

Mechanical Aspire

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 48

Nobel Prize Lessons

Nobel Prize Lessons

- are lesson plans aimed especially at junior high (or middle) school about each new Nobel Prize
- contain a teacher guide, slides and texts for students
- can be used for grade school, junior high school and high school
- cover six new Prizes - six lessons in English and Swedish
- **are released online within 24 hours of the announcement**
- include in-depth tasks, sources and links for further reading.

You can attempt these to understand in simple terms, what each Nobel Prize is all about

Nobel Prize Lessons bring the 2017 Nobel Laureates into the classroom

- They are a reliable material, that teachers easily can use, directly after the announcements of the Nobel Prizes. [Download the Nobel Prize Lessons here](#)
- The material is based on well established sources, and point to further reading from the prize-awarding institutions. Nobel Prize Lessons are some of many resources offered to teachers within the framework of [Nobel Education Network](#).
- Nobel Prize Lessons are reliable and so easy to use, that a teacher can look through the manual, watch the slides, print the texts for students and then start the class.

An Example: Nobel Prize in Physics 2017

Rainer Weiss, Barry C. Barish and Kip S. Thorne

for decisive contributions to the LIGO detector and the observation of gravitational waves

Nobel Prize Lessons in Physics

- Download [Teacher's Guide pdf \(349 KB\)](#)
- Download [Speaker's Manuscript pdf \(757 KB\)](#)
- Download [Slideshow pdf \(1 MB\)](#)
- Download [Text for Pupils pdf \(517 KB\)](#)
- Go to site [3 minutes of film to explain the prize](#)



For more details, pl visit https://www.nobelprize.org/nobel_prizes/themes/nobel-prize-lessons.html

Info to Alumni- Campus Update

SSN President in the News



Ms.Kala Vijayakumar, alongwith Members of the Curriculum Revision Committee, presenting the Revised School Curriculum to The Chief Minister of Tamilnadu. *Photo courtesy:The Hindu*

<http://www.thehindu.com/news/cities/chennai/draft-of-new-syllabus-posted-on-scert-site/article20607376.ece>



Group News

Forbes #57
ROSHNI NADAR MALHOTRA

The Citation: "Ms.Roshni Nadar Malhotra has been the CEO of HCL Corporation since 2009 when she was all of 27 years old and became Executive Director as well, a year later. Besides steering all strategic decisions for the \$7.5 billion enterprise, Roshni dons many other hats, including serving as a Trustee of the Shiv Nadar Foundation, which has established some of India's top colleges and schools."

Roshni Nadar Malhotra, Trustee, Shiv Nadar Foundation and CEO, HCL Corporation has been featured at 57th position in the Forbes 2017 list of 100 most powerful women in the world and the second most powerful Indian women. Every year, the business magazine, Forbes identifies a list of 100 women who represent a new era of influencers and are transforming industry culture. These women are builders, disruptors, and innovators in various sectors.

Info to Alumni- Campus Update

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Alumni core committee meeting was organized on 11-11-17 at Cosmopolitan Club, by Asst Manager Marketing, Mr. SM. Arun Prakash. Each dept had a small group of Alumni, brainstorming on how to improve Alumni -Institute interaction. It was graced by President, Principal, Director, HoDs and several Alumni. Dr. Sunita Nair ensured smooth flow of the sessions.



Prof. S. Thiruvengataswami writes..



The inaugural function of our Two-Day International Conference on 'Language and Literature: Dynamic Resources in the ELT Classroom' was held on November 10, 2017 at the Justice Pratap Singh Auditorium

Prof. N. S. Prabhu, (former Head, Centre for English Language and Communication, Deputy Head, Department of English Language and Literature, National University of Singapore, Singapore), inaugurated the conference and delivered the keynote address.

Prof. Geetha Durairajan, (Department of Materials Development, Testing and Evaluation, English and Foreign Languages University, Hyderabad), delivered the Plenary Address.

Info to Alumni- Department Update

Reviews

Dr. B. Anand Ronald, Assoc. Prof., Reviewed a Paper for the "Journal of Physical Science"

Dr. N. Nallusamy, Professor, reviewed the following technical papers:

1. Mitigation of CO₂ emission using activated carbon in a single cylinder CI engine fuelled with methyl ester of neem oil for Journal of the Energy Institute (Elsevier) and
2. Comparative thermo-economic analysis of multi-fuel fired gas turbine power plant for Renewable Energy Journal (Elsevier).

Dr. N. Lakshmi Narasimhan, Assoc. Prof./Mech, reviewed a paper for Energy Conversion and Management (Elsevier).



Dr. B. Anand Ronald



Prof. N. Nallusamy



Dr. N. Lakshmi Narasimhan

Conference Committee Member



Dr.M.S.Alphin, Associate Professor, has been included as a Technical Review Committee member for 3rd International Congress 2018, planned during 18 - 20, October 2018 : Bangkok, Kingdom of Thailand.

The International Congress 2018 is a massive attempt by the Association of Scientists, Developers and Faculties. This aims at the higher end quality selection of the paper.

At a single instance, there are almost 44 International Conferences happening at the same venue.

<http://www.intcongress.com/com.php>

Guest Lecture



Dr.L.Poovazhagan, delivered an invited talk at the AICTE sponsored faculty development program on "Nanotechnology for energy and agricultural sectors" on the topic of Bio-nanocomposites.

More than 50 faculties from various colleges attended the program.

The lecture was delivered on 17.11.2017.

Dr.VEAnnamalai was invited to deliver a Guest Lecture on Basics of IPR at the FDP conducted by SRM University , on 8-11-2017

Programs attended



Dr.K.S.Jayakumar

Dr. K.S.Jayakumar and Dr. G. Satheesh Kumar attended a conference on Industrial Robotics at Coimbatore on 27.10.2017 organized by Axis Global Automation



Dr.G.SatheeshKumar



Industrial Recognition of our Faculty Member

Dr. N. Lakshmi Narasimhan along with Mr. Kumarasubramaniam (Senior General Manager, Learning and Development, Tube Investments of India - IIC) and Mr. Jagesh G (Deputy Manager, Learning and Development of TII-IIC) receiving an award **from Mr. M.M. Murugappan, the Vice-Chairman of Murugappa Group of Companies**, on Oct 30 at ITC Chola Hotel, Chennai.

Dr. NLN teaming up with TII (Avadi) was awarded **for the work carried out during the faculty internship last summer at TII companies in and around Avadi.**

The award was recognized under Best Practices (CSR Category) of the Pride of Murugappa Event organized annually to felicitate excellent initiatives and contributions towards industry's development by its employee.

Research News

Research Seminar

Mr. C. Arun Prakash , Asst, Professor and Ph.D Research Scholar of Dr.B.Anand Ronald, delivered his First Seminar Talk on "*Magnetic Moulding of Metal Matrix Composites*" on 25 Nov. 2017 - SATURDAY @ 10.00 AM in the Mechanical Dept. Seminar Hall.



Internally funded projects for faculty

SSN Trust has approved internal funding for three projects.

- 1.Mr.Jayakishan B and Prof.N.Nallusamy-on alternate fuels from waste paint
- 2.Dr.K.Jayakumar - on NDT of processed components
- 3.Dr.L.Poovazhagan - on Magnesium nano composites



B.Jayakishan



N.Nallusamy



K.Jayakumar



L.Poovazhagan

Student Publication

Dr.A.K.Lakshmi Narayanan
Writes....



I am happy to inform that one of my **PG student Mr. B.Alwin's** paper titled "**Assessment of stress corrosion cracking resistance of activated tungsten inert gas welded duplex stainless Steel joints**". is accepted for publication in Journal of Materials Engineering Performance (ASM international), Springer Publication (**Thompson Reuters impact factor – 1.331**)

This paper is a combination of

- 1) PG student
- 2) student Internally funded project
- 3) Collaborative work with IGCAR and
- 4) using an Equipment which was purchased using Faculty Internally Funded Project.

Company supports student internships as part of their CSR

Mr.Yogeswaran, a parent of passed out Alumnus, is an ardent reader of Aspire. Having seen the announcement on Bosch training in last month's aspire, he volunteered to support us to the tune of Rs. 25,000, to sponsor economically weak and academically strong students, to attend the training.

Based on his suggestion Dr.M.Suresh went about calling for applications and scrutinizing them. He was able to locate five students who were academically strong but economically weak.



The beneficiaries...

Student detail	Economic background
has a CGPA of 7.51 and does not have arrears.	Father passed away. Mother is a self-employed teacher earning Rs. 1.44 lakhs per annum.
has a CGPA of 8.12 and does not have arrears.	Father is a weaver earning Rs. 48,000/- per annum
has a CGPA of 8.04 and does not have arrears.	Father is a tailor earning Rs. 64,000/- per annum
has a CGPA of 8.63 and does not have arrears.	Father works in a private company earning Rs. 90,000 per annum.
has a CGPA of 8.62 and does not have arrears.	Father works in a private company earning Rs. 3 lakhs per annum.

Approved as CSR of Matexnet

- The students received Rs. 5,000 each (Rs.3,600 towards registration for the program and the rest for incidental expense and commuting).
- Mr.Yogesh later informed that his colleague, Mr.Srinivasan has cleared the expense as part of their company Matexnet's CSR initiative. Thanks to Matexnet for their gesture.

Learning for us

Personally, it was a big learning for me and Suresh. We have been interacting with these students quite frequently on technical grounds but never bothered to know their economic status. This revelation was quite a shock.

Between us we have resolved that we will consciously make an attempt to know such needy and capable students.



The Next Challenge..

- Mr.Yogeswaran has also made us thinking, by asking "There could be so many well off parents of your own students who would love to get involved. Are you reaching them?"
- Looking back, I know there are only two parents who requested Aspire to be sent to them.
- We never thought of reaching aspire to parents- but as an afterthought, it makes sense.
- Definitely parents would love to know what happens in SSN in their son's/ daughter's dept, perhaps seeing their son or daughter being featured in the newsletter.
- This has thrown a challenge and we will see how to reach out to the parents-maybe from 2018 onwards.

I had the opportunity of attending a hands-on training program on Product Life Cycle Management, conducted by Adroitec Engineering Solutions Pvt Ltd., on 30-11-2017. Sharing my learnings...



Why every Organisation requires an Augmented reality strategy?

There is a fundamental disconnect between the wealth of digital data available to us and the physical world in which we apply it. While reality is three-dimensional, the rich data we now have to inform our decisions and actions remains trapped on two-dimensional pages and screens. This gulf between the real and digital worlds limits our ability to take advantage of the torrent of information and insights produced by billions of smart, connected products (SCPs) worldwide.

Augmented reality, a set of technologies that superimposes digital data and images on the physical world, promises to close this gap and release untapped and uniquely human capabilities. Though still in its infancy, AR is poised to enter the mainstream; according to one estimate, spending on AR technology will hit \$60 billion in 2020. AR will affect companies in every industry and many other types of organizations, from universities to social enterprises. In the coming months and years, it will transform how we learn, make decisions, and interact with the physical world. It will also change how enterprises serve customers, train employees, design and create products, and manage their value chains, and, ultimately, how they compete.

To experience HBR Augmented Reality firsthand, download it from the App Store (iOS) or Google Play (Android)

Converging Physical and Digital

Augmented reality reduces the mental effort needed to connect digital information about the physical world with the context it applies to.

SEPARATED PHYSICAL AND DIGITAL WORLDS



Mentally transposing GPS images onto the road ahead is demanding and prone to errors.

CONVERGED VIEW



AR superimposes digital data directly on the real world.

ILLUSTRATION BY CLINT FORD:
FROM "WHY EVERY ORGANIZATION NEEDS AN AUGMENTED REALITY STRATEGY,"
BY MICHAEL E. PORTER AND JAMES E. HEPPELMANN, NOVEMBER-DECEMBER 2017

© HBR.ORG

Visualize

AR applications provide a sort of X-ray vision, revealing internal features that would be difficult to see otherwise. At the medical device company AccuVein, for instance, AR technology converts the heat signature of a patient's veins into an image that is superimposed on the skin, making the veins easier for clinicians to locate. This dramatically improves the success rate of blood draws and other vascular procedures. AR more than triples the likelihood of a successful needle stick on the first try and reduces the need for "escalations" (calling for assistance, for example) by 45%.



Instruct and guide

AR is already redefining instruction, training, and coaching. These critical functions, which improve workforce productivity, are inherently costly and labor-intensive and often deliver uneven results



Reference source : Michael E Porter and James E Heppelmann



The First Alumni Core Committee meet was conducted at Cosmopolitan Club.

Dept wise teams brainstormed on various aspects of Alumni Interaction

Points discussed by the mech engg team:

Increasing Alumni Engagement:

- 1) Creating Facebook Page
- 2) Inviting Alumni to give a talk on “How to choose projects?” to third year and final year students
- 3) Inviting Alumni as a Review member for Final Year Projects and Design and Fabrication Projects (Third Years) as an industry representative.
- 4) Set target - “2 Alumni to visit the department each month”
- 5) Alumni to give talk on “The ground reality in the companies” – sharing their experience as fresher in the company



**Mr.Venkatraman,
Alumnus(2017 passed out),
Mr. Nandha Kumar,
Alumnus (2015 passed out)
and
Mr. Prassana, Alumnus
(2012 passed out),
attended for mech.**

Alumni Contribution:

- 1) Inform us about industry sponsorship – CSR
- 2) Transfer of scrap items from industries to college for study purpose
- 3) Informing about Internship and Implant training opportunities in their company

SSN's help to Alumni

- 1) Helping non-placed Alumni to get placed.
- 2) Industrial practices and people management training to Alumni
- 3) Industrial Problem solving techniques and TRIZ training to Alumni
- 4) Providing technical support to their projects in the company

How to attract Alumni to Tribute:

- 1) Department wise Alumni Achievement Recognition in the form of memento (to be given in the department)

Action Plans:

- 1) *Creation of Facebook Page:* Student Alumni Coordinators have been asked to create facebook page and invite all the Alumni to like the page under the guidance of Department Alumni Incharge
- 2) *2 Alumni per month:* Interested Alumni are being contacted and invited. Planned to achieve the target from December.

Faculty Write up

IRIS-2- for first year. 15 Nov.

As a new initiative, SSN Management extended the internal funding scheme to first year students, through an exclusive call for projects from First Years, declaring November 30 as the last date.

Mech went through a structured process of QLP(Quick Launch Program) to get the students involved.

QLP is a mode of interested faculty coming to meet the students and sharing their “ready to start” project ideas. At one stroke, students get to know all the faculty and their available research areas.

The Second IRIS (inspiring Research by Information Sharing) was done through a QLP mode. Faculty were asked to propose three projects each. On Nov 15th, the faculty shared their projects with the first year students. The students interacted with faculty and got their doubts clarified.

Based on their request, the list of projects, name of the faculty offering it and the seating locations of the faculty were shared to all **through their ssn group mail id**.

At the first step 11 teams registered. Then another note on available projects and their significance was circulated. After this, we have reached around **19 project registrations**.



Ms. Rajeswari takes responsibility to continuously nurture the teams, and support with regular reviews. We will work towards converting all the registrations into proposals.

Max Bögl Wind has announced the construction of the world's tallest turbine in Gaildorf, near Stuttgart in Germany. The tri-blade giant has a hub height of 178 meters (584 ft), with a total height from ground to tip of the blade of 264.5 m.



The new turbine is part of a four turbine wind farm pilot project. Other hub heights manage to rise up as far as 155 m, and all are equipped with customized 3.4 MW GE generators.

The project also sees a novel storage concept come into play.

The so-called **water battery** should allow the turbines to continue operation at times when they would normally be throttled back or stopped altogether, such as during strong winds.

The wind turbine foundations double as a passive water reservoir for a pumped storage hydro power station situated in the valley below, while also pushing the turbine 40 meters farther into the sky.

Each extra meter of hub height is expected to increase annual energy yield by up to 1 percent, while high hub heights also result in less wind turbulence and much better wind yield, making these behemoths a particularly good fit for inland locations with poor wind conditions.

The water battery reservoirs, which have been designed for 70 MWh of electrical storage capacity, are connected by underground polyethylene penstock to the hydro power station.

"The water battery, which was also referred to as natural power storage in the Gaildorf pilot project, can store surplus power from the grid and release it when necessary," explains the company. "It acts as a short-term storage facility and helps to maintain grid stability while guaranteeing a continuous, uninterrupted supply of power. The pumped-storage plant is able to switch between production and storage within 30 seconds."

The Gaildorf pilot project is expected to start feeding into the grid early next year.

<http://www.mbrenewables.com/en/world-record-for-energy-transition/>

(reproduced from <https://newatlas.com>)

About the Company

'Gandhimathi Appliances Limited', the flagship company of the Butterfly group, was originally incorporated as Private Limited Company on 24th February 1986 and was converted into a Public Limited Company on 25th April 1990. Subsequent to merger of its associate, Gangadharam Appliances Limited, the name of the Company was rechristened to 'Butterfly Gandhimathi Appliances Limited' (BGMAL), with effect from 25th October 2011. BGMAL is listed with Bombay Stock Exchange (BSE) and National Stock Exchange (NSE)

About the Group

At a time when brass was still considered a wonder metal, Late V. Murugesu Chettiar, found a golden opportunity in Stainless Steel. Thus was born a pioneer. And a Group called 'Butterfly'. That was five decades ago.

The Group was the first in India to introduce Stainless Steel Pressure Cookers, Stainless Steel LPG Stoves and Unbreakable Stainless Steel Vacuum Flasks; first to acquire the ISO-9001 Certificate of Registration for manufacture and supply of LPG Stoves, Domestic Electric Food Mixers and Table-Top Wet Grinders. Over the years, under the enterprising leadership of Late V. Murugesu Chettiar (Founder – Chairman) and his five sons, Butterfly has grown to be a household name among billions in India.

BGMAL PRODUCT RANGE

Today under the enterprising leadership of Mr. V.M. Lakshminarayanan, Butterfly Gandhimathi Appliances Limited has consolidated the Group's product range of domestic kitchen appliances and domestic electrical appliances marketed under the trade mark 'Butterfly' and under the single umbrella of 'Butterfly Gandhimathi Appliances Limited'.



Kitchen Appliances

"Leading products are LPG Stoves, Mixer grinders, Table Top Wet Grinders, Pressure Cooker, Stainless Steel Cookware and Non-Stick Cookware. Other products comprise Juicers, Hand Blenders, Electric Irons, Power Hobs, Electric Rice Cookers, Water Heaters (Geysers), Air Coolers, Electric Water Kettle, Electric Sandwich Maker, Electric Bread Toaster, Fans (all types) and Washing Machine."

Today 'Butterfly' is a leading brand in the country with Pan-India presence. BGMAL has its own branches/C&F arrangement all over the country viz., Madurai, Salem, Vijayawada, Hyderabad, Bangalore, Cochin, Mumbai, Indore, Ahmedabad, New Delhi, Ghaziabad, Amritsar, Mohali, Zirakpur, Kolkata, Bhubaneswar, Ranchi and Guwahati.



Across the globe, 'Butterfly' products have been recognised for their quality standards by various international organisations and are currently exported to several countries, including the United States of America, Mauritius, Srilanka, Japan and United Arab Emirates.

Home Appliances



Cook and Serve Range

ACCREDITATIONS

'Butterfly' has a long track record of accreditations.

(i) Gangadharam Appliances Limited, (since merged with BGMAL), received the Quality Award First Prize from the Hon'ble Chief Minister of Tamil Nadu on 26.03.1993 in recognition of the Company achieving excellence in quality of production for Medium Industries sector way back during the year 1991-92.

(ii) BGMAL has won National Award – 2010, First Prize, awarded by Government of India, Ministry of Micro, Small and Medium Enterprises for its LPG Operated Stoves/Appliances.

(iii) In appreciation of BGMAL's performance and growth during the financial year 2011-12, M/s. Indian Oil Corporation Limited (IOCL) presented a memento for having stood first on All India basis in turnover, with respect to LPG Stoves supplied through the LPG Gas Distributors of IOCL.

(iv) At the Non-Fuel Channel Partners' Meet of IOCL held at Dharampur (Kasauli), Himachal Pradesh on 04.05.2013, BGMAL was awarded a Certificate of Excellence for achieving on all India basis the highest sales of LPG Stoves co-branded with Indane during the financial year 2012-13.

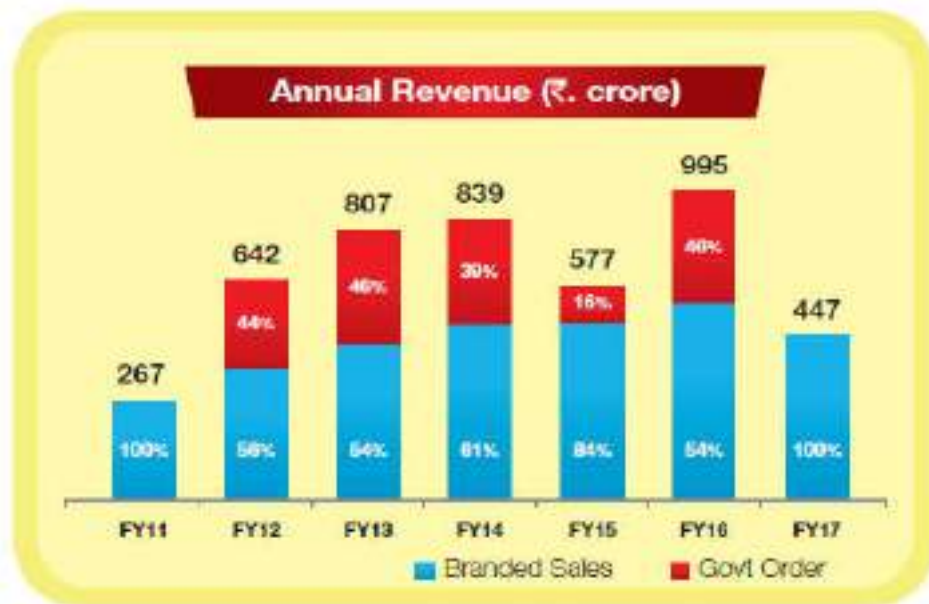
(v) BGMAL was the recipient of National Award 2012 – Second Prize, awarded by Ministry of Micro, Small and Medium Enterprises for Outstanding Entrepreneurship in Medium Enterprises.

(vi) BGMAL received Top Tax Payer – Central Excise, for the financial year 2013-14, in Chennai-III division of Central Excise.

The company has a state-of-the-art manufacturing facility. The company's R&D facilities has the latest design and development tools, Spectrum Analyzer etc. to keep up its passion for progress at all levels. This passion would constantly give birth to new product ranges.

Quality and consistency are the prime motivating factors. Its in-house design facilities, tool & die-making facilities with an impetus on quality control, enables it to consistently produce products of the highest quality sticking to the finest functionality norms.

Its products are exported to the United Kingdom, Canada, Australia, Japan, Middle East and the East Asian Countries, among others.



With metal forming as the major process, **Butterfly is an ideal destination for Internship for Mech and Mfg students.**

Its Manufacturing unit is in Kelambakkam

Watch the corporate video at <https://youtu.be/3PqWuqFlpXw>
Butterfly normally recruits through jobsites like naukri.com

Amazing Innovation- 45



Solar panels in green houses

Greenhouses already tend to be situated in such a way that they receive a lot of sunlight, so why not incorporate solar panels into them? That's just what University of California, Santa Cruz spinoff company Soliculture has done. But there's one thing to note about its greenhouses – their roof glass is colored magenta. According to a new study, though, it doesn't harm plant growth ... in fact, some plants actually do better under the colored light.

The greenhouses utilize what's known as Wavelength-Selective Photovoltaic Systems (WSPVs). This technology reportedly "generates electricity more efficiently and at less cost than traditional photovoltaic systems."

Embedded in the roof panel glass is a bright magenta luminescent dye. It absorbs blue and green wavelengths of light, and transfers its energy to narrow photovoltaic strips. It is these strips which produce the electricity. That electricity can be used to power things in the greenhouse such as fans, heaters and watering systems – this could allow the greenhouses to run off-grid, and not rely on fossil fuels.

<https://news.ucsc.edu/2017/11/loik-greenhouse.html>

Amazing Innovation- 46



Energy generating sewage system

A system called the NEWgenerator is designed to help take the strain off sewage infrastructure, acting as a mini wastewater treatment plant that recovers energy, clean water and fertilizer from sewage.

Units will soon be installed in South Africa. Designed and developed by a team of engineers from the University of South Florida (USF), the NEWgenerator processes waste to produce three different resources. By hooking it up to existing toilet blocks, the system also removes the need for the facilities to be connected to sewage systems.

First, the waste is fed into a bioreactor, where anaerobic microorganisms break down the solids and produce biogas. This process is done without the need for chemicals or aeration equipment, and the methane created can be harvested for use in cooking, heating or electricity production.

Then, the liquid waste moves into another chamber, where a fine-pore microscopic membrane filter removes bacteria, viruses and any remaining solid particles. The water that passes through is then disinfected with chlorine, and while the end result is probably still not drinkable, it's clean enough to use to flush the toilets in the block or irrigate crops.

And finally, the solid waste can be recovered for its nutrients, including nitrogen and phosphorus, and used to fertilize crops and gardens. No surprise that such a project has won \$1.14M grant through the Bill & Melinda Gates Foundation to solve water and sanitation crisis worldwide.

<http://news.usf.edu/article/templates/?a=8125&z=220>

Amazing Innovation- 47

Smart Paper

Note how
what happened
Has been put to use
intelligently

Led by Prof. Anthony Dichiara, a team of students produced the material using traditional paper-making techniques, but they mixed highly-conductive carbon nanotubes in with the usual wood fibers. At the time, their intention was simply to make paper that could conduct electricity, and they successfully did so.

When that paper was accidentally exposed to drops of water, however, its fibrous cells swelled up to three times their normal size. This displaced the nanotubes, disrupting the electrical current travelling through the paper. As a result, an LED light that was receiving power via the paper went out. When the paper dried out afterwards, though, its conductive network reformed, allowing it to function normally once again.

Now, the team is envisioning electrically-wired sheets of the paper being wrapped around pipes in industrial settings. If any water were to leak out and dampen the paper in a particular location, an alarm would be triggered and a technician at a central control station would be notified.

Additionally, because the paper reacts to water specifically and not just any liquid, it could also be used to detect trace amounts of unwanted water in fuels.

A paper on the research was recently published in the *Journal of Materials Chemistry A*. Watch the paper being tested at <https://youtu.be/WaORCLviQmE>

Amazing Innovation- 48

Truck Wings to reduce drag



The patented TruckWings design incorporates folding panels made of impact-resistant, glass-reinforced composites attached to the rear sides and roof of the cab that automatically swing out to close the cab-to-trailer gap at highway speeds, and retract against the rear of the cab at lower speeds to leave room for turning maneuvers.

"TruckWings is the first device which completely solves the turbulence problem created by the open area between the tractor and trailer that contributes significantly to a truck's overall aerodynamic drag," says Daniel Burrows, XStream Trucking's founder and CEO. "Since two thirds of a truck's fuel bill is spent overcoming that drag, there is a huge savings to be had by reducing it." Watch it in action at <https://youtu.be/LOv3JBHdJDQ>

Alumni Info

Educational Startup by Alumnus

I am Madhivanan G. I belong to 2008-12 batch. It feels so good to interact with you after 5 solid years. I take this opportunity to introduce my very own startup named 'Goalmotiv Academy'.

Goalmotiv is an educational startup that conducts soft skill training programs in colleges and corporates.

Please refer my website www.goalmotiv.com for more info.



A Session in progress
at Ethiraj College



I am Aravind Muralidharan, graduated from SSNCE, Mechanical Engg stream in the year 2015. I had joined TVS Sundram Fasteners after my graduation and worked for a year there. During my tenure at TVS, I developed the habit of reading more diverse books and I realized that I wanted to explore fields that were a bit different from engineering, to get a taste of humanities also.

I had applied and got selected into a prestigious fellowship program called the **Young India Fellowship (YIF)**, a multi disciplinary one year residential program at Ashoka University, Haryana, that let me to explore more about subjects like public policy, psychology, philosophy, statistics, Group Dynamics, Leadership, etc. The program hardly accepts 6% of the total applicants year on year but we already have Pranav Prakash from Mechanical 2014 and Aditya Arun IT 2014 who have done it in the past and a couple of more students from 2016 batch from our institution who are currently doing the fellowship.

The fellowship was a whole new experience for me, having gained a strong technical and mathematical concepts from SSN and combining that with the ability to communicate my thoughts more clearly, a skill I learnt from Ashoka, is helping me drive changes within **my current organization at NRB Bearings, Mumbai**, working out of the Executive Office.

Coming to the point, one of my YIF alumnus Senthil Gowri Shankar from CEG (batch of 2011), has started on a venture MADIEE with a vision to give a similar exposure to all the students and is organizing workshops to conduct game based learning experiences in the field of humanities. I honestly believe that a glimpse into the world of humanities will help the current batch students to get ready to face the reality that exists outside the cocoon of their college lives.

I have attached the details of the workshop below. I hope that all my esteemed professors of SSN would spread the word to the current cohort to let them be at least be aware of such eye opening workshops and request you also to join to get to learn something new.

Details of the workshop:

MADIEE curates experiential learning solutions in the form of open electives and short term courses in the humanities and liberal arts, and acts as the platform for passionate professionals to teach the next generation. We facilitate a game based learning, where participants learn by playing card/board games along with each other.

This December starting from Dec 2 (Sat), MADIEE is launching a first of its kind - game based 5 day (Weekends!) interactive course on **FUNDAMENTALS OF LAW** in the premises of Anna University, taught by leading lawyers and legal experts. For more details and online registration, visit <http://www.madiee.com/quotidian.html>

The registration closes on Dec 1st.

We know its your weekend, hence we only let you play. But what, you will learn Law in the process.

We kindly request you to empower yourself by attending the course on 'Fundamentals of Law', a first of its kind initiative in India.

"Ignorance of Law is no Excuse"

Forthcoming Challenges



1. Smart India Hackathon

MHRD has announced the 'Smart India Hackathon 2018'. This newer version of Hackathon will be more inclusive in nature and more objective oriented approach i.e. focus on **both software and hardware approach** to develop innovative solutions for the various set of problems and challenges not only from various central ministries but also from state governments and some extent from industries and society as well. About 50 Central Government Ministries and 25 State Governments are participating in SIH-2018.

The problem statements can be had at <https://innovate.mygov.in/sih2018/>

Registration open till 15th December 2017.

2. Valeo Innovation Challenge

Attention: Innovators

Deadline: 2018-03-30

Award: Share of €200,000

Innovate for the car of tomorrow!

Create your own start-up!

Valeo wishes to encourage students from all over the world to innovate and to develop their entrepreneurial spirit, offering the winners the opportunity to create their own start-ups.



The aim is to reward an innovative project, whether it is a technological innovation or an idea for new ways to use cars. The participants will have to propose new solutions in one of the following categories:

- Vehicle electrification
- Autonomous vehicle
- Digital mobility

The competition is open to post-baccalaureate students worldwide in higher education from all disciplines and to the teachers, one per team.

Entrants must compete in teams made up of between two and a maximum of five people.

<https://valeoinnovationchallenge.valeo.com/en/challenges/innovationchallenge2018>

3. Make our Planet Green Again

FAMAE Make Our Planet Green Again

Deadline: 2018-02-15

Award: 1,000,000 €

Propose a simple and innovative solution (product or service) to reduce or recycle a maximum of one year of waste produced by an urban family, integrating if necessary existing solutions. A family of 4 people generates 2 tons of waste per year that could be valued close to 1100 euros.

Enter Contest Here: <https://famae.earth/>



4. Get Up Check Up Contest – for Cancer Awareness

Deadline: 2017-12-03

Award: Cash Price: 1st €3000, 2nd €2000, 3rd €1000, MVP €1000

Attention: Innovators

Everyone is at risk to be affected by cancer. According to a study by the World Health Organization, the number of new cases worldwide in 2012 was 14 million. By 2025, as many as 20 million people worldwide could be diagnosed with cancer each year (World Cancer Report, 2014).

Cancer often spreads without noticeable symptoms. Early diagnosis can increase the chances of successful treatment and can even prevent an outbreak in the early stages. Depending on the type of disease, there are many ways to detect malignant changes at an early stage. An examination at the physician's can often help. However, people have to be aware of these possibilities and be prepared to undergo an examination - even if they feel perfectly healthy!

This contest aims to improve the approach to cancer checkups. Janssen Germany would like to employ your creativity to find new ways to encourage people to take regular precautions against cancer. The ideas and suggestions will be grouped into two different categories:

"Before checkups": How can people be motivated to take the step towards cancer checkups autonomously? How can we empower people to examine themselves at home? What could be a possible complementary solution to an appointment at the physician's office?

"Stay in touch!" (after the screening): How can we encourage people to have regular checkups? Because the first examination is often not enough!

Help raise awareness of cancer checkups and build up a positive understanding of cancer checkups through creative solutions. Help make cancer checkups a routine!

<https://www.getupcheckup.com/home>

5. Accessible Publishing Challenge

Deadline: 2018-01-19

Award: \$12,000 / \$75,000



The Book Boost: Access for All Challenge seeks to drive innovation in accessible publishing. The challenge seeks business models that are rooted in optimizing and increasing the number of accessible books in the title development phase of the book value chain, resulting in a more efficient and cost effective process.

Requires the submission of the solver's Business Model Enhancement Plan (business plan) for the development and production of new children's book titles. In this phase, up to five applicants will be awarded \$12,000 and selected to move to Phase 2. Up to two finalists will be awarded \$75,000 in seed funding to launch their innovative business model.

<https://allchildrenreading.org/challenge/book-boost-access-challenge/>

Forthcoming Events

Workshops and Seminars

December 2017

- The Department of Mechanical Engineering, Sri Shakthi Institute of Engineering & Technology is organizing Three Days Workshop on "Cloud Based Digital Manufacturing Software" from 8th to 10th December 2017. Register on or before 7-12-2017 at https://docs.google.com/forms/d/e/1FAIpQLScliHOUTesRtbt2seliiZrsaR6bnURagIkiB7LmhxOuDDDe_ag/viewform
- It is proposed to conduct IE(I) sponsored All India Seminar On Smart Materials and their Applications for Aerospace, Mechanical and Civil Structures on December 12-13, 2017 at Mahendra Engineering College, Namakkal -637 503.
- The Department of Mechanical Engineering of Tagore Engg College, Chennai ,is organizing three days Faculty development program on " **ADVANCES IN GAS DYNAMICS & JET PROPULSION** " during **14th Dec to 16 th Dec, 2017** . Apply on or before 8th Dec.
- **AICTE sponsored One Week Short Term Course on Research Advances in Materials Science (RAMS2017) during 14-20th December 2017** at Department of Physics, Thiagarajar College of Engineering. Register before 5-12-2017
- **TEQIP - III** sponsored short term course on "**Advances in Welding and Materials Processing**" is going to held at **PSG College of Technology Coimbatore from 18th to 20th December 2017**. Interested faculty members, research scholars, and students can register for the course on or before 5-12-2017.
- **5 day game based interactive certified course on 'Fundamentals of Law' in Anna University on Dec 2, 9,10, 16 and 17 (Sat & Sun).For more details/online registration, visit <http://www.madisee.com/quotidian.html>**

Recommended by Alumnus
Aravind Muralidharan

March 2018

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

Conferences

February 2018



- One Day National Conference on Chemistry Driven Clean Process and Alternate Energies - Scope and Challenges (NCCP-2018), 7th February 2018, Department of Chemistry & Centre for Clean Energy and Nano Convergence, Hindustan Institute of Technology and Science, Padur, Chennai- 603103, Tamilnadu

2 Government College Autonomous, Rajamahendravaram Andhra Pradesh , in association with 'Conn Center for Renewable Energy Research, University of Louisville, KY-USA'. is organising an "International Conference on RENEWABLE ENERGY RESEARCH AND EDUCATION-2018 (RERE-2018)" during 9-10, February 2018 . Last date for abstract Dec 15th.

3 The Department of Chemical Engineering, SSNCE, is organizing the 3rd International Conference on Recent Advancements in "**Chemical, Environmental & Energy Engineering (RACEEE-2018)**" during 15-16 February 2018. Details at www.raceee2018.in. Accepted papers will be published in reputed Journals of Elsevier and Springer..

4 The Department of Mechanical Engineering, SSN College of Engineering, is happy to announce an International conference on Engineering Materials, Metallurgy and Manufacturing (ICEMMM2018), Feb 15-16, 2018. Details at www.icemmm2018.com Accepted papers will be published in reputed Journals .

5 The Department of Applied Science and Technology, AC Tech, Anna University, Chennai. will organize the International Conference on Energy, Environment and Industrial Safety on Feb 22-23 , 2018. Abstracts by Dec 4.

6 International Conference on Materials for Energy and Environment (ICMEE-2018), 22-23 February 2018, Loyola Institute of Frontier Energy (LIFE), Loyola College, Chennai-600034,
Last date for submission of abstract: 10.12.2017
Last date for Registration: **17.01.2018**
Registration Fees Students and Research Scholars: **Rs.1500**
Faculty/Scientist/Post Doctoral Researchers/Industrialists: **Rs.2500**

March 2018

7 The Dept of Physics, SSNCE, is organising a "NATIONAL CONFERENCE ON PROCESSING AND FABRICATION OF ADVANCED MATERIALS, (NCPFAM-2018) " during 1 & 2 March 2018 at SSN College of Engineering, Kalavakkam, Chennai – 603110. abstracts by Feb 1,2018.

8 SRM University , Chennai (Madras), is organizing the 2nd International Conference on Advances in Mechanical Engineering (ICAME 2018, <http://mysrm.srmuniv.ac.in/icame-2018>) from March 22 – 24, 2018. For additional information please visit the conference website at <http://mysrm.srmuniv.ac.in/icame-2018>.

9 International Conference on Inventive Research in Material Science and Technology (ICIRMCT 2018) is being organized on 23-24 March, 2018 by the RVS Technical Campus, Coimbatore, India and Inventive Research Organization, India at Hotel Arcadia, Coimbatore, India.
Paper Submission Due 28 January, 2018 **Website link:** <http://icaiet2017.com/>

Accepted papers will be published in Scopus Indexed Journals only.
Paper Submission Link: <http://icaiet2017.com/submission.html>

April 2018

10 2nd International Conference on Tribology (TURKEYTRIB'18) is planned during April 18-20, 2018. Details at <http://www.turkeytribconferences.com/>

May 2018

- 11 [International Conference on Progress in Automotive Technologies \(ICPAT 2018\)](#) MAY 10-12, 2018, at Elite World Prestige Hotel located in the center of Taksim in Istanbul.

CONFERENCE LINK: <http://www.icpat2018conference.com/>

Selected manuscripts will be considered for publication in Journal of Thermal Engineering and International Journal of Advances on Automotive and Technology.

Deadline for Abstract Submission: April 02, 2018

July 2018

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

- 13 [8th International Conference on Engineering Failure Analysis \(ICEFA VIII\)](#) will be held in Budapest, Hungary, 8-11 July 2018. **submit abstracts by 8 December 2017**. Run by Elsevier. Details at
<https://www.elsevier.com/events/conferences/international-conference-on-engineering-failure-analysis>

- 14 7th International Conference on Fracture Fatigue and Wear, FFW 2018 Ghent, Belgium, 9-10 July 2018. Abstract submission (deadline 12 January 2018) to FFW 2018 secretariat: ffw@ugent.be Conference website: <http://www.ffw.ugent.be/>

September 2018

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

December 2018

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

Research News from MSP

Project Call 1

There has been call for proposals in Nano area.
Please find the website links for further details.

Schemes

1. Nanotechnology
2. Nano Bio
3. Nano Science



Dr. Muthu Senthil Pandian
SSN Research Centre

Last date for submission of Project Proposal: **31st December 2017**

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

Nano Mission: <http://www.dst.gov.in/callforproposals/submission-proposals-under-nano-mission>

Format and Guidelines: <http://nanomission.gov.in/>

Project Call 2

DST and RFBR invite Indian and Russian scientists / researchers to submit proposals for Joint Research Project in the following areas of basic sciences under DST-RFBR cooperation:

- **Mathematics, Mechanics and Informatics**
- **Physics and Astronomy**
- **Chemistry**
- **Biology and Medical Sciences**
- **Earth Sciences**
- **Telecommunications and Computer Sciences**
- **Fundamental of Engineering Sciences**

Indian applicants for funding should submit completed application [form](#) and all relevant, clearly labelled attachments in a single email to the email address: skvdst@nic.in to reach by 5 pm on **28th December 2017**.

Website: <http://www.dst.gov.in/callforproposals/call-proposals-basic-sciences-russia-russian-foundation-basic-research>

Useful Info to Researchers

PI visit the blog <http://connectedresearchers.com/online-tools-for-researchers/>

The homepage reads as :

Web-based tools for researcher do exist! You just might not know about them. Research-orientated social networking sites, tools to support scientific research, to manage labs and data, and to better communicate have been multiplying over the past years. These tools could change the way we do research. But the adoption rate is still slow, partly due to the lack of awareness.

This blog keeps readers updated on new services, provide short reviews and keeps an extensive list of web-based tools for researchers.

Some examples:

- [How Can I Share It-](#) - Find information and tools to ensure your articles can be shared with your colleagues quickly and easily.
- [antYbuddY](#) - An independent antibody review platform and supporting peer-to-peer forum.
- [LiveLabSpace](#) - Collaborative research tool that lets you plan experiments, replicate outcomes and generate research papers.
- [Thinkable](#) - Platform to mobilize knowledge and fund breakthrough ideas.

Inspiring Life Stories

A rich man looked through his window and saw a poor man picking something from his dustbin ... He said, Thank GOD I'm not poor.

The poor man looked around and saw a naked man misbehaving on the street ... He said, Thank GOD I'm not mad.



Mr/Kishore Babu
Schwing Stetter

The mad man looked ahead and saw an ambulance carrying a patient ... He said, Thank GOD I am not sick.

Then a sick person in hospital saw a trolley taking a dead body to the mortuary ... He said, Thank GOD I'm not dead.

Only a dead person cannot thank God.

Why don't you thank GOD today for all your blessings and for the gift of life ... for another beautiful day.

What is LIFE? To understand life better, you have to go to 3 locations :

1. Hospital
2. Prison
3. Cemetery

At the Hospital, you will understand that nothing is more beautiful than HEALTH.

In the Prison, you'll see that FREEDOM is the most precious thing.

At the Cemetery, you will realize that life is worth nothing. The ground that we walk today will be our roof tomorrow.

Moral of the story: We all come with *Nothing* and we will go with *Nothing* ... Let us, therefore, remain humble and be thankful & grateful to God at all times for everything.

Thanks & Regards –

Kishore Babu
HR - Department
SCHWING Stetter India Private Limited



I am sure many of you would have heard about the CEO of Barry-Wehmiller, a US \$2 billion manufacturing company.

Not much may have been known about Barry and his company, had Simon Sinek — one of the world's finest, modern leadership thinkers — not spoken and written about him.



The story goes that in the economic downturn of 2008, Barry-Wehmiller was in trouble. Sales had slowed down, margins were under pressure and with the order book shrinking almost 30 per cent, the outlook was rather bleak. The board of Barry-Wehmiller advised the CEO to take a closer look at the head count numbers and mandated a reduction in head count that could potentially save the company \$10 million.

And Bob, the CEO, refused to do that. His reasoning was rather simple. How can you just let go of an employee? **Why should a man struggle to put food on the table, simply because a company is unable to meet its projections?** As he puts it, **he saw his employees as heart count, not head count.** And that made all the difference.

So what did Bob do? **He came up with a furlough plan whereby every employee, from CEO to secretary, would take four week, unpaid leave in the year.** In a memo to the team, Bob explained that it was better **we all suffer a little rather than a few of us suffer a lot.** The move worked. Employees bought into the idea. Even in a period of apparent stress for the business, morale went up. **And the company saved more than the targeted \$10 million.** And Bob Chapman showed that truly human leadership can work.

Maybe all those looking at reducing head count and laying off employees should take a leaf out of Barry-Wehmiller book. It might sound too idealistic, unreal even, but as Bob Chapman writes in his book, **Everybody Matters**, there is tremendous power in caring for your people like they are family. If leaders like Shah and Chapman can do it, maybe large company leaders should do it too. Treat employees like family. In times good and bad.

The time to look at improving employee engagement is not when you need employees to show they care for the company, but when they need you to show that the company cares for them. Great leaders put people before profit to build robust businesses. Great leaders see employees as family. They think heart count, not head count. Become that kind of leader.

That set me thinking. Is there another way to manage this crisis?

If employees were indeed treated like family, what would companies do? What can they do?

Maybe leaders and company boards should hear the story of Bob Chapman

Wishing you most & more

Have a great day & wonderful weekend

R.Ramakrishnan