Newsletter

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Aspire

Mechanical Engineering

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 74

Amartya Sen

Unraveling the Philosophy of Economics

Three million people died in India's 1943 Bengal famine. Living through it was a 9-year-old boy named Amartya K. Sen, who, 55 years later, won the Nobel Prize in Economics for his work on poverty and famine.

Amartya Sen, was born in a Bengali Hindu Baidya family in Bengal, British India. Rabindranath Tagore gave Amartya Sen his name. His father Ashutosh Sen was Professor of Chemistry at Dhaka University, Development Commissioner in Delhi and then Chairman of the West Bengal Public Service Commission. He moved with his family to West Bengal in 1945. Sen's mother Amita Sen was the daughter of Kshiti Mohan Sen, the eminent Sanskritist and scholar of ancient and medieval India, who was a close associate of Rabindranath Tagore.

Sen began his high-school education at St Gregory's School in Dhaka in 1940. In the fall of 1941, Sen was admitted to Patha Bhavana, Shantiniketan, where he completed his school education, in which he excelled, obtaining the highest ranks in his school board and I.A. examinations in the whole of Bengal. Sen was educated at Presidency College in Calcutta (now Kolkata). He went on to study at Trinity College, Cambridge, where he received a B.A. (1955), an M.A. (1959), and a Ph.D. (1959).
Sen taught economics at a number of universities in India and England, including the Universities of Jadavpur (1956–58) and Delhi (1963–71), the London School of Economics, the University of London (1971–77), and the University of Oxford (1977–88), before moving to Harvard University (1988–98), where he was professor of economics and philosophy. In 1998 he was appointed master of Trinity College, Cambridge—a position he held until 2004, when he returned to Harvard as Lamont University Professor.

Welfare economics seeks to evaluate economic policies in terms of their effects on the well-being of the community. Sen, who devoted his career to such issues, was called the "conscience of his profession." His influential monograph *Collective Choice and Social Welfare* (1970)—which addressed problems such as individual rights, majority rule, and the availability of information about individual conditions—inspired researchers to turn their attention to issues of basic welfare. Sen devised methods of measuring poverty that yielded useful information for improving economic conditions for the poor. For instance, his theoretical work on inequality provided an explanation for why there are fewer women than men in some poor countries in spite of the fact that more women than men are born and infant mortality is higher among males. Sen claimed that this skewed ratio results from the better health treatment and childhood opportunities afforded to boys in those countries.

Sen's interest in famine stemmed from personal experience. As a nine-year-old boy, he witnessed the Bengal famine of 1943, in which three million people perished. He believed that there was an adequate food supply in India at the time but that its distribution was hindered because particular groups of people—in this case rural labourers—lost their jobs and therefore their ability to purchase the food. In his book Poverty and Famines: An Essay on Entitlement and Deprivation (1981), Sen revealed that in

many cases of famine, food supplies were not significantly reduced. Instead, a number of social and economic factors—such as declining wages, unemployment, rising food prices, and poor food-distribution systems—led to starvation among certain groups in society.

Governments and international organizations handling food crises were influenced by Sen's work. His views encouraged policy makers to pay attention not only to alleviating immediate suffering but also to finding ways to replace the lost income of the poor—as, for example, through public-works projects - and to maintain stable prices for food. A vigorous defender of political freedom, Sen believed that famines do not occur in functioning democracies because their leaders must be more responsive to the demands of the citizens. In order for economic growth to be achieved, he argued, social reforms - such as improvements in education and public health—must precede economic reform.

Sen has received over 90 honorary degrees from universities around the world. In 2019, London School of Economics announced the creation of the Amartya Sen Chair in Inequality Studies. He is currently Thomas W. Lamont University Professor, and Professor of Economics and Philosophy at Harvard University. He is the recipient of many awards including the Bharat Ratna in 1999 for his work in welfare economics.

Source: https://www.nobelprize.org/prizes/economic-sciences/1998/sen/

Info to Alumni- Campus Update

SSN Awarded for Excellence in Education

Chief Minister of Tamil Nadu Mr. Edappadi K. Palaniswami presented the award for Excellence in Education to SSN Institutions, Chennai for consistent efforts in providing quality education at the Think Edu conclave hosted by The New Indian Express (TNIE) at Chennai on 9th January, 2020.

Ms.Kala Vijayakuamar, President, SSN Institutions, and Dr. S. Salivahanan, Principal, SSN College of Engineering, have received the award on behalf of SSN.

Ms.Smriti Irani, Union Minister, Mr. K.P. Anbalagan, Higher Education Minister, and Mr. Manoj Kumar Sonthalia, TNIE Group Chairman were also present during the occasion.

On January 2nd, 2020, the President, Ms Kala Vijaykumar, handed over the completion certificates of the Internally Funded Student Projects.

On January 4th, 2020, Tribute – the Annual alumni meet was organized at SSNCE.

On January 13th, 2020, Pongal Vizha was celebrated by Saaral Tamil Mandram.

On January 17th, 2020, Team from Shiv Nadar University, Noida visited our campus to understand our best Practices. The delegates were Prof Sandeep Sen, Director, School of Engineering, Prof Suneet Tuli, Director, Research & Graduate Studies and Faculty Affairs and Dr Rajeev Kumar, Associate Prof, Computer Science

The Internal Smart India Hackathon was organized successfully on January 20th, 2020. A total of 130 submissions were received, out of which 53 were shortlisted.

College SPOC Dr.S.Joseph Gladwin (ECE), Nodal Officer Dr.N.Nallusamy (Mech) , Assistant Nodal officer Dr.K.Madheswari (CSE) selected 5 software teams and 2 hardware teams to participate at the National level of the Smart India Hackathon.

Between January 22nd and 23rd, the Doctorate Scholars Day was conducted. All scholars made presentations and posters on their work progress. The best researchers were awarded.

National Voters Day awareness camp was conducted jointly by Saaral Tamil Club, NSS and YRC on January 22nd, 2020.

Info to Alumni- Department Update

External Recognition

Dr.D.Ananthapadmanaban

Dr.D.Ananthapadmanaban, Associate Professor has been listed in the Technical Committee of CMSE2020, the 9th Global Conference on Materials Science to be held in Kiev, Ukraine during August, 2020 [16.01.2020]

Dr.D.Ananthapadmanaban,Associate Professor,SSNCE and Dr.Arun Vasantha Geethan ,Professor and Head- St.Josephs Institute of Technology published a Chapter on Fracture Behaviour of solid state welded joints in the book Engineering Failure analysis, published by Intech open access publishers [22.01.2020]

Research Activities

Dr. S. Soma Sundaram

Dr. S. Soma Sundaram, Associate Professor, presented a paper titled Experimental investigations on effect of chevrons in busen burners, in the 46th national conference on fluid mechanics and fluid power (FMFP-2019) [09.12.2019]

Dr. N. Nallusamy

Dr. N. Nallusamy, Professor, published a technical paper titled "Waste-to-Energy Approach for Utilizing Non-edible Soapnut Oil Methyl Ester as a Fuel in a Twin- Cylinder Agricultural Tractor Diesel Engine" in the international journal "Energy & Fuels", https://doi.org/10.1021/acs.energyfuels.9b04184. **Clarivate analytics IF: 3.021**. Co-authors: V. Venkatesan and P. Nagapandiselvi [28.01.2020]

Dr. M S Alphin

Dr. M S Alphin research article with full time Scholar Mr. Raja S titled Low temperature Selective catalytic reduction of NOx by NH3 over Cu modified V2O5/TiO2-carbon nanotube catalyst, is accepted for Publication in Reaction Kinetics, Mechanisms and Catalysis : International journal, [Science Citation Index, Clarivate analytics (formerly Thomson routers)], Impact factor: **1.428** [29.01.2020]

Dr. M Dhananchezian

Research paper titled "Investigation of monolayer coated WC inserts on turning Ti-alloy " authored by S. Lakshmanan (Research Scholar), M. Pradeep Kumar, M. Dhananchezian & N. Yuvaraj is published in the journal "Materials and Manufacturing Processes " Taylor & Francis **(Clarivate Analytics Impact factor: 3.350).**

Dr. G Selvakumar

PhD viva-voce of Mr. P. Murugan , research scholar of Prof.N.Nallusamy, was held on 10th Jan 2020. His thesis was on "Experimental investigation on Linde-Hampson refrigerating system operating with different blends of Hydro-carbons as alternate refrigerants ".

Ph.D seminar presentation of **Mr. Renjin J Bright** (Registration no. 17192991207), part-time research scholar of Dr.G.Selvakumar was held on Jan 23. Title: Preparation and Characterization of AA 6082-Metakaolin / Silicon Nitride Hybrid Metal Matrix Composites

Workshops/Events:

Dr. N. Lakshmi Narasimhan, Associate Prof/Mech, Organized Technovate 2020, a technical contest jointly with M/s Preethi Kitchen Appliances Pvt. Ltd, Chennai [10.01.2020]

Dr. N. Nallusamy, Professor, conducted viva-voce examination for the Part-time research scholar Mr. P. Murugan on 10-01-2020 in Seminar Hall, Mechanical Engineering [10.01.2020]

Dr.D.Ananthapadmanaban, Associate Professor and Dr.K.Jayakumar, Associate Professor conducted a one day workshop on Nanomaterials and their applications. Ninety five participants from all over Tamil Nadu attended. Resource persons were from IIT Madras and SSNCE [23.01.2020]

Dr. N. Lakshmi Narasimhan, Associate Prof/Mech, attended a meeting arranged by CDC for interacting with Team Members from DoW Inc. (formerly DoW Chemicals) [24.01.2020]

Dr.L.Poovazhagan and Dr.K.Rajkumar organized DST-SERB sponsored two day workshop for faculty members and research scholars on the topic of Ultrasonic Assisted Casting Approach for Fabricating Advanced Composites [24.01.2020]

Dr.K Jayakumar

Dr.L.Poovazhagan

Dr.K.Rajkumar

Dr. N. Lakshmi Narasimhan

DC Meet

Dr.K.S.Vijay Sekar, Associate Professor, attended a DC meeting for a PhD research scholar C.Joel in The Dept. of Mechanical Engineering, Hindustan University, Padur. [06.01.2020]

Dr.K.S.Vijay Sekar

Dr.L.Poovazhagan, Associate Professor, attended DC meeting of Mr.Sunu Surendran, who is pursuing Ph.D under the guidance of Dr.A.Gnanavelbabu, Associate Professor, Department of Industrial Engineering, Anna University, Chennai. [09.01.2020]

Dr.L.Poovazhagan, Assoiate Professor, convened first DC meeting of his scholar Mr.Amith S C, Full time research scholar working as JRF in SSN College of Engineering, Kalavakkam [13.01.2020]

Dr.A.S. Ramana

Dr.A.S. Ramana, Associate Professor, convened Doctoral Committee meeting of Mr. C. Parthasarathy, Part-Time Research Scholar [24.01.2020]

Dr. R.Vimal Samsingh

Dr.D.Ananthapadmanaban, Associate Professor, conducted First seminar and DC meeting of his part time research scholar Arthur Jebastine [27.01.2020]

Dr. R.Vimal Samsingh, Associate Professor, conducted the First DC meeting for his part-time Ph.D. scholar Mr.Amos Gamaleal David [27.01.2020]

The Doctoral Committee meeting (Ph.D Confirmation) of Mr. Abhilash V (Reg. No:17122991155) Ph.D Research Scholar (Full Time) of Dr.A.K.Lakshminarayanan, was conducetd on 10.01.2020.

Dr. A K Lakshminarayanan

Other news:

The SSN doctorate scholar day for the academic year 2019-2020 was conducted during 22-23rd January 2020 in Justice Pratap Singh auditorium. There were 38 oral presentations and 125 poster presentations. In mech, Full Time Scholar Mr. P. Sabarinathan got best oral presentation award.

Student Activity:

Padmakanth P (2nd year), took part in SAE India Events [08.01.2020]

P.V Prasad (2nd year), took part in the SAE tier 1 level events like cycle assembly and disassembly, bridge building, auto quiz and How things work and qualified for tier 2 events in cycle assembly and disassembly and How things work by securing 1st place in both the events. Got 2nd place in auto quiz [08.01.2020]

V. Iniyan (3rd year), participated in an RC car event [10.01.2020]

Rahul K, was a student Organiser of Technovate2020 [10.01.2020]

Plakeel Kurian John (2nd year), played with 120dB for Tarang event in Saarang 20 and was placed 2nd [12.01.2020]

Vimal Kumar Bharathi B R (2nd year), attended a webinar on Machine Learning and AI by Skill Lync [19.01.2020]

Rajameenakshi.M (2nd year), volunteered for the event SSN IEEE ZERO [22.01.2020]

Faculty Write Up

Prof V E Annamalai writes…

President meets Mech students

Every year, President meets students of each department, to understand the needs for improvement in SSN. This year, she met Mech students on Jan 10. During the meeting, President raised the following suggestions.

- The developments discussed in the meeting need to be informed to all students and staff of the department, by circulating the minutes to all.
- It is important to create awareness on interdisciplinary projects and the opportunity of funding like Consortium Project grants. Under this scheme, interdisciplinary student projects can be considered for funding of up to Rs.10 lakhs
- All students must take help from Alumni and this is possible only by registering in our alumni portal “AlmaConnect”.
- Students should help the Management in identifying friends who are lonely and depressed and help them to reach Student Counselor for timely help.

Ms Kala Vijaykumar

During this meeting, students raised a few suggestions as below:
1.To consider a fully vegetarian canteen.
2.To provide space for display of cars and bikes built by students for external competitions.
3.To consider extending vehicle transport for placement interviews planned outside SSN.
These have been accepted in principle, for implementation.

Faculty Write Up

Dr.A.K.Lakshminarayanan, Assoc Prof/Mech, writes…

I am happy to inform that one of our research papers titled " An insight into the microstructural heterogeneities formation between the weld subregions of Laser Welded Copper to Stainless steel joints" authored by R.Saranarayanan (formerly PG student), A. K. Lakshminarayanan is accepted for publication in Transaction of non-ferrous metal society of China, Elsevier publication **(Clarivate analytics impact factor – 2.34)**.

Dr. A K Lakshminarayanan

I am also happy to note that this work was done using the SSN students internal funding.

Faculty Write Up

Dr K Jayakumar, Assoc Prof/Mech, writes…

Dr. K Jayakumar

Workshop on "Nanomaterials and their Applications"

A one-day workshop on **"Nanomaterials and their Applications"** was conducted on 23rd January, 2020 (Thursday) by Dr. D. Ananthapadmanaban and Dr. K. Jayakumar, Associate Professors, Department of Mechanical Engineering.

A lot of effort was put into market the workshop brochure and as a result **we obtained 84 registrations.** Majority of them were from SKR Engineering College, Panimalar Engineering College, Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya (SCSVMV) University, Kanchipuram, K. Ramakrishnan college of technology, Trichy, GRT Institute of Engineering and Technology, Tiruttani, Madras Institute of Technology, Chromepet, etc.

The keynote address was delivered by **Dr. Prathap Haridoss, Professor, I.I.T, Madras.** He talked about the history of nano, production and characterization of carbon nanotubes. Many queries were asked and the lecture was very interactive.

Dr. K. Sathish Kumar, Associate Professor, Department of Chemical Engineering delivered a lecture on some novel nanomaterials made out of natural and synthetic polymers. His talk was very interdisciplinary in nature.

Dr. K. Babu Associate Professor, Department of Mechanical Engineering talked about the use of carbon nanotubes as coolants. His exhaustive work on nano coolants was very novel and appreciated by all present.

Dr. Nalluswamy, Professor, Department of Mechanical Engineering distributed the certificates. We, the co-ordinators hope to replicate the huge success of this type of workshop next year also.

Faculty Write Up

Dr Nalla Mohamed, Assoc. Prof/Mech, writes…

Dr. Nalla Mohamed

Guest Lecture on Carbon Fibre Composites

A guest lecture was arranged by Dr.Nalla Mohamed and Dr.Ananthapadmanaban, Associate Professors, Department of Mechanical Engineering ,SSN College of Engineering. The guest speaker was Dr.K.V.Krishna Sastry, Vice Chairman, Indian Institute of Production Engineers, Chennai Chapter.

Dr.Sastry, having served as Head of the Department of Aarupadai Veedu group of Institutions, Velammal group and MNM Jain college understood the psychology of the students. He addressed the students in a friendly manner and spoke about Carbon fibre composites. He made a clear distinction between CFCs and CFRPs(Carbon Fibre based Reinforced Plastics).

Dr Sastry started off by showing samples of CFCs, talked about their production processes, characteristics of CFCs and applications. He also presented a detailed case study of the use of CFCs in the MBT(Main Battle Tank) Arjun. The session ended with at least 5 or 6 students and faculty asking him questions. We hope to continue interactions with Dr.Sastry in future and invite him as resource person for our conference and workshops.

Faculty Write Up

APPLICATIONS OF ROBOTICS, AI, AND MACHINE LEARNING IN OPEN BANKING

Report by: Dr. K.S Jayakumar, Dr. K.L. Harikrishna, Dr. Vimal Sam Singh and Dr. Satheesh Kumar G

A guest lecture on the Applications of Robotics, AI and Machine Learning in Open Banking was organized by Dr. Shashikant V. Albal, Director, SSN School of Advanced Career Education, on 29th January 2020. The speaker for the event was Dr. Sebastian Wedeniwski, CIO Technology Strategy & aXess of Standard Chartered Bank.

On the outset the speaker started with the classification of banking systems as provided below:

1. **Traditional banking:** We all know
2. **Digital banking:** What mostly happened after demonetization in India!
3. **Virtual banking:** Digital partnership with service and other industries
4. **Open banking:** Crossing the boundaries of the above partnerships and enabling the digital partnership distribution for the customers. This the speaker calls as 'the bank reaching the customer'.

The Need and Hassle:

When I go for a coffee, the need is the cup of coffee. Making a payment towards the coffee would happen once I hold the coffee mug, without me making any botheration to pull out money/phone wallet/card/ QRscanning. All I need to have is to have a device a mobile/IOT device like your watch or your ring enabling and completing the process of payment. Now the question occurs…what about security? For this he quoted the example of 'Intel inside', a symbol that has built trust over the years. With their APIs they are anticipating to bring in that trust for open banking system.

The need for productivity and speed to market was emphasized with the Mercedes example. In an attempt to woo their customers for their family car segment, Mercedes decided to come with a video screen to engage children. After 7 years, when they finally launched it, the children were expecting a touch screen (started happening then), finally leading to a failed attempt. Hence his team is eager to coordinate the efforts in making it an open platform and involving the public to contribute in creation of the APIs (https://axess.sc.com/api-landing). He considers these APIs to be one of the core ingredients from which the entire open banking system could be built, the other ingredients being Data and algorithms. Anyone could create a new recipe suiting to their requirements.

The Person:
The man with a record for writing a 228 character code in 'C' language for calculating 3 billion decimals for π, a mathematician and computer scientist that he is, the glimpse in to his thinking process could be showcased by his understanding of the banking system: "Delays are the money maker for banking and trading organizations". Also mentioned that as long as the boundaries for the countries exist, common currency does not stand a chance.
The suggestion of blockchain from a student was met with an option to take up as a challenge towards his recruitment. His open attitude didn't come as a surprise, with two of our alumnus (Naveen for 2 decades and Nila for 1 year) working with them brimming with pride, were present for this meeting. He was also humble enough to accept that the system that is being developed is too complex.

Summary:
With a McKinsey Report speculating that One in Three banks are threatened to disappear in the coming months and 60% of banks producing returns below their cost of capital, the banks are on high alert and are in the process of colossal transformation. The need for an open banking system could be felt more now than earlier, since transactions these days happen more between intelligent machines. This is better even for the people living in rural regions. If man had moved on from gold/silver to coins to paper money and to digital wallet, moving on to open banking is inevitable already.

Dr. K S Jayakumar

Dr. K L Harikrishna

Dr. Vimal Sam Singh

Dr. Satheesh Kumar

Faculty Write Up

Dr Satheesh Kumar, Assoc Prof/Mech, writes…

"Dr. Satheesh Kumar Gopal and Dr. S. Vijayan along with the students of SSNCE, Aditya Bucha, S. Aravind, Shailesh Kumar, Sarvesh SV, Raghasudan K and Kevin J Thelly together have cleared the quarterfinals of IICDC 2019 contest. Our team is one of the 747 teams now moving into the Semi Final phase of the competition. There were 18,000+ teams comprising of 75,000+ students' battling it out to win the approval of the evaluators."

Faculty Write Up

Dr L Poovazhagan, Assoc. Prof/Mech, writes…

Workshop on "Ultrasonic Assisted Casting Approach for Fabricating Advanced Composites"

Dr. L Poovazhagan

The training program was meant for faculty members and research scholars. Totally 32 participants have registered for this workshop out of which 25 participants from other colleges/universities. Key note lectures were delivered by Dr.A.Rajadurai, Professor, Anna University, Dr.K.Kalaichelvan, Professor, AC Tech, Anna University, Dr.L.Poovazhagan, SSNCE, Dr.K.Rajkumar, SSNCE and Dr.S.Somasundarm, SSNCE.

This workshop covers the various aspects of ultrasonic assisted casting and composites materials. The topics of the workshop include introduction to metal matrix nanocomposites and ultrasonic assisted casting method, development of composites with special properties, numerical analysis of stir/ultrasonic assisted casting, effect of ultrasound on fabricating Mg metal matrix composites and ceramic matrix composites. Aluminum nanocomposite casting was also demonstrated. All the sessions were very much interactive. We have received very good feedbacks from the participants. This program is sponsored by DST-SERB under scientific social responsibility (SSR) scheme.

Faculty Write Up

Dr M Suresh, Assoc Prof/Mech, writes…

Dr. M Suresh

IMTEX2020

The Indian Machine Tool Manufacturers' Association (IMTMA) inaugurated IMTEX METAL FORMING 2020 and Tooltech 2020 at the Bangalore International Exhibition Centre on Jan 23, 2020. This exhibition was conducted at Bangalore from Jan 23 – Jan 28, 2020. This exhibition offered a platform to the academia in the form of i2 Pavilion. It is an Industry-Institution Pavilion, a forum for academic and R & D institutions to showcase their research initiatives and activities. About 52 stalls in i2 Pavilion were

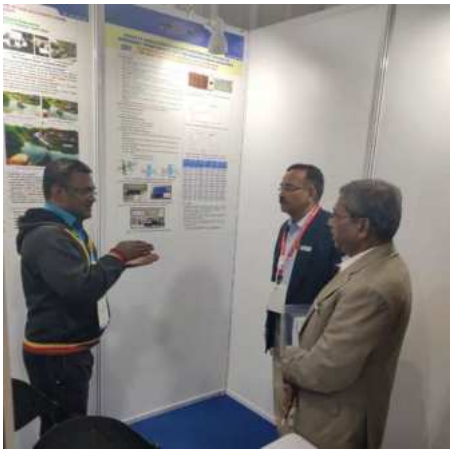
devoted to institutions including IIT Bombay, Vishwakarma University, Pune, PDPM Institute of Information Technology, Jabalpur, PSG Tech, SASTRA University, MIT (Maharashtra Institute of Technology) group of Institutions and many others to display their research activities in the form of Posters.

Dr. M. Suresh (MSU) and Dr. S. Suresh Kumar (SSK) took part in the presentation and displayed their respective project posters in the i2 academic pavilion. The poster themes were: 1. Solar PV module enhanced with evaporative cooling as emergency power backup unit for manufacturing industries (MSU), 2. Mechanism for improved escape worthiness of car occupants under drowning environment (SSK). Both themes attracted faculty and students from many educational institutions as well as people from few industries.

As a part of the i2 Academia Pavilion initiative, IMTMA formed a panel of juries to evaluate the project posters. Jury members were impressed by both project themes displayed by SSNCE. Based on the final presentation and interaction with juries, the projects were assessed and awarded.

The first prize of Rs. 50, 000/- was awarded to MIT Art, Design and Technology University, Pune, second prize of Rs. 25,000/- was awarded to NMAM Institute of Technology, Udupi and the third prize of Rs. 10,000/- was awarded to MIT World peace University, Pune. First Consolation prize of Rs. 5000/- was awarded to Acharya institute of technology, Bengaluru, second consolation prize of Rs. 5000/- was awarded to Sri Krishna College of Technology, Coimbatore.

SSNCE was able to highlight in the exhibition that our projects are research oriented as well as industry relevant.



Faculty Write Up

Dr K S Vijay Sekar, Assoc Prof/Mech, writes…

Dr. K S Vijay Sekar

PM Shri Narendra Modi's session with Students

Dr. K.S. Vijay Sekar and Dr. Vimal Sam Singh, Assoc. Professors, arranged to beam live, the talk by Prime Minister of India Shri Narendra Modi's Interactive Session with Students in connection with Pariksha Pe Charcha 2020 (PPC 2020) on 20th January, 2020. The talk was centered on how students must go about in their exam preparations and he provided sound advice on handling the examinations. AICTE had requested all Institutions to beam the address live and the Students from the Mechanical Department, SSN were able to view it in the CAD/CAM lab, SSN.

Faculty Write Up

Dr K S Vijay Sekar, Assoc Prof/Mech, writes…

THINK EDU CONCLAVE 2020

I had the wonderful opportunity to attend the Think Edu Conclave 2020, organized by the New Indian Express at ITC Grand Chola, Chennai between Jan 8 and 9, 2020. The conclave is an annual affair that brings together some eminent people from diverse backgrounds who deliberate on topics of national interest, particularly education as their core theme. The invitees are a good mix of students,

faculty and industry personnel who are important stakeholders in the education arena. The event started off on a musical note, with Ms. Sunita Bhuyan regaling the audience with some soulful melodies played on her violin.

The first Keynote speaker was Dr. K. Kasturirangan, the eminent scientist, who as the Chairperson of the drafting committee of the National Education Policy outlined the salient features of the NEP draft where he talked about the right to education between ages 3 - 18, with the first five years being a crucial foundation period, given scientific neuroscience evidence that 86 % of the brain growth happens before the age of 6. He insisted on an advanced level of pedagogy with autonomy and inherent flexibility for the higher education sector, without losing sight of the Indianness quotient.

Dr. Banwarilal Purohit, The Governor of Tamilnadu delivered the second keynote on " Educating Tomorrow's India", stressing on the adage " It is better to light a candle than curse the darkness" while throwing light on the need to educate every child with compassion and humanity so that hunger as a primary need can be eliminated. He said it was the Class Teacher's responsibility to reach out to parents and hoped every child gets equal education, opportunity and is proud to be an Indian.

Mr. Arif Mohammed Khan, Governor of Kerala delivered the third key note speech on the topic " Why inclusivity is the only way forward for Indian education". Quoting extensively from the Mahabharata, and Swami Vivekananda, he said India was a powerhouse of knowledge from ancient times and history shows that people travelled from far and wide to get educated here. He quoted Swami Vivekananda who said " The decline of knowledge started when we monopolized education", which resulted in making it inaccessible to large sections of society. He also laid emphasis on the need for bio diversity and stressed that people have to come forward to do things rather than expecting the Government to do it all.

Ms. K. Sandhya Rani, Former commissioner of school education, AP said that both private and public schools are needed as a coherent entity to lay strong foundations and insisted that Technology was not all encompassing and that Teacher qualities are far more important. In her stint she was able to bring in 90% attendance of Teachers in 43 Govt. Schools in AP. Ms. Revathy Radhakrishnan, Filmmaker and educator said that CSIR initiative focused only on Urban schools. Mr. Milind, Camp dairies, said that Teacher's attendance must improve and incentives must be given for teaching and the national budget allocation towards education must increase. Licy priya Kangujam, climate change activist spoke on the need to take care of the ecology on which we live and stressed the role of education in bringing in awareness on this front.

Ricky Tej, Grammy winner shared his passionate journey in music, which according to him must be used for social impact to make the world a better place to live. He said an island named Kiribati was in danger of becoming the first country to submerge due to rising sea levels. Mr. Rohan Murty, Harvard Society of Fellows stressed the need to take Indian literature to the global context given its rick knowledge and wisdom. Mr. Bibek Debroy, Economist and Author, said that there were over 40 million Indian manuscripts with immense wisdom, out which more than 95% were yet to be translated and it was a travesty that Harvard had to educate us about these manuscripts.

Ms. Gitanjali, CEO, HIAL, said that history was distorted and there is a distinct lack of pride attached to it. She said there was no proper word for "sustainable" in any language, no earth architecture institute in India which would treasure our indigenous wisdom. Dr. Arnab, Scientist, TIFR suggested that our ancient mathematicians did not get their due and today's students merely mugged up their books without learning through experiments, which was needed the most.

Mr. Pandiarajan, TN Minister stressing the need to learn through history and archaeology and indicated that there was a proposal to make spending half a day in a museum mandatory and creation of history labs in all public schools. Mr. Bhupesh Baghel, CM of Chhattisgarh, threw light on his vision for education by citing that in his place, anemia was the major problem and not naxalism as publicized and he said that his focus was on individual development rather than on roads or buildings and he has waived off all farm loans.

Mr. D. Chandrasekar from the Madras Dyslexia Association, touched upon the difficulties of a dyslexic child and hoped that education will take care of the special challenges of these children. In a panel discussion on helping students beat stress and depression, Dr. Vijay Nagaswami, Psychiatrist, asked

students to maintain healthy relationships which will help them handle life better especially when peer and academic pressures set in and he emphasized that life skills must be subject at all levels. Ms. Saras Bhaskar, Psychologist, requested teachers not to transfer their anxieties on the students, but rather empower and encourage them in times of stress.

In a fiercely debated panel discussion on " Is Hindi an imposition", Mr. M.G. Devasahayam, Former Civil service officer opined that it was needless to impose the language, though he himself had to voluntarily learn the language when posted in North India. Ms. Madhu Kishwar, Academic asked people to find ways to mutually co exist, while Ms. Jothimani, MP, said she did not have to prove her identity to anyone and that she will not allow imposition of Hindi on her people. Mr. Sonam Wangchuk spoke on the alternate learning in small cities and villages and Mr. Shashi Tharoor, MP spoke on the need to voice our concerns and not be silenced. In a panel discussion on the economy, Mr. Rajnish Kumar, Chairman of SBI indicated that measures were being taken to bridge the economy and turn the tide towards a better growth rate in the next few years, by increasing lending and helping small and medium enterprises to flourish.

Mr. Tejasvi, MP opined that today's India is not only young but also bold and desire to compete globally. However, Ms. Supriya Sule, said it is not always about screaming, but things can done with silence and without any intimidation. Ms. Tamilachi Thangapandian, MP said that being bold does not mean silencing others and, in a democracy, each had their choices and that India belongs to all. Mr. Gagandeep Kang, Fellow of Royal society indicated the health benefits which could go a long way in addressing malnutrition, which if lowered could have economic and social benefits to all. He said public health spending is less while individual spending is more.

Mr. Sachin Pilot, Dy.CM of Rajasthan said competition among states will aid progress and political relationships are key to sharing of resources and also money must be in the hands of the poor in order to boost the economy. Dr. Subramanian Swami, opined that India shining campaign routed the government back then and today social media is much bigger than the print media and he said that it would be good to abolish income tax, raise interest rates in FD, lower interest rate on farm loans in order to boost growth.

Ms. Sangita Reddy, Joint MD, Apollo Hospitals argued in favour of more women playing key roles in all spheres of activity and wanted companies to train the HR to retain women and also wanted the present wage gap between genders (17%) to come down. In a panel discussion on "whether elitist institutions were creating parallel India's", Prof. Himanshu, Director IIM Indore said that at his place they promote regional diversity and about 600 students do a one week - two month, internship in a remote village as part of their curriculum. Prof. Archana, Director IIM Lucknow said that IIM was not supported by the Government and that intellectual elitism was neither sustainable nor economical and at her place there were many students willing to give up dream jobs and become self sustainable. Mr. Palanivel Thiagarajan, MIT alumnus, said promoting social mobility was important and an integrated supply chain of Industry and Academia like in US was the need of the hour here. Ms. Kangana Ranaut, Actor wanted the movies to depict women heroism and provide more women centric roles in mainstream cinema. Ms. Smriti Irani, Union Minister on a panel discussion on the topic " The new woman - power with responsibility " said that there were many people who ask us not to revisit the past but it is that foundation that made us who we are today and we must be proud of it.

Overall the two days was thought provoking, intellectually stimulating and socially relevant and the panelists were more than willing to address key issues plaguing the nation in the education front. The students participated with enthusiasm and posed several questions which were answered well by the panelists. The event was ably organized by Mr. Prabhu Chawla, Editorial Director of The New Indian Express and his wonderful team members, who moderated the panel discussions efficiently.

The highlight of the two day event was the distribution of the Think-Edu awards which were awarded to some eminent institutions who have been doing well in the academic front and it was heartening to see that our SSN College of Engineering being one among the chosen few to receive the award from Mr. Edappadi K. Palaniswami, CM of Tamilnadu in the presence of Ms. Smriti Irani, Union Minister. The award was received by Ms. Kala Vijayakumar, President SSN Institutions along with Dr. S. Salivahanan, Principal, SSN College of Engineering. Dr. B. Srinivasan, Director, SSN School of Management also attended the two-day summit.

Faculty Write Up

Mr Jayakishan B, Asst Prof/Mech, writes…

SSN SAE CLUB STUDENT CONVENTION 2020 Tier-I Event report

Mr B Jayakishan

SSN SAE Collegiate Club conducted Tier-1 competitions for our student members on 8th January, 2020. As many as 100 student members from II, III and IV year from various departments participated in different competitions with high enthusiasm. The competitions conducted for the students include Bicycle assembly and disassembly, Bridge Building, Auto Quiz, Engineering Drawing, Group discussion, How things work and Business plan competition. The total number of participants in auto quiz alone was about 70 with 3 members in each group. The events and its format for Tier-1 competitions were as per the guidelines framed by SAEINDIA ISS (SAEINDIA SOUTHERN SECTION). The winners of various events in Tier-1 shall move to Tier-2 – an interstate level competition (zone wise). Our thanks are due to the responsible Office bearers of SSN SAE collegiate club headed by Mr. A. Chidambaram, Final Year, and student volunteers for the successful conduct of Tier-1 events at our campus. Our special Thanks to all of the faculty members who acted as referee/Judge for various events. The results of Tier-1 events and photos are presented for the readers benefit.

- Mr. B. Jayakishan (Faculty Advisor, SSN SAE)
- Dr. S. Rajkumar (Additional Faculty Advisor, SSN SAE)

TIER – I RESULTS

Competition	**Bicycle assembly and disassembly**		
Judges	Dr. S. Rajkumar		
Winner	Pranavram Ashok	Ragul D	Prasad P V
First Runner up	Sam sherin raj	Vimal kumar bharathi	Vengadesh V
Second Runner up	Navin M	Padmakanth P	Vijay Naveen K R

Competition	**Bridge Building**		
Judges	Mr. B. Jayakishan		
Winner	Gunalan S	Mugesh A	
First Runner up	Nirmal Palanichamy	Raguraman R	Kishore M G
Second Runner up	M Arun kumar	K Kalaiselvan	K M Dhilip

Competition	**Auto Quiz**		
Judges	Mr. B. Jayakishan		
Winner	R Arvind Kumar	S B Krishanth	R Dheepak
First Runner up	Pranaav Sankar	Saran Prasanth R	Rahul B
Second Runner up	Pranavram Ashok	Ragul D	Prasad P V

Competition	**Engineering Drawing**		
Judges	Dr. K. Babu		
Winner	Achyuth R	Arjun N	
First Runner up	Krishanth S B	Kaushik kiran S	
Second Runner up	Nagalakshmi S		

Competition	**Group discussion**		
Judges	Mr. C. Arun prakash	Dr. G. Satheesh kumar	
Winner	Tharun Kishant M		
First Runner up	Vimal kumar bharathi		
Second Runner up	Shruthi Mahalakshmi		

Competition	**How things work**		
Judges	Dr. R. Prakash		
Winner	Pranavram Ashok	Ragul D	Prasad P V
First Runner up	S SenthilKumar	Vengadesh V	
Second Runner up	Sundar G M	Sam Sherin Raj	Sai Preethi

Competition	**Business plan**		
Judges	Dr. R. Vimal Sam Singh		
Winner	Tharun Kishant		
First Runner up	Sanjeet Chowdary K	Santhana Krishnan K	
Second Runner up	Saranya	Rahul	Arjun

Faculty Write Up

Dr. N. Lakshmi Narasimhan, Assoc Prof/Mech, writes…

CAREER OPPORTUNITIES IN ATOMIC POWER PLANTS OF INDIA

Dr. N Lakshmi Narasimhan

Our CDC Organized a session with Dr.T.S.Lakshmi Narasimhan, Associate Director, Resource Management Group/SQRMG, Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam on **January 28th (Tuesday)** to Enlighten students (especially Final Years) on the Career Opportunities in Atomic Power Stations of India. That was an impressive talk by the eminent IGCAR scientist delineating to students the prospects of a Challenging Bright Career with attractive package from the coveted Govt. of India.

The selection is purely through GATE score or the written test. Those with a valid GATE score need not appear for the National level Test conducted by the Dept. of Atomic Energy every year. After the test, those shortlisted will be called for a Technical Interview that could last for an hour or so. After successful completion of the interview, that it's all done and followed is a Medical Examination. Surprisingly, the response from Tamil Nadu had been lukewarm thus far and no one got through the selection held last year (2019) from our state. On contrast, 50-60 got through from UP alone and another 40 from other northern regions of India. As pointed out by the speaker, Candidates applying from the southern parts of India had been reasonably low over the years and that was a point of concern raised by the speaker. His talk was a wake-up call for all those bright minds who are missing the coveted R&D profession with great Scientific Organizations like BARC (Bhabha Atomic Research Centre), IGCAR, etc. The intent of the speaker was to create an interest & awareness among the best students from the best institutes of Tamil Nadu to join & serve in Department of Atomic Energy. As understood from his talk, the Professional career growth can take a fresh Graduate joining the Organization to pursue upto Ph.D. & pos-doc too! without compromising the Job or experience! Freshers join as Scientific Officers (Group-A Gazetted Officers) with attractive packages. They keep Growing!!

For the current year 2020, the last date for online application is February 03, 2020 and the speaker urged the students to gear up for the same. Students with valid Gate Score can skip the test and look forward to file the application as per the guidelines. Thanks to the speaker, Principal and CDC for organizing the talk.

Placement Write Up

HYUNDAI

Hyundai Motors conducted their recruitment drive for our students at Rajalakshmi Engineering College after an initial AMCAT test. Pranaav Sankar and Shriram S were placed as Graduate Engineering Trainees after multiple rounds of selection.

ROUND 1: AMCAT WRITTEN TEST

The AMCAT test had a quantitative section, an English language section, a technical section and a psychometric test. The quantitative section consisted of simple aptitude questions and preparation from RS Agarwal will suffice. For the technical section, preparation from RS Khurmi technical aptitude would be fine. The psychometric test must be done cautiously, ensuring that you don't contradict yourself. There would be about 70 questions and they must be answered within 15 minutes.

ROUND 2: GROUP DISCUSSION

The second round was GD, a group consisted of 7 members and we were asked to choose a topic. My group's topic was "Electric vehicle's pros and cons". The discussion went for 10 mins and at last each of us were asked to conclude regulation Regarding group discussion I would suggest you to be confident, not to debate, give chance to others and don't go out of the topic. Practice GD in college by forming groups with your friends that would make you to feel confident and you can correct your mistakes. GD is a mass elimination round so be prepared with current affairs. This was an elimination round and 5 out of 7 students got shortlisted for the presentation round.

ROUND 3: PRESENTATION ROUND

Pranaav writes….

"After the GD, we were shortlisted for the presentation round. You have to present a total of 3 slides with the following content – About yourself, SWOT (Strengths, Weaknesses, Opportunities and Threats) Analysis and Why Hyundai should hire you. You must wrap up the presentation within 3 minutes (30 seconds grace time is provided) and it must not contain any information from your resume. Try to be as creative as possible. Prepare this well in advance, this helps you to do minor corrections if necessary on the day of presentation. Also have this presentation in you mobile as they expect you to upload it via a drive link after the GD. Try to practise what you're going to after the GD, we were shortlisted for the presentation round."

ROUND 4: DOMAIN ROUND:

Totally 20 students attended the technical round out of which 10 students were from SSN and 10 students were from REC.

Shriram writes….

"I would suggest you to carry a hard copy of the report on your interns or projects which relates with the job description of the company. This will surely impress the recruiter. There will be questions like "You have a very good technical profile then why can't you try for higher studies?". You have to be clear with your answer and you have to make sure that you are not interested in higher studies. You have to answer perfectly for the questions which are related to your interns or projects. Keep yourself updated with the current technology that the company has adopted."

ROUND 5: HR ROUND

This round consisted of four people panel and they were quick to ask questions one after the other. Just be sure that you don't contradict yourself. Have a smiling face and answer them politely. Also think for a moment before you answer else it could get you into trouble. Stay confident and greet them with energy.

Placement Write Up

WOOD

Wood PLC visited our campus to conduct a recruitment drive for our students. Three of our students, Balaji K, Vijay D and Ramakrishnan were placed.

ROUND 1: TECHNICAL AND APTITUDE TEST

Vijay writes...

"The first round was a written test which was divided into two stages, In the first stage basic aptitude, Vocabulary and Logical reasoning were tested for 30 minutes. The questions that are asked in this round are moderate level. Online websites like Indiabix and Carrerride helped me to clear this round. Later, In second stage Technical questions from the areas of Strength of materials, Fluid Mechanics, Design and Thermal were asked for 1 hour. Based on both stage cut-off marks 8 people got selected for the 2nd round. The questions asked here are again a moderate level. My preparation for GATE helped me a lot to clear this round."

ROUND 2: TECHNICAL INTERVIEW

Balaji writes…

"The technical interview process lasted for around 20 minutes. I was asked questions based on the topics that I had put in my resume. The following were some of the questions that were asked during the interview process:

1. Tell me about yourself
2. Explain some of the analysis process that you have carried out in Ansys

Workbench (which I have mentioned in my Resume)
3.Explain your Internal Funded Project & Design and Fabrication Project
4.Brief on your final year project
The interviewer noted of my ideas and topics that were related to their field of interests."

ROUND 3: HR INTERVIEW

Ramakrishnan writes…

"The HR Interview process lasted for around 10-15 Minutes. The questions were simple and it judged my communication skills and my attitude. They started from a basic question "Tell me about yourself" to some technical questions related to my projects and internship. Then they analysed my marksheets and questions were raised for my low grades in exams. They also asked some tricky questions about my previous bulk offers (Cognizant) and the reason for me to join WOOD over Cognizant when both have similar packages."

Student Write Up

Pranavaram. A, 2nd Year/Mech writes…

Visit to Automotive Testing Expo

The automotive testing expo 2020 in partnership with ARAI was held at the Chennai Trade Centre from 22nd January 2020 till 24th January 2020. Students from SSN SAE Club Team Precisio attended this event for gaining knowledge and an approach for sponsors for their forthcoming competitions.

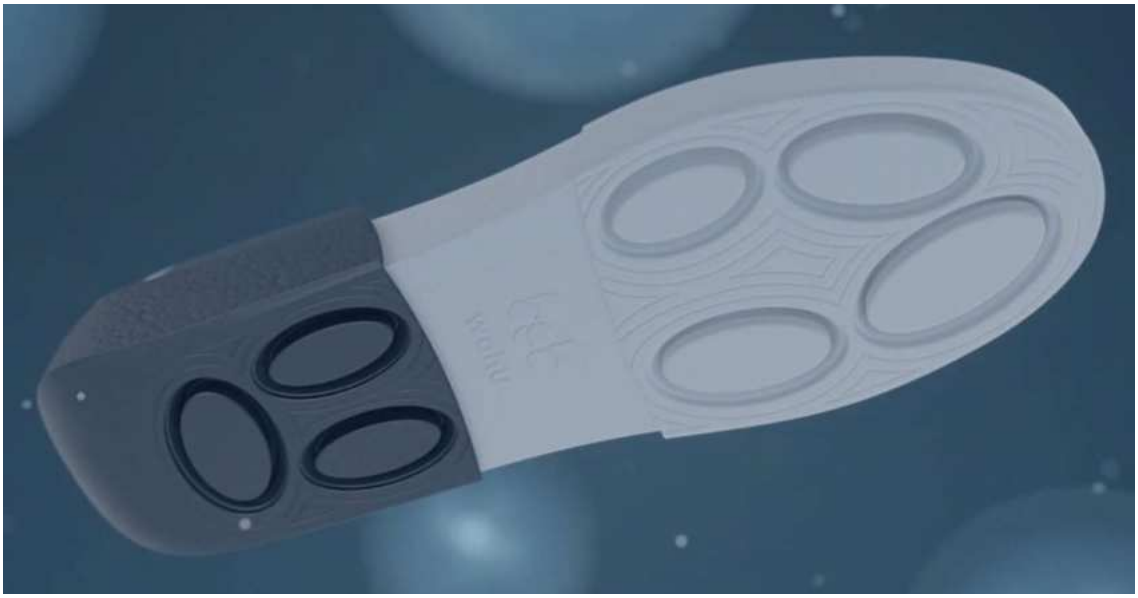
The event is South India's largest vehicle and component pre-production as well as in-line and end-of-line assembly testing and validation technology and services exhibition, featuring over 120 exhibitors. The event had hosted the latest in vehicle and component development-tool technologies such as ADAS testing, NVH measurement tools, test rigs, simulation packages, durability testing technologies, crash testing know-how, dynamometers, emission measurement systems and dynamic assessment tools, as well as countless service providers such as proving grounds and test facilities.

Furthermore, the event had exhibitors from different simulation software developing companies. The team was more interested in these companies as the different software provided by different developers will largely help the team to fabricate a vehicle much refined in various domains resulting in a highly competitive vehicle. Hearing out the team's achievements and their potential to achieve more, the companies offered to sponsor the team by providing their valuable software at a highly discounted price. The companies included OptimaG, Cardin and more.

Lastly, the team had acquainted executives of R&D, testing and other domains who had visited the event representing various multinational companies like Daimler-Benz, Ford and more. Getting to know the team's technical knowledge and potential, the executives accepted to offer technical support wherever and however possible. Overall the expo was very helpful for the students to gain knowledge and to network with technical engineers from various industries.

SHOE WITH RETRACTABLE SOLE

This shoe with an electro-pneumatically adaptive sole, called Wahu, developed in Italy, has won this year's Innovation Award winner in the Consumer Electronics Show's "wearable technologies" category. It has a sole with the capability to extend or retract a set of chunky, shock-absorbing pads that can increase off-road traction as well as adding comfort cushioning. When you're on a smoother surface, you'll get better traction by having more rubber on the road, as it were, so the pads can retract back into the shoe and sit flat against the rest of the sole.



The pads are moved by way of a set of micro-compressors, which pressurize a set of interconnected cavities to about 2.5 bar to pop them out, then release the pressure to let them back in. A built-in battery offers 24 hours of operation. The shoes connect to a smartphone app that lets you select which mode you want them operating in, or choose the variables by which the shoes might decide to change modes themselves.

Source: https://newatlas.com/

Corporate Story 62

START UP FOCUS

BASIL ENERGETICS

Basil Energetics Private Limited is a company totally focused on Smart Micro Grid using DC Appliances. The company is promoted by a dedicated group of electromechanical and electronic engineers with long and proven track record in energy conversion and conservation. The company provides total system integration for renewable energy projects on a turnkey basis.

Basil technologies have come up with an innovative system in which their solar controller shifts the power source between the panel and the mains depending on the output of the panels. They also use thin film solar panels which have similar efficiency to the normal panels but have higher energy yields.

Presently the company offers a unique and innovative solution for roof top solar systems, where room air conditioners & refrigerators can also be powered by solar panels in addition to lights and fans.
In just four short years since their inception, Basil has won several awards and accolades including Global Climate Solver award given to them by WWF and a chance to showcase their product in the Global climate action summit in 2018.

For more information check out https://youtu.be/J1ZCTdqCNtY

Website:
http://basilenergetics.com/

Amazing Innovation- 149

REINVENTED CAR VISOR

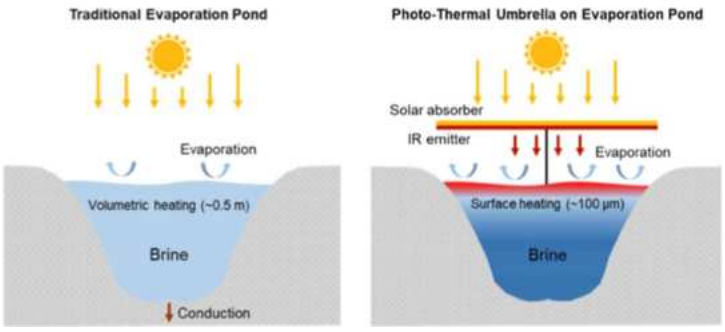
According to Bosch, sun glare is the biggest weather-related cause of accidents. The company therefore wants to rethink the sun visor, with a see-through model that blocks sun only where it's reaching the driver's eyes. Current visors block the sun, of course, but do so at the expense of visibility from the vehicle. The Bosch Virtual Visor addresses that, allowing full vision from the windshield while still providing protection from the sun's glare.

Made up of a single, transparent LCD panel, the Virtual Visor utilizes a driver-facing camera, AI-based facial detection, and eye-tracking software to determine where the driver's eyes are, and how much sun to block in order to eliminate glare without obscuring vision otherwise. This means that the visor blocks incoming light only on those parts of the LCD panel that are allowing it through to the driver's eyes. As the driver moves, so does the blocking. The Virtual Visor is made to replace a traditional sun visor in a vehicle, taking up the same space and using the same mounting hardware. The Virtual Visor has already won the CES 2020 Innovation Awards "Best of Innovation" prize in the In-Vehicle Entertainment and Safety category.

Source:https://newatlas.com/automotive/bosch-virtual-visor/

Amazing Innovation- 150

SOLAR UMBRELLA FOR QUICK EVAPORATION OF WASTE WATER



Scientists at Berkeley Lab have developed a sort of "solar umbrella" which could radically reduce the amount of land needed for industrial evaporation ponds. Evaporation ponds are a cheap way to deal with waste water contaminated by industrial processes in various industries. The idea behind evaporation ponds is to create shallow expanses of waste water which is naturally evaporated by sunlight, leaving behind solid waste which can be more easily disposed. The umbrella works on the principle that water is much better at absorbing solar radiation in infra-red wavelengths. Whereas normal sunlight will gradually heat the whole depth of the water, infra-red intensely heats only the surface, down to a depth of a mere 100 micrometers or so. By building a canopy that sits a foot above the water, the incoming sunlight is converted from wavelengths of 400 to 1,500 nanometers to 3,000 nanometers or more, and the rate of evaporation increases. With more work, the researchers think their concept has the potential to increase overall evaporation by 160 percent. They intend to do economic analyses of the technology for both lithium extraction and desalination plants. They also hope to reduce costs by making the umbrella out of an inexpensive polymer.

Source:https://newatlas.com/environment/solar-umbrellas-evaporation-ponds/

Amazing Innovation- 151

SHOWER THAT USES LESS WATER

Swedish innovation company, Altered, has developed the Altered: Shower, with new technology that offers a full shower experience while using 75 per cent less water. When developing the technology, the company focused on the three elements that they feel make a good shower: coverage, warmth and pressure. With this in mind and after hundreds of tests, The Dome technology was developed. The Dome technology expels water in a high-speed, rotating dome. This tears the water apart, creating thousands of large droplets that provide full coverage. Unlike traditional water-saving showers that reduce the flow and speed of the water, the Dome technology is able to increase the speed of the water to maintain high pressure and rinsing ability. Lastly, the Dome holds the water together for longer, allowing heat to be transferred to the droplets more efficiently while using less energy. As an added luxury, the shower features a "monsoon mode," which adds more water into the dome to create a monsoon rain experience, while still saving 50 per cent of both water and energy.

Source: https://www.springwise.com/sustainability-innovation/work-lifestyle/altered-shower-less-water

Amazing Innovation- 152

SAMSUNG'S AIR DRESSER

Samsung's AirDresser uses powerful air and steam to remove dust and germs, refreshing and sanitizing clothes to provide easy and convenient garment care. Once a garment is hung inside the unit, the user can initiate the cycle and simply wait for the system to run its course: The Jet Air and Air Hangers release powerful air to loosen and remove engrained dust, with only minimal noise and vibration, quiet enough for anywhere inside the home, including the bedroom. Then, the JetSteam sanitizes the garments to get rid of the bacteria, viruses, and allergens.

AirDresser also uses its Deodorizing Filter function to freshen clothes, breaking down the odor-causing particles caused by sweat, tobacco, and food, while preventing unpleasant smells from building up inside the unit. Meanwhile, Self Clean technology dehumidifies, sanitizes, and deodorizes the interior of the AirDresser without requiring harsh or costly detergents by cleaning with a combination of heat, air, and steam. It even notifies users whenever it needs cleaning every 40 cycles.

Source: https://news.samsung.com/global/samsung-reimagines-clothing-care-with-airdresser-innovative-new-appliance-that-refreshes-and-sanitizes-clothes-without-washing

Alumni Update 1

Mr Akhil Ramesh writes…

I am writing to inform you about this scholarship scheme of New Zealand Government.

https://ascholarship.com/new-zealand-govenment-scholarship-2020-2021-for-undergrad-postgrad-and-phd-programs-for-international-students/

With Warm Regards
Akhil Ramesh
Masters Student in Engg Management, University of Auckland. (2012-16 batch of SSN)

Alumni Update 2

Shyam Sivakumar writes…

Hope you're doing well. I'm an alumnus of the mechanical engineering department (batch of 2012).

After graduating from SSN, I left to the US to pursue my Master's degree in Mechanical Engineering at the University of Pennsylvania. During my course work and subsequent internship at the National University of Singapore, I got exposed to data processing, analytics and modeling and started shifting more towards that field. After graduating with an MS degree, I completely pivoted to the data field, and started working at PayPal in the San Francisco Bay Area. After 2-3 years there, I moved to Uber to work as Data Scientist. After about a year there, I got an opportunity to work in startup called Hippo Insurance as their Data Analytics Lead, which is where I've been for the past 1.5 years. In this time, the startup has grown exponentially with a recent valuation of > $1Bn at the end of last year.

I read through the newsletter, and it was very informative and brought back great memories I have of SSN. Thank you for compiling and sending this out every month, and I'm looking forward to the next one.

Best,
Shyam Sivakumar

Alumni Update 3

Santosh (PG Mfg Alumnus (2013-15 batch), now doing PhD at IITM) shares...

Internship at IIT

IITM offers 'Summer Fellowship Programme 2020' for two months with a stipend, a unique opportunity for students from other Institutions (non-IITs) to pursue their internship/ undertake a research project, at IIT Madras. Designed to enhance awareness and interest in high-quality academic research among young Engineering, Management, Sciences and Humanities students through a goal-oriented summer mini-project undertaken at the Indian Institute of Technology Madras. Duration of the programme may commence from 20th May 2020 to 19th July 2020. Last date for Online Submission: 29-02-2020 at 5.00 pm. For more details: https://sfp.iitm.ac.in/

Alumni Update 4

Venkatesh Ravikumar from Tesla writes…

I belong to the 2008-2012 batch of Mechanical Engineering of SSNCE. I am one of the few students who was placed in Ashok Leyland in Campus recruitment of that batch and joined the firm. After being with Ashok Leyland for 3 years, I decided to pursue my Master's in Industrial Engineering from University of Illinois Chicago. I graduated from my Master's in 2016 and **I am currently in the US, working with Tesla**. I am working as a Process Engineer here. I improve the production process, OEE improvements. (Yield, Availability and Cycle time) and make the line sustainable (SPC chart to monitor health of process).

Alumni Update 5

Guru Pranesh (2013 – 2017 batch) has been working for Mytrah Energy India Private Limited for the past 2.5 years and he wishes to throw some light upon the industry in which he is working. Guru writes…

I have been with this Sunrise Industry for the past 2.5 years and I got into this industry as Graduate Engineer Trainee (GET) via campus placement. During my tenure I had opportunity to work in various departments like Business Development, Procurement, Projects, Performance Analysis and working closely with Lenders (i.e Funds/Loans arrangement for projects).

Industry briefing:

This industry falls under Power Plants segment. Power plants generate electricity using various fuels like Coal (Thermal Power Plants), Nuke (Nuclear Power Plants) etc

Unlike the conventional power plants, renewable energy uses Solar Irradiation & Wind as fuel to generate electricity.

Due to increase in temperature of the earth and other natural calamities owing to emission of greenhouse gases, nations of the world (195 countries) met in Paris at 2016 and signed an agreement (climate deal) to reduce the emissions.

Every country has set its target to increase the renewable mix in power generation. India has set a target of 175 GW (Wind & Solar power plant installations) by the year 2022.

Even though renewable power generation in India started owing to the subsidies and other benefits it received as a business, today we are left with no other option but to switch towards renewables in order to save our mother earth.

Opportunities (projects & research):

1. ***Electric Vehicles (EVs)*** – This is going to be the future of transportation. Govt in upcoming years will bring a standard norms & procedures for operating electric vehicles. Its good time to do research activities under the guidance of our professors who has good knowledge on the same.
2. **Research in Solar Photo Voltaic** – Day by day solar industries is looking to reduce the cost of manufacturing and parallelly increasing the efficiency.
3. **Research in Wind Turbine Manufacturing** – This applies to wind industry as well. Cost reduction & material modification in Turbine Blade Manufacturing.
4. **Smart Grid & IoT** – Latest revolution in power sector.

I really apologise that could not write & contribute much this time due to work schedule. I request the students to please write to me and get in touch who really wanted to pursue their career in Renewable Energy Sector & know in detail about the process. I would suggest you to be updated on the industry in which you wanted to enter. Always focus on both Technical and Commercial aspects of the industry. Also please write to me about concerns related to placement preparedness. I am always reachable at 9940506361 & sgurupranesh@gmail.com / guru13038@mech.ssn.edu.in

Forthcoming events

Workshop/Seminar

February

- Department of Mechanical Engineering of KIT-Kalaignarkarunanidhi Institute of Technology (Autonomous Institution) is organizing Two Days National Seminar on 'Role of Biocomposites for Automobile Applications- Natural step forward on **07.02.2020 to 08.02.2020**. The National seminar is sponsored by Department of Science and Technology (DST) Science and Engineering Research Board (SERB). Registration link https://docs.google.com/forms/d/e/1FAIpQLSezpj0Z6Pep943frLVO_O1p49y8-6lx46LFqZS43uRPtdsr3w/viewform

- The Department of Mechanical Engineering of SSNCE is organising its annual glider workshop for the benefit of the II year Mechanical students on **February 8th, 2020** under the ambit of the Aero modelling Club, coordinated by Dr.K.S.Vijay Sekar with Trainers from III year Mechanical.

- IIT Hyderabad, Dept. of Civil is organizing a short course on "Nonlocal Mechanics Approaches for Modelling Localized Deformations (NMAMLD 2020)". The short course is scheduled for **19 - 21st Feb 2020**. More details are available at the short course website http://nmamld2020.com/

- A Two-Day International Workshop on "Manufacturing of Advanced Structural Materials for Transport Systems", is being organized by the School of Mechanical Engineering, VIT Vellore in Collaboration with School of Aerospace, Transport and Manufacturing, Cranfield University, UK, during **20-21 February 2020.**

- The Department of Mechanical Engineering of SSNCE is organising a one day National level workshop titled " Structural, Thermal and Vibration analysis using Abaqus Software" on **February 22nd, 2020**, coordinated by Dr.K.S.Vijay Sekar and Dr.S.Suresh Kumar. The workshop is open to all and those willing to register can mail their registrations to vijaysekarks@ssn.edu.in. The registration fee is Rs.300 for students and Rs.500 for faculty/industry.

- Indian Institute of Information Technology Design and Manufacturing (IIITDM Kancheepuram) is organizing a One Day Symposium on Shock Waves in Science, Engineering and Medicine on **29th February, 2020**. The symposium is enlightened by august presence of eminent speakers from the University of Glasgow, UK, Indian Institute of Science (IISc), Bengaluru and IIITDM Kancheepuram.

Conference

February

- The Institution of Engineers (India) and Jadavpur University will be jointly organising the International Conference on "Energy and Sustainable Development 2020" at Jadavpur University, Kolkata during **February 14-15, 2020** as a part of Centenary Celebration of IEI.

- The 3rd International Conference on Advances in Mechanical Engineering (ICAME 2020) to be held in the Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur, Chennai, during **February 24-29, 2020.** https://www.srmist.edu.in/icame-2020/

- Department of Mechanical Engineering PSG College Technology, Coimbatore, Tamilnadu, India is organizing an AICTE sponsored International Conference on "Development and Management of Smart Cities and Homes (ICDMSCH 2020)" which will be held during **February 27-28, 2020.**

March

- Confederation of Indian Industry (CII) is organizing a one day Conference on Digital Agriculture on **6th March 2020** at Hotel Feathers, Chennai.

- Republic Polytechnic, Singapore, is organizing The 6th International PBL Symposium 2020 (6th IPBLS2020), during **March 25-27, 2020.**

April

- International Conference on Advances in Materials and Manufacturing (ICAMM-2020), which will be held in SSN College of Engineering, Chennai, INDIA on **9-10 April 2020**.The ICAMM-2020 website(https://www.icamm2020.com/) is now available for abstract submission. If you would like to submit an abstract, you can use the link https://www.icamm2020.com/abstract-submission

June

- The 6th International EcoSummit Congress - EcoSummit 2020 – Building a sustainable and desirable future: Adapting to a changing land and sea-scape , will take place at The Gold Coast Convention Centre, Gold Coast, Australia, from **21st – 25th June 2020**.

- The University of Cincinnati, College of Engineering and Applied Science, is hosting the 2020 ASME International Manufacturing Science and Engineering Conference (MSEC), during **June 22 – 26, 2020,** at Cincinnati, Ohio. As part of the conference, a Symposium on Internet and Digital Twins Technology for Smart Manufacturing is also planned. For details, visit **https://event.asme.org/MSEC/**

- University of Cincinnati, is organizing North American Manufacturing Research Conference-48, during **June 22-26, 2020.** Six Tracks on **Manufacturing Systems, Manufacturing Processes, Material Removal, Additive Manufacturing, Smart Manufacturing – Processes, Systems and Integration and Industrial Applications and Manufacturing Education.** Submission at the link https://namrc.sme.org/call-for-papers/?_zs=xVXof1&_zl=gjDF6 **(info from Akhilnandh Ramesh-Alumnus)**

August

- The Department of Mechanical Engineering of CMR Institute of Technology Hyderabad is organizing 2nd International Conference on Manufacturing, Material science and Engineering (ICMMSE 2020), during **7th and 8th August 2020** in CMRIT Hyderabad Telangana, India. For more information about the conference log on to http://www.icmmse.in. The submission deadline for papers is 15th **July 2020**.

September

- The Third Malaysian International Tribology Conference will be held during **Sept 28-30, 2020** at Langkawi islands. MITC2020 official website: www.mitc2020.mytribos.org
  Submission page: https://www.mitc2020.mytribos.org/page-3/
  Submission link: https://cmt3.research.microsoft.com/MITC2020
  Submission link: https://cmt3.research.microsoft.com/MITC2020

Challenges

- Car cooling challenge https://www.ennomotive.com/car-cooling-system/

- Dept of administrative reforms and public grievances DARPG has announced an online hackathon https://innovate.mygov.in/darpg-challenge/. Online Event will be conducted after announcement on 05-NOV-2019. There would be time of 60 days from the launch of the Hackathon to register and submit solution prototype in one or more categories.
  For details on challenges that can be addressed, please visit: https://www.ideaconnection.com/challenges/

- **International Project Competition:**

Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology is organising an annual Mega event VISAI 2020, 10th International Project Competition & Exhibition on "Real World Engineering Challenges" held on **24th & 25th Feb 2020** at their campus in Avadi, Chennai. Prize money worth Rs.1,50,000 can be availed by the winners.

For further details please access this Registration link: https://forms.gle/F8JJmX55hQWwiBYh7

Research News from MSP

Dr Muthu Senthil Pandian

1. The Department of Science and Technology (DST)
The Department of Science and Technology (DST), Ministry of Science & Technology, Government of India, New Delhi and the National Research, Development and Innovation Office (NRDIO) conduct the industrial research and development projects in the framework of Indian-Hungarian Science and Technology Cooperation Programme to promote bilateral scientific collaboration between Indian and Hungarian scientists. Applications are invited from eligible Indian researchers /scientists to submit proposals for Joint Research Projects under the collaboration.

· The deadline for the submission of proposals **11th March, 2020.**

· The Indian researchers can download the proposal formats from website www.onlinedst.gov.in after registering themselves (if applying for the first time) and should submit completed application form and all relevant information.

Proposals must be submitted to DST through the e-application system provided at www.onlinedst.gov.in. Indian Applicants are also requested to send two hard copies to DST by 11th March, 2020 through proper channel. It should be ensured that application with identical title has been submitted by his / her Hungarian counterpart to NDRIO by due date.

Website Links:

https://dst.gov.in/callforproposals/call-proposals-indo-hungarian-joint-research-2019

https://dst.gov.in/sites/default/files/India-Hungary%20CFP%202019%20Guidelines.pdf

2.DST - Call for Project Proposals under Integrated Technology Interventions for Sustainable Environment (Energy, Water & Air) – 2020

This call aims to mount/integrate S&T interventions specifically to address prevalent environmental

(energy, water & air) challenges for improvement in environment. Keeping the above in mind and with an intention of applying technology to improve the living conditions, the location and demand of intervention should be clearly identified in the proposal. The participation of user agency should be ensured right from the beginning for designing and implementation of such solutions. These successful research leads and solutions are expected to generate best practices for wider adoption for mitigating similar challenges across the country.
Call Closing Date : Proposals submitted by **31.03.2020** will be evaluated by June 2020

Website Links:

https://dst.gov.in/callforproposals/call-proposals-integrated-technology-interventions-sustainable-environment

https://dst.gov.in/sites/default/files/ITISE%20Call%20%2030.12.2019.pdf

3.SERB Has announced its schedule for call for proposals:

Please find the attachment and website links.

Program/Scheme	Call Opening Date	Call Closing Date
Start-up Research Grant (SRG)	1 February 2020	2 March 2020
Core Research Grant (CRG)	1 February 2020	9 March 2020
Teachers Associateship for Research Excellence (TARE)	10 February 2020	16 March 2020
MATRICS	24 February 2020	23 March 2020
Scientific and Useful Profound Research Advancement (SUPRA)	15 February 2020	1 April 2020
Empowerment and Equity Opportunities for Excellence in Science (EMEQ)	6 March 2020	6 April 2020
National Postdoctoral Fellowship (NPDF)	13 March 2020	13 April 2020
SERB Science and Technology Award for Research (SERB STAR)	15 June 2020	27 July 2020

Website Links:

http://www.serb.gov.in/home.php

http://www.serb.gov.in/pdfs/what-new/Schedule%20of%20Call%20for%20Proposals%202020.pdf

4. Research Proposals are invited under Project Related Scheme of Department of Science and Technology (DST), Government of India 2020-2021, Tamil Nadu State Council for Science and Technology (TNSCST)

This scheme is to address R&D work having location specific challenges, social relevance, significance and usefulness to our State. The major area of research may be in fields such as Agriculture, Environmental issues, Energy, water etc. Under this scheme, financial assistance to the tune of Rs.10.00lakh is provided for a period of 2 years to scientists and faculty members working in the above fields in any of the recognized Universities/Colleges/ Research institutions in the State. The project proposals should be relevant to our state location specific and outcome based one. Those who have availed financial support during the last two years and age above 55 years need not apply. Projects which are having potential and usefulness to our state may be supported for next level development.

To avail financial support for science and technology research projects, FOUR COPIES of proposals in the prescribed format along with required enclosures may be sent to the Member Secretary, Tamilnadu State Council for Science and Technology, DOTE Campus, Chennai–600025 on or before **25.02.2020**, 5.00pm.

Website Links:
https://www.tanscst.nic.in/
https://www.tanscst.nic.in/pdf/PRGC1920.pdf

Other Dept Round Up

CSE starts training for Sub Inspectors

On January 20th, 2020, Mr.P.Kanthasamy, ADGP Admin, inaugurated the 6-day training programme that CSE department is offering to a batch of 60 Sub-Inspectors of Police, Cyber Crime Wing, Tamilnadu. Another two batches of 60 each also planned.

It all started with Students of CSE, winning the first prize in the first ever Police hackathon among 111 teams, including professionals. That has attracted the police team to work with SSN CSE dept and the first outcome of such an interaction is the training for SIs.

Incidentally, when we went into details, it is quite interesting to know that Mr.P.Kanthasamy is a B.Tech Mech graduate from IIT M (1982-86 batch) and is currently doing Part Time Ph.D. in IITM on "Application of Machine Learning to Smart Policing". (since 2016).

He declared “you are ambassadors of Police dept in an elite institution. You must display the best of attitude and behavior, both during and outside the training hours, so that the youth in this college gain respect on TN police team. Learn with an attitude of an LKG student. Do not hesitate to ask any doubts. Unless you learn with passion, you just cannot gain anything useful. Better leave your phones in the room itself and pay undivided attention to what is taught.”

Govt News on Research Labs

Prime Minister Shri Narendra Modi dedicated to the nation 5 Young Scientists Laboratories of Defence Research and Development Organisation (DRDO), in Bengaluru on Jan 2, 2020. The establishment of the five DRDO Young Scientist Labs lays down the foundation for research and development of futuristic technologies. It will be a big leap forward for DRDO from the goal of making India self reliant to future ready in defence technologies.

DRDO Young Scientist Laboratories (DYSLs) are located in five cities viz, Bengaluru, Mumbai, Chennai, Kolkata and Hyderabad. Each lab will work on a key advanced technology of importance to the development of futuristic defence systems viz, Artificial intelligence, Quantum technologies, Cognitive technologies, Asymmetric technologies and Smart materials.

- Research in the area of rapidly evolving Artificial Intelligence will be carried out at Bengaluru.
- The all-important area of Quantum Technology will be based out of IIT Mumbai.
- The future is dependent on Cognitive Technologies and IIT Chennai will house the lab embarking in this area of research.
- New and futuristic area of Asymmetric Technologies, which will change the way wars are fought, will be based out of the campus of Jadavpur University, Kolkata.
- The research in the hot and critical area of Smart Materials and their applications will be based out of Hyderabad.

Inspiring Life Stories

Goals in Life

Did you make some “New Year’s Resolutions”? How are they going?

I'm still seeing a bunch of new people at the YMCA exercising every day, so that's encouraging to see so many people still sticking to their exercise plans. Resolutions are really just goals that we set for ourselves. We should always have goals or things that we are striving for in life. I put together a list of my favorite 25 quotes that relate to achieving goals. Hopefully some of these may inspire you to achieve your goals in 2020.

1. “The way to get started is to quit talking and get doing.” **(Walt Disney)**
2. “A dream is just a dream. A goal is a dream with a plan and a deadline.” **(Harvey Mackay)**
3. “If we all did the things that we are capable of doing, we would literally astound ourselves.” **(Thomas Edison)**
4. “I can accept failure, everyone fails at something. But I can’t accept not trying.” **(Michael Jordan)**
5. “A year from now you may wish you had started today.” **(Karen Lamb)**

6. “One of the secrets of life is to make stepping stones out of stumbling blocks.” **(Jack Penn)**
7. “Winners are losers who got up and gave it one more try.” **(Dennis DeYoung)**
8. “A dream becomes a goal when action is taken toward its achievement.” **(Bo Bennett)**
9. “Do not let what you cannot do interfere with what you can do.” **(John Wooden)**
10. “Discipline is the bridge between goals and accomplishment.” **(Jim Rohn)**
11. “You miss 100 percent of the shots you don’t take.” **(Wayne Gretzky)**
12. “Believe you can and you’re halfway there.” **(Theodore Roosevelt)**
13. “Your complaints, your drama, your victim mentality, your whining, your blaming, and all of your excuses have never gotten you even a single step closer to your goals or dreams. Let go of your nonsense. Let go of the delusion that you deserve better and go earn it!” **(Steve Maraboli)**
14. “If you don’t make the time to work on creating the life that you want, you’re going to spend a lot of time dealing with a life you don’t want.” **(Kevin Ngo)**
15. “What is not started today is never finished tomorrow.” **(Johann Wolfgang von Goethe)**
16. “People with goals succeed because they know where they’re going.” **(Earl Nightingale)**
17. “I find it fascinating that most people plan their vacation with better care than they do their lives. Perhaps that is because escape is easier than change.” **(Jim Rohn)**
18. “Nothing can stop the man with the right mental attitude from achieving his goal; nothing on earth can help the man with the wrong mental attitude.” **(Thomas Jefferson)**
19. “An average person with average talent, ambition and education, can outstrip the most brilliant genius in our society, if that person has clear, focused goals.” **(Brian Tracy)**
20. “Begin with the end in mind.” **(Stephen Covey)**
21. “Obstacles are what you see when you take your eyes off your goals.” **(Anonymous)**
22. The guy says,”When you work where I work,by the time you get home it’s late.You’ve got to have a bite to eat,watch a little TV, relax,and get to bed. You can’t sit up half the night planing, planing.”And he’s the same guy who’s behind on his car payment. **(Jim Rohn)**
23. “Do not let the future be held hostage by the past.” **(Neal A. Maxwell)**
24. “You can’t hit a home run unless you step up to the plate. You can’t catch fish unless you put your line in the water. You can’t reach your goals if you don’t try.” **(Kathy Seligman)**
25. “You were born to win, but to be a winner, you must plan to win, prepare to win and expect to win.” **(Zig Ziglar)**

Jamy Bechler
Motivational Speaker & Team Consultant

Corporate Wisdom 74

Efficiency and Effectiveness

I remember an excellent saying by William Osler (a great Physician) - " The effective, vitalizing work of the World is done between the ages of twenty-five and forty".

The two terms ***"Efficiency"*** and ***"Effectiveness"*** have to be understood correctly. It is very important to distinguish between the two parameters. Efficiency is about finding the best ways of doing an assigned job. It is the methodology.

Then what is effectiveness? If we analyse the word, " Effective", you will find a word within the word namely "effect". Effect means result. When we say we are effective, what we mean is that we produce result. We could have carried out some activity, but result might not have been achieved. Any effort made without achieving a result is a waste of time. We are not effective.

Our Strategy should be to produce more effect or outcome with least investment of effort and resources. This is " Smart" working. If we are producing more outcome with more effort, we are working hard.

Let me give an example: Suppose we have currency notes of various denominations on our table amounting to INR 100. Imagine that a whirlwind blows them all over your room. What would be our strategy for picking them up?

If we are efficient, we will pick up the currency closest to us and work towards the other. If we are effective, we will pick up the highest denomination currency first and then the others.

Are we efficient or effective? In fact, we should be effective and efficient and combine both tactfully.

Effectiveness is more of a goal setting and Efficiency is more of a process of attaining the goal!

Effectiveness is doing RIGHT THINGS! Efficiency is doing THINGS RIGHT!

R.Ramakrishnan
Group Chairman Office

This issue has an annexure on Project competition "Technovate" conducted by Preethi Kitchen Appliances.

This edition of Aspire was compiled by Vinaya Krishna, with support from Saran Prasanth, Akshay Kanna and Mohitha U M.

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