

Mechanical **Aspire**

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 38

Interesting Facts

Difficulties associated with the Nobel Prize started even before the world's most prestigious award was first given out in 1901. See our list below of favorite tales and factoids, some offered up by the laureates themselves

1. Mincing words. Laureates can't speak off the cuff during the awards ceremony banquet, according to 2013 Nobelist Randy Schekman who won for his research into cellular transport. He says the text for that speech must be turned in to the Nobel Foundation more than 24 hours in advance to allow for translation into Swedish.

2. Doing time. Three laureates were in prison when they received the award, all of them winners of the Nobel Peace Prize. German pacifist and journalist Carl von Ossietzky in 1935, Burmese politician Aung San Suu Kyi in 1991 and Chinese human rights activist Liu Xiaobo in 2010.

3. How much is it worth? Physics winner Leon Lederman, who won in 1988 for his co-discovery of the muon neutrino, sold his Nobel earlier this year to cover medical care expenses. The buyer, whose identity was not released by the auction house, paid [\\$765,000](#) for it. Only two Nobels have ever been sold during a winner's life. Both such sales occurred in the past year.

4. Return policy. Russian billionaire Alisher Usmanov paid \$4.7 million to buy the gold Nobel medal awarded to biologist James Watson for his work deciphering DNA's double helix, but he then [gave the medal back](#) to the laureate. Usmanov said the medal should [remain with the winner](#) and that the monies he paid for it should go toward research.

5. Pesky security. Nobelist Brian Schmidt, who won the 2011 Nobel Physics Prize for co-discovering dark energy, had trouble bringing his gold medal through airport security. "You would think that carrying around a Nobel Prize would be uneventful, and it was uneventful, until I tried to leave Fargo, [North Dakota,] with it and went through the x-ray machine," he says. (Read more about it at [Scientific American](#))

6. Over the hill? The average age of Nobel laureates, across all prize categories, is [59](#). But the oldest prizewinner was 90-year-old Leonid Hurwicz, who won the Economics Nobel (technically called the Sveriges Riksbank Prize in Economics Sciences in Memory of Alfred Nobel) in 2007. The youngest winner is Malala Yousafzai. She won the Peace Prize in 2014 when she was 17 years old.

7. Where's my cash? Adolf Hitler forbade three German Nobel laureates from accepting the Nobel Prize—Richard Kuhn (Chemistry, 1938), Adolf Butenandt (Chemistry, 1939) and Gerhard Domagk (Physiology or Medicine, 1939). Later, all of them eventually went on to receive their diploma and medal but not the prize cash.

8. Rocky start. In [November 1895](#) Swedish chemist Alfred Nobel signed his last will and testament, setting aside most of his wealth for the establishment of the Nobel Prize after his death. At the time his move caused controversy. His family contested the will and his selected award committee also refused to carry out his wishes. It was five years before the first Nobel was awarded.

9. Do-over. When John Bardeen co-won the Physics Nobel in 1956 for helping develop a theory of superconductivity commonly known as the BCS theory (after its inventors' initials), he left most of his family at home rather than bringing them along for the awards ceremony. "His son [told me](#) that his father wanted them all to stay in school and study for whatever tests they had," explains *Scientific American* video editor, Eliene Augenbraun. "He was loath to take time off work himself." The king of Sweden noted the absence at the ceremony and scolded Bardeen. The laureate promised he'd bring them "the next time." Then, in 1972 Bardeen indeed won a second Nobel (making him the [third](#) person in the history of the prize to win twice). That time, he made sure to bring his entire family.

10. Time of death. In the 1970s the Nobel Foundation decided a prize could not be awarded posthumously (previously, it had been given out twice to dead people). Yet in 2011 one winner in Physiology or Medicine, [Ralph Steinman](#), actually passed away three days earlier without the awarders' knowledge. The Foundation decided not to rescind his Nobel.

11. Turnaround time: There is often a substantial delay between when a scientist makes a Nobel-worthy discovery and receiving the award—the average time varies from [20 to 30 years](#), depending on the award category. Sometimes the wait is even longer: In 1966 Peyton Rous was awarded the Physiology or Medicine prize for his work on viruses that can cause tumors, a discovery that was based on research done in the early 1910s, a difference of roughly 50 years. On the other end of the spectrum, in 1957 Chen Ning Yang and Tsung-Dao Lee received the Physics prize for work on the parity laws in particle physics—work that had been done in 1956.

Reproduced From <https://www.scientificamerican.com/article/12-surprising-facts-about-nobel-prizes/>

Info to Alumni- Campus Update

Smart India Hackathon 2017 (World's biggest Hackathon) digital programming competition organized by MHRD, Government of India

SSN is identified as Nodal center for 15 Engineering colleges to conduct this competition on behalf of MHRD & AICTE-SRO. Our Principal, **Dr. Salivahanan** is nominated as **Smart India Hackathon 2017 Ambassador** by SRO, AICTE



Message from Ms.Nanda , Student Counselor-
A workshop will be held on the topic **"Understanding and Practicing the Key Elements of Personality for Personal and Professional Excellence"** for the second and third year rural scholarship students on 28/01/2017 and 11/02/2017.

Ms.P.Kaythry, NSS Program Officer writes -
As a part of SSN - NSS activities, we are conducting Annual special camp at Kayar village, Thiruporur Taluk, Kanchipuram Dist. from 26th Jan to 1st Feb 2017.



Dr.S.Joseph Gladwin , YRC Program Officer ,writes..

The three day Village camp was organised by YRC (Youth Red Cross) team of SSN Institutions during 26 - 28 January, 2017 at Siruthavur Govt. Middle School, Kancheepuram District.

Mr.A.S.Sriram, Senior Manager-Placement, writes..

We had 4 days of Aptitude Training from Jan 17th to Jan 20th and 4 days of Technical Training Program from Jan 21st to Jan 25th.

The objective of the training program is to prepare the students to do well in campus recruitment tests.

Students were exposed to the standard test procedures followed in IT Services/Products/Core companies during this training period.



Working Saturdays Change Info

With effect from Third week of Jan 2017,

all even Saturdays will be working days and all Odd Saturdays will be holidays.

Third Year Student Arivazhagan releases his third book- a collection of Tamil poems. In fact, his passion for publication has gone to the extent of starting a publishing venture himself , under the name “Mathi publications” with the catch line “Puthiya Sinthanai, Puthiya Muyarchi”. Anyone interested in getting their works published can contact him at arivazhagancm@gmail.com or through mobile / whatsapp at +91 73733 33078



“ஏ மனிதா” என்னும் இந்த கவிதை நூல் பல சிறு கவிதைகளைக் கொண்டு இன்றைய இளைஞர்களைப் படிக்கத் தூண்டும்படி எளிய நடையில் எழுதப்பட்டுள்ளது குறிப்பிடத்தக்கது.

இக்கவிதைத் தொகுப்பை பகுத்தறிவுக் கருத்தில் தொடங்கி, தன்னம்பிக்கையை விதைத்து, காதல் பாடம் சொல்லி, தலைவனுக்கான இலக்கணத்தையும் தொட்டு நிறைவு செய்திருக்கிறார்.

விதைக்காமலேயே முளைக்கும் மீசை போல கவிதைகள் இயல்பாக வந்து விழுந்திருக்கின்றன.

.....excerpts from the Foreword by Dr.K.Murugesan, SSNCE

External Recognition

Open Innovation idea Selected

Jan25 -The proposed product oriented project idea submitted by Dr.N.LakshmiNarasimhan, has been selected by L&T Technology Services for the second round of presentation in their Open Innovation Contest conducted by one of its initiatives "TechGium" exclusively for open innovation. The chosen industrial problem was on conservation of energy in passenger cars.



Final Year Students involved: Aravind S, Aravind Kumar and Bhoopal G.P.

Invitations for Review



Dr M S Alphin, Associate Professor was assigned as a advisory committee member for 7 th International conference on Advances in Science Engineering and Technology (7 ICASET 2017) be held on April 24th 2017 at Rajiv Gandhi Institute of Technology, Bangalore,India.
Website: <http://icaset.co.in>

Dr M S Alphin, Associate Professor, Advisory Committee member for ICTES 2017,International Conference on Technology and Environmental Science 2017 to be held in Canada 10 - 12 May, 2017.
website: <http://ictes.coreconferences.com/>

Dr.G.Selvakumar, Associate Professor, Reviewed a manuscript titled " Closed-cell Aluminum Foam Sheets in CO2 Laser Forming: Experimental Investigation and Statistical Analysis" for 'Archives of Civil and Mechanical Engineering', Elsevier



Dr.B. Anand Ronald, Assoc. Prof./ Mech, has been invited to be a reviewer for Recent Innovations in Production Engineering (RIPE) Conference during March 24 -25, 2017, to be conducted by Anna University (MIT Campus), Chennai

Invitations for Lecture



Dr. N. Nallusamy, Professor, delivered two lectures (Thermal Energy storage systems and Simulation of TES systems) and Dr.M.Suresh delivered one lecture in TEQIP sponsored one week workshop on Thermal energy systems-optimisation of design for fluid flows and heat transfer, organised by Sree Vidyanikethan Engg. College, Tirupati, AP



Papers published/ accepted

Dr. K. S. Vijay Sekar and Dr. S.Suresh Kumar, Associate Professor's paper titled, " Impact of Cutting forces and Chip microstructure in High Speed Machining of Carbon fiber – Epoxy composite tube" has been accepted for publication in Archives of Metallurgy and Materials, an Anna University, Annexure I journal, indexed in Thomson's Reuters. The paper is coauthored by our 2014 passed out M.E. Manufacturing students, Y. Allwin Roy and K. Gobivel.



Dr.K.S.Vijaysekar



Dr.S.Sureshkumar



Dr.S.Somasundaram



Dr.K.Subbaiah

Dr. S. Soma Sundaram published a paper titled "Numerical Analysis on a Novel Burner Design With Fibonacci Curves", in Indian Journal of Science and Technology, Vol 9(46), December 2016. The paper was co-authored by S. Dinesh Kumar, PG student.

Papers presented

Dr.K. Subbaiah, Professor, Online Paper Presentation, International Conference in Advanced Material Technologies (ICAMT-2016) at Dadi Institute of Engg and Technology, Visakhapatnam, Andhra Pradesh, "Comparative Evaluation of Friction stir Welding of Wrought AA5083-H111 and Cast Al-Mg-Sc Aluminum Alloys". This Paper will be Published in Elsevier-Materials Today-Proceedings very soon. [27, 18-12-2016]

Research Activities



Dr.L.Poovazhagan, Associate Professor, Mechanical Engineering, attended first DC meeting of the scholar Mr.K.Babu (Reg.No:17122191164), who is pursuing Ph.D under guidance of Dr.A.Ganavelbabu, Associate Professor, Department of Industrial Engineering, Anna University, Chennai. [3-1-2017]

Dr.L.Poovazhagan, Associate Professor, Mechanical Engineering, attended first DC meeting of the scholar Mr.K.T.Sunu Surendran (Reg.No:17192191209), who is pursuing Ph.D under guidance of Dr.A.Ganavelbabu, Associate Professor, Department of Industrial Engineering, Anna University, Chennai. [3-1-2017]

Dr.L.Poovazhagan, Associate Professor, Mechanical Engineering, convened first DC meeting of his scholar Mr.A.Arun (Reg No: 17192991189).[5-1-2017]

Dr.G. Selvakumar, Associate Professor, conducted first DC meeting for his Ph.D. (Part-Time) scholar Mr.S.R.Benin. [7-1-2017]

Dr.G. Selvakumar, Associate Professor, conducted first DC meeting for his Ph.D. (Part-Time) scholar Mr. Renjin J Bright. [9-1-2017]

Dr. K.S.Vijay Sekar, Assoc.Professor, attended a DC meeting for a PhD research scholar at VIT University, Chennai. [11-1-2017]

Dr M S Alphin, Associate Professor, attended the Doctoral Committee Meeting of Mr. Sai Dheeraj Boddupally (16PHD1061), External Part Time Research Scholar on 11th of January 2017 (Wednesday). Venue: VIT Chennai on the research topic "Comprehensive Analysis of The Control Valves" [11-1-2017]



Dr.K.Jayakumar

Dr. K. Jayakumar, Associate Professor has conducted first DC Meeting for his part time PhD scholar (Mr. T. Suresh) on 11.01.2017.

Dr.V.E.Annamalai conducted first DC meeting for his Full Time Research Scholar P.Sabarinathan on 23-1-2017.

Dr. S. Rajkumar, Associate Professor conducted the First DC meeting for his PhD Scholar Mr. P. Mohanavelu on 18.01.2017.



Dr.S.Rajkumar

Dr.D.Anantha Padmanaban attended the DC meeting conducted by Dr.A.K.Lakshminarayanan, for his Scholar Mr.Rajasekaran on 19-1-2017



Project sanctioned

Project News

Dr. G. Selvakumar, Associate Professor, received a sponsored research project titled 'Investigations on Wire Electrical Discharge Machining (WEDM) of low conductive materials' from SERB, New Delhi for Rs. 30 Lakh.

Projects Proposed

Dr. A. K. Lakshminarayanan, Assoc. Prof., Mech, Submitted three project proposals

1. An exploratory investigation on similar and dissimilar friction stir welding of stainless steels for rail coach applications to AICTE under RPS scheme worth of Rs. 20.8 Lakhs [4-1-2017]
2. Experimental and numerical evaluation of crashworthiness of dual phase top sections welded by friction stir welding process variants to DST-SERB under EMR scheme worth of Rs. 29.5 Lakhs
3. An exploratory investigation on the zone wise properties of fusion and solid state welded creep strength enhanced ferritic-martensitic steel joints", for a budget of Rs. 34,91,228, under the -SERB ECR scheme



Dr. N. Lakshminarasimhan, Assoc. Prof/ Mech., Submitted a Project Proposal titled Studies on the Melting/Solidification of Nano-PCMs in the Presence of a Wire Mesh Inside a Spherical Enclosure, to AICTE under RPS. Rs.12.55 lakhs [2-1-2017]



Dr. N. Nallusamy, Professor, submitted a project proposal titled "Effects of blending ratio and injection timing on recycled-oxidised paint waste oil/diesel fueled Reactivity Controlled Compression Ignition Engine: A parametric study" to AICTE under RPS scheme. Fund requested is Rs.11 Lakh. CO-PI: Mr. Jayakishan [3-1-2017]



Dr.L.Poovazhagan



Dr.S.Rajkumar



Dr.K.S.Vijaysekar

Dr.L.Poovazhagan, Associate Professor, Mechanical Engineering, submitted a project proposal worth Rs 14,00,000 to AICTE-RPS. [5-1-2017]

Dr. S. Rajkumar, Associate Professor submitted a project proposal entitled "Modeling and experimental investigations of effect of injection timing and multiple-injection on NOx emission mitigation" under AICTE RPS for an amount of Rs. 1150000/-.[5-1-2017]

Dr.K.S. Vijay Sekar, Associate Professor, submitted a project proposal titled " Finite Element Analysis of Metal Matrix Composite Machining with Three Dimensional Simulation Models" to SERB - DST, under the EMRF Scheme.Rs.15.41 lakhs

Dr.V.E.Annamalai submitted a proposal under SCST Training Centre scheme for a fund of Rs.25 Lakhs., to AICTE

STUDENT ACTIVITIES:

Second Year

Sekkappan, Second Year, Designed and fabricated an RC plane for the Boeing national aero modeling competition held at IIT madras. He Cleared the first round with cut off glide time and was awarded a reimbursement of Rs.5000/- by Boeing India [2-1-2017]

D Vishal of Second Year attended an NSS Camp [26 to 28-1-2017]

Third Year

R Sai Santhosh of Third Year undertook a project at IGCAR. [15-10-2016 to 31-12-2016]. Also, He scored 84% in the NPTEL course "Theories and Practices on Non-Destructive Testing".

Shanmuga sankar of Third Year did an Internship at "Flintobox" regarding the kid's app market and providing feedback towards the making of an app [03-12-16 to 06-01-17]

Suuraj Narayanan of Third Year participated and entered the top 8 in the light music band event at Saarang (IIT-M Cultural Festival) [7-1-2017]

Rajagopalan K of Third Year did an internship at Ashok Leyland Centre, Vellivayal Chavadi [15-12-16 to 16-01-17]

Final Year

Visveshwar N, Srivatsan R and Padmashravan M of Final Year are doing their Industrial project at Department of Quality, Global data insights and analytics, Ford India Private Limited, since 2-1-2017

Rajkumar of Final Year is undergoing an Internship in Renault-Nissan automobile India Private limited at sipcot industrial estate in oragadam in the plant engineering department, since 5-1-2017

Tamilarasan R of Final Year underwent an Inplant training at wheels India Padi Chennai [09-01-17 to 13-01-17]

Sathianandan of Final Year did an internship at the layout & piping dept. of sSaipemIndia projects Ltd., Nungambakkam, Ch-34 [26-12-16 to 13-01-17]

S Vishakaraj of Final Year is undergoing an internship at Ashok Leyland, since 15-1-2017

Satish Kumar of Final Year attended an NSS Camp. [26-01-17 to 28-01-17]

Industry Interaction

Dr.N.LakshmiNarasimhan arranged an Interview for two M.E. (Energy Engg) students of final year for 6 months Internship at Ecologikol Advisors India Pvt. Ltd. Venkatasubramanian and Safinudeen are the two students. [16-1-2017]

Murugappa Morgan Thermal Ceramics Ltd (MMTCL) has approached us for a solution to their heat transfer issue in a new product. Dr.N.LakshmiNarasimhan had a discussion with their rep and there are opportunities for collaborative research work, as part of resolution to the problem identified.



Prof.VE.Annamalai conducted a two day training program for Ashok Leyland team on "Innovation with TRIZ", during Jan 27 and 28, 2017.

Aspects of Innovation, how companies innovate, techniques of Innovation were briefed before a deep dive into TRIZ.

The TRIZ methodology was covered step by step with several industrial examples. The photo shows the team seriously involved in solving a problem using the TRIZ methodology.

Thanks to Mr.B.Thennarasu of Ashok Leyland Ltd who took the initiative to arrange this program, after listening to me at CII Seminar- VeA

Teachers' Conclave on 'Pursuing excellence in teaching', was conducted on Jan 7, 2017 by Prof. K.T.Selvan, in association with ISTE.

I did not register but went for the inaugural. The proceedings were so good, I stayed back till the end of the program. Dr.Selvan's view that "Trust deficit on faculty leads to a lot of documentation" was very thought provoking- particularly when we are amassing documentary evidence for NBA! All speakers brought in totally different dimensions. On the whole, it was a rewarding experience to reflect on various aspects of a Teaching activity.

Mr.B.S. Raghavan was a great find. At 90, the way he stood and faced us - was amazing. He also casually mentioned some Kural of his own and joked it as " பல ஜோலிகளுக்கு நடுவே திருவள்ளுவர் சொல்ல மறந்த குறள் ". Also his introduction of Bhavanandhi Munivar and his poem on teaching learning was striking. Sharing them for the benefit of all.

திருவள்ளுவர் தன்னுடைய பல ஜோலிகளுக்கிடையே கூற மறந்து விட்ட குறள்கள் ;

குடிமக்கள் என்போரின் குணத்தைப் பொறுத்தேயாம்
மடிவதும் வாழ்வதும் நாடு .

தறிதலையாய்த் திரியும் தரங் கெட்ட குடிமக்கள்
வரலாறு படைத்தலிலர் .

ஒழுங்கின்மை நீதிஉணர்வின்மை விழிப்பின்மை
முழுதின்மைக்கிழுத்துச் செலும் .

விண்மிசைப் பகலவன் போல் ஓங்கிடுமே பிறிதெல்லாம்
பெண்ணினம் ஓங்கப் பெறின் .

நாள் தொறும் வளம் பெருகித் தரமுயரும் நாட்டில்
தோள் கொடுப்பின் இளைஞர் குழாம் .

பவணந்தி முனிவர் தானியற்றிய நன்னூல் என்ற துத்திரத் தொகுப்பில் கொடுத்துள்ள ஆசிரியனது இலக்கணம் :

ஈதலியல்பே இயம்புங் காலைக்
காலமுமிடனும் வாலிதினோக்கிச்
சிறந்துழியிருந்துதன் தெய்வம் வாழ்த்தி
உரைக்கப்படும்பொருள் உள்ளத்தமைத்து
விரையான் வெகுளான் விரும்பி முகமலர்ந்து
கொள்வோன் கொள்வகை அறிந்தவன் உளங்கொளக்
கோட்டமில் மனத்தின் நூல் கொடுத்தலென்ப .

A good faculty should rehearse what he is going to say in class. He must understand the capacity of the students and accordingly present his points. Never hurrying, never getting angry, with great passion , and pleasure displayed in face- he shall deliver the content!

The one day workshop on “Heat treatment of welded structures” took place on 20/01/2017 at Hotel Radha Regent, Chennai.



This lecture was part of the training programme jointly conducted by Indian Institute of Welding, Chennai Chapter and American Welding Society.

It should be mentioned that Indian Institute of Welding, Chennai Chapter bagged the best Chapter in India award last year. Dr.S.R.Koteswara Rao, Dr.S.Vijayan, Dr.D.Ananthapadmanaban and Dr. KL.Harikrishna attended the workshop.

The first session dealt with basics of atomic physics, diffusion and heat transfer. Mr Bloch who conducted 4 sessions on that day took pains to explain the basics of Metallurgy, especially to participants from Industry. The ping pong ball analogy to explain diffusion was well received by the audience.

The next 2 sessions dealt with pre and post weld heat treatment of welds. Some case studies were discussed especially regarding welding of P91 and 92 steels and Chromium –Molybdenum Steels.

The programme was nicely ended with a lecture and demonstration of Induction heating furnace and some aspects of corrosion of welded structures. We also had informal discussions with Dr.Hasan Sheikh and Dr.Shaju Albert from IGCAR, Kalpakkam and we hope to continue our synergistic relationship with Indian Institute of Welding and IGCAR in all our future endeavours also.

Dr.D.ANANTHAPADMANABAN

It may seem outrageous to call Nobel Prize winner Dr.Subramanyam Chandrasekar as simply Chandra, but then I pray to be forgiven. One can write about another person clearly only when this type of informality is maintained. Over the last few days, I have been reading the book-S,Chandrasekar- Man of Science-Edited by Radhika Ramnath and I have sort of developed a feeling of closeness to Chandra's values and integrity.

It is not often that one gets to read details of the life of Nobel Prize winners and I think I am lucky to do so. I would like to share some of Chandra's traits so that the readers of this article are inspired.

The book which I borrowed from SSN Central Library contains a series of talks ,both by him as well as relatives close to him. It is not very technical, except for some discussions on Einstein's theory of relativity, Kepler's theories and a few others. The book talks more about his qualities that stood out and made him so exceptional.

Some of the qualities are as follows-

- Firm conviction in the line that he was following,
- ability to listen to one and all, irrespective of who the speaker was,
- ability to integrate different fields of study like physics, astronomy, mathematics and chemistry
- Great Patriotism and love for his motherland India-He used to visit India as often as possible and discuss the future of India with Scientists and Prime Ministers
- Ability to look at a problem from very many angles
- A great affinity to his roots in Mylapore, Chennai, Marina Beach and Alma Mater Presidency College, Chennai.
- I do not know if all Nobel Prize winners were as down to earth as Chandra was and as concerned about their motherland, but all I can say is-here is one Nobel Prize winner from India worth emulating.

Smart India Hackathon 2017 (World's biggest Hackathon) digital programming competition organized by MHRD, Government of India

SSN is identified as Nodal center for 15 Engineering colleges to conduct this competition on behalf of MHRD & AICTE-SRO. Our Principal, **Dr. Salivahanan** is nominated as **Smart India Hackathon 2017 Ambassador** by SRO, AICTE and **Dr. N. Nallusamy**, Professor / Mechanical is nominated as **Nodal Officer** by our college to coordinate the related activities with linked institutions (15 colleges) and conduct the Smart India Hackathon 2017 competition in SSN campus in March 2017.

'Smart India Hackathon 2017' is a pan India 36 hour nonstop digital programming competition. The participating student teams will simultaneously compete from across 33 locations in India to offer digital yet sustainable innovative solutions to solve real time challenges faced by the nation. It will harness the creativity of millions of bright young minds of students. 29 ministries have given their problems (around 590) for getting solution from **'Smart India Hackathon 2017'** project scheme. Six students per team and ten teams (10 project ideas) per college can submit the project ideas. Last date for submitting project ideas is 31st January 2016. Ten student teams from SSN have submitted their ideas before the deadline.



As instructed by AICTE-SRO a meeting has been arranged with Faculty Coordinators and Student teams from linked Institutions on 30th January 2017 in Central Seminar Hall to explain about 'Smart India Hackathon 2017' scheme and encouraged the students to submit project ideas. More than 200 hundred students and 9 faculty coordinators from KCG CT, St. Joseph's Engineering College, St. Joseph's College of Technology, Mohammed Sathak Engg. College, SRR Engg. College, Agni College of Technology, Asan Memorial College of Engg & Tech, Anand Institute of Higher Technology and Dhanalakshmi College of Engg and Tech. have participated in the discussion session.

Contribution of Books, Notes and Study Materials !!!

- A Tribute to Prof. R. V. Seeniraj (late), former Professor of Mechanical Engineering, Anna University.

Dear Readers!! To share with you on a sad note, the recent demise of an eminent Professor par excellence Dr. R.V. Seeniraj, former Professor of Mechanical Engineering, Anna University, Chennai, on Nov 20, 2016.

A pioneer in the field of Energy Storage using Phase Change Materials (PCMs), he was an authority in a wide range of subjects like Heat Transfer, Plasma Physics, Energy Storage, Mathematics, Thermal Engineering and Fluid Mechanics. He played a key role in the development of Thermal Engineering division of Anna University.

Having associated with him the last 20 Years commencing as M.S. Research scholar under his guidance way back in 1997, I had a great learning experience under him. Fondly called as RVS, he is well known and respected by his peers across IISC, IITs and Premier Institutions abroad and also in our country. His compassion towards the poor, thirst for knowledge and concern for students are beyond any words to describe about.

As his last wish just days before his demise, he wanted to gift a major portion of his life time collections - *books in the subjects mentioned above, notes, important writeups, solutions manuals in heat transfer that he had personally worked out and so on* along with his Steel Cupboard to the students of SSN.

Fulfilling his last wish *was possible* due to the kind and generous support from our Institution. I wish to thank our *Principal* for the very kind gesture accepting and accommodating the books and notes in our Department's Library for permanent use by the student community.

A special thanks to our HOCF for his kind consent and immediate support extended towards addressing the transportation needs. A special thanks to Mr. Jayakumar R (Electrical Engineer -Maintenance and Mr. D. Dakhshanamoorthy (Transport Incharge) for their kind support and transport facility extended.

I am glad to convey my thanks to Mr. Lasser who drove the vehicle under a heavy traffic in the peak hours and my dear students of III Mech (section-B), Mr. Sachin, Mr. Sailless Giridharan, Mr. Sai Santhosh R and Mr. Prashant M whose timely help made it possible bringing the treasure all the way from Velachery to SSN !!

I am sure all of our students would receive the Blessings and Knowledge of the revered Professor through his contributions in the years to come !! I join with you all in offering my sincere prayers for his great soul to rest in peace with Almighty!! The list of books, notes and other subject materials contributed by Prof. RVS to our department library is under compilation and will shortly be made available for our students as per the regular procedure followed in the issue of books.

With Obeisance & Thanks to Prof. R.V. Seeniraj

N. Lakshmi Narasimhan

BIG DATA / DATA ANALYTICS / DATA SCIENTIST

by S. Muralidharan, Technology & Business Consultant

CEO - MECH VIGYAN (Centre For Research, Innovation And Training)

Dear Readers !! Got to know about Aspire !! Inspired by its knowledge flow, wish to contribute as an external member a few thoughts on key areas for student's career growth and future prospects. Wish to stay connected with you all and please have this article as a first part of the sequence !! Hope you find this useful !!



Career Planning - General

Today's professional life is very dynamic and to move along with it we need a proper career planning. When you start your career as a software developer, you really do not know how exactly you will perform in the industry, though you have confidence that whatever you do, will be done in the best way. So take some time to investigate yourself, what are your major strengths and weaknesses and based on at least 3-4 years of experience you can come up with different options:

Do you want to continue as software developer forever, which could be a very good option and there are many people, who love coding forever.

If you are very good in designing software components and your past designs have been appreciated a lot, then you can think to go in technical side and become software architect.

If you are very good in managing things, have good command over people and have great convincing abilities, then you can think of going towards management role, which will start with leading a small team.

If you are very good in managing things and at the same time you have great architectural sense, then you can think of becoming techno-manager, where you will keep contributing in designing components and will manage team and projects.

Whatever it is, you must be aware of where do you want to reach. Once you are sure about this, you should start working in the same direction starting from your project preference till your trainings and certifications. Your current organization may not be giving you appropriate opportunity to reach your desired destination then you can wait for right time and make a move to other good organization but it should not be very frequent. I have seen guys doing monkey jump every six months from one organization to another one just because of little hike and it's being done without a proper thinking and proper planning but these fellows do not know what they are losing in long run.

You can discuss about your career path with your manager/line manager and most of the organizations have standard career path defined for their employees, so you can check if it suits your interests and work accordingly.

When to make a move?

This is very interesting question that when I should move to another organization, but I cannot answer it in simple words. You know your career path and if your current organization is enough to put you at your final destination, then why do you want to leave it. Leaving an organization just because of few bucks is never a good reason, even leaving organizations too frequently is not a good idea though you are getting great position and big hikes, this is simply because you are losing your credibility and none of the good companies will rely on you because you are always behind money and position, so who knows when you will leave them.

If you have some internal HR or Management issues within your organization, then try to resolve them because you never know your next organization may have even bigger issues than your current organization. You can discuss your issues with your manager, director or with HR and resolve them gracefully.

If you see no further growth and good career options in the current organization and same time your learning curve got saturation, then it's time to make a shift to another organization. There may be a situation when you are not getting a fat salary and having great position in your current organization but you are learning a lot, which will add a lot of value in your resume and your career, then better to stick with the current organization until your learning is over.

To summarize, it is easy to do just coding but to become a good programmer i.e., software developer needs some hard work and dedication in doing lot of practice. There could be a list of thousands of best practices, which can be listed down by veteran software developers but let us eat the quantity, which we can digest easily.

DATA ANALYTICS AS A CAREER

Industry influencers, academicians, and other prominent stakeholders certainly agree that big data has become a big game changer in most, if not all, types of modern industries over the last few years. As big data continues to permeate our day-to-day lives, there has been a significant shift of focus from the hype surrounding it to finding real value in its use.

While understanding the value of big data continues to remain a challenge, other practical challenges including funding and return on investment and skills continue to remain at the forefront for a number of different industries that are adopting big data. With that said, a Gartner Survey for 2015 shows that more than 75% of companies are investing or are planning to invest in big data in the next two years. These findings represent a significant increase from a similar survey done in 2012 which indicated that 58% of companies invested or were planning to invest in big data within the next 2 years.

Generally, most organizations have several goals for adopting big data projects. While the primary goal for most organizations is to enhance customer experience, other goals include cost reduction, better targeted marketing and making existing processes more efficient. In recent times, data breaches have also made enhanced security an important goal that big data projects seek to incorporate.

Data Science vs. Big Data vs. Data Analytics

Data Science: Dealing with unstructured and structured data, Data Science is a field that comprises of everything that related to data cleansing, preparation, and analysis.

Data Science is the combination of statistics, mathematics, programming, problem solving, capturing data in ingenious ways, the ability to look at things differently, and the activity of cleansing, preparing, and aligning the data.

In simple terms, it is the umbrella of techniques used when trying to extract insights and information from data.

Big Data: Big Data refers to humongous volumes of data that cannot be processed effectively with the traditional applications that exist. The processing of Big Data begins with the raw data that isn't aggregated and is most often impossible to store in the memory of a single computer.

A buzzword that is used to describe immense volumes of data, both unstructured and structures, Big Data inundates a business on a day-to-day basis. Big Data is something that can be used to analyze insights which can lead to better decision and strategic business moves.

The definition of Big Data, given by Gartner is, "Big data is high-volume, and high-velocity and/or high-variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision making, and process automation".

Data Analytics: Data Analytics the science of examining raw data with the purpose of drawing conclusions about that information.

Data Analytics involves applying an algorithmic or mechanical process to derive insights; for example, running through a number of data sets to look for meaningful correlations between each other.

It is used in a number of industries to allow the organizations and companies to make better decisions as well as verify and disprove existing theories or models.

The focus of Data Analytics lies in inference, which is the process of deriving conclusions that are solely based on what the researcher already knows.

Applications of Data Science:

Internet search: Search engines make use of data science algorithms to deliver best results for search queries in fraction of seconds.

Digital Advertisements: The entire digital marketing spectrum uses the data science algorithms - from display banners to digital billboards. This is the main reason for digital ads getting higher CTR than traditional advertisements.

Recommender systems: The recommender systems not only make it easy to find relevant products from billions of products available but also add a lot to user experience. A lot of companies use this system to promote their products and suggestions in accordance to the user's demands and relevance of information. The recommendations are based on the user's previous search results.

Applications of Big Data:

Big Data for financial services: Credit card companies, retail banks, private wealth management advisories, insurance firms, venture funds, and institutional investment banks use big data for their financial services. The common problem among them all is the massive amounts of multi structured data living in multiple disparate systems which can be solved by big data. Thus big data is used in a number of ways like:

- Customer analytics
- Compliance analytics
- Fraud analytics
- Operational analytics

Big Data in Communications: Gaining new subscribers, retaining customers, and expanding within current subscriber bases are top priorities for telecommunication service providers. The solutions to these challenges lie in the ability to combine and analyze the masses of customer generated data and machine generated data that is being created every day.

Big Data for Retail: Brick and Mortar or an online e-tailer, the answer to staying the game and being competitive lies in understanding the customer in order to serve them better. This requires the ability to analyze all the disparate data sources that companies deal with every day, including the weblogs, customer transaction data, social media, store-branded credit card data, and loyalty program data.

Applications of Data Analysis:

Healthcare: The main challenge for hospitals with cost pressures tightens is to treat as many patients as they can efficiently, keeping in mind the improvement of quality of care. Instrument and machine data is being used increasingly to track as well as optimize patient flow, treatment, and equipment use in the hospitals. It is estimated that there will be a 1% efficiency gain that could yield more than \$63 billion in the global health care savings.

Travel: Data analytics is able to optimize the buying experience through the mobile/ web log and the social media data analysis. Travel sights can gain insights into the customer's desires and preferences. Products can

be up-sold by correlating the current sales to the subsequent browsing increase browse-to-buy conversions via customized packages and offers. Personalized travel recommendations can also be delivered by data analytics based on social media data.

Gaming: Data Analytics helps in collecting data to optimize and spend within as well as across games. Game companies gain insight into the dislikes, the relationships, and the likes of the users.

Energy Management: Most firms are using data analytics for energy management, including smart-grid management, energy optimization, energy distribution, and building automation in utility companies. The application here is centered on the controlling and monitoring of network devices, dispatch crews, and manage service outages. Utilities are given the ability to integrate millions of data points in the network performance and let the engineers to use the analytics to monitor the network.

To become a Data Scientist:

Education: 88% have a Master's Degree and 46% have PhDs

In-depth knowledge of SAS and/or R: For Data Science, R is generally preferred.

Python coding: Python is the most common coding language that is used in data science along with Java, Perl, C/C++.

Hadoop platform: Although not always a requirement, knowing the Hadoop platform is still preferred for the field. Having a bit of experience in Hive or Pig is also a huge selling point. SQL database/coding: Though NoSQL and Hadoop have become a major part of the Data Science background, it is still preferred if you can write and execute complex queries in SQL.

Working with unstructured data: It is most important that a Data Scientist is able to work with unstructured data be it on social media, video feeds, or audio.

To become a Big Data professional:

Analytical skills: The ability to be able to make sense of the piles of data that you get. With analytical abilities, you will be able to determine which data is relevant to your solution, more like problem solving.

Creativity: You need to have the ability to create new methods to gather, interpret, and analyze a data strategy. This is an extremely suitable skill to possess.

Mathematics and statistical skills: Good, old fashioned "number crunching". This is extremely necessary, be it in data science, data analytics, or big data.

Computer science: Computers are the workhorses behind every data strategy. Programmers will have a constant need to come up with algorithms to process data into insights.

Business skills: Big Data professionals will need to have an understanding of the business objectives that are in place, as well as the underlying processes that drive the growth of the business as well as its profit.

----- end of Part-1 -----

"Next Part of the Article will appear in our upcoming issue of Aspire Issue covering further details on Data Analytics" !! See you soon!!

Thanks to Mr.Muralidharan who came forward to share with us.
Thanks to Dr.N.LakshmiNarasimhan who discussed Aspire with him.

Scholar write up

I am **Praveen kumar. A** pursuing my Doctoral program under the guidance of Dr.M.Nalla Mohamed, Asso.Professor, Department of Mechanical Engineering.I am happy to inform that recently I have received the **provisional registration confirmation grant** order from Center for Research, Anna University to proceed further with the research work.

..... I had a recent visit to the **Bandung Institute of Technology (ITB), Indonesia** to conduct my experimental works in the Light Weight structures Laboratory available in the Department of Mechanical and Aerospace Engineering, between January 4, 2017 and January 21, 2017 to fulfill my Ph.D Research works.

Bandung Institute of Technology (ITB), Indonesia is one of the oldest Co-educational Research Technology-Oriented University in Indonesia, established in 1920. Bandung has cooler temperatures year-round than most other Indonesian cities and the third largest city in population.



Moments at Bandung Institute of Technology (ITB)

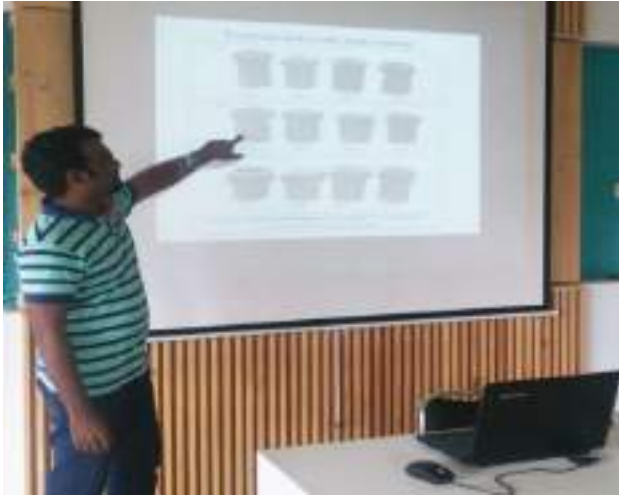


Myself and Professor Dr. Tatacipta Dirgantara

First of all, I express my deep and sincere gratitude to **Professor Dr. Tatacipta Dirgantara** for providing necessary testing facilities at ITB to carry out the experiments.

I departed from Chennai International airport on 4th Jan 2017, towards Jakarta via Malaysia at 8.05 am. I arrived at Soekarno–Hatta International Airport, Jakarta on 5th Jan 2017 at 08.00 am. Then my journey continued via shuttle bus from Jakarta to Bandung for 4 hours. I was accommodated at the ITB international guest house at Dago. After a few hours of rest, Mr. Afdhal, Ph.D Scholar guided me to ITB for a visit and shared information about the Bandung Institute of Technology.

On the first day, I made self-intro with the Professors in Light weight structures group. After a few minutes of discussion, Mr. Dio, Masters Student assisted me to aerospace laboratory where he gave a brief introduction about the machine and we discussed with the technician about the fixture for holding the samples. In the noon, I enjoyed with a series of presentations by postgraduate students who are working in the area of crashworthiness. They shared their research works.



Presentation at LWSG



Drop mass impact facility center (Drop mass impact)

On Monday (09/01/17) I gave a presentation with the LSG about test samples, sample types and experimental details required. **Dr. Leonardo Gunawan, Dr. Sigit Santosa, Dr. Annisa Jusuf, Dr. Harry Mohamed**, Faculties in the LSG gave their valuable suggestions. I used this report to thank them for their presence and valuable suggestions.

Next day, I started my trials with all preliminary arrangements in the impact tests. **Dr. Annisa Jusuf**, explained all about the test facilities, measurement techniques, etc. Later I did the actual impact tests on the specimens.

Around 80 specimens of different configurations were tested with various velocities and impactor mass. I would like to extend a special thanks to **Mr. Dio and Mr. Nguyen Van Nhat Vu** for their efforts in facilitating the impact tests. Without them, it is impossible to complete my experiments in the stipulated time schedule.



Drop mass impact testing machine



Tested Metal tube



Tested Hybrid composite tube

After completing my experimental works, **Mr. Afdhal Akbar**, Ph.D Scholar from ITB gave a brief introduction about the Split-Hopkinson Pressure Bar equipment which was developed by himself during his master degree. I greatly value their friendship and deeply appreciate their concern and support all times. Special thanks to Professor Dr. Sigit Santosa, for his encouragement, guidance and valuable suggestions.



Split-Hopkinson Pressure Bar equipment

I am really grateful to **Dr. Leonardo Gunawan**, Head of Graduate Studies, Faculty of Mechanical and Aerospace Engineering for giving permission to do tests even during holidays and for all necessary assistance regarding my experiments and stay.

I received a great help from a lot of people during my stay there, without them, I would not have completed my experiments. I would like to thank all the professors and students from ITB for giving the best and wonderful moments to cherish in life.

Finally, I would like to thank the SSN Management, The Principal, HOD and my Supervisor for permitting me to do a part of my research work at Bandung Institute of Technology, Indonesia.

This visit gave a pay-way to initiate the collaboration in future between the Department of Mechanical Engineering, SSN college of Engineering, Anna University, Chennai India and the Faculty of Mechanical and Aerospace Engineering, Bandung Institute of Technology (ITB), Indonesia.

Praveen had established this contact on his own- just through papers.
Having seen a test equipment being reported in a paper,
he took the initiative to ask them whether
They would permit him to use the equipment for his research.
Professor Dr. Tatacipta Dirgantara had immediately permitted, without any hesitation.
Praveen's initiative and ITB's support are appreciated- VeA

China begins operating world's largest radio telescope



On Saturday, Sept. 24, 2016 -photo released by Xinhua News Agency, an aerial view shows the Five-hundred-meter Aperture Spherical Telescope (FAST) in the remote Pingtang county in southwest China's Guizhou province. China has begun operating the world's largest radio telescope to help search for extraterrestrial life.

The world's largest radio telescope began searching for signals from stars and galaxies and, perhaps, extraterrestrial life Sunday in a project demonstrating China's rising ambitions in space and its pursuit of international scientific prestige.

Beijing has poured billions into such ambitious scientific projects as well as its military-backed space program, which saw the launch of China's second space station earlier this month.

Measuring 500 meters in diameter, the radio telescope is nestled in a natural basin within a stunning landscape of lush green karst formations in southern Guizhou province. It took five years and \$180 million to complete and surpasses that of the 300-meter Arecibo Observatory in Puerto Rico, a dish used in research on stars that led to a Nobel Prize.

The official Xinhua News Agency said hundreds of astronomers and enthusiasts watched the launch of the Five-hundred-meter Aperture Spherical Telescope, or FAST, in the county of Pingtang.

Researchers quoted by state media said FAST would search for gravitational waves, detect radio emissions from stars and galaxies and listen for signs of intelligent extraterrestrial life.

"The ultimate goal of FAST is to discover the laws of the development of the universe," Qian Lei, an associate researcher with the National Astronomical Observatories of the Chinese Academy of Sciences, told state broadcaster CCTV.

"In theory, if there is civilization in outer space, the radio signal it sends will be similar to the signal we can receive when a pulsar (spinning neutron star) is approaching us," Qian said.

Installation of the 4,450-panel structure, nicknamed Tianyan, or the Eye of Heaven, started in 2011 and was completed in July 2016.

The telescope requires a radio silence within a 5-kilometer (3-mile) radius, resulting in the relocation of more than 8,000 people from their homes in eight villages to make way for the facility, state media said. Reports in August said the villagers would be compensated with cash or new homes from a budget of about \$269 million from a poverty relief fund and bank loans.

CCTV reported that during a recent test, the telescope received radio signals from a pulsar that was 1,351 light-years from Earth.



The Five-hundred-metre Aperture Spherical Radio Telescope (FAST) is nestled between hills in the mountainous region of Guizhou.

The radio telescope has double the sensitivity of the Arecibo Observatory, and five to 10 times the surveying speed, Xinhua said.

China has also completed the construction of tourist facilities such as an observation deck on a nearby mountain, reports said. Such facilities can be a draw for visitors—the one in Puerto Rico draws about 90,000 visitors and some 200 scientists each year.

Read more at: <https://phys.org/news/2016-09-china-world-largest-radio-telescope.html#jCp>

http://english.cas.cn/head/201607/t20160702_165156.shtml



Legacy

The MRF story is a truly remarkable one. What started as a rubber balloon factory with a funding of Rs.14, 000 way back in the 40's is now a multibillion legacy that produces quality tyres used all around India & internationally along with a presence in paints & coats, toys, motorsports and cricket training

Origin

MRF's origin traces back to the humble shack in Madras that housed its first makeshift toy balloon manufacturing unit set up by KM Mammen Mappillai in 1946. It was not until 1952 when it changed course and turned to tread rubber manufacturing. Thus began its glorious reign as the undisputed leader in the tyre making industry.

International

By the early 60's, MRF was exporting its quality tyres to offices overseas in the U.S. & Beirut and soon made its presence known globally across 65 different countries - with tyres rolling out of 6 interdependent facilities built across 450 acres, 3000 strong dealer networks and 180 different offices.

Recognition

MRF is recognized for its drive towards continuous quality improvement and customer satisfaction. It has won the JD Power award not once but 10 times till date. It has also won the TNS and CAPEXIL awards for being voted as the most trusted tyre company in India

Pace Foundation

MRF shares a passion for quality tyres and fast cars just as it does for quality cricket and fast bowlers. It has chosen to associate itself with some of the world's best fast bowlers through 'Pace Foundation' - An academy that has trained legends such as Irfan Pathan, Munaf Patel, RP Singh, Bret Lee, Shoaib Akhtar, Glenn McGrath and many more. At a time when sports training was hardly a viable business proposition in India, the late Ravi Mammen defied all sports & business critics to set up Pace Foundation.

The foundation was born in the year 1987 to make up for the fact that the Indian cricket team lacked quality pace bowlers. He combined forces with the Australian pace legend Dennis Lillee to provide world-class training to potential bowlers, together with the understanding that it would be a long term process requiring patience and commitment

Motor Sports

MRF's passion for motorsports is seen through its involvement in racing, karting, rallying and various other motorsport events. Its rallying team has won the prestigious FIA Asia Pacific Rally Championship twice and even in international championships, MRF karting tyres homologated by FIA, is the preferred choice.

Products



Tyres



Sports Goods-Cricket bats, Junior Cricket kits, Protective equipment

Funskool

In 1987, MRF along with Hasbro, the US-based leader in children and family leisure-time products, started a new joint-venture named Funskool India. They started with a vision to help every child grow into a successful human being. This process helped them to emerge as the largest toy company in India today.



While small toy stores catered to the mass market, Funskool was eager to increase its footprint and the visibility of its many products in large formats. To achieve this, it opened its own retail stores. Funskool boasts a wide presence with as many as 16 warehouses to serve 4,000 retail outlets.

It also opened its first retail store in Chennai for one of its major partners 'Lego', the building-blocks brand.

Today, after being in the business for 25 years, the company has reported a growth of 20-25% and has set a target of around Rs 120 crore. With an aim to contribute to a child's extra-curricular development and a family's entertainment needs, Funkskool is geared for continued innovation to a widening audience. Visit <http://funskoolindia.com/>

Paints and Coats

MRF took the Indian Market by storm over a decade ago when it brought with it, for the first time ever, the ultimate new generation Polyurethane Coating (PU) Systems.

The MRF Polyurethane Coating Systems come in a variety of substrates that provide superior surface finish. It's used by various industries such as Automotive, Decorative and Industrial through a wide range of pigmented and clear shades across metallic, glossy and matte surface finishes.



Today MRF Specialty Coatings retains its leadership in the Polyurethane finish segment and is the preferred choice amongst dealers & customers. The company strives to deliver to its customers cost-effective, durable, eco-friendly and quality products. It has 2 fully equipped state-of-the-art manufacturing facilities in Chennai. <http://www.mrfpaints.com/>

Pretreads

MRF PRETREADS is the most advanced precured retreading system in India. MRF forayed into retreading as far back as 1970. Today, MRF has perfected the art of recured retreading with its extensive knowledge in tyres and rubber.

In the MRF PRETREADS system, the tread rubber is precured from MRF's factory in a carefully controlled environment, thereby ensuring world-class quality. Today, MRF PRETREADS has emerged as the Mileage leader in precured retreading and also has the specialized expertise required for retreading Radial Tyres of Truck, Bus, LCV and Passenger vehicle.

If you are interested in joining MRF, post your resume at <http://www.mrftyres.com/careers>

Amazing Innovation- 5

Very fuel efficient Unmanned Aircraft System

Vanilla Aircraft, LLC has announced its VA001 unmanned aircraft system (UAS) completed a non-stop, unrefueled 56-hour flight last month. A representative from the National Aeronautic Association has certified it as the world's longest duration flight for a combustion-powered UAV weighing between 50 to 500 kg (110 to 1,102 lb) – and the aircraft landed with enough fuel for another six days of flight.

Vanilla Aircraft is backed by the Department of Defense's Rapid Reaction Technology Office (RRTO and DARPA through Naval Air System Command (NAVAIR), with the aircraft's payload including a relay provided by NAVAIR that was operated continuously throughout the flight to test its functionality at maximum range. A multispectral imaging payload provided by NASA to demonstrate Earth science and agricultural sensing capabilities was also onboard.



"This record-breaking flight demonstrated the feasibility of designing a low-cost UAV able to take off from one side of a continent, fly to the other, perform its duties for a week, and come back – all on the same tank of fuel," said Jean-Charles Ledé, DARPA program manager.

"This capability would help extend the footprint of small units by providing scalable, persistent UAV-based communications and ISR coverage without forward basing, thereby reducing personnel and operating costs."

Reproduced from <http://www.darpa.mil/news-events/2017-01-04#>

Amazing Innovation- 6

The Cabin of your future car

The Panasonic Autonomous Cabin Concept looks more motorhome than car at first glance, combining vis-a-vis seating with a center table.

The table isn't designed for dining, though, as it's actually a four-panel interactive digital display system, serving up entertainment, information, productivity software and more. Panasonic's concept also explores other next-gen tech, like augmented reality, personal audio zones and facial recognition.



Panasonic's concept has four seats, each of which features its own next-generation 4K touchscreen display that can be set up in a variety of positions. Each individual display can be used independently for work, entertainment or other uses. All four units can also combine into a single, full-sized display table, keeping all the passengers entertained and engaged. Occupants can use the full-size display to review route maps, play digital games and more.

Smart materials around the Autonomous Cockpit look like unassuming interior trim but they do much more. The plastic surfaces are modeled to look like wood, metal and leather and are then backlit, acting as information displays, mood lighting and touch-sensitive control surfaces, according to Panasonic. A circular, removable "magic ring" controller interacts with the display table to control things like cabin temperature and lighting.

Panasonic's interior also includes a refrigerator and coffeemaker, along with a smart "magic mug" that works seamlessly with the display table. When the mug is placed on the digital table, the display automatically rearranges information around it so that it doesn't hinder the passenger's view of key information.

<http://news.panasonic.com/global/>

Amazing Innovation- 7

Smart Belt

Samsung C-Lab's Welt tracks one of the most important health metrics: waist size. Numerous studies have shown the size of your midsection can predict the risk of heart disease, diabetes and hypertension. While other health-focused wearables track stats like daily steps and heart rate – handy for seeing how much exercise you're getting, but not much else – Welt goes straight for this key predictor. It tracks changes in waist size over time and can make you more aware of bad eating habits or even minor waist gains (it can notify you if you've eaten a big meal and are bulging out a bit more).



Fortunately it doesn't look like the frighteningly-geeky images that the term "smart belt" may conjure: Apart from a charging port, it looks just like a regular, classy belt, and is sold in a variety of styles.

Welt doubles as a standard fitness tracker, logging your daily steps (it tracks any session of 20 or more steps), as well as idle time (sitting or lying) and estimated calories. The company says the belt's battery lasts 20 days, and it recharges in an hour via microUSB when you need to juice up.

<http://www.weltcorp.com/>

Amazing Innovation- 8

Graphene stronger than steel

A Research Team from MIT, found that by compressing small flakes of graphene under heat and pressure, they could create strong, stable porous structures that were similar to coral and had an enormous surface area to volume ratio. According to the team, these shapes allow the two-dimensional graphene to form strong structures in the same way that sheets of paper can be folded and rolled into much stronger forms, including cylinder and corrugations, that can hold substantial loads.

Using this as a starting point, high resolution 3D-printed models were constructed out of plastic of various configurations – similar to the "nerf-like" porous structures called gyroids that graphene form naturally, though thousands of times larger.

According to MIT, these shapes are so complex that printing is the only practical way to make them. These shapes were then tested for tensile strength and compression, and compared to the computer simulations.



The tests showed that graphene in a 3D form can achieve a density of five percent of steel, but with ten times the strength. <http://news.mit.edu/2017/3-d-graphene-strongest-lightest-materials-0106>

Forthcoming Events

Forthcoming seminar- Mechanical Engineering Seminar Hall- Mr. B. Raja Bharathi, Ph.D Scholar (Full Time) will be talking on Manufacturing of Magnesium alloy Tubes, on 10-02-2017 2 to 3PM

The **Department of Mechanical Engineering of SSNCE**, is organizing one day **"National Conference for Mechanical Engineering Research Scholars (MERS-2017)"** on **31st March 2017 (Friday)** at SSN College of Engineering, Chennai. Prospective students and Research scholars (Ph.D., PG, UG) are encouraged to send **full length papers** to this mail id: ssnmers@gmail.com on or before **24th March 2017**.

Research News from MSP

Hindustan Institute of Technology and Science, Chennai, is organizing an International Conference on **Sustainable Environment and Energy (ICSEE 2017)** on 6-7 April, 2017 at Chennai.



Dr. Muthu Senthil Pandian
SSN Research Centre

Applications are invited for Swarna Jayanthi Fellowship 2017

Age eligibility

The fellowship is open to **scientists between 30 to 40 years of age** as on December 31, 2016. Applications from candidates who have completed 40 year of age as on or before 31.12.2016 will not be considered.

The last date for submission of applications is **April 15th, 2017**. This advertisement is also available on the internet website at: <http://www.dst.gov.in/callforproposals/advertisement-swarnajayanti-fellowships-2016-17>

Sri Shakthi Institute of Engineering and Technology, Coimbatore, is organising a Two day National Workshop on **" Practical Training on Hypermesh "** on **03-04 February 2017**. Delegates can register online using the link <https://goo.gl/yiFb6k>

Inspiring Life Stories

A building construction work was going on in the nearby area !

Lots of poor labourers were working there and their children used to hold onto one another's shirt and play "train-train !"

Someone would become the engine and others would become bogies. Every day these children used to take turns becoming the engine and bogies !



Mr/Kishore Babu
Schwing Stetter

But there was one small boy wearing only a half pant who used to hold one small green cloth in his hand and become the guard daily ! Once I went to him and asked him, "dear, don't u also wish to become an engine or a bogie some time ?

He softly replied " Sir, I don't have a shirt to wear so how will the other children catch me to make the train ? I could see the slight wetness in his eyes! It gave me a lesson!

He could have cried and sat at home and abused his parents for not affording to buy him a shirt.

But instead he chose another way to play and enjoy!

Moral of the story: In life, we don't get all things we desire and we keep complaining! I don't have a bike, I don't have car, I don't have this or that etc.! We need to make it beautiful and be satisfied with what we have! Stay positive and be thankful to what we have and move forward.!

Thanks & Regards –

Kishore Babu

HR - Department

SCHWING Stetter India Private Limited



Our maturity is always one leg below every new experience we encounter in life. The very purpose of life's experiences is to give us the maturity, which is unique in every experience. But then, with every experience not only the bar of our maturity gets raised a little, but also the level of challenges we face gets raised. Thus goes the upward growth spiral of life.

It is immaterial how knowledgeable we are, or how much of life we have seen, or if we are the very best in what we do or even if you are an encyclopedia on life... a fall, a trip, a slump is always around the corner. Life always intrudes to disturb the flow. But remember, in the totem pole of growth, a failure in the tenth grade is still higher than a pass in the eight grade. A just miss is an attempt to scale Mount Everest is still a leg higher than making it to the top of the local hill.

The higher the maturity, the greater will be the challenge. That is how life moulds human.

The next time when a challenge jerks you out of your flow, when setback disturbs your peace... just remember, life has sent a teacher, disguised as experience, to help you raise the bar of your maturity. Let your awareness help you to not only mature out of that experience, but also regain your peace. Get ready for a higher challenge. We mortals have to fall to rise, the blessing being that we always rise a little higher.

Lead me higher in maturity is one of seeking in our prayers. Let us grow in our maturity, experience after experience only to realize "Life is beautiful" only when seen from higher maturities.

Wishing you most and more

Have a great day & wonderful weekend

**Maturity
Is not measured by age.
It is an attitude
Built by experience.**