

mechanical **Aspire**

Achievements in Sports, Projects, Industry, Research and Education

All about Nobel Prize- Part 5

The undivided attention....

Nobel Prize winners seem to be focussed on work and do not appear to be multi tasking..

Few people are lucky enough to receive a Nobel Prize, but the list of Laureates who record the highest achievements outside of their field is considerably smaller.

Academy Award

The Irish dramatist George Bernard Shaw is the only Nobel Laureate to have received an Academy Award. Shaw followed his Literature Prize in 1929 with the Academy Award for Best Adapted Screenplay in 1938 for "Pygmalion", which starred Leslie Howard and Wendy Hiller, and was adapted from Shaw's 1913 play of the same name. Incidentally, the noted critic and socialist accepted his Nobel Prize in a typically non-straightforward manner. [He accepted the prize, but not the money](#), and said afterwards: "I can forgive Alfred Nobel for having invented dynamite, but only a fiend in human form could have invented the Nobel Prize."

Olympic Games

Again, contrary to some opinion, there's only one Nobel Laureate who has won an Olympic medal. Step up to the podium Philip Noel-Baker, British diplomat, 1959 Peace Prize winner, and who as a middle-distance runner won a silver medal in the 1,500 metres at the 1920 Olympic Games in Antwerp.

Noel-Baker (later Baron Noel-Baker) received the Peace Prize for his lifelong commitment to disarmament and international peace, and he participated in the formation of the League of Nations and the United Nations. Blessed with a talent for middle-distance running, he took part in three Olympics, captaining the British track team at the 1920 and 1924 Games. (The 1924 Games were immortalized in the film Chariots of Fire.) His official biography on Nobelprize.org contains a line you don't often find on other Laureates' pages: "Although his days of active participation in track have long since passed, Noel-Baker retains the lean look of the athlete and an absorption in athletics."

Some sources claim that the Danish physicist Niels Bohr was part of the Danish soccer team that won a silver medal in the 1908 summer Olympics. But that honour went to his younger brother Harald. Niels may have played in goal for the same Danish club side as his brother, but Harald was the only Bohr selected to play for the silver-

medal winning national side. Harald also studied mathematics, and such was the public response to the team's achievement in the 1908 Olympics, it's claimed that when he defended his doctoral thesis a few years later, the audience contained more football fans than mathematicians.

Number 1 pop song

Nowadays, Charles Gates Dawes is perhaps remembered more for his contribution to pop music than his 1925 Nobel Peace Prize. Dawes was a self-taught pianist and composer, and lyrics were added to his 1912 composition, "Melody in A Major", to become a song called "It's All In The Game", which became a number 1 hit in the US and UK for Tommy Edwards in 1958. A host of artists have covered this song since then, including Nat "King" Cole, Elton John and Keith Jarrett. For the record, Dawes received his Peace Prize for his League of Nations report on German reparation payments after World War I.

Cricket

There's only one first-class cricketer to win a Nobel Prize, and horror upon horrors, he isn't British. This honour goes to the Irish-born playwright and novelist Samuel Beckett, best known for the absurdist drama *Waiting for Godot*. The 1969 Literature Laureate played two first-class games for Dublin University against Northamptonshire in 1925 and 1926. Described in the cricketing bible *Wisden* as "a left-hand opening batsman, possessing what he himself called a gritty defence, and a useful left-arm medium-pace bowler", Beckett never lost his affection for cricket.

Million-dollar quiz prize

When George Smoot received the 2006 Nobel Prize in Physics for years of work that recorded the faint echoes of the birth of the universe, he received one half of the prize amount, around \$800,000. Three years later, he won a bigger cash prize on the US TV quiz "Are You Smarter Than a 5th Grader?" Appearing as the final contestant on the last episode of the game show, which posed grade-school level questions to adults, he reached the final question: "What U.S. state is home to Acadia National Park?" Smoot gave the correct answer "Maine", and in doing so became the second person (and the first man) to win the \$1million top prize.

<http://nobelprizewatch.wordpress.com/category/trivia/>

Info to Alumni- Campus Update

Student Counselor joins..



Ms. Jemima Wesley joined us as **Students Counselor**. She is a psychiatric counselor and a professional trainer. Her education qualification includes an M.Sc in Psychiatry Nursing from Padmashree College of Nursing, Bangalore. She was the recipient of the University Gold Medal for having stood first in the University.

She is an active member in the Indian Psychiatric Association and in the Indian Academy of Training and Development.

Sports Update-SSN Staff cricket Trophy



SSN College of Engineering - Staff Team has qualified for the Quarterfinals of the Tournament by Net Run Rate in Group E League matches. From 24 teams in the tournament 8 teams have qualified for the Quarterfinals.

Team Players

1. Mr. Ebenezer. D
2. Dr. Senthil Kumar. P
3. Dr. Mahesh V
4. Dr. Sunderaswaran R
5. Mr. Vinob Chandar
6. Mr. Stalin
7. Mr. Harshavardhan
8. Dr. Alphin.M.S
9. Mr. Devasirvatham
10. Mr. Ramachandra Behera
11. Mr. Nagendran
12. Mr. A. Balasubramanian
12. Mr. Dilli Ganesh
13. Mr. Vijayakumar



Dr. P. Senthil Kumar receiving
"Man of the Match"
Award from Dr. S. Narasimman



Dr. M. S. Alphin, mobilised a sponsorship of Rs. 2,18,500 for SSN Staff Cricket Trophy 2014 from De-Luxe Apartments & Buildings Co. (DABC), Chennai .

DABC The Joy of Home
De-Luxe Apartments & Buildings Co.

Mr. Dayanidhi receiving
"Man of the Match" award in one of
the matches from Dr. M. S. Alphin



Campus Update-Nursery offering Saplings for sale

Special Feature Article



When thinking of SSN, it is the bright roof of Bougenvillae that strikes our mind. But there is a silent revolution out there , out of sight, by Mr.Ganesh Prasad and Team, in developing a variety of saplings of functional , ornamental and medicinal plants. These are also available for sale at very reasonable rates. [Dr.M.S.Alphin](#) takes a look at the gorgeous collection through his lens..



We are happy to announce some new species have been added in our Nursery.

List of saplings available for sales is furnished below:

Staff and Students desirous of purchasing the saplings may remit the cash in the cash department and produce the receipt to the Landscape Supervisor

Mr.B.Velmurugan and take delivery.

K. Ganesh Prasad
Head of Construction and Facilities



List of saplings available in SSN Nursery for sales

S.No	Common Name	Botanical Name	Part used	Medicinal uses	Price / Sapling (Rs)
1.	Adathoda	<i>Adathoda vasica</i>	Leaves	Cough and bronchitis cough	15.00
2.	Ealilaipalai	<i>Alistonia scolaris</i>	Leaves and bark	Skin diseases (Antibacterial)	20.00
3.	Sothu kattalai	<i>Aloe vera</i>	Leaf sheath	Reduces body heat, for pimples cure	15.00
4.	Sirianangai	<i>Andrographis paniculata</i>	Whole plant	Poisonous bites, fever	10.00
5.	Manoranjitham	<i>Artabotrys hexapetalus</i>	Leaves	Anti malarial	30.00
6.	Neem (Vempu)	<i>Azadirachta indica</i>	Whole plant	Stomach pain and stomach worms	10.00
7.	Avaarampoo	<i>Cassia auriculata</i>	Leaves and flowers	Skin diseases, also reduces blood sugar	10.00
8.	Sarakontai	<i>Cassia fistula</i>	Leaves and roots	Cold, fever	20.00
9.	Vallarai	<i>Centella asiatica</i>	Leaves	Increases memory, blood purification	10.00
10.	Lime tree	<i>Citrus aurantifolia</i>	Fruits	Reduces body heat, rich in vitamins	15.00
11.	Vishanthari	<i>Clerodendron inerme</i>	Young leaves	Stomach ache	10.00
12.	Karpooravalli	<i>Coleus aromaticus</i>	Leaves	Cold and cough for children	10.00
13.	Insulin Plant	<i>Costos igneous</i>	Leaves	Reduces blood sugar	30.00
14.	Nagalinam	<i>Couropita guianensis</i>	Leaves and fruits	Hypertension, pain	50.00
15.	Semparuthi	<i>Hibiscus rosa sinensis</i>	Leaves and flowers	Blood purification, Hair falling	15.00
16.	Maruthani	<i>Lawsonia inermis</i>	Leaves	Foot crack, hair falling	10.00
17.	Malai vempu	<i>Melia azadirachta</i>	Whole plant	Stomach ache, stomach worms	20.00
18.	Kariveppilai	<i>Murraya koenigii</i>	Leaves	Digestion, hair falling	15.00
19.	Pavalamalli	<i>Nyctanthus arbour-tristis</i>	Leaves and flowers	Arthritis, fever	20.00
20.	Thiruneettu pachilai	<i>Ocimum basilicum</i>	Leaves	Ear pain	20.00
21.	Thulaci	<i>Ocimum tenuiflorum</i>	Leaves	Cold, cough, fever	10.00
22.	Poonai meesai poo	<i>Orthosiphon stamineus</i>	Leaves	Regulates urination, dialysis	10.00
23.	Papaya	<i>Papaya indica</i>	Fruits	Digestion, stomach worms, rich in vitamins	10.00
24.	Pungamaram	<i>Pongamia pinnata</i>	Fruit oil	Wounds and injuries	15.00
25.	Thuthuvelai	<i>Solanum trilobatum</i>	Leaves	Cold, bronchitis cough	15.00
26.	Nanthiavattam	<i>Taburna Montana</i>	Leaves	Regulates eye problems	10.00
27.	Maruthamaram	<i>Terminalia arjuna</i>	Stem bark	For blood pressure	30.00
28.	Badam	<i>Terminalia catapa</i>	Fruits	General debility	15.00

In addition to the above medicinal plants, around 80 other varieties of general flowering and fruit bearing varieties are also available . For a detailed list and prices, contact Mr.B. Velmurugan, Landscape Supervisor at velmuruganb@ssn.edu.in

Industrial visit by PG students

Visit to IGCAR Kalpakkam

PG Manufacturing students have a subject on Non destructive testing. To have a hands on experience of how NDT is used in industry, they were taken to IGCAR, Kalpakkam. A report by Santosh and Javed.....

Date: 29th April 2014

Team: M.E. Manufacturing I year students accompanied by Dr. K.S.Vijay Sekar, Asso.Professor, Mechanical Department.

The visit to IGCAR was enlightening as it opened the doors to the latest advancements in material testing. IGCAR being one of the pioneering research centre's in the country consists of sub centre's where R &D activities are carried out in almost all the sectors that are related to atomic research. Our visit was to the NDT centre and QA dept. The experts of IGCAR took us to great levels of surprise by demonstrating the latest marvels in non destructive techniques like Thermography, Ultrasonic testing, Radiography, Eddy current testing, Hot cells, etc. The QA dept explained the various techniques for testing of weldment and also demonstrated using their world class equipments. Each and every small detail was explained clearly by scientists of various departments and they were patient to answer all our queries. We had hands on training session on how to interpret the radiographic films of various specimens. In a nutshell, it was a great learning experience and an eye opener which triggered an interest in us to pursue research in various fields of NDTs in manufacturing.



The Scientists gave us a warm welcome and took us around with a lot of interest. After the visit, during the discussions, they have also agreed to offer two M.E. Level projects for next semester.

K.S.Vijaysekar

Info to Alumni- Department Update

External recognition



Dr. N. Lakshmi Narasimhan reviewed a paper for the International Journal - Energy Conversion and Management under Elsevier Publications



Dr. Ananthapadmanabhan, reviewed a paper for the International Journal of Automobile Engineering



Dr. A.S. Ramana reviewed 2 Chapters of Book on Heat and Mass Transfer on invitation from M/s. Cengage Learning India Pvt. Ltd.



Dr. S. Vijayan reviewed a paper for the International Journal of Corrosion Science Engineering.

Dr. S. Vijayan is appointed as a Chairman of Mechanical Board for Central Valuation Phase I at Anna University zone III

Research Activity

Dr. N. Nallusamy, Professor, presented the the following technical papers

1. "Review study on spray cone angle in diesel engine fuelled with biodiesel and its derivatives" and
2. " Experimental study on diesel engine and analysis of spray characteristics of diesel and biodiesel by varying injection pressures" in International conference on "Recent Advances in Mechanical Engineering and Interdisciplinary Developments" organized by Ponjesly College of Engineering, Nagercoil, Tamil Nadu, 7th & 8th March 2014.



Dr. N. Nallusamy, Professor, presented the technical paper titled "Experimental study on spray characteristics of biodiesel and diesel under ambient temperature conditions" in International conference on "Modeling, Optimization and Computing" organized by Noorul Islam University, Nagercoil, Tamil Nadu, 10th & 11th April 2014.

R. Clifford Benjamin Raj presented a paper titled "Hole Accuracy During Deep Hole Drilling for Hydraulic Cylinder Application", co-authored by , **B. Anand Ronald**, A. Velayudham and Prasmit Kumar Nayak, International Conference on Recent Advances in Mechanical Engineering and Interdisciplinary Developments –ICRAMID, Ponjesly College of Engineering, 7-8 Mar. 2014.



Mr. D. Elil Raja, PhD Research Scholar of Dr. S. Vijayan, presented the technical paper titled "Integrated Fixture Layout Optimization" in International conference on "Modeling, Optimization and Computing" organized by Noorul Islam University, Nagercoil, Tamil Nadu, 10th & 11th April 2014.



Dr.K.Babu's paper "*Comparison of Austenite Decomposition Models during Finite Element Simulation of Water Quenching and Air Cooling of AISI 4140 Steel*" has been published in *Metallurgical & Materials Transactions B (Springer Publication)* – available online from 19-April-2014 , coauthored by T.S. Prasanna Kumar, IIT Madras.

The project done by a group of ECE Final year UG students titled "Autonomous Navigation of a Pentacopter" **guided by Dr. K. Babu and Dr. Prita Nair** has won the first prize of Rs. 3000/- in the project exhibition conducted by ECE Department. This project exhibition was judged by 2 Senior Engineers from Caterpillar.

Placement Efforts



4th April-Dr.S.Satyanarayanan, R&D Leader and Mr.P.C.Prakash, Product Manager, energy Services Division of Forbes Marshall visited us and conducted an interview for M.E.Energy students for selecting them for Internships. **Six internships have been offered** (organised by Dr.N.LakshmiNarasimhan)



Student invited abroad for Public Speaking...

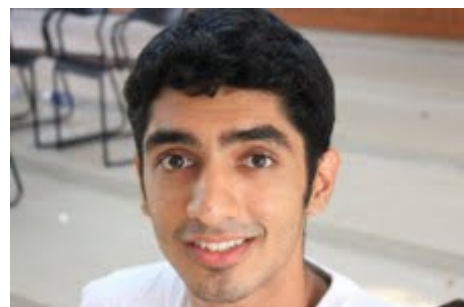
Vishal, V. , second mech B section writes....

It is with great pleasure and honour to tell you that I have been invited to Singapore to deliver an EAGLE TALK(similar in concept to a TED talk) on public speaking. The event will be held in the Singapore American School(SAS) on April 28th.

This is an opportunity for me to further strengthen my brand and I am very excited for it.

Alumni News 1

Shashank of 2012 batch, was a serious guy while he was with us, who could push his project to the level of filing a patent. He planned well ahead and got into Eindhoven University of Technology,Netherlands, for his Master of Science (MS),in Automotive Technology. Recent news from Shashank....



"I have been selected for the summer school program in Ingonstadt on Automotive Engineering and Management in July. It is a 3 week program on hybrid vehicles and management, and I will also get to meet and interact with R&D people from Audi and Continental as a part of the program."

Alumni News 2

Sri Teja Kethineni ,alumni of 2009-13 batch, and an active member of EDC, is now doing M.S.Industrial Engineering at University of Michigan.

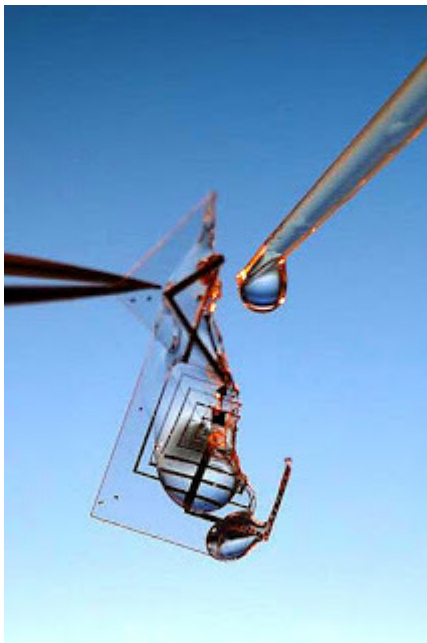
He is also interning as Lean Consultant at All Star Driver Education,Ann Arbor, Michigan, Greater Detroit area, USA.



Amazing Innovations-1

If stolen, you can command your credit card to melt !

Transient electronics that disappears on command has amazing possibilities.



Scientists are trying to build degradable materials and electronics that can safely melt when triggered, like if you lose your credit card, you could send out a signal that causes the card to self-destruct.

Iowa State University's materials scientist, Reza Montazami, said that it's a new way of looking at electronics and you don't expect everything to dissolve in such a manner that there's no trace of it. But Montazami thinks it can happen and is developing the necessary materials. He calls the technology "[transient materials](#)" or "[transient electronics](#)." The materials are special polymers designed to quickly and completely melt away when a trigger is activated.

It's a fairly new field of study and Montazami said he's making progress. The research team he's leading, for example, is developing degradable polymer composite materials that are suitable platforms for electronic components. The team has also built and tested a degradable antenna capable of data transmission. The researchers wrote that investigation of electronic devices based on transient materials or electronics is a new and rarely addressed technology with paramount potentials in both medical and military applications. More info at

Watch the degrading mechanism at http://www.youtube.com/watch?feature=player_embedded&v=JdrKQ0YT3fw

Amazing Innovations-2

Clean your hands while you pull the handle...



Hygiene is a major issue for hospitals and many already use sanitizer dispensers to enable doctors and visitors to easily wash their hands and prevent the spread of bugs. However, remembering to use them can be a problem.

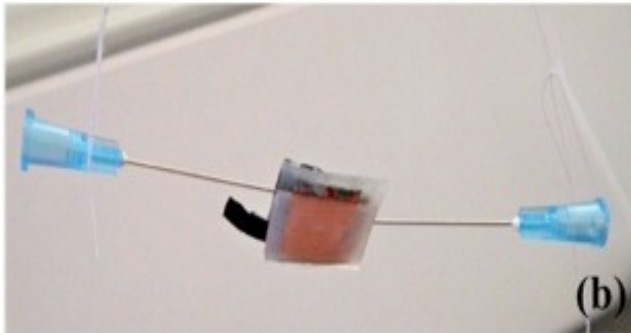
Now [PullClean](#) is offering an elegant solution in the form of combined sanitizers and door handles, prompting hospital users to wash each time they enter and exit a room.

The main part of the PullClean system is the door handle, which features a built-in hand sanitizer dispenser that can easily be pressed at the same time as the door is pulled open. By combining the action of pulling and pressing, the two tasks are then indelibly linked in the mind, increasing the rate of hand washing and impeding the spread of hospital-acquired infections. However, the handles also come with a smart fob that is also attached to each door. The fob detects each time the door is opened and each time sanitizer is dispensed. Hospital managers can then plug the fob into their computer via USB, upload the data to their PullClean account and see how often users are washing their hands, as well as whether the sanitizer needs replacing. The video below explains a bit more about the system: More info at <http://www.pullclean.com/>

Amazing Innovations-3

Spit Powered Generator

Researchers have developed a tiny, saliva-powered generator able to produce enough energy to power basic, on-chip applications.



The generator, created by a team from Penn State University, takes advantage of the plethora of organic material in human saliva. The fuel cell is made up of a single chamber that contains a graphene-coated cloth anode and an air cathode (previous fuel cells have been double-chambered with platinum-coated anodes). Air cathodes have not been used previously in fuel cells because the oxygen will interfere with the bacteria's ability to produce electricity. However, the tiny generator's micro cells at micron distances allowed for the use of air cathodes, though the team is not completely sure why.

The tiny generator could have application in glucose or ovulation monitoring, and it can be fueled by any organic liquid. There's a lot of organic stuff going on in our saliva, and this organic stuff can power microbial fuel cells. You can't get *much* energy this way: the fuel cells produce just one microwatt, but that's enough to power simple on-chip applications. The fuel cell itself is a single chamber, using a graphene-coated carbon cloth anode. The energy comes from bacteria inside the cell breaking down organic spit material and releasing electrons.

This is a similar technique to what's been done with wastewater (which contains lots of organics). While saliva is only slightly less disgusting, really, it *is* more omnipresent for us humans. More importantly, it can be useful for biomedical electronics, such as an ovulation predictor based on the conductivity of saliva. Or, in a glucose monitor for diabetics. Of course, saliva isn't the only liquid that can work. If it's got organic matter in it, any liquid should work. But saliva is a little less gross than some of the other options.

<https://www.dvice.com/2014-4-3/we-now-have-power-generator-runs-spit>

<http://news.psu.edu/story/310362/2014/04/03/research/tiny-power-generator-runs-spit>

Amazing Innovations-4

The printer that moves on paper...

Israeli startup Zuta Labs has developed a little printing robot that connects with your mobile and then moves around a piece of paper to draw the desired picture or text.

The wheeled **Pocket Printer** has an inkjet that can last over 1,000 pages and a battery -- charged via USB -- that lasts for more than an hour.



The first version prints in greyscale and is currently seeking funds on Kickstarter (at the time of writing it had raised \$328,000 of its \$400,000 goal). It tracks its location on the paper using a gaming grade mouse sensor, and the team is exploring how to re-orient the robot if a print job is interrupted (and the robot moved) halfway through.

More info at <http://www.wired.co.uk/news/archive/2014-04/14/robot-printer>

Watch this printer at work

http://www.youtube.com/watch?feature=player_embedded&v=6dv2sLNikl4

Student Write up - Ambition versus Passion

We had our annual knowledge sharing session on the day of Valedictory of our Association activities.

Outgoing students who lead various activities like EDC, YRC, Tamil Mandram etc, shared their experiences with the Juniors. In this event, the best Outgoing student Girish shared his views on Pursuing your passion.



Girish Sundar

The contemporary scenario of the fast-paced world, which we are a part of, can be defined as a race course, hosting those highly competitive contests in every possible avenue in every possible way. The ambitions that people fix themselves onto aren't always successful, which in people's perspective maybe due to various reasons, ranging from extreme levels of competition and expectancy to blaming themselves for being incompetent. But, something that is always overlooked is whether the person involved actually has a passion or a strong liking to what he/she does.

A common misconception is that ambition and passion are one and the same. This is how they are at variance with each other.

AMBITION

A foresight / An aim
Reflects the need for success, fame or comfort
A fight to the top
Can be forced

PASSION

A strong emotion
Reflects innermost desires
A driving force (towards our aim)
Cannot be forced

Passion is

- An ardent love for something. It is more than just the excitement or enthusiasm in doing things.
- It is an ambition that is whole-heartedly materialized into action.
- The ingredient in work that makes the greatest difference in our levels of happiness and satisfaction.
- Never a burden.
- Always a source of comfort and relaxation.
- Unaffected by hurdles and is an ever-reliable driving force.

What does passion demand ?

- Patience
- Confidence
- Maturity (to have a steady head and strong focus)
- Sustained Effort
- Above all, trust and belief in oneself.

Talent or ambition isn't much without passion. Statistics pertaining to successful individuals and achievers show that the right mixture to success is 70% of passion and 30% of ambition. Passion serves as the catalyst to the learning process. Life becomes meaningless if our desire isn't catered to.

Hence **FOLLOW YOUR PASSION, SUCCESS WILL FOLLOW.**

Faculty write up- Online Courses from around the world

In recent years massive open online courses (MOOCs) have become a trend in online education. The term was coined in 2008 by David Cormier, manager of web communications and innovations at the University of Prince Edward Island. The first MOOC was created the previous year, at Utah State University.



Jayakishan.B

MOOCs are designed like college courses but are available to anyone anywhere in the world, at no cost. You do not receive a college credit, but you will receive a certificate of completion when you complete all coursework. The courses span dozens of subjects and are taught by some of the leaders in those fields. The courses are designed to be interesting, fun and rigorous; the courses are not just in science, and not just in English.

[Coursera](#) is perhaps the most well-known of the online education facilitators. Their latest numbers indicate that they have 17,000,000 enrollments from students representing 190 countries. There are 240,000 students in their most popular class. Coursera has over 400 courses in more than 20 categories, created by 85 Universities from 16 countries. Their courses are available in 12 different languages.

[EdX](#) is another non-profit course site created by founding partners Harvard and MIT and based in Cambridge, Massachusetts. EdX offers MOOCs and interactive online classes in subjects including law, history, science, engineering, business, social sciences, computer science, public health, and artificial intelligence (AI). It has partnerships with tertiary institutions in the U.S., Canada, Australia, the Netherlands, Sweden, Switzerland, Belgium, Germany, Hong Kong, India, Japan, China and Korea.

[MIT](#) has their own open courseware, where most of the materials used in the teaching of almost all of MIT's subjects are available on the Web, free of charge. They have more than 2,000 courses available. [Stanford](#) also has their own online and open courses. These are great options if you prefer to work at your own pace, as compared to structured classes like those offered at Coursera and EdX.

European institutions are also getting in on the act. Germany-based [iversity](#) offers courses in both English and German and the first courses went online in October this year. [Future Learn](#) is a subsidiary of the British [Open University](#) and is currently in its beta stage. It already has partnerships with universities across Britain, Ireland, Australia and New Zealand. The courses will begin this coming November.

For those looking to learn a language [Duolingo](#) offers completely free language education. If you're interested in learning a valuable skill [CodeAcademy](#) teaches programming and coding in online, free and interactive lessons.

Other sites, like [Open Culture](#), are not affiliated with tertiary institutions. On Open Culture, the editor finds the free courses and audio books on the web and hosts them on the site. The courses are audio & video and can be downloaded straight to a computer or mp3 player. This is by no means a complete list of all site and institutions that offer free online courses. <http://www.mooc-list.com/> has many more listed.

Industrial Practices

Disruptive Innovation

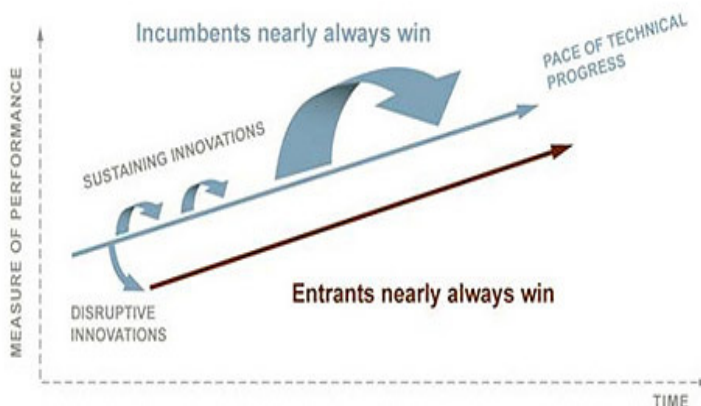


Mrs. Deborah Devadason is a Principal Consultant with Tech Mahindra, Mahindra Satyam Ltd, San Francisco, USA. She has provided consulting for various clients across the globe on Process Integration and Quality models implementation.

She has a rich experience of leading change Management at Boeing. She shares the latest trend in Industrial Practices..... This article is on Disruptive Innovation that can wipe out even giants!

Shield your Business from Innovation Disruption--What can you expect in 2020?

As we start the New Year, we look forward to understand how the technology will impact our future 2020. Disruptive innovation, is a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors. (Claytonchristensen 2013)



In the last 20 years we have seen major disruptive Innovations and their impact on the business. Tiny personal computers replaced mainframes and mini computers; Amazon and apple store devastated Music Land; digital photography made film practically obsolete. The businesses that have guessed wrong about the technology disruptions have paid their price with the reduced market performance or in many cases disappearance from the scene.

The special report by the economist Intelligence Unit predicts impact of technology disruption in business by 2020 based on their research (Ricoh 2012):

- Few Industries will remain unchanged by technology disruption. Media and entertainment, banking and telecommunications top the list of industries thought most likely to converge with another in the next decade. Other sectors besides supermarkets also appear ripe for tech disruption. Education and healthcare are probably at the top of the list.
- For those who can master it, "Big Data" will become a business of its own.
- As transactions are automated and collaboration becomes more virtual, the purpose of physical stores and offices will change

- Thanks to powerful personalization technologies, customer “co-creation” will become a major source of innovation.
- The organization of 2020 will be more transparent than ever before
- Mid-size companies will be less common in 2020, not least as micro-entrepreneurs proliferate.

Consulting on the Cusp of Disruption

Consulting Business model was immune for almost 100 years but now at the cusp of disruption. It has been sending smart outsiders into organizations to recommend solutions to the most difficult business and technical problems confronting their clients. (Clayton M. Christensen 2013) Like most other professional services, consulting is highly opaque compared with manufacturing-based companies.

[Think the Unthinkable to Spark Transformation in Your Business](#)

Proactive Shielding

Surviving disruptive innovation missiles launched at the business is very key element. Here are few tips from the HBR “Surviving Disruptions” (Clayton M. Christensen 2013)

Disruption is less a single event than a process that plays out over time, sometimes quickly and completely, but other times slowly and incompletely.

A systematic way to understand the damage is

1. Understand the strength of the disrupter’s business model
2. Understand your own relative advantage
3. Evaluate the conditions that would help or hinder the disrupter from co-opting your current advantages in the future



Develop a disruption of your own before it’s too late to reap the rewards of participation in new, high-growth markets—as Procter & Gamble did with Swiffer, Apple with the iPod, iTunes, the iPad, and (most spectacularly) the iPhone. That prescription is, if anything, even more imperative in an increasingly volatile world. (Christensen 2012)

Disruptive innovation is not just about following a process. It represents a mindset—a rebellious instinct to discard old business clichés and remake the market landscape. An eagerness to deliberately target situations where the competition is complacent and the customer has been consistently overlooked or under-served. (Williams 2013).

Digital revolution is just beginning. There are many who think that tech is a gigantic bubble waiting to burst. The other thing is that history suggests this may not be a bubble. The evolution of railways in conjunction with the industrial revolution in the 1800s resulted in a long series of stock market booms, aka bubbles. The creative destruction involved then was similar to that of tech today.

3-D printing is transforming the world of manufacturing. Physical objects can be designed on laptops and the designs can be shared online as files. Factories have been able to do this for decades but the big change is that now anyone with a computer can do it. [\(Gruber 2013\)](#)

Secret Recipe

An innovation that is disruptive allows a whole new population of consumers at the bottom of a market access to a product or service that was historically only accessible to consumers with a lot of money or a lot of skill. Characteristics of disruptive businesses, at least in their initial stages, can include: lower gross margins, smaller target markets, and simpler products and services that may not appear as attractive as existing solutions when compared against traditional performance metrics.



Because these lower tiers of the market offer lower gross margins, they are unattractive to other firms moving upward in the market, creating space at the bottom of the market for new disruptive competitors to emerge (Williams 2013).

The technology by themselves will not bring the changes. The business processes being powered by technology must undergo change. The technology and process is as good as the people who use them. It is critical to appreciate the cultural obstacles to the technology led change to be the leader in 2020!

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Corporate Wisdom - 5

Attention-those who think
they are not given importance.



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It was the first day of football practice in school. All the kids were very excited and eagerly looking forward to their date with the school team coach. As the tall, well-built coach walked up to join them, the sense of excitement only increased.

All eyes were on the coach but there was also a growing sense of unease as the students noticed that something was missing. **The coach had come but he had not brought along a football.** One brave kid ventured to ask the coach about the missing ball.



In response, the coach surveyed his brood and asked: "How many players on a football field?"

"Twenty-two" was the response

"And how many footballs on a football field?"

"One!" yelled the kids in union.

"Right", said the coach. **"At any point in time, only one person has the ball. Today we are going to learn what the other twenty-one people on the field do then"**

That is great lesson in how teams work!. Life is, in many ways, like a game of football. While all eyes are usually on the man with the ball, it is other twenty-one people who really make a difference. Whilst people admire the individual dribbling skills of a footballer, it is important to know the games are won by teams that play as teams. If every individual just tried to control the ball all the time, the team would almost certainly never win. Also at times, the biggest contribution to a team's success comes from the contribution and support of players who are not the cynosure of all eyes. Not the guys with the ball..... Think about it. The next time you talk to your team, remember that the "other twenty-one" guys make a difference too!

Don't get too caught up with retaining possession of the ball.

Remember your role too could be as one of those twenty-one others in making a difference.

Life is not only about what you do when you have ball;
it is also about what you do when someone else has the ball.