifteen minutes a huge hue and cry ensued, and everyone in the office started looking for the man. The search team reached the washroom, flushed out the Tiger and saved the unconscious man.

He was the tea boy in the office.

Moral of the Story: It is not the position, but our usefulness to others that makes us lovable and respectable.

Contribution: Mr. Sundar Sudharsan, Corporate Executive Chef, Planet Hollywood Beach Resort, Goa.

Thanks & Regards –

Kishore Babu

HR - Department

SCHWING Stetter India Private Limited



Mr.Kishore Babu
Schwing Stetter



Most of us are aware of the incredible journey of Mr Barack Obama to the White House and is now part of the popular lore. There are several interesting stories which had happened in the White House.

One of the very interesting incidences was reported in the TIME magazine. Soon after the Obama family moved into the White House, Ms Obama sent an email to her staff of advisers inviting them to a meeting in one of the many conference rooms in White House. And as the team of the Policy advisors and communication experts walked in at the appointed hour, they were surprised by what they saw in the room.

Inside the meeting room was an army of people. Mrs Obama had called in the entire household staff of the White House- Cooks, Maids, Plumbers, Electricians, Gardeners and Janitors. Relatively insignificant people, seemingly unimportant folks but they are the people who kept the wheels running in the White House.

Mrs Obama said “This is the team that came with me from Chicago” pointing to her team of advisors. “And this is the team that works here already”, she went on pointing to the household staff assembled in the room. And then for an hour or so, they mingled, while ensuring that everyone got a chance to meet everyone else.

It was a wonderful gesture inviting all the cooks and household staff, but what happened subsequent to this was much more than that. Mrs Obama said to her senior advisors; “I want you to know that year from now, you won’t be judged based on whether they know your name. You will be judged based on whether you know their names.”

This is a fantastic lesson in people management for all of us.

- True Leaders know the importance of focusing their lives and efforts on their team, rather than on themselves.
- When you have the power and position, it is inevitable that you will be known by everyone on your team, wherever they may be.
- It is foolish to believe that your fame is your handwork. It just comes with the job.
- Learning to focus on others, showing that you value them, demonstrating genuine concern for people in the front line- now those are the true hallmarks of great leaders.

Do you know the name of the person who cleans your office? Do you know the name of the security guard who smiles and salutes your every morning?

Knowing the name is not the big deal. It is the ability, nay the habit, of turning the spotlight away from you and on to others that matters. When the spotlight is on you, you normally feel good, but you will be blinded by the light, unable to see the faces around you. Turn the lights the other way and you will notice – very clearly- the smiles and the frowns, the joy and the despair on the faces around you.

The true test of leadership has got to be how well you know your team, not how well your team knows you.

I remember the saying of Dale Carnegie “You can make more friends in two months by becoming more interested in other people than you can in two years by trying to get people interested in you.

Make beginning.

Get to know the cleaner in your office, the sales people who struggle in the field, the maintenance engineer in the factory.

Occasionally do what Mrs Obama did for her team.

Get the staff into your room and thank them and get to know them better.

See next time you get a better service from them with more passion and commitment.

Give that human touch and their work is as important as your work.

Don't focus on self.

Take care of your team and they will take care of you. May be far better than you.

#WishingMostAndMore
Have a great day & Wonderful weekend

R.Ramakrishnan
Group Chairman Office
GMR Group –Delhi

This issue has an annexure on
Design and Fabrication Projects done by our Third year students.