Newsletter

Volume 7, Issue 7, July 2017

Mechanical Aspire

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 43

About The Laureate Liu Xiaobo

Liu Xiaobo was awarded the Nobel Peace Prize for 2010 for his “long and non-violent struggle for fundamental human rights in China" . Since he was in prison, he could not receive the award.

As a tribute to the absent Nobel Laureate, Liu Xiaobo's Nobel Medal and Diploma were placed on an empty chair during the Nobel Peace Prize Award Ceremony in Oslo, Norway, 10 December 2010.

He has now been released due to ill health. He has been invited by the Nobel Committee to coem and receive his award of 2010. some more news on this...

Sentenced for the Crime of Speaking

Liu Xiaobo was born on the 28th of December 1955. As a young man he studied literature and philosophy, and worked as a literary critic and university lecturer in Beijing. He took a doctorate in 1988, after which he was a guest lecturer at universities in Europe and the USA.

Liu Xiaobo took part in the student protests on Tiananmen Square in 1989. For that he was sentenced to two years in prison. Later he served three years in a labour camp for having criticised China's one-party system.

For over twenty years, Liu has fought for a more open and democratic China. He demands that the Chinese authorities comply with Article 35 of the Chinese Constitution, which lays down that the country's citizens enjoy "freedom of speech, of the press, of assembly, of association, of procession and of demonstration".

In 2008, Liu was a co-author of Charta 08, a manifesto which advocates the gradual shifting of China's political and legal system in the direction of democracy. He was arrested in December 2008, and sentenced a year later to eleven years' imprisonment for undermining the state authorities. Liu has constantly denied the charges. "Opposition is not the same as undermining", he points out.

Statement from the Norwegian Nobel Committee, issued on 26 June 2017

The Committee is delighted to learn that Liu Xiaobo is out of prison at long last. Finally, the Committee would like to confirm its standing invitation to Liu Xiaobo to come to Oslo and receive the Committee's tribute. Due to his imprisonment Liu Xiaobo was unable to attend the Nobel Peace Prize award ceremony in 2010. His designated chair at the podium in the Oslo City Hall was left empty.

Extracts from Liu Xiaobo's - Nobel Lecture

"I Have No Enemies:My Final Statement" Nobel Lecture in Absentia, December 10, 2010

In the course of my life, for more than half a century, June 1989 was the major turning point. Up to that point, I was a member of the first class to enter university when college entrance examinations were reinstated following the Cultural Revolution (Class of ''77). From BA to MA and on to PhD, my academic career was all smooth sailing. Upon receiving my degrees, I stayed on to teach at Beijing NormalUniversity.

As a teacher, I was well received by the students. At the same time, I was a public intellectual, writing articles and books that created quite a stir during the 1980s, frequently receiving invitations to give talks around the country, and going abroad as a visiting scholar upon invitation from Europe and America. What I demanded of myself was this: whether as a person or as a writer, I would lead a life of honesty, responsibility, and dignity.

After that, because I had returned from the U.S. to take part in the 1989 Movement, I was thrown into prison for "the crime of counter-revolutionary propaganda and incitement." I also lost my beloved lectern and could no longer publish essays or give talks in China.

Merely for publishing different political views and taking part in a peaceful democracy movement, a teacher lost his lectern, a writer lost his right to publish, and a public intellectual lost the opportunity to give talks publicly. This is a tragedy, both for me personally and for a China that has already seen thirty years of Reform and Opening Up.

Hatred can rot away at a person's intelligence and conscience. Enemy mentality will poison the spirit of a nation, incite cruel mortal struggles, destroy a society's tolerance and humanity, and hinder a nation's progress toward freedom and democracy. That is why I hope to be able to transcend my personal experiences as I look upon our nation's development and social change, to counter the regime's hostility with utmost goodwill, and to dispel hatred with love.

On his wife and her love

- I am serving my sentence in a tangible prison, while you wait in the intangible prison of the heart.
- Your love is the sunlight that leaps over high walls and penetrates the iron bars of my prison window, stroking every inch of my skin, warming every cell of my body, allowing me to always keep peace, openness, and brightness in my heart, and filling every minute of my time in prison with meaning.
- My love for you, on the other hand, is so full of remorse and regret that it at times makes me stagger under its weight. I am an insensate stone in the wilderness, whipped by fierce wind and torrential rain, so cold that no one dares touch me.
- But my love is solid and sharp, capable of piercing through any obstacle.
- Even if I were crushed into powder, I would still use my ashes to embrace you.

Read the full emotional lecture at

http://www.nobelprize.org/nobel_prizes/peace/laureates/2010/xiaobo-lecture.html

Info to Alumni- Campus Update

Dr.S.V.Albal writes..

Tech Bee - HCL's Early Career Program was inaugurated on June 26th.

Tech Bee - HCL's Early Career Program is a work integrated higher education program for those who completed Plus Two.

The program prepares the students technically and professionally for entry level IT jobs in HCL (Non-BPO).

They first get trained for a period of one year to become a software engineer.

While on the job with HCL, they may enrol into Masters in IT program which are offered by reputed local universities. More details at

Dr.S.Narasimman writes

The inaugural of 13th Annual ADMA Conference & Graph Theory Day - XIII was held on 8th June, 2017.
Dr.S.Salivahanan presided over . Dr.R.Balakrishnan, President ADMA (Academy of Discrete Mathematics and Applications),inaugurated the conference.
Around 150 participants and 100 papers have been received. Prior to this, a Pre-Conference Workshop on Graphic Algorithms was conducted for three days.

Dr.G.Sethuraman writes

NPTEL Online Certification Courses for the July - Oct 2017, semester are open for enrollment at

https://onlinecourses.nptel.ac.in/explorer

4 & 8 week (set 1) and 12 week courses will start on 24-7- 2017
4 & 8 week (set 2) courses starts on 21-8- 2017

Dr.Divya John writes

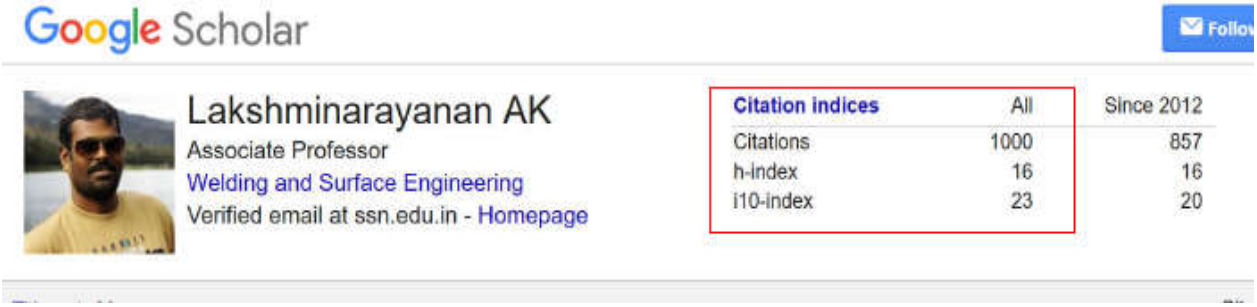
On 22 June, 2017, Mr U. Venkateswara, research scholar under my guidance, presented a Seminar on

"Catering to the Speaking Competence of the Second Language Learners of English in the Engineering Classroom"

Info to Alumni- Department Update

External recognition

Dr.AKL's papers cross 1000 citations..



Dr. Damodaram, Associate Professor, Reviewed a Journal Paper Titled-Joining of AZ91 Mg alloy and Al6063 alloy sheets by friction stir welding , for the Journal of Magnesium and Alloys

Professor V.E.Annamalai, was invited to review a research paper titled, "Reliability, availability and maintainability (RAM) analysis for wine packaging production line" by the International Journal of Quality & Reliability Management.

Research Activity

wo scholars have obtained admission to pursue h.D. (Part Time-Anna University), under the uidance of Dr.A.S.Ramana.

S. Arokiasamy, Part Time Research Scholar of Dr. B. Anand Ronald, presented his 2nd seminar talk on "Processing and Characterisation of Magnesium Based Composites" (29-6-2017)

Publications

Dr. N. Nallusamy, Professor and Dr. S. Rajkumar, Associate Professor co-authored with a M.E Energy student and published a technical paper titled "A comprehensive review on performance, combustion and emission characteristics of biodiesel fuelled diesel engines" in Renewable and Sustainable Energy Reviews (Elsevier Publications), 2017, Vol. 79, pp. 1134-1159. Thomson Reuter Impact Factor = 8.05.

Dr.L.Poovazhagan, Associate Professor/Mechanical and Third Year Mechanical Engineering Students Published a paper titled "Design and analysis of leaf spring for the enhancement of load carrying capacity" in the International Journal of Chemical and Pharmaceutical Sciences, Indexed in Scopus.

Dr. K. Jayakumar, Associate Professor published a paper titled "Investigation of Wear and Mechanical Properties of A356-SiCp-Al2O3 hybrid composite by Stir and Squeeze casting" in Journal of Chemical and Pharmaceutical Sciences, No.7 (2017), pp. 131-136. SJR impact factor: 0.12.

Dr. K. Jayakumar, Associate Professor published a paper titled "Design and Analysis of Leaf Spring for the Enhancement of Load Carrying Capacity" in Journal of Chemical and Pharmaceutical Sciences, No.7 (2017), pp. 169-176. Co-authors are UG Mech. final year students [Harikrishnan B, Balaji S.R, Manikandan P, Naveen Bharath S]

Dr. K. Jayakumar, Associate Professor published a paper titled "Synthesis and Mechanical Properties of Kenaf/E-glass fiber Hybrid Composite" in Journal of Chemical and Pharmaceutical Sciences, No.7 (2017), pp. 182-185. Co-authors are UG Mech. final year and PhD students. [Guhan K, Ejaz Ahamed S, Karthick S, Naveen A.E, P. Sabarinathan]

Programs Attended

Dr.K.S.Vijay Sekar, Associate Professor, attended a One day Seminar on "Ranking Masterclass" organised by CL Educate Limited in association with QS World ranking systems, at The Park Hotel, Chennai.(12-6-2017)

Industry Internship by Faculty

Dr. N. Lakshmi Narasimhan, Assoc. Prof., underwent an Industrial Internship at TII - Industry Institute Interaction Centre (Murugappa Group), Avadi, Chennai. Visited all the six factories in and around Avadi for exploring Project opportunities on Energy Conservation. The internship was under the faculty Industry Internship scheme at SSN aimed at promoting our industrial interactions. (5 to 10, June 2017)

Stakeholder Feedback on POs and PEOs

Dr. N. Lakshmi Narasimhan Obtained a Feed Back from Industrial Stake holder, TII (Murugappa Group) on improving our POs and PEOs.(19-6-2017)

Dr. N. Lakshmi Narasimhan Obtained a Feed Back from Industrial Stake holder, Ecologikol Advisors India Pvt. Ltd. on improving our POs and PEOs. (22-6-2017)

Support to Alumni

Dr. N. Lakshmi Narasimhan, Assoc. Prof., forwarded resumes of two Alumni with two years of experience to Thermax (Sri City) Plant for a suitable Position in Manufacturing/QA (22-6-2017)

Student Activities

- Akhil C, of Second Year, was a part of the team from SSN that caters to Music therapy sessions at Adyar Cancer Institute.(26-6-2017)
- Barath Varadaraj K, of Third Year, was selected for an in plant training at Integral Coach factory (22 to 29 June 2017)
- Murali T.S., of Third Year, joined the Engine Tribology Research Group, IIT Madras on a project (20-6-2017)
- Vijay S, of Final Year, is undergoing Internship in TAFE Sembium factory in Total Productive Management (5-6-2017 onwards)
- Belvin A, of Final Year, participated in the NSS forest cleaning and is undergoing an inplant training at ICF (^-6-2017 onwards).
- Senthil kumar R, of Final Year, participated in the NSS activities at Siva Senathipathi research center (6th and 7th of June , 2017).

Faculty Write up - 1

Renewable and Sustainable Energy Reviews 79 (2017) 1134–1159

Contents lists available at ScienceDirect

Renewable and Sustainable Energy Reviews

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

A comprehensive review on performance, combustion and emission characteristics of biodiesel fuelled diesel engines

P. Tamilselvan[a,*,1], N. Nallusamy[b], S. Rajkumar[b]

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Renewable and Sustainable Energy Reviews 79 (2017) 1134–1159 (26 pages)
https://doi.org/10.1016/j.rser.2017.05.176

Journal Metrics

CiteScore: **8.35**

Impact Factor: **6.798**

5-Year Impact Factor: **7.896**

Source Normalized Impact per Paper (SNIP): **3.109**

SCImago Journal Rank (SJR): **3.120**

We referred nearly 400 papers to write this review paper and this paper may be useful for faculty and scholars doing research in the field of Alternate fuels.

Faculty Internship in Industry.. an insight

Dr.N.Lakshmi Narasimhan writes....

I am glad to present a short report on my industrial internship at the TI - Industry Institute Interaction Centre (Murugappa Groups) at Avadi, Chennai during June 5 - 10, 2017 under the faculty industrial internship scheme of our institution. The intention of the internship was to identify suitable projects prospective for energy conservation and process improvement in the six TI factories located in and around Avadi, Chennai.

I am extremely thankful to Mr. Kumarasubramaniam (Senior General Manager, Learning and Development, Tube Investments of India - IIIC) for the kind consent for my internship and transport arrangements with due hospitality during the entire period of my internship.

For the first three days, about six TI factories were visited with a schedule of two per day. Mr. KS was very courteous deputing Mr. Jagesh G (Deputy Manager, Learning and Development of TII-IIIC) to accompany me for the factory visits scheduled everyday. With prior permission from the heads concerned in each of the factories, the shop floors and the individual process units wherever possible were visited. I am grateful to all the Engineers at the shop floors who had explained me about the processes happening in their respective units and indicating possible areas where there exist a scope for further improvement.

Interacting with the Engineers on-site helped me get an insight on the potential technical issues/problems that can possibly be addressed through faculty research/consultancy/student projects jointly with the industry.

Everyday, the concluding session would be a detailed technical discussion with Mr. KS based on what I had observed in the factories visited. The challenges on solutions that could address energy conservation besides their other benefits were part of our discussions. The systems and processes were detailed as and when needed by Mr. KS for clarity and better understanding during the discussions on a case to case basis. I found it very useful for my proposal of ideas and thoughts.

On the last two concluding days, I made a consolidated list of possible projects that could be carried out in the six factories, based on their priority. The list was discussed one by one in detail with specific relevance to technical and other practical issues. Back at SSN, discussions are being carried out with the HOD to identify suitable projects among the list where students (both UG and PG of our department) can be involved for a reasonable period. Also, the scope of involving interested faculty members are being worked out.

At the outset, I would like to thank our HOD, Dr. V.E. Annamalai for introducing me to Mr. KS regarding projects prior to this internship. I am glad to place my sincere thanks to our Principal and our Institution as well for the support and encouragement towards strengthening our Industry-Institute interaction initiatives. My thanks once again to Mr. Kumarasubramaniam, Mr. Jagesh, the members of TI-IIIC with a special mention to the Staff Incharge (Maintenance and Hospitality) and the Plant heads, Engineers of the six TI factories that I had visited. My very special thanks to Murugappa Groups for the generous support and great ambience provided for such Industry-Institute interactions to happen.

Overall the internship was very useful and I feel that our *faculty internship scheme* is a great motivator to further our industrial networking.

List of Factories Visited

TI Cycles- (Bicycles Division)	TIDC (TI Diamond Chains)
TPI – (Tube Products of India) Main plant	TPI – (Tube Products of India) . Exports
TI Metal Forming -Thirunindravur	TI Metal Forming - Kakkalur

Two Junior Research Fellows join

Mr. S. Ram Prakash completed his B.E. (Mechanical Engineering) from National Engineering College, Kovilpatti in 2013. He completed his M.E. (Manufacturing Engineering) from National Engineering College, Kovilpatti in 2015.

¬He has worked as assistant professor in the department of mechanical engineering, Bannari amman institute of technology, Sathyamangalam for two years.

¬He was teaching Manufacturing Technology, Non-traditional machining processes, Automated manufacturing, Engineering Graphics, Basic mechanical engineering and Flexible manufacturing systems

¬His area of interest includes Non-traditional Machining processes, Composite materials.

¬He has presented two papers in international conferences and holds one international journal publication.

He has joined as JRF in a project under Dr.G.Selvakumar.

➢Mr. Lokesh Kumar has done his B.Tech in Mechanical Engineering from Jaganath Institute of Technology, Orissa.

¬M.Tech in Mechatronics from Vellore Institute of Technology, Vellore.

¬His B.Tech Thesis was on Solar Power Wheel Chair.

¬and his Master Thesis was on Proximity Query Search Package for Detection of Collision.

¬He has research experience while working on projects on Robotics, Path planning, Wavelets transform, Artificial Intelligence at IIT Kanpur with different laboratories

¬Has one journal publication to his credit

¬**Area Of Research**: Path Planning, Computation in Optimization, Artificial Intelligence, Autonomous System.

He has joined as JRF in a project under the guidance of Dr.G.Satheeshkumar.

Project Proposed

Cognitive Architecture for Physical symbol Grounding and its Implementation in NAO Humanoid Robot, submitted to Cognitive Science Research Initiative.

PI ; Dr.K.S.Jayakumar

Co-PI : Dr.V.Mahesh, BME

Value:Rs.29.72 Lakhs

Mech Marvel - 31

Stratolaunch Aircraft-world's largest plane with wingspan of 385 ft

Stratolaunch Systems was launched seven years ago by Microsoft co-founder Paul G. Allen, and is one of several companies racing to develop an air-launch-to-orbit aircraft. Currently, to get an object into orbit it needs to take off from a launchpad, which is costly and time-consuming.

Earlier this year, Virgin Galactic spun off a dedicated company called Virgin Orbit that is aiming to achieve a similar goal. Its plan is to use a 747-400 to carry rockets up to an altitude of 35,000 ft (10,670 m) before releasing them.

Stratolaunch, on the other hand, has been working on designing this unique aircraft to do the same job. It already has its first customer lined up, partnering with Orbital ATK in late 2016 in a plan to use the massive aircraft to launch Orbital's Pegasus rockets into orbit.

The company is aiming for a first launch demonstration some time in 2019. Stratolaunch aircraft has reached a major milestone in its journey toward providing convenient, reliable, and routine access to low Earth orbit.

On May 3rd, 2017, they moved the Stratolaunch aircraft out of the hangar – for the first time ever – to conduct aircraft fueling tests. This marks the completion of the initial aircraft construction phase and the beginning of the aircraft ground and flight testing phase.

Over the past few weeks, they have removed the fabrication infrastructure, including the three-story scaffolding surrounding the aircraft, and rested the aircraft's full weight on its 28 wheels for the first time. This was a crucial step in preparing the aircraft for ground testing, engine runs, taxi tests, and ultimately first flight.

- Once they achieved weight-on-wheels, it enabled them to weigh the Stratolaunch aircraft for the first time, coming in at approximately **500,000 lbs**.
- That may sound heavy, but remember that the Stratolaunch aircraft is **the world's largest plane by wingspan, measuring 385 ft**. – **by comparison, a National Football League field spans only 360 ft.**
- The aircraft is 238 ft. from nose to tail and stands 50 ft. tall from the ground to the top of the vertical tail.
- The Stratolaunch aircraft is designed for a max takeoff weight of 1,300,000 lbs., meaning it's capable of carrying payloads up to approximately 550,000 lbs.
- The craft is powered by six Boeing 747 engines and was constructed in an enormous, custom-designed, 103,257 sq-ft (9,593 sq m) hangar in the Mojave desert.

Read more at http://www.stratolaunch.com/news/FirstRollout.html

Watch a demo at https://youtu.be/rn89SKebtIc

Corporate Story 31

Lakshmi Machine Works Ltd

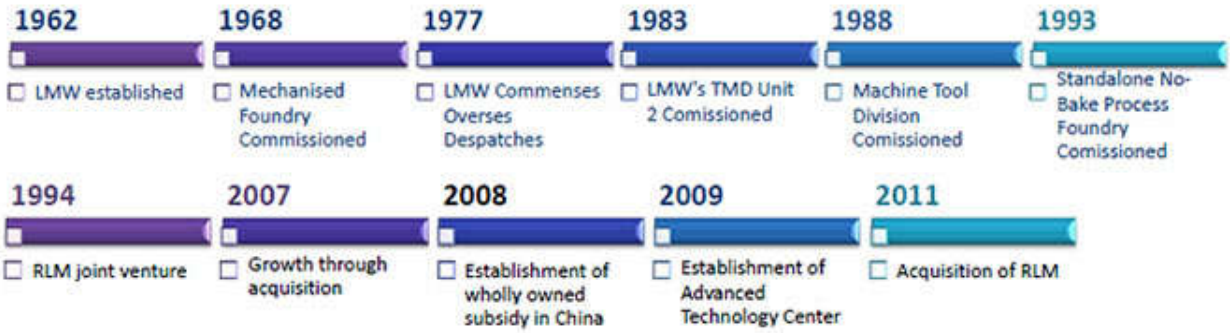
LMW, founded in the year 1962, is today a global player and one among the three manufacturers of the entire range of Textile Machinery.

History stands as a documented proof of LMW's Corporate and Financial success reflecting phenomenal growth since first year of operations. LMW has 60% market share in the domestic Textile Spinning Machinery Industry.

LMW diversified into CNC Machine Tools and is a brand leader in manufacturing customized products. LMW Foundry makes Precision Castings for industries the world over. The only company in Asia outside Europe to manufacture OE products for Mikron of Switzerland.

LMW's Global presence has grown over the years, with a market presence not only in developing countries, but also in Europe. LMW has won the Top Export Award in textile machine exports for the past several years.

The Path of Progress



LMW Group

LMW is one among the three manufacturers in the world to produce the complete range of Textile Machinery, starting from Blow Room until Ring Frames.

In order to diversify operations, LMW has established the Machine Tool Division to manufacture CNC Lathes, Machining Centres and other hi-tech Machine Tools.

Besides the Textile Machinery Division and the Machine Tool Division, LMW also has the Foundry Division manufacturing Ductile Iron and Grey Iron Castings as per specific requirements of customers using state-of-the-art facilities.

In order to explore new business opportunities LMW has set up the Advanced Technology Centre to cater to the needs of Aerospace industry.

Textile Machinery

Lakshmi Machine Works Ltd., has been consistently at the forefront of technological advancements in textile machinery. Over a period of time, the company has gained a worldwide reputation for its state-of-the-art technology and high quality standards. LMW has a major role as a totally integrated spinning system manufacturer. One can be assured of the unique LMW brand excellence on every product.

LMW Machine Tool Division has supplied more than 8500 CNC Lathes and Machining Centres across the country till date. The customer base consists of Automobile industry, Auto-ancillaries and General Engineering catering to large, medium and small scale industries.

LMW Foundry Division is a part of Lakshmi Machine Works Group, who are in Textile machines, Machine tools and Aerospace parts. Facilities :

- Well equipped moulding lines with 25MT/Hour continous mixers.
- Sand plant (6 MT/hour)
- Thermal reclamation Unit (3 MT/Hour)
- Core shop with complete oven .
- Cold box core/ Shell core etc.
- Heat treatment furnaces
- Material handling equipments

"**Advanced Technology Centre"**– is a one stop Solution to the customer. In terms of infrastructure and capability, ATC has world class facilities and machines in place like CNC Lathes, VTLs, CNC Turn Mill Centre, CNC Machining Centres (Multi axes & Multi face), Sheet Metal fabrication and special processes with surface treatment, heat treatment & NDT facilities with NAS410 Level III certified In-house Inspector. In terms of Quality Assurance, we are aligned to AS9100 Rev C certified Organization. We are also NADCAP certified for special process like chemical process, NDT and Heat treatment. ATC has tied up the projects with major OEM`s in US & Europe and various division of Hindustan Aeronautics Limited.

Embracing of world class manufacturing technology & customer dedicated cell concept for potential business, focussed approach on the OEM`s which gives an edge over to quickly enhance the capacity & technology, in terms of future growth potential.

All 8 units are ISO 9001, ISO 14001 and OSHAS 18001 certified and ATC for AS9100C

Watch a video of textile machinery at https://youtu.be/PEWvrXnHQ1s

Careers. They upload their requirement as and when vacancies arise.

Even otherwise, those who are interested can apply through their site

https://www.lakshmimach.com/careers/apply/

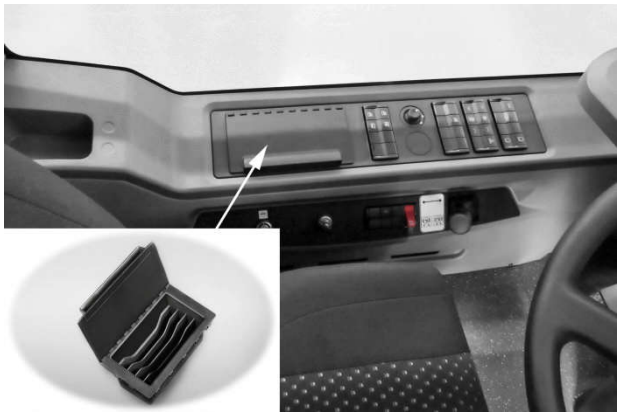
We are currently working on Coimbatore based industries for Mech.
LMW is one of the potential employers.

Spare parts by 3D printing at Daimler

Daimler Buses is exploiting the benefits of 3D printing to meet customers' special requirements and produce small batches and replacement parts for the Mercedes-Benz and Setra brands. As a technology leader in the bus and coach sector, Daimler Buses is making use of the advantages of this cutting-edge digital component and production technology. At the current point of time it is already possible to print complex parts located in the bus interior in a single step, which formerly consisted of several and in some cases even moving components. In this field Daimler Buses is drawing on over 25 years of experience with 3D printing processes in truck and prototype construction.

3D component production enables perfect solutions in response to the enquiries which are received on a daily basis from customers who are seeking special equipment features or waiting for a corresponding replacement part.

"In the medium term, we see digital production technologies as harbouring vast potential to enable us to address market and customer requirements in a flexible manner while at the same time minimising investment risks," says Hartmut Schick, Head of Daimler Buses.



3D printing provides the bus division within the Daimler Group with a means of responding swiftly, flexibly, economically and ecologically to individual customer requests and requirements for replacement parts. In top quality and with low production costs: the 3D parts correspond to the injection moulding standards stipulated by Daimler AG, while avoiding the costs relating to tool production, component storage and the disposal of surplus materials.

The potential of 3D printing is manifest in the area of special customer requests and replacement parts at Daimler Buses, where some 780 components have been printed for customer vehicles to date. In addition, more than 150 different replacement parts for buses are currently being scrutinised and validated with regard to their feasibility as 3D printed parts.

Daimler Buses has perfected the production of 3D parts which are available at short notice in the special and replacement parts segment. The "printed" special and replacement parts consist of high-quality polyamide plastic components. They are created with state-of-the-art 3D printers based on the Selective Laser Sintering (SLS) printing process. In this generative layer-building process the three-dimensional structures of the preprogrammed 3D part are produced layer by layer from the powder-form polyamide materials by means of a laser.

3D printing allows any desired geometry, even for complex bus components. Special parts and low-volume parts can be modified at will, adapted to customers' special requirements and produced in an attractive design. This proves particularly economical in small series involving batches sizes from 1 to 50 units. The entire process, from the initial idea through design, costing and production to delivery, takes only a matter of days.

More info at :

http://media.daimler.com/marsMediaSite/en/instance/ko/Daimler-Buses-fulfilling-customers-individual-wishes-for-the-first-time-with-3D-printing-technology.xhtml

Amazing Innovation- 26

Aquatic drone

Compared to multicopters, drones of the fixed-wing variety can travel very long distances thanks to their more efficient shape in the air. One downside to this is the space needed to launch them, along with some sort of mechanism to propel them forward for take-off. A team of Canadian scientists has come up with a solution to these shortcomings, with a drone that can land and take off again on water and possibly stop to charge itself with solar power in between flights.

The Sherbrooke University Water-Air VEhicle (SUWAVE), developed by researchers from that very institution, instead operates on water, and it does so with good reason. This allows it to essentially crash land on the surface of a lake, with testing showing that it can endure those impacts, and then use a clever mechanism to launch itself into the air again.

The key is a rotating center body, which contains the battery and the motor and hooks up to the propellor. With the drone resting horizontally on the water, this component sits at 90 degrees to the rest of the aircraft. When it is ready to fly again, thrust is applied which pulls the aircraft forwards and upwards, passively swinging this center body into its resting place in between the wings and allowing it to fly like a regular fixed-wing drone.

Crafted from polystyrene and carbon fiber, the SUWAVE also bears some resemblance to another marine-minded drone we looked at last year called the AquaMav. This too can land and take off from the water, but actually dives beneath the surface in the process to scoop up water samples.

The motivation behind the SUWAVE is purely to extend the range of fixed-wing drones by using lakes as pitstops. And the researchers have done their homework. They calculate that approximately 9 percent of Canada's 10 million sq km (3.8 sq mi) is covered in lakes. If they wanted to traverse the country north to south, they say the drone would only need to be fitted out with a 20-km range (12.4 mi).

Such a journey is ways off, however. The team has successfully tested its takeoff and landing capabilities, but it is still at prototype stage right now. The next steps involve developing autonomous flight control and fitting the drone out with solar panels so it can stay on the move.

The team's paper describing the project is available online, and the drone can be seen in action in the video below.

Source: IEEE XPlore via IEEE Spectrum

https://youtu.be/n7awDhdVkCs

Amazing Innovation- 27

Open sky in Airbus business jet cabin

Airbus Corporate Jets' ACJ320 business jet family already enjoys spacious, comfortable cabin designs. Airbus uses the family's wide, tall cabin to create open spaces loaded with amenities like bedrooms, conference/dining areas, wraparound sofas and entertainment systems. These jets are more like comfy apartments than any aircraft the average traveler is accustomed to.

To experiment with an even more dynamic ACJ319neo cabin design, Airbus partnered up with Pagani to create the Infinito (infinity in Italian). Both companies showed something special in Geneva this past March, Pagani with its Huayra Roadster and Airbus with the Pop.Up modular flying car concept created with Italdesign, and last week the Swiss city hosted their announcement of the new cabin collaboration.

Pagani's design team was tasked with creating the initial Infinito design, and Airbus' team applied its aircraft-specific expertise to massage that vision into a finished cockpit that reflects the over-the-top worlds of both corporate jets and seven-figure sports cars.

With open-air views of the sky fresh on its mind from its latest roadster, Pagani helped create a different open-air experience in the Infinito cabin. The sky ceiling stretches over top passengers displaying a live feed of the sky above. Should staring at the sky become boring, other images can also be displayed on the ceiling.

Passengers will keep comfy and entertained below that strip of blue sky, enjoying entertainment from the comfort of a specially prepared lounge. The sofa looks like a series of sports car seats, complete with quilted leather and carbon fiber frames. That high-back sofa stands in front of a long console and large wall-mounted television.

A carbon-fiber framed wall separates the lounge from the conference/dining area and can switch from transparent to opaque at the push of a button. The conference area includes a table with seating for six and a few scattered single seats for more personal work and relaxation. The seats feature the same carbon-fiber, quilted-leather styling as the sofa, albeit with an armchair structure.

The carbon fiber and quilted leather clearly tie in with Pagani cars, as do the soft-leather carpets split by wood aisles. Sculpted metal hardware and LED mood lighting further embellish the design, and curvaceous valences and surfaces bring a hint of nature into the fold.

Airbus and Pagani presented the Infinito cabin design at last week's European Business Aviation Convention and Exhibition (EBASE). Source: Airbus

Amazing Innovation- 28

A Satellite in 64 grams

Rifath Shaarook has built a satellite that weighs just 64-grams and is only 1.5 inches wide. The 18-year-old won a design competition called Cubes in Space, a challenge organised by NASA, the Colorado Space Grant Consortium and education firm idoddle.

It's made from 3D-printed carbon fiber and was launched on June 21 from NASA's facility on Wallops Island, Virginia.

Rifath has said it's going to go on a four hour suborbital flight, 12 minutes of which the cube will spend in microgravity.

He has named the cube KalamSat, after the late Dr. APJ Abdul Kalam, former president of India and renowned nuclear and space scientist.

"We designed it completely from scratch. It will have a new kind of on-board computer and eight indigenous built-in sensors to measure acceleration, rotation and the magnetosphere of the earth," said Rifath, who's from Tamil Nadu but is currently working for Space Kidz in Chennai, India, an organisation that specialises in encouraging youngsters to get involved in science.

Website: www.spacekidzindia.com

ARAI (Automobile Research Association of India) News

- **Plastic Injection Molding Simulation – New Domain Engineering Services at ARAI**
- **ARAI establishes India's First Child Restraint System Test Facility**
- **Flexi Arm Portable Coordinate, 7-Axis Measuring Machine (CMM) with Scanner Attachment**
- **Celebration of 1st Anniversary of HTC, Chakan**
- **Symposium on International Automotive Technology (SIAT) 2017 – Brief Overview**
- **Global Engine Manufacturers' Meet at ARAI**

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_622201720716PMARAI-Update_Jan-Mar2017.pdf*

Alumni Info

Ramkiran Kiran of 2007-11 batch is currently Rotary Engineer at Petrofac

Vishwanth, S, of 2009-13. batch, is a Sales Engineer at Composite Pipes Industry LLC, from June 2013 onwards, in Muscat

His linked in site reads as

Experienced Sales Engineer with a proven track record of handling major projects in the Oil &Gas, Water treatment and construction fields . Highly skilled in Negotiation, Business Development, Marketing Strategy, Customer Relationship Management (CRM), and Corporate Market Analysis. Dynamic sales & marketing professional with a Bachelor of Engineering (B.E.) focused in Mechanical Engineering from ssn college of engineering.

Research equipment info

Sri Krishna College of Engineering and Technology, Coimbatore wish you to inform that R&D lab of Department of Mechanical Engineering provides **Testing Support for VCR Research Engine and Biodiesel (Production and Characterization)**.

Forthcoming Events

July 2017

- 3 Days Workshop on Making of Solar Cookers, 3-5 July 2017, Centre for Energy & Resources Development, IIT-Varanasi. **Only seventy seats for B.Tech . No registration fee.** Write to Prof.Santoshkumar, IIT BHU at santosh.kumar.mec@iitbhu.ac.in

- Department of EEE, Kongu Engineering College, Erode is going to organize CSIR Sponsored Two days National Level Seminar On "Emerging Technologies for Sustainable Energy, Combined Heat & Power Generation (CHP) Using Biomass in Rural Areas" from 06.07.2017 to 07.07.2017 and self-supporting One day National level Workshop On "Smart Grid/Smart City An Indian Perspective" (Research Issues related to IOT, Cyber security) on 21.07.2017.

September 2017

- **7th International Conference on Additive Manufacturing Technologies –**scheduled during **7 - 8th September 2017 at The Lalit Ashok, Bengaluru, India.** The event aims to bring together global industry professionals & researchers on to a single platform. More details about the conference are available from the website **www.amsi.org.in.**

October 2017

- The Department of Mathematics, SSN College of Engineering, Chennai will be organizing the National Conference on Fluid Mechanics (NCFM-2017) during 27-28, October, 2017 at SSN College of Engineering, Chennai. **Conference website:** ncfm2017.in.

November 2017

- The Department of Mechanical Engineering, BITS Pilani, Dubai Campus is organizing "**International Conference on Recent Advances in Materials & Manufacturing Technologies (IMMT 2017)**" on **28-29th November 2017 in BITS Pilani, Dubai Campus, UAE. www.immt2017.com**

- National Conference on Advances in Materials & Processing Challenge & Opportunities (AMPCO-2017), 30th November - 2nd December 2017, Department of Metallurgical & Materials Engineering, Indian Institute of Technology-Roorkee, Roorkee-247667, Uttarakhand

  Last date for submission of Abstract is **15th July 2017**.
  Abstract Submission: https://www.iitr.ac.in/ampco2017/abstract.html
  Website: https://www.iitr.ac.in/ampco2017/index.html

January 2018

VIT University is organizing the "World Summit on Advances in Science, Engineering and Technology" at University of Cambridge, UK during January 4 – 6, 2018. Here is the Conf, Link…
http://info.vit.ac.in/cambridgesummit2018/index.asp

Forthcoming Challenges

Attention- All Innovators

Challenge 1

Attention Innovators among UG and PG students

Challenge 2

Circular Design Challenge
Deadline:2017-07-28
Award:$1Million

In partnership with the Ellen MacArthur Foundation, OpenIDEO invites participants in this Challenge to apply the principles of a circular economy to rethinking the design of plastic packaging that currently ends up in landfills or in nature, and exploring new ways of getting products to people without creating plastic waste. Top ideas will be in contention to win a share of a $1M prize.

As part of the New Plastics Economy Innovation Prize, the Circular Design Challenge asks the question:

How might we get products to people without creating plastic waste? Details at …..

https://challenges.openideo.com/challenge/circular-design/brief?utm_medium=social&utm_source=pipeline+partners&utm_campaign=circular+brief

Challenge 3

Tamil Nadu Student Innovator Award 2017 invites projects in the branches of Computer Science & Information Technology, Civil & Architecture, Mechanical & Automobile and Electrical & Electronics. Full time engineering students enrolled under UG and PG courses across India in the streams mentioned can apply.Nominate yourself **online** with the project abstract on or before 31July 2017 Upload the project documents (.docx or .pdf format) and the YouTube video link if any, at (add the web link), on or **before 15 August 2017.**
http://awards.ictacademy.in/sia2017/tn/

Research News from MSP

Dr.Muthu Senthil Pandian
SSNResearch Centre

1

Science and Engineering Research Board SERB, has invited proposals under Extra Mural Research Scheme (EMR). Last date July 31, 2017. The funding is provided normally for a period of three years.

No budget limit is prescribed for this type of projects. The research grant covers equipment, consumables, contingency and travel apart from overhead grants.

http://serbonline.in/SERB/emr?HomePage=New

2

The 26th National Laser Symposium (NLS-26) will be held at Bhabha Atomic Research Centre, Mumbai during December 20 - 23, 2017. The symposium is sponsored by Board of Research in Nuclear Sciences (BRNS), Department of Atomic Energy, and is organized in collaboration with Indian Laser Association (ILA). The symposium will provide the platform for young researchers in laser physics and technology to interact with eminent scientists from India and abroad, and to present their work

3

The Centre for Research & Centre for Nanoscience and Technology, Anna University organizing the **"International Conference on Recent Trends in Applied Science and Technology (ICRAST-2017) (**பயனுறு அறிவியல் மற்றும் தொழில்நுட்பத்தின் இன்றைய நிலை குறித்த பன்னாட்டுக் கருத்தரங்கு **)"** at Anna University, Chennai during 8-9, September 2017 in Tamil language.

The selected full length papers will be published in **"Science and Technological Research Journal"**.

The abstracts should be mailed to strjsanjigai2017@gmail.com.

Last date for the abstract submission : 25.08.2017.

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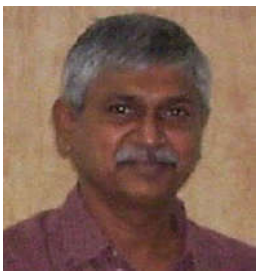
4th International Conference on Nano Structuring by Ion Beams (ICNIB-2017), 11-13 October 2017, School of Instrumentation, Devi Ahilya Vishwavidyalaya University, Indore-452001, Madhya Pradesh (M.P.)

Inspiring Life Stories



Mr/Kishore Babu
Schwing Stetter

In 1990, a psychology student at Stanford University, conducted an interesting experiment.

It was referred to as the "Tappers & Listeners" experiment.

For her PhD dissertation, Elizabeth Newton invited her peers in college to participate in the study.

Each student was assigned one of two roles: 'Tapper' or 'Listener'. The tappers were given a list of twenty-five popular tunes, such as "Happy Birthday to you" and "Jingle Bells". They had to tap out the tune with their fingers on a table, and the listeners had to guess the song. As you might have guessed, this was not an easy task at all. Of the hundred and twenty times a tune was tapped, the listener could guess the tune correctly only thrice. That's a success rate of about 2.5%.

But here's the interesting bit. Before the tappers began to tap the tune, Elizabeth asked them to predict the probability of the listeners being able to guess the song correctly. The tappers predicted a 50% chance that they would be able to get the listeners to guess the tune correctly.

So while they thought that they would be able to get the listeners to guess correctly one out of two times, the reality was that listeners could guess the tune only once in forty attempts. How come?

Well, here's what was happening. As the tapper taps the tune, he can hear the song playing in his head His fingers seem to be tapping the tune in perfect sync with what's playing in his head. And he just can't understand what the listener is not able to pick up such a simple tune!

And what about the listener? Well, she doesn't have the tune playing in her head, without which, she has no idea what's happening. She tries as hard as can to make sense of the bizarre Morse-code like tapping that she hears. Alas, to no avail. This results in utter frustration.

Moral of the story As leaders, we often fall into the tapper's trap! We give instructions which seem very clear in our heads but our colleagues may have no idea what we want them to do.

The next time you are communicating with a colleague, think about the *"Tappers & Listeners"* experiment.

And remember, what's obvious to you may not be so to the other person. When the listener says he doesn't get it, that's not a signal to get irritated.

It's probably telling you to put yourself in the other person's shoes, and try and be more explicit.

One more thing. Tapping harder or Tapping repeatedly won't make it any easier for the Listener!!!

Contribution: Mr. CHSN Sreenivasa, Vice President, R&D, ISGEC, Noida, New Delhi

Thanks & Regards –

Kishore Babu
HR - Department
SCHWING Stetter India Private Limited

Corporate Wisdom 43

Work-Life-Balance

We all keep discussing about work, life and Work life balance and keep expressing that we are unable to balance the work and life .

My views are slightly different in this aspect. You may agree with me or disagree. It is a point of view to ponder.

- Why do we think work is not life ?

If your work is not life, I do not see why you should do it .

- Remember - Your work is also life.
- Think about it - Would your life happen if there was no work ?
- Should we think of only economic aspects or there is something more than this ?
- Should be ever make this demarcation that there is something called as work and life.
- Believe me - There is life and life.
- We need deal with different aspects of life . That is the reality.
- We all probably invest more hours at your workplace than anywhere else.
- When this is so, is it not important that we turn this into a beautiful experience ?

This is mainly because people are suffering their work. One who knows the joy of activity will not want a break. Work needs to be a love affair. If for some reason we work 20 hours a day, we should not feel something has been taken away from us. If we constantly strive to create whatever we care for, whether we are in workspace or on the street, we will always feel like you are on a holiday. The physical body needs a break sometimes, but if we need a break from work, that means we are doing something we do not really care for. If we are doing something we truly care for, why would we want a break?

One of the important things that we all should do is - I know people are trying to keep them apart , but I would say it is mistake - allow family conversations also to revolve around various things that you are doing as a part of work. This will build a completely different level of trust and better understanding . And you do not know what kind of insights may come from trusted people- not some other commentators - who are external observers of your work activity. People who you trust and who you love and want you to succeed - their input may be extremely valuable. It may your spouse , may be your children , your parents, you do not know.

So I think there should be no such demarcation. Why cannot work conversations be very interesting if you are creating something ? Family could get involved in it and when you are at home , though you may not be actually working hands-on , you could still be thinking and evolving things for tomorrow or for the future.

We all see that the " Thank God it's Friday" culture, which essentially comes from western world and it is growing in India. That means people are dead for five days a week and only live on weekends. Is that the good way to live .

Think about it , Think about it seriously . It is very wrong for people to work for five days and live for two days in a week . It is a very horrible way to live. You must live all the seven days

Life is beautiful …..

Wishing you most & more

Have a great day !

R.Ramakrishnan