Newsletter

Volume 8, Issue 2, February 2018

Mechanical Aspire

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 50

Nobel Lecture – Peace Prize

Nobel Lecture given by the Nobel Peace Prize Laureate 2017, ICAN (International Campaign to Abolish Nuclear Weapons)**, delivered by Beatrice Fihn and Setsuko Thurlow, Oslo, 10 December 2017.**

Beatrice Fihn

- We most humbly thank the Norwegian Nobel Committee for recognizing our work and giving momentum to our crucial cause.
- At dozens of locations around the world - in missile silos buried in our earth, on submarines navigating through our oceans, and aboard planes flying high in our sky - lie 15,000 objects of humankind's destruction.
- Perhaps it is the enormity of this fact, perhaps it is the unimaginable scale of the consequences, that leads many to simply accept this grim reality. To go about our daily lives with no thought to the instruments of insanity all around us.
- For it is insanity to allow ourselves to be ruled by these weapons. Many critics of this movement suggest that we are the irrational ones, the idealists with no grounding in reality. That nuclear-armed states will never give up their weapons.
- But we represent the *only* rational choice. We represent those who refuse to accept nuclear weapons as a fixture in our world, those who refuse to have their fates bound up in a few lines of launch code.
- Ours is the only reality that is possible. The alternative is unthinkable.
- The story of nuclear weapons will have an ending, and it is up to us what that ending will be.
- Will it be the end of nuclear weapons, or will it be the end of us?
- One of these things will happen.
- The only rational course of action is to cease living under the conditions where our mutual destruction is only one impulsive tantrum away.

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  Today I want to talk of three things: fear, freedom, and the future.
- By the very admission of those who possess them, the real utility of nuclear weapons is in their ability to provoke fear. When they refer to their "deterrent" effect, proponents of nuclear weapons are celebrating fear as a weapon of war.
- They are puffing their chests by declaring their preparedness to exterminate, in a flash, countless thousands of human lives.
- The risk for nuclear weapons use is even greater today than at the end of the Cold War. But unlike the

Cold War, today we face many more nuclear armed states, terrorists, and cyber warfare. All of this makes us less safe.

- Learning to live with these weapons in blind acceptance has been our next great mistake.
- A moment of panic or carelessness, a misconstrued comment or bruised ego, could easily lead us unavoidably to the destruction of entire cities. A calculated military escalation could lead to the indiscriminate mass murder of civilians.
- If only a small fraction of today's nuclear weapons were used, soot and smoke from the firestorms would loft high into the atmosphere - cooling, darkening and drying the Earth's surface for more than a decade.
- It would obliterate food crops, putting billions at risk of starvation.
- Yet we continue to live in denial of this existential threat.

That brings me to my second point: freedom.

- As the International Physicians for the Prevention of Nuclear War, the first ever anti-nuclear weapons organisation to win this prize, said on this stage in 1985:
- "We physicians protest the outrage of holding the entire world hostage. We protest the moral obscenity that each of us is being continuously targeted for extinction."
- Those words still ring true in 2017.
- We must reclaim the freedom to not live our lives as hostages to imminent annihilation.
- Man - not woman! - made nuclear weapons to control others, but instead we are controlled by them.
- It's an affront to democracy to be ruled by these weapons. But they are just weapons. They are just tools. And just as they were created by geopolitical context, they can just as easily be destroyed by placing them in a humanitarian context.

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That is the task ICAN has set itself - and my third point I wish to talk about, the future.

- I have the honour of sharing this stage today with Setsuko Thurlow, who has made it her life's purpose to bear witness to the horror of nuclear war.
- A choice between the two endings: the end of nuclear weapons or the end of us.
- It is not naive to believe in the first choice. It is not irrational to think nuclear states can disarm. It is not idealistic to believe in life over fear and destruction; *it is a necessity*.

Setsuko Thurlow

- I speak as a member of the family of hibakusha - those of us who, by some miraculous chance, survived the atomic bombings of Hiroshima and Nagasaki. For more than seven decades, we have worked for the total abolition of nuclear weapons.
- We were not content to be victims. We refused to wait for an immediate fiery end or the slow poisoning of our world. We refused to sit idly in terror as the so-called great powers took us past nuclear dusk and brought us recklessly close to nuclear midnight. We rose up. We shared our stories of survival. We said: humanity and nuclear weapons cannot coexist.

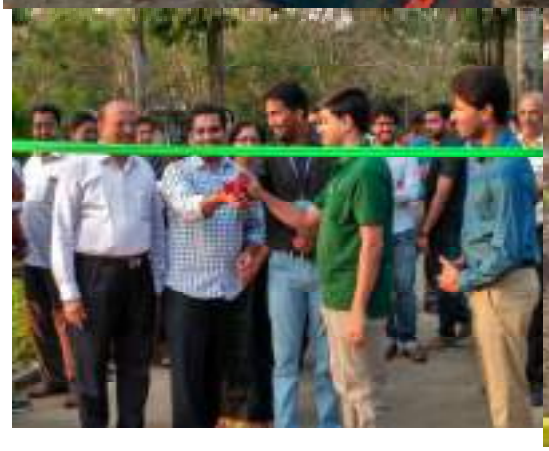
The remaining part is very sad to read..
a real account of Nuclear bombing survivor.
Read it at the link provided---VeA

https://www.nobelprize.org/nobel_prizes/peace/laureates/2017/ican-lecture_en.html

Info to Alumni- Campus Update

Alumni Avenue declared open

The Annual Alumni meet Tribute happened on 6th of Jan, 2018. A new concept of Alumni avenue was flagged off this time. The idea is to let Alumni sponsor a tree. The tree would be named after them and taken care of. The growth of the tree would be flashed off annually through website. There was a very good response to this novel idea.



Info to Alumni- Campus Update

Dr.Tanusree Sengupta writes..

The Department of Chemistry conducted the 'National Conference on Emerging Trends in Smart Materials' on 19th January, 2018.

Dr. Sangita Roy from **Institute of Nano Science and Technology, Mohali,** talked on '**Responsive Peptide Hydrogels for Biotechnological Applications'**

Dr. CD Anuradha from **Anna University** delivered a lecture on '**Identification and Characterization of an Ideal Biomaterial for Cardiac Tissue Engineering Using Stem Cell Technology'**

Entrepreneurship Awareness Camp

SSN Incubation Centre has organized a Three-day Entrepreneurship Awareness Camp, which is sponsored by the Entrepreneurship Development Institute of India, Ahmadabad on 22-24 January 2018. The conveners of the programme are Dr. R. Seyezhai and Mr. Amit Tyagi and the coordinators are Dr. K. S. Jayakumar, Ms. D. Umarani and Mr. R. Vimal Samsingh.

Mr.A.S.Sriram, Sr. Manager,Placement writes..

Dr.T.S.Lakshmi Narasimhan, Associate Director, Indira Gandhi Centre for Atomic Research, Kalpakkam was on campus to deliver a lecture on " Career Opportunities in the Department of Atomic Energy, Government of India", on 31st Jan2018.
It was attended by students of final year and pre-final year.

Dr.S.Nanda, Student Counselor writes..

A Multi country Education Presentation where official representatives from 5 countries are present at SSN College of Engineering to guide the students with regard to admission procedures and funding opportunities. (January 24th 2018).
Netherlands (NESO-NUFFIC),
France (Campus France),
Canada (Canadian Trade office),
Germany (DAAD) and
U.S. (EducationUSA@USIEF)

Invited Reviews

Dr. R. Damodaram, Associate Professor, Reviewed a manuscript Title"Magnesium alloys based composites by stir casting process" For Journal of Magnesium and Alloys

Dr. N. Lakshmi Narasimhan, Assoc. Prof./ Mech, Reviewed a Paper for the Int. J. refrigeration (Elsevier).

Invited Lecture

Dr.K.S. Vijay Sekar, Associate Professor, delivered an invited talk on "Finite element analysis" at Hindustan University, Padur, organised by the Aeronautical Engineering Department. (9-1-18)

Publications

Dr.K.S. Vijay Sekar, Associate Professor, published a paper titled " Finite Element Simulation of Machining of an Aerospace alloy"in World Journal of Modelling and Simulation, Vol. 13 (2017) No. 4, pp. 268-277. The paper is coauthored by SSN UG Alumni students, Seshadri R , Naveen I, Sharan Srinivasan, Viswasubrahmanyam M, and Dr. Pradeep Kumar M

Dr.K.S.Vijay Sekar, Associate Professor, published a paper titled" Review of Finite Element Analysis in Machining Processes", in Advanced Science, Engineering and Medicine, Vol. 10, 2018, doi:10.1166.asem.2018.2121. The coauthor is our PG alumni B. V. Ajay Subramanyam.

Dr.K.S.Vijay Sekar, Associate Professor, published a paper titled" 3D Finite Element Analysis of Drilling of Glass Fiber Reinforced Polymer Composites", in Advanced Science, Engineering and Medicine, Vol. 10, 2018, doi:10.1166.asem.2018.2125. The coauthor is PhD scholar C. Prakash.

Dr.L.Poovazhagan, Assoc.Prof./.Mech., published a paper titled "Abrasive wear behaviour of aluminium hybrid nanocomposites produced by ultrasonication assisted casting method" in an "International Journal of Automotive and Mechanical Engineering, Malaysia, Volume 14, Issue 3 pp. 4561-4573, September 2017, DOI: https:..doi.org.10.15282.ijame.14.3.2017.13.0360.

Dr. K. Rajkumar's paper titled "Investigation on the Cutting Quality Characteristics of Abrasive Water jet Machining on AA6061-B4C-hBN Hybrid Metal Matrix Composites" has been accepted for publication in Materials and Manufacturing Process (Thomson Reuters Impact Factor 2.274)

Dhananchezian M, Nethaji P R, Naresh babu N, Ram Goutham G, Suresh K, "The effect of cryogenic cooling using liquid nitrogen on workpiece surface roughness parameters and cutting tool wear when turning Hastelloy C-22", International Conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems (CDAMIES), Page No. 71, 18-20 January 2018, NIT, Trichy.

Dhananchezian's paper with his PhD scholar, Lakshmanan. S titled" Investigation of cutting speed aspects on cutting force, tool wear and surface roughness in turning of Ti6Al4V with PVD-AlCrN coated cutting inserts under wet machining" was awarded the **BEST PAPER** in the session on Machining / Drilling, CDAMIES, 18-20 January 2018, NIT, Tri

Program Attended

Dr. B. Anand Ronald, Assoc. Prof/ Mech., Attended Two day International Seminar on "Challenges in Metal Castings for Automotive Components", organised by Hindustan Institute of Technology and Science (8&9,Jan,2018)

DC meeting

Dr.L.Poovazhagan, Assoc.Prof./.Mech., convened DC meeting for his scholar Mr.K.Gowtham, working as an assistant professor in Arulmigu Meenakshi Amman College of Engineering, Kanchipuram on 03.01.2018

Dr.L.Poovazhagan, Assoc.Prof./.Mech., convened DC meeting for his scholar Mr.S. Kulothungan, working as an associate professor in IFET college of engineering, Villupuram on 04.01.2018

KL Harikrishna

M.NallaMohamed

K.Jayakumar

Dr.KL.Harikrishna, Associate Professor , conducted DC meeting for scholar Mr.Venkatesh, on 05.01.2018. Dr.L.Poovazhagan, Assoc.Prof./.Mech., attended as a DC member

Dr. K. Jayakumar, Associate Professor conducted seminar 1 (confirmation seminar) and 2nd Doctoral Committee meeting for his Part time PhD scholar Mr. A. Madhan Kumar on 11-01-2018

Dr.M.Nalla Mohamed conducted Ph.D.Seminar of his Full Time Scholar Mr. A.Praveen Kumar (Registration no. 1514299713) on 06.01.2018

Industry Interaction

Dr. N. Lakshmi Narasimhan, Associate Prof/. Mech, sent five M.E. (Energy Engg.) Students to TII - IIIC (Murugappa Group of Companies) for initializing the industrial projects to be undertaken under his guidance. (21-12-17)

Extended Placement support

Dr. N. Lakshmi Narasimhan, Associate Prof./ Mech, sent five resumes of non-placed students (2017 passed out) to Hanon Systems (formerly Visteon). The interview got over on 27.12.2017.

Proposal submitted

Dr. N. Lakshmi Narasimhan, Associate Prof./ Mech, submitted a project proposal titled, "Studies on the melting.solidification of nano-PCMs" to DST Nano Missions (Technology Missions Division) under Nano Technology scheme. The grant requested was 9.35 Lakhs and the Co-Investigator is Dr. M. Suresh, Associate Prof.Mech (28-12-2017)

STUDENT ACTIVITIES:

Third year

Debal Bhattacharjee, Cleared Phase 1 and phase 2 of Economic Times Campus Stars program. (19.1.2018) . Phase 3 to be held on 3rd February, 2018.

Vimaleswar Babureddy, was selected for a Research internship in IIT Madras under Dr. Piyush Shakya (1.12.2017 - 12.1.2018)

Shami Jose, completed an In-plant training at Chennai Petroleum Corporation Limited, The Manali refinery (08.12.2017 -12.01.2018)

V. Harish , Participated in hybrid vehicle challenge competition held at Noida (17.1.2018-21.1.2018)

Final Year

Akshay Aravindan, Served as the Chairperson of the UNGA ESS, at Hindustan young leader's conference MUN at KCG College of technology (19.1.18 -21.1.18)

Sai Lalitha, won the honourable mention award at Hindustan young leader's conference MUN at KCG College of technology (19.1.18 -21.1.18)

Faculty Write up

Two day International Seminar on "Challenges in Metal Castings for Automotive Components",

Dr. B. Anand Ronald, Associate Professor/ Mech., attended the Two day International Seminar on "*Challenges in Metal Castings for Automotive Components*", organised by Hindustan Institute of Technology and Science on 8, 9 Jan. 2018.

Prof. Simon Joseph Antony, University of Leeds, UK spoke on the "Fracture toughness of metals – A Journey through Photonics and Image Processing" , Next Mr. V. P. Premkumar, Director, M/s. Nelcast LTD, Chennai, spoke on "Challenges faced in manufacturing of Austempered Ductile Iron (ADI) for Automotive casting", followed by a talk on "Acoustic methods in the Non-destructive Testing of cast components" by Prof. O. Prabhakar, Rtd. Prof, Metallurgical Dept, IITM.

The Second day of the seminar was initiated by a talk on Advanced Characterization Techniques for Metal Casting, by Dr. Hiren Kotadia, Researcher, Warwick Manufacturing Group, University of Warwick, UK. Next was Prof. G. L. Samuel, IITM, on Recent advances and challenges in machining castings for Automotive components. Dr. S. Dhanasekaran, Asst. Gen. Mgr., R& D Centre, Ashok Leyland Ltd, Chennai, dwelt at length on "Challenges in meeting automotive customer's specifications and expectations". The penultimate session was handled by Mr. M. Padmakumar , Lead Executive – (RD&E), M/s. Kennametals, Bengaluru, on Advanced Machining Tools & Techniques for Machining SG/ADI Components. And the last session was by Prof. D. G. Harris Samuel, Head, Manufacturing Division, HITS, Chennai, on the topic, Effect of process parameters on Mechanical and wear properties of ADI.

Faculty Write up

The Indian Machine Tool Manufacturers' Association (IMTMA) inaugurated IMTEX METAL FORMING 2018 and Tooltech 2018 at the Bangalore International Exhibition Centre on Jan 25, 2018. This exhibition was conducted at Bangalore from Jan 25 – Jan 30, 2018. This exhibition offered a platform to the academia in the form of i2 Pavilion.

It is an Industry-Institution Pavilion, a forum for academic and R & D institutions to showcase their research initiatives and activities.

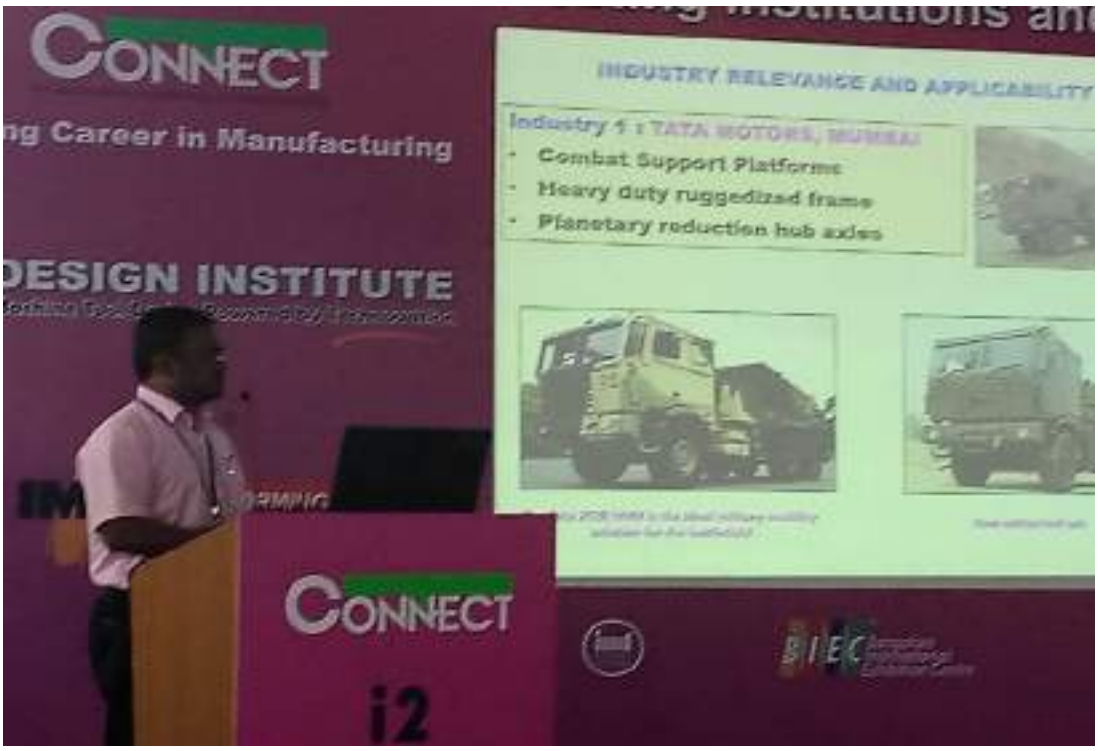
About 44 stalls in i2 Pavilion were devoted to institutions including IIT Bombay, IIT Ropar, PDPM Institute of Information Technology, Jabalpur, PSG Tech, SASTRA University and many others to display their research activities in the form of Posters.

Dr. S. Suresh Kumar (SSK) and Dr. M. Suresh (MSU) took part in the presentation and displayed their respective project posters in the i2 academic pavilion.
The poster themes were:

1.Ballistic performance of Aluminium (Al7075) and Magnesium (AZ31B) targets for light weight Defence vehicles (SSK),

2.Heat exchangers with heat transfer enhancement for recovering waste heat from industries (MSU).

Both themes attracted faculty and students from many educational institutions as well as people from few industries.
As a part of the i2 Academia Pavilion initiative, IMTMA formed a panel of juries to evaluate one poster per institution. Dr. S. Suresh Kumar presented his theme to the jury panel. **His poster was among the top ten chosen for final presentation.** Based on the final presentation and interaction with juries, the projects were assessed and awarded.



The first prize of Rs. 50, 000/- was awarded to Marathwada Institute of Technology, Aurangabad, second prize of Rs. 25,000/- was awarded to PDPM Institute of Information Technology, Jabalpur and the third prize of Rs. 10,000/- was awarded to IIT Bombay.

First Consolation prize of Rs. 5000/- was awarded to SSNCE, second consolation prize of Rs. 5000/- was awarded to KLS GOGTE Institute of Technology, Belagavi.

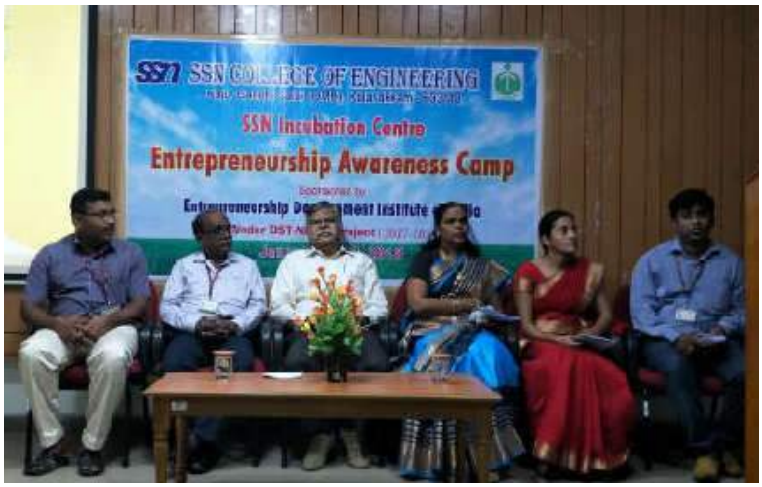
It was a proud moment for SSNCE to win a prize. This way, SSNCE was able to highlight in the exhibition that our projects are research oriented as well as industry relevant.

Our sincere thanks to the organisers
For supporting Industry Institute interaction
In the true spirit
The stalls were free and the boarding lodging was sponsored by IMTMA

Faculty Write up

Dr.K.S.Jayakumar writes on

Entrepreneurship Awareness Camp



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The conveners of the programme are Dr. R. Seyezhai and Mr. Amit Tyagi.

The coordinators are Dr. K. S. Jayakumar, Ms. D. Umarani and Mr. R. Vimal Samsingh.

The Indian Innovation Eco system is proving to be a game changer for the youth. With the advent of startup culture in India and with government playing a proactive role with schemes such as startup India and Digital India, the innovation ecosystem is attracting youth and creating job givers rather than job seekers. It is imperative for educational institutions to expose students to the concepts to entrepreneurship to kindle in them an interest to start their own ventures and businesses. The entrepreneurship awareness camp is a step in this direction and provides awareness about starting a business and exposure through field visits.

The following areas that covered in this camp are as follows: Entrepreneurship, Motivation, Business opportunity Identification, Business Plan Formulation, Intellectual Property Rights, Role of Business Incubator, Financial aspects of SSI Unit, Communication skills, Support and Financial Assistance, Industrial Visits, Lectures by Practicing entrepreneurs, success stories, Mechanism of product selection & development, and Interaction with Entrepreneurs.

In this year camp, business quiz contest, business ideas contest and mind challenge contest have been conducted and they were well received by the students. As a special highlight, this year camp was focused on bringing back successful entrepreneurs who passed out from our college. We are also glad to inform that our organizing team is gearing up for some more events this year to kindle the entrepreneurship sprit of the students.

Faculty write up

Ms.R.Rajeswari writes.. on Student research proposal reviews

SSN has a culture of nurturing research among students. Normally students of second, third and final year would compete for internal funding and win project support. This time a special call for First year students was organized by Dean Research.

Overall there were 62 proposals from 7 departments.

Mechanical topped the list with 21 project proposals, thanks to the efforts of all our faculty and the regular meeting on the theme “IRIS-Inspiring Research Through Information Sharing”.

The mech panel was Dean Research, External Expert, HoD mech and Prof.K.Subbaiah.

Students did a good job- this was their first exposure to research-both in terms of writing a proposal and in terms of facing an external experienced expert. It was a good experience to co ordinate first year students who really had a lot of doubts on whether we can do research right now?

First year
ME students also participated in the review with their proposals

Mech Marvel - 38

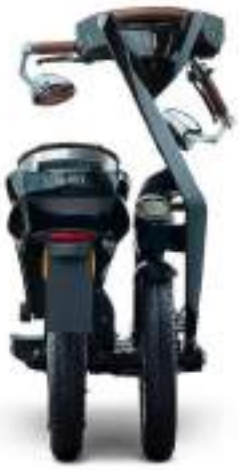
Foldable Electric Scooter

The Ujet electric scooter looks vaguely like your average scooter, but perhaps something else entirely. Ujet calls it a sculptural, asymmetrical design, and it's driven by distinctive equipment like the center-less orbital wheels, alloy-composite construction and full connectivity. Enjoy a little extra flash and tech while scootering your way around the city.

The single-sided fork shows a twisted form and crisp edges that appear crafted for visual impact more than traditional functionality. Similarly, the rear wheel is attached on just one side.

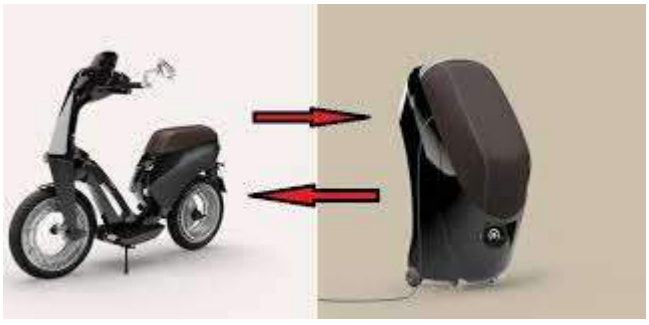
The asymmetrical construction of the mixed magnesium alloy and carbon fiber frame is helped along by the 14-in hubless wheels, which are really the heart and soul of the Ujet. It's here that you'll find the integrated suspension and large-diameter disc brakes. The rear wheel houses the 5.4-hp/65 lb-ft motor that keeps the scooter rolling forward for up to 93 miles (150 km) per charge and provides regenerative braking.

Such a high-tech wheel deserves a high-tech tire, and Ujet touts the boosted performance of its nano-augmented tire technology, a rubber compound enhanced with Tuball single-wall carbon nanotubes. It calls them the lightest tires in the class and claims grip improvements in both wet and dry conditions and better abrasion resistance.



- Ujet lists top speed at 28 mph (45 km/h) and offers two lithium-ion battery options, the base good for 43 miles (70 km) of range and the larger pack for the full 93 miles (150 km).
- The small battery charges in 1.5 to 3 hours and the large battery in 3 to 6 hours, depending on whether you're using the onboard charger or optional fast charger.
- The removable battery pack can even pop off the scooter and roll like a carry-on, with its two wheels and telescopic handle. It can also play music with integrated wireless speakers and charge external devices via two USB ports.
- The frame construction, powertrain and removable battery are just the start of the Ujet's impressive technology suite. Its 7-in fold-up dash computer keeps connected via GPS, 3G, Wi-Fi and Bluetooth and offers voice and touch control.
- A series of conveniently mounted buttons provide easy-access hard control when the rider is gripping the handlebars, while a smartphone app offers remote monitoring, tracking and control.
- Additionally, the Ujet has a front-facing HD camera for easy video recording. Its LED front lights include smart sensor control, automatically adjusting brightness to ambient light conditions.
- An anti-theft system alerts the owner of tampering and includes a remote shutdown feature within the smartphone app.
- The Ujet scooter looks like a rigid frame, but it's actually a folder, compacting down in three simple steps.
- At 95 lb (43 kg) with the small battery and 108 lb (49 kg) with the large one, you probably won't want to lug it around on your shoulder too far, but its wheels line up side-by-side for easy rolling.
- Ujet revealed its scooter at CES this week, and the Luxembourg-based company plans to launch it in major European cities like Paris, Barcelona and Amsterdam in the first half of 2018, with US and Asian launches to follow in the second half of the year.
- It estimates pricing at US$8,900 for the 43-mile version and $9,900 for the 93-mile model. Options will include two frame styles, high and low seats, and six different colors. Ujet will also offer accessories like a fast charger, helmet and touch-friendly leather riding gloves.
- The video below provides a nice overview of the Ujet's design and features.
- (Reproduced from Gizmag.com)

https://youtu.be/0QP_IDwKfs8



Student write up

Sky diving experience

Hemanthkumar S,
Final Year mech

Here, I have written about the enthralling skydiving experience at Dubai in this article on a nutshell. It all started with the convergent belief that it's an artistic sport often adopted to exhilarate the anxiety in oneself by physically free falling from greater heights. I personally had a liking towards the skydiving from the very beginning when I got to know about the fact that the government of U.A.E started this service, in the year 2015, in collaboration with the U.S skydiving embassy. It was mainly exercised in two zones, the Palm zone and the Desert zone. The Palm drop off zone is the highly preferred location for skydiving for its aspiring intelligent viewpoint from the sky

. The Palm Jumeirah is famously known for its existence in the shape of palm tree on an artificial island with an area of *5.72* sq. Km., the Tandem Skydive @The Palm is of three stages. The basic rules are that we must be under 100kgs, shouldn't have any respiratory problems and mustn't wear full hand shirts as well as very short trousers aren't entertained. gns that they give during appropriate instances.

- A causal T-shirt and long trousers with sports shoes only would be considered as the proper outfit.
- Firstly, I had to undergo the BMI check-up and once it was verified with the mentioned norms, I was told to sit in the waiting room along with the other registered customers.
- The second stage was when my name was called on to undergo a short version of the professional training that the expert divers accustomed and practiced before their dive.
- It basically consisted of constrained positions to be maintained before, whilst and after the dive with respect to the actions or si
- Whilst I was practising the steps which they had taught me during the training process, the professional divers, with whom the customers are to jump, were performing Yoga and other stretching exercises so as to maintain their blood pressure levels during the fall. It was done on a particular pattern every single time, before and after each of their jumps.
- The experts dive at least 8 times a day and work 5 days a week. So right after the training was over, the jumping kit was fitted over me and there were people checking on a regular basis whether the safety features were attached perfectly.
- The Tandem dive comes along with the photo as well as the video recordings of the jump for every individuals. Initially before boarding the aircraft, a video recording had been taken where in which I was asked a set of questions relating to the excitement that I was containing within myself to perform the jump. Then a crew of 12 members, we boarded the stunt plane.
- The plane has a maximum seating capacity of 15 members. For each customer, there comes a professional diver with whom we will be attached during the jump and another person who would jump alongside of us to simply record the session. And hence in the batch I was travelling with, we were 4 amateurs, wanting to experience what it feels like to skydive.
- The maximum altitude they reach up to, before making the fall, was almost 13000feet above the ground level. The free falling was nearly at the speed of 120 miles per hour and it lasts for exactly 1 minute.
- There was a very fast drop in the altitude during the free fall despite the fact that the gravitational force decreases with increase in height. It was an amazing feeling to let out the stress and other thoughts to flow out at that altitude above earth.
- In fact, I was screaming the entire time during the free fall. It was almost like I could see the curvature of earth receding and turning into a flat surface as I kept falling down that height.
- At the end of one minute, the diver pulls the parachute and executes surfing in air, while falling down the height. It was only then I had stopped screaming and began to enjoy the view.
- During the time of landing, I was told to lift my legs a little higher so as to give advantage for the professional to land on his feet.
- Well before we had reached the land, the diver who was recording the jumping session had arrived in advance so as to record my landing session.
- Once the jumping kit was removed from the outfit, I had to submit the paper bill which contained a unique identification code to retrieve the edited video version as well as the photos, in USB, taken using the GoPro.
- In totality, it was a fun filled experience and I found it proficiently thrilling as much as it looked scary. When you plan for a visit to Dubai, do not miss out the opportunity to experience the sky dive. It gives everyone the chance to renew the new ways to explore the adventures.

Staff Write up

Transplanting Trees at SSN

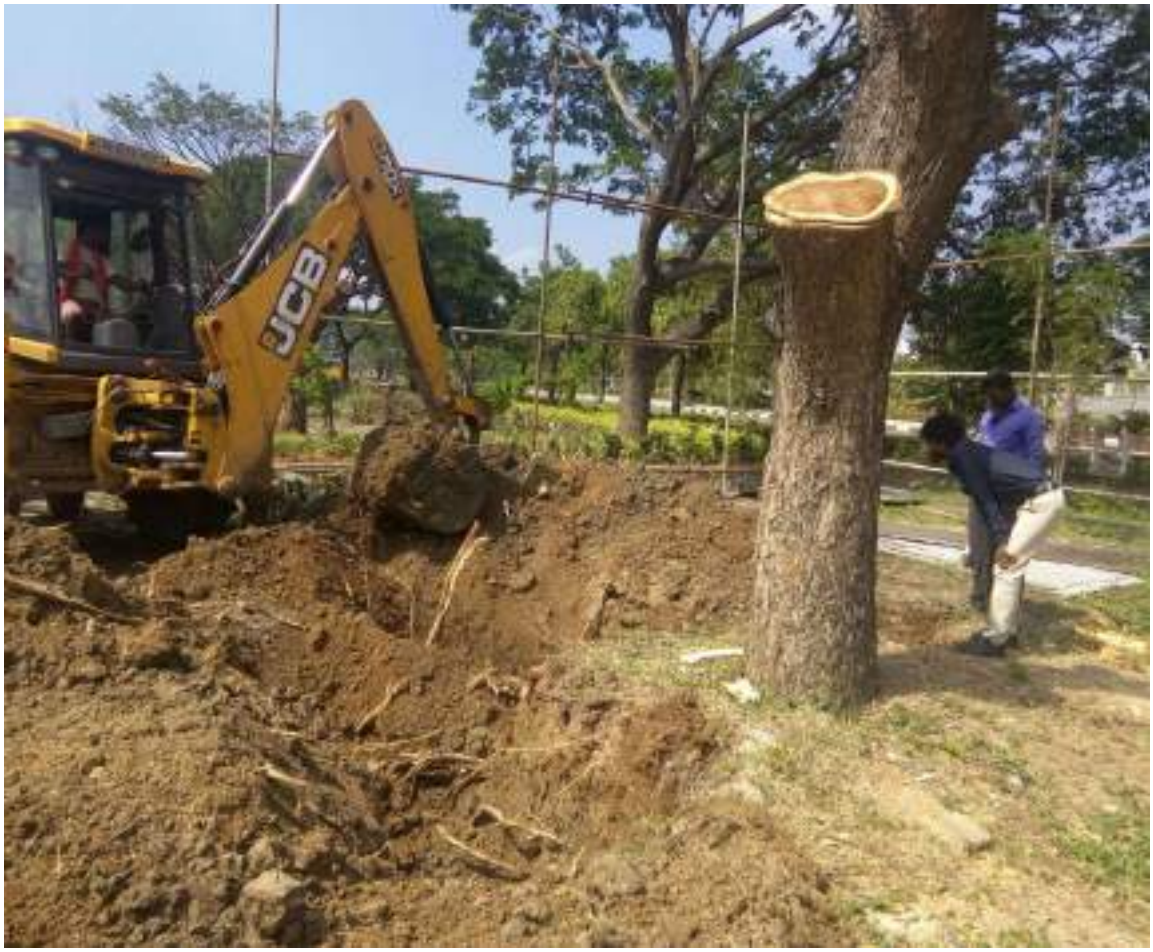
Mr.T.Shivkumar of Construction and Facilities team writes...

Due to increase in intake , from existing 120 to 180, sanctioned by AICTE for CSE department, the current space provided for the department became insufficient to accommodate the additional labs and classrooms.
Since the vertical expansion above the existing block may cause lot of disturbance for running department, it was decided to construct a annex block near to the existing department.
The space at the Northern side of the existing block I e. between the block and the road was found suitable to accommodate additional requirements.

But in the above area we had three rows of old rain trees, so we decided to relocate the two rows of existing trees to some other location. We hired the expert team from outside to carry out this important task.

The team first removed the additional branches of each tree and with the help of jcb, crane and skilled manpower we shifted 27 trees along with their roots and planted near Football stadium.

The whole exercise had taken 3 days to shift the 27 trees.

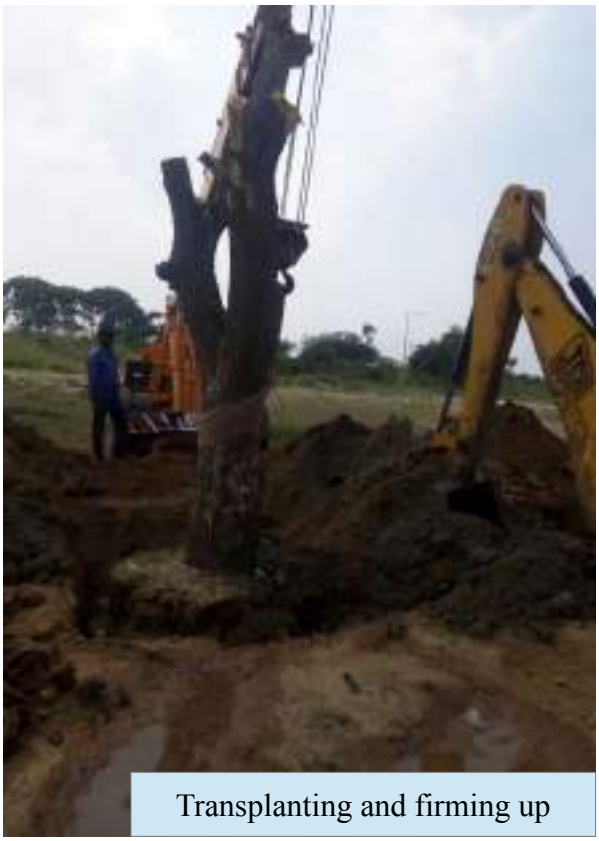


Trimming the branches and digging around without damaging the roots

Relieved all around..

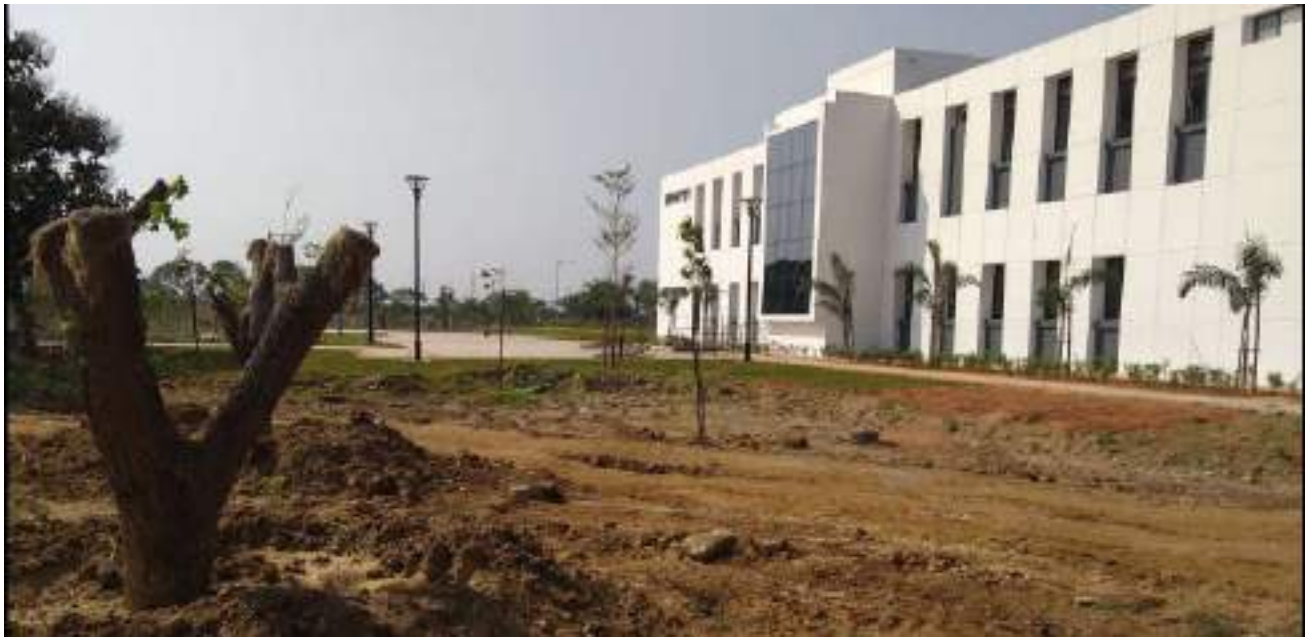
Transporting

New location ready to receive



Transplanting and firming up

And..happily in their new location...



Congrats to the team of Head of Construction and Facilities
For making such a massive move
Hoping to see the trees flourish in their new location- VeA

Corporate Story 38

Diamond Group

MSME Focus

Diamond Group is one of India's leading and fast growing steel fabrication units, providing engineering solutions to a host of competent players across the globe.

The Group's core competency lies in Heavy Steel Fabrication and Supply including Machining and Assembly of Steel Structures, Material Handling Equipment and Industrial Process Equipment for domestic and overseas projects in close association with major international EPC and OEM companies.

Incorporated in 1978, Diamond Engineering(Chennai) Private Limited(DECPL) was acquired by Mr. P. Mohanraj in 1987. Then, the company was a sick unit with just 7 employees. But Mr. P. Mohanraj had the vision to give it a new lease of life, and turn it into one of India’s leading Steel Fabrication companies.

'**Anything in Steel**' was the maxim coined by him, and has been the guiding principle since 1987. Under his excellent and innovative leadership, Diamond Group is now competing for the World's No.1 position in the fabrication industry by providing qualitative services to its clients.

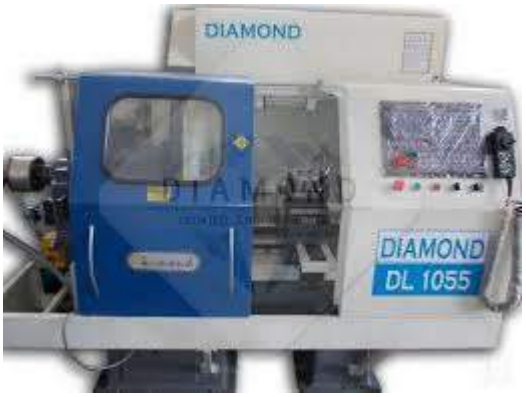
Presently, the Group has state-of-the-art manufacturing facilities spread over 200 acres with 5 workshops, having a monthly production capacity of 5000 tons and permanent workforce of around 4500 employees. Major expansions are underway with plans to have automated machinery installed for streamlined production. The production capacity is estimated to ramp up to 10,000 tons per month, shortly.

Diamond Group caters to various business segments like Cement, Mining, Power (Thermal and Renewable), Steel, Oil and Gas, Petrochemicals, Ship yards, Automotive Industries, etc. Nearly 50-60% of the annual sales is contributed by exports to countries across the world.

Diamond Group's credentials include: ISO 9001:2008 certification for all its production units, Two Star Export House Status, Export Excellence Awards at the National and Regional level from EEPC-India for the last 6 consecutive years, BHEL-Trichy’s Best Subcontractor award (2009), and Rashtriya Vikas Ratan award (2009) from Economic Growth Society of India in recognition of its sterling merit and excellent performance.

With its focus on maintaining a Clean and Green Environment, besides implementing health and safety measures, the Group enjoys the reputation of being the most recommended supplier and the preferred employer by steadfastly meeting the objectives and needs of its clients and employees. Diamond Group's commitment towards product quality and service has helped gain the trust and confidence of its burgeoning client base.

The Group's strengths include compliance with client's specifications, setting new quality standards, surpassing clients' expectations, conformance with international standards, constant up-gradation of manufacturing processes and infrastructure, competent production team, efficient project management, competitive pricing, adherence to delivery schedules, innovative guidelines for packing and assembly, and unwavering support service.



Considering the growing domestic demand as well as the fact that many of the international buyers are turning to India for steel fabrication, Diamond Group is gearing up towards increasing its production capacity to take advantage of the lucrative growth opportunities, and is quite confident of being one of the leading contenders for high-value projects.

More details at http://www.decpl.com/about-company-profile.php

Have a look at its enormous fabrication facilities at

http://www.decpl.com/docs/decpl-2012.pdf

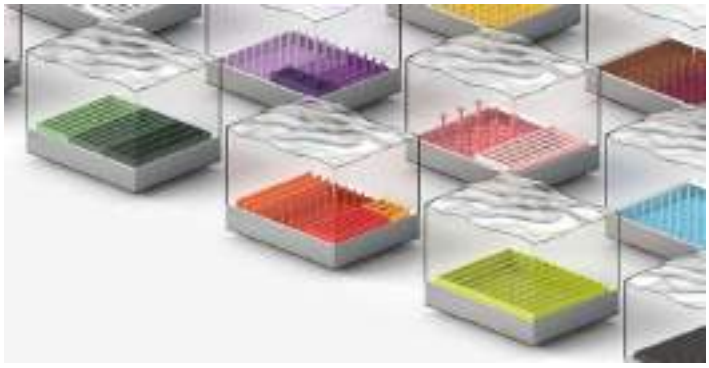
For jobs, You can apply online at http://www.decpl.com/careers.php

This issue has one annexure

An expert Mr.S.Muralidharan talks on Blockchain,
when confronted with the question,
“What is the next big thing in technology?

Amazing Innovation- 53

Heatwork has introduced a new dish washer, which is transparent, small and need not be connected to a pipeline. All that's required is an electrical outlet. The Tetra appears to be aimed at couples or singles, living in cramped quarters such as small apartments or tiny houses. It can hold two full place settings (including plates, bowls, cups, and flatware) or 10 plates or 12 pint glasses.



Water is loaded into it by hand – about half a gallon per load is required. According to Heatworks, this is much less water than would be required to wash the same amount of dishes in the sink. It also has an internal detergent reservoir, which should reportedly last for dozens of cycles per fill. A complete dish-washing cycle takes just 10 minutes.

The water is heated not by traditional metal heating elements that are subject to eventual rusting and scaling. Instead, it uses a system wherein naturally-occurring minerals in the water are excited by graphite electrodes. This is said to be a more efficient approach, and one that allows for more precise temperature control.

The Tetra should be available late this year, priced under US$300. It is currently being showcased at CES.

Source: Heatworks via Inhabitat (reproduced from Gizmag)

Amazing Innovation- 54

Bell Helicopter-flying taxi

The massive migration of people to cities over the past half a century has made issues like worsening traffic and pollution ones that we can't really afford to ignore. How people move around urban centers in the future will have a huge part to play in that, and long-promised **flying taxis** are shaping as an increasingly feasible solution.

Everybody from NASA to Airbus to Boeing and a raft of lesser-known startups are pumping serious money into these types of aircraft, and now Bell Helicopter seems to be at least exploring the idea. Details are pretty scarce for the unnamed air taxi cabin design revealed at Consumer Electronics Show, but images reveal a four-seater cabin designed to put those unfamiliar with vertical flight at ease.

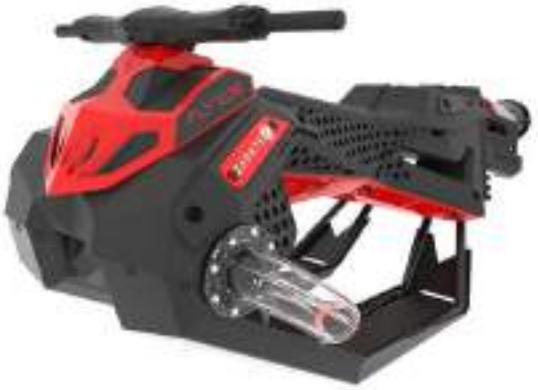
Bell says a control center inside will allow users to do things like catch up on the news, hold conference calls and share documents. To show everybody what it means, it has hooked up an augmented reality simulator inside so CES attendees can take virtual trips across cities during the day and night, and even make a red-carpet premiere landing. Source: Bell Helicopter (reproduced from Gizmag)

Amazing Innovation- 55

Flyride with a Boatercycle

The Flyride is a 2-seater device that looks like the shell of a small quad bike. It attaches to just about any jet ski using a tailored hose and jet capture system, and the water runs up the middle of the bike and is forced out through twin steerable jets at the front. Plugged in to a 300-horsepower jet ski, it'll take up to 200 kg (440 lb) of rider and passenger.

But the kicker here is Zapata's first self-balancing tech, a set of internal sensors and computers that micro-adjust to keep the bike upright whatever the rider's doing, so it should be a very accessible experience that most people can enjoy. Four selectable flight modes cater for kids right up to advanced users, there's throttle assistance and an automated takeoff routine if you're leery of managing that yourself.

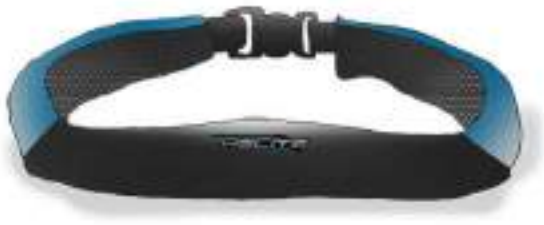


If a self-balancing water hoverbike sounds a bit dull compared to mastering the flyboard, the Flyride has its own special sauce built in too – a barrel roll button that becomes active once you've got enough altitude. Pressing it spins you wildly around before returning you to vertical, and looks like a pretty crazy ride. In Advanced mode, you can spin the thing twice – and that'll really mess your hair up.

Beyond that, Zapata says it handles more or less like a flying jet ski, and that it's perfectly intuitive to get around on. You can take off or land the thing right on the beach if you've got a steady hand, and since it weighs only 33kg (72 lb) it'll be easy for two people to lift it and throw it in the back of a van.

Amazing Innovation- 56

An airbag in your belt



Helite has years of experience developing specialized wearable airbag systems for various activities, everything from horse riding to skiing. Now the French company has an airbag for a new demographic: senior citizens. The Hip'Air belt it's presenting at CES 2018 can sense a sudden fall and automatically inflate protective airbags in less than a third of a second, protecting the wearer's hips from fracture.

Like other wearable airbag systems, the Hip'Air relies on electronic hardware, including gyroscopes and accelerometers, to identify falls based upon a carefully developed algorithm. The system analyzes movements up to 1,000 times per second, detecting a fall within 200 milliseconds and fully inflating the airbags 80 milliseconds thereafter. A replaceable CO2 canister serves as the inflation mechanism.

Both the left and right airbags inflate to cover the sides from the upper hip to mid-thigh area ahead of ground impact. Helite says the tough nylon airbag skins hold up to the forces of impact. They remain inflated for a few seconds after contact before deflating automatically. To reuse, the owner simply needs to put the airbags back in their respective pouches and load a fresh gas canister.

Of course, an accessory like the Hip'Air is only so good as the owner's willingness to wear it. Helite keeps it as streamlined and simple as possible, integrating the electronics and gas canister into the front center. It says the belt fits comfortably above the hips and allows for freedom of motion. A washable cover sits over top the non-washable hardware belt to ensure a clean, presentable look.

The simple snap buckle doubles as the power switch so that once the Hip'Air is secured on the waist it's also activated and ready for duty. A green light serves as an indicator that it's ready to go. When the belt is removed, or when no motion is detected, it goes into sleep mode to conserve battery life. The rechargeable battery lasts up to 15 days, and a red light and audible alert let the owner know when it's time to recharge.

The Hip'Air isn't the only system of its kind, as other wearable airbag-based hip protectors are also in development, including one from startup ActiveProtective. Helite does bring a wealth of wearable airbag experience to the space, however. It plans to get the Hip'Air to market in four adjustable sizes this March for a price of €600 (approx. US$720).

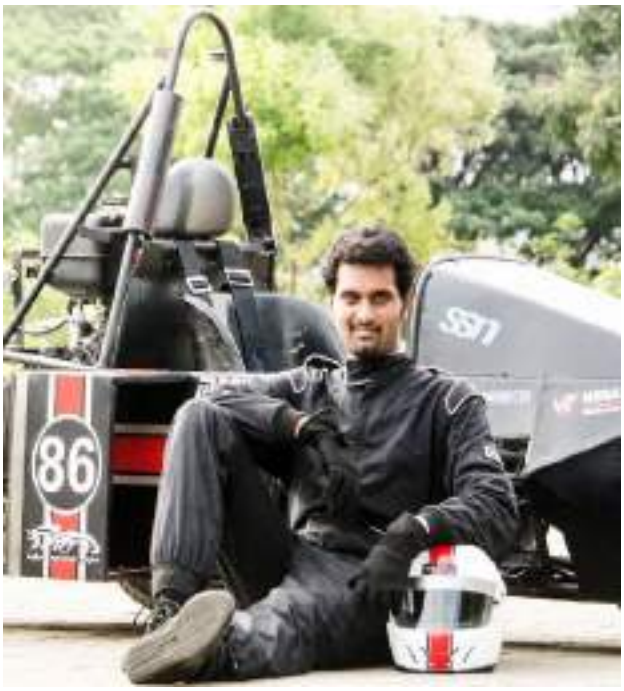
One day, perhaps we'll all protect ourselves with affordable, low-profile full-body airbag cocoons, but until then, we suspect we'll continue to see development and evolution in the single-purpose wearable airbag space.

Helite's video clip below provides a closer look at the features and operation of the Hip'Air.

https://youtu.be/jmEa1PXysmA

Source: Helite

Alumni Info



Dear Sir,

Wish you a happy new year and I hope this e-mail finds you in good health. I've been regularly following the Aspire editions and I'm elated that our subscriber base now extends to employers and parents, which is a great strategy to expand the reach of our department and attract new opportunities for students.

As you might be aware, I am currently pursuing the Master of Engineering Management program at Dartmouth College, an Ivy League university in New Hampshire, United States.

- I've chosen to focus on operations and business analytics over the course of my study. I'm writing this e-mail to highlight some aspects of the program which could be helpful for students who intend to pursue a career in management while still staying in engineering roots.
- Ideally, the program accepts applicants without work experience but it's a huge plus to have work experience in any industry to get the most out of the program.
- The MEM is a 15 month, on-campus, professional program that covers basic aspects of business like Finance, Marketing and Operations while giving the students flexibility to choose the engineering electives (Could be Manufacturing, Energy, Computer Science).
- The intake is restricted to 50 students per year and hence the cohort is closely knit. Most of the courses are team based and teach you crucial aspects of managing businesses like teamwork, conflict resolution, Project management and presentation etc.
- The graduation requirements demand the completion of an Engineering Management Project in the Industry (typically through internships and in some cases through Coops) to implement the skills that one has gained through the program.
- There are other equally good MEM programs offered by Duke, Northwestern, USC, and Cornell that students could look into as well.
- Dartmouth is the only college that offers Financial Aid to MEM students among them. More details on the Classroom demographics, Salary Statistics and Career options can be found on the following website https://engineering.dartmouth.edu/academics/graduate/mem/

I would be happy to mentor any of the Undergrad Students interested in pursuing this track after graduation.

I will keep you posted on my progress and share some insights from the academic experience here at Dartmouth that could be implemented in our department.

This is from Adithyan karunakaran of 2011-15 batch

Forthcoming events

Workshops / Faculty Development programs

February 2018

Jeppiaar Institute Of Technology is conducting 6th National Level Technical Symposium on Feb 9th/2018 where all the student can exhibit their talent and we assure your that their will be right platform for all students. Interested Students Can Register their names.Check the link for your perusal. Register@: http://www.agrona2k18.com/

MECHANICAL ENGINEERING ASSOCIATION of PSG Institute of Technology, is organizing One Day National Workshop on “FABRICATION AND CHARACTERIZATION OF COMPOSITE MATERIALS ” on Feb 10 2018.

The Department of Mechanical Engineering of SSNCE is conducting a One Day National Workshop on "Fabrication of Polymer Matrix Composites" on 23 Feb 2018 .The workshop also includes a Live Demo on PMC fabrication. There is NO Registration Fee for the workshop. Cordoinators

The Department of Mechanical Engineering of SSNCE is conducting "Two Day National Symposium on Career Opportunities for Mechanical Engineers", Feb 23 & 24, 2018. Experts from Industries will be sharing their thoughts and views on the current and future trends of placements. With IT opportunities shrinking and new Technologies emerging, it is important to know the gaps and opportunities for the students of core disciplines at an early stage. The symposium is envisaged as an opportunity for budding Engineers from Mechanical and Allied Disciplines to come to know on their career opportunities and expectations from the industries. Students, placement officers and faculty members across other institutions have been invited to participate in this Mega Event. For more details pls. visit www.careeropp.ga
(co-ordinatd by Dr.N.LaksmiNarasimhan, Mr.Vimal Sam Singh and Dr.V.E.Annamalai)

March 2018

The dept of mech engg, SSNCE is conducting a one day national level technical workshop on " Finite element analysis" on Friday, March 23, 2018 ias a refresher course covering the fundamentals of FEA. (Cordinated by Dr.K.S.Vijaysekar and Dr.S.Sureshkumar).

The Biomedical and Mechanical Engineering Departments of SSN College of Engineering, jointly organise an International Short Course on Biomechanics, during March 19 - 21st, 2018. Speakers from Drexel University USA, NTU Singapore, IIT Madras, NIT Shillong, DRDO, SRMC and Autodesk are delivering lectures in various advanced topics of Biomechanics.The details of the workshop can be found at https://sites.google.com/view/biomechanics-ssn

Conferences

February 2018

National seminar on advanced material and application which is to be held on Feb 15 and 16th, 2018 at Department of Physics, Karpagam academy of Higher Education, Coimbatore.Registration fee:UG and PG Students : Rs. 250/- register before 7-2-2018.

March 2018

Karpagam Academy of Higher Education, Coimbatore, Tamilnadu, India is organizing 1st International Conference on Advances in Engineering and Technology (ICAET) during March 8 and 9, 2018. last date for abstracts 10-2-2018
Conference website: www.kuicaet.com

The International Conference on Innovations in Science, Engineering, Technology and Management [ICISETM-2K18] to be held at Annapoorana Engineering College on 9th & 10th March 2018. details at www.aecevents18.com

"National Conference on 'Emerging Research and Advances in Mechanical Science", ERAMS - 2018 is being organized on 14th March 2018 by the Department of Mechanical, Production and Automobile Engineering, Velammal Engineering College, Chennai, Tamil Nadu, INDIA. Register by 7-3-2018

The department of Mechanical Engineering of SSN College of Engineering, Kalavakkam, Chennai, is organizing one day national conference on "Sustainable Energy Resources for Thermal Systems (SERTS 2018)"on 16th March, 2018 .

SRM University , Chennai (Madras), is organizing the 2nd International Conference on Advances in Mechanical Engineering (ICAME 2018, http://mysrm.srmuniv.ac.in/icame-2018) from March 22 – 24, 2018. For additional information please visit the conference website at http://mysrm.srmuniv.ac.in/icame-2018.
Prospective authors are invited to electronically submit abstracts of 500 - 1000 words via Email: icame2018.srm@gmail.com

April 2018

The Department of Mechanical Engineering, Hindusthan College of Engineering and Technology, Coimbatore- 641032, India will organize a International Conference on Thermal Analysis and Energy Systems during 12th and 13th of April 2018. submit full paper by 28-2-2018

1st International Conference on Sustainable Engineering and Technology (iConSet 2018)" to be held from 19th -20th APRIL 2018 at ACS College of Engineering, Bengaluru , Karnataka, India.
www.iconset2018.info

May 2018

Sri Venkateswara College of Engineering (SVCE), Pennalur, Sriperumbudur (TK) is organizing an "International Conference on Automobile, Marine & Mechanical Engineering (ICAMME 2018)" during 4th & 5th May, 2018. Abstracts by Feb 20.

International Conference on Progress in Automotive Technologies (ICPAT 2018) MAY 10-12, 2018, at Elite World Prestige Hotel located in the center of Taksim in Istanbul.
CONFERENCE LINK: http://www.icpat2018conference.com/
Deadline for Abstract Submission: April 02, 2018

7th International Conference on Advanced Materials and Engineering Materials （7th ICAMEM2018）Conference venue: Bangkok, Thailand. Conference date: May. 17-18, 2018
Press: TTP- "Key Engineering Materials" [ISSN: 1013-9826 , Trans Tech Publications]
Email：cfp@icamem.org Web: http://www.icamem.org/

July 2018

The 13th International Forum on Knowledge Assets Dynamics on the theme: *"Societal Impact of Knowledge and Design"*. The IFKAD 2018 will take place at the Delft University of Technology, (Netherlands), on 4-6 July 2018.Deadline for abstract submission is:20 January 2018. https://www.ifkad.org/

7th International Conference on Fracture Fatigue and Wear, FFW 2018
Ghent, Belgium, 9-10 July 2018. Abstract submission (deadline 12 January 2018) to FFW 2018 secretariat: ffw@ugent.be Conference website: http://www.ffw.ugent.be/

IITDM Kancheepuram (An institute of National Importance, established by the Govt. of India) is organizing an International Conference on Robotics and Smart materials (**RoSMa2018**) during **19 - 21 July 2018**.
Please visit the conference website for more details: http://iiitdm.ac.in/rosma2018/

September 2018

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

National Conference on Materials & Technologies for Energy Conversion and Storage (M-TECS-2018), 26-29 September 2018, Technical Physics Division (TPD), Bhabha Atomic Research Centre (BARC), Mumbai-400085, Maharastra

December 2018

The All India Manufacturing Technology, Design and Research (AIMTDR) conference 2018 , will be conducted during **13th-15th Dec 2018 – at Anna University.** Submission of paper 31 March 2018. http://aimtdr2018.com/theme/

Attention-Students

Indian Engineering Olympiad (IEO), organized by Thinkcell Learning Solutions Pvt Ltd, is a pan-India exam that offers a real test of engineering aptitude for the engineering students in their respective fields on a national platform. Over 1,80,000 students, including several from the best of the engineering colleges across the country are expected to register for the third edition of the exam this year to pit their skills against each other.

IEO (2018) will be conducted on Sunday, 25th February 2018 across 50+ centers in India. All students in the 2nd, 3rd and 4th year engineering are eligible to appear for the exam. Registrations are open till 4th February 2018 and can be done online on the IEO website www.engineeringolympiad.in by paying Registration fees of Rs 100/-.

Attention-Students

PSG – JANATICS CENTRE FOR PNEUMATICS AND AUTOMATION

Department of Production Engineering, PSG College of Technology in collaboration with M/s. Janatics India Private Limited is organizing various training programme for students, faculties (Mechanical Sciences) & engineers from industries and workshop/competition for students during the year 2018.

For further details and registration please visit,

http://www.psgtech.edu/janatics/

Research News from MSP

Dr.Muthu Senthil Pandian
SSNResearch Centre

Online Applications are invited from Indian National for Common Wealth Scholarship in the United Kingdom (UK) - 2018

Last date for applying online in the Ministry: **7th February 2018** Website: http://mhrd.gov.in/sites/upload_files/mhrd/files/CommonwealthUK-22122017.pdf

http://mhrd.gov.in/

Department of Science and Technology (DST), Government of India and **Indo-U.S. Science & Technology Forum (IUSSTF)** jointly announce the "***Indo-U.S. Fellowship for Women in STEMM***" *(Science, Technology, Engineering, Mathematics and Medicine)* program with an aim to provide opportunities to Indian Women Scientists, Engineers & Technologists to undertake international collaborative research in premier institutions in U.S.A, to enhance their research capacities and capabilities.

http://www.dst.gov.in/callforproposals/indo-us-fellowship-women-stemm

ARAI-Update

Attention: Automotive enthusiasts

1. Friction Measurement Facility at ARAI

2. Failure Analysis and Residual Stress Measurement Facilities at ARAI-Forging Industry Division

3. Retained Austenite and its Measurement

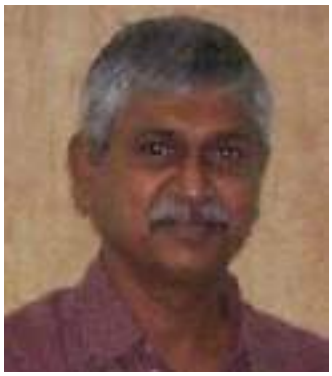
4. Calibration Laboratory at ARAI

5. Symposium on International Automotive Technology (SIAT), 2019

This e-publication is hosted on ARAI website < www.araiindia.com >. Please use below given link for browsing the contents / downloading the publication:

❖ **https://www.araiindia.com/cpanel/Files/NEW_116201822448PMARAI-UpdateJulSep17.pdf**

Inspiring Life Stories



Mr.Kishore Babu
Schwing Stetter

The proprietor of a coffee shop had been busy all day. Being Saturday, it was very crowded and the customers were just unending. He had been on his toes since morning.

Towards the evening he felt a splitting headache surfacing. As the clock ticked away, his headache worsened. Unable to bear it, he stepped out of the shop leaving his staff to look after the sales.

He walked across the street to the Chemist, to buy himself a painkiller to relieve his headache. He swallowed the pill and felt relieved. He knew that in a few minutes he would feel better.

As he strolled out of the shop, he casually asked the salesgirl, "Where is Mr Sharma (the Chemist)? He's not at the cash counter today!" The girl replied, "Sir, Mr Sharma had a splitting headache and said he was going across to the coffee shop. He said a cup of hot coffee would relieve him of his headache."

The man's mouth went dry and he mumbled, "Oh! I see."

Moral of the story: This is a typical case of looking outside ourselves for something that we have within us. How strange but true! The chemist relieves his headache by drinking coffee and the coffee shop owner finds relief in a pain relieving pill!

A man hunts across the lengths and breadths of the universe to find peace. Eventually he finds it in his heart and realizes that peace is really a state of mind

Contribution: Ms. B. Niranjana, Sr. Associate, Hanon Automotive System India Pvt Ltd.

Forwarded by **Kishore Babu,** HR – Department, **SCHWING Stetter India Private Limited**

Corporate Wisdom 50

Recently I was taking the escalator at the Delhi airport from arrival level to departure . I saw something I've seen before and I am sure most of us would have also seen this happening. The man before me in the escalator was at the edge of the escalator, staring nervously at it. Clearly, he had never stepped on an escalator before!

Some folks accompanying him were trying to cajole him to take that first step. One of them got onto the escalator confidently, to show him how easy it was.

Another voice screamed, "Just do it." (in Hindi) . But the man stood there transfixed, watching the steps running away from him magically.

Sounds familiar? I am guessing you have witnessed this too. As I on to check-in and then through the security and moved to the boarding gate. As I took my seat in the aircraft, the image of the man struggling to get onto the escalator flashed in my mind. It struck me that maybe this sight — the 'escalator moment' — in many ways, exemplifies the challenges leaders face every day.

Leaders recognize that there is a better way to do things — and the escalator represents that. Left to themselves, people may prefer using the staircase and doing things the old, familiar way. But it is the leader's duty to point towards a better way, and help the team traverse that path. In most cases, the leader himself may have 'been there, done that'.

But the leader knows it's not about him or her. The real challenge is to make sure his or her team gets there too. And the man standing nervously at the edge of the escalator represents how your team might feel about walking on the path you've set for them. They are not sure they know how to do it. They are scared they will fail. And often, they are too scared to ask for help.

Maybe you should freeze the image of 'The Escalator Moment' in your mind to remind you of the simple things you need to do to make sure you are an effective leader. How can you make sure you get it right?

First, recognize that while you may know what it takes to get to the goal, your team may not. They are usually in a different place on the learning curve. You've been on that escalator before, but your team may not have.

Second, make it easy for your team to say "I don't know". They are scared to ask for help. They fear being seen as not good enough. So, talk about your own vulnerability, your own apprehensions, the first time you stepped on an escalator. And how you overcame those fears. And next time there's something you don't know, be willing to ask for help. Good leaders get comfortable saying, "I don't know". That's at the heart of a learning organization.

Third, when a person is looking for help, how do you respond? Do you show your surprise at his incompetence? Or, do you lend a helping hand? In fact, how did you respond the last time someone asked for help? Did you jump on the escalator and say, 'It's so easy?' Or did you acknowledge the fear, and gently show how it's done? If he's looking for help, just do that. Help.

And finally, don't rest content that 'it doesn't matter how they do it — as long as the job gets done'. Escalators beat staircases. Any day.

And as a leader, you need to make sure you help your team get onto the escalator.

Years later, when your colleagues look back on their lives, they may not remember how the stock price moved under your leadership. Or how many points of market share they gained under your watch. But chances are they will fondly recall a leader who helped them learn to ride the escalator.

Be that kind of leader.