Newsletter

Volume 10, Issue 3, March 2020

SSN

Mechanical Engineering

Aspire

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 75

Wangari Maathai

The Messenger of Peace

Wangari Maathai, the founder of The Green Belt Movement, received Nobel Peace Prize in 2004 for her contribution to sustainable development, democracy and peace.

Wangari Muta Maathai was born in Nyeri, a rural area of Kenya (Africa), in 1940. She obtained a degree in Biological Sciences from Mount St. Scholastica College in Atchison, Kansas (1964), a Master of Science degree from the University of Pittsburgh (1966), and pursued doctoral studies in Germany and the University of Nairobi, before obtaining a Ph.D. (1971) from the University of Nairobi, where she also taught veterinary anatomy. The first woman in East and Central Africa to earn a doctorate degree, Professor Maathai became chair of the Department of Veterinary Anatomy and an associate professor in 1976 and 1977 respectively. In both cases, she was the first woman to attain those positions in the region.

Wangari Maathai was active in the National Council of Women of Kenya in 1976-87 and was its chairman in 1981-87. It was while she served in the National Council of Women that she introduced the idea of planting trees with the people in 1976 and continued to develop it into a broad-based, grassroots organization whose main focus is the planting of trees with women groups in order to conserve the environment and improve their quality of life. Through the Green Belt Movement, she assisted women in planting more than 20 million trees on their farms and on schools and church compounds.

In 1986, the Movement established a Pan African Green Belt Network and exposed over 40 individuals from other African countries to the approach. Some of these individuals have established similar tree planting initiatives in their own countries or they use some of the Green Belt Movement methods to improve their efforts. In September 1998, she launched a campaign of the Jubilee 2000 Coalition. As the co-chair of the campaign, she embarked on new challenges like seeking cancellation of the unpayable backlog debts of the poor countries in Africa by the year 2000.

Wangari Maathai was internationally recognized for her persistent struggle for democracy, human rights and environmental conservation. She addressed the UN on several occasions and spoke on behalf of women at special sessions of the General Assembly for the five-year review of the earth summit. She served on the commission for Global Governance and Commission on the Future. She and the Green Belt Movement have received numerous awards, most notably the 2004 Nobel Peace Prize and have been featured in several publications. Professor Maathai was also listed on UNEP's Global 500 Hall of Fame and named one of the 100 heroines of the world. In June 1997, Wangari was elected by Earth Times as one of 100 persons in the world who have made a difference in the environmental arena. Professor Maathai has also received honorary doctoral degrees from several institutions around the world: William's College, MA, USA (1990), Hobart & William Smith Colleges (1994), University of Norway (1997) and Yale University (2004).

Professor Maathai served on the boards of several organizations including the UN Secretary General's Advisory Board on Disarmament, The Jane Goodall Institute, Women and Environment Development Organization (WEDO), World Learning for International Development, Green Cross International, Environment Liaison Center International, the WorldWIDE Network of Women in Environmental Work and National Council of Women of Kenya.

In December 2002, Professor Maathai was elected to parliament with an overwhelming 98% of the vote. She was subsequently appointed by the president, as Assistant Minister for Environment, Natural Resources and Wildlife in Kenya's ninth parliament.

In recognition of her deep commitment to the environment, the United Nations Secretary-General named Professor Maathai a UN Messenger of Peace in December 2009, with a focus on the environment and climate change. In 2010 she was appointed to the Millennium Development Goals Advocacy Group: a panel of political leaders, business people and activists established with the aim to galvanise worldwide support for the achievement of the Millennium Development Goals (MDGs). Also, in 2010, Professor Maathai became a trustee of the Karura Forest Environmental Education Trust, established to safeguard the public land for whose protection she had fought for almost twenty years. That same year, in partnership with the University of Nairobi, she founded the Wangari Maathai Institute for Peace and Environmental Studies.

Wangari Maathai died on 25 September 2011 at the age of 71 after a battle with ovarian cancer. Memorial ceremonies were held in Kenya, New York, San Francisco, and London.

"When we plant trees, we plant the seeds of trees and seeds of hope."

Source: https://www.nobelprize.org/prizes/peace/2004/maathai/

Info to Alumni- Campus Update

On 7th February, 2020 Innovation Day was held at SSNCE.

Between 10th and 11th February 2020, the internal funded projects of the first year UG/PG students were scrutinized.

On 14th February 2020, SSN registered the Incubation Foundation.

The Shiv Nadar Foundation Leadership Conclave 2020, was held on February 15, 2020 at the Shiv Nadar School, Faridabad.

The Graduation Day for the batch of 2019 was held at 21st February at SSNCE.

SSN EXLOG 2020, a State Level Mathematical Symposium was organized by the SSN MATH CLUB on 22nd February, 2020.

On February 24, SSN Trophy 2020 inaugurated by our Alumni- Shri. R.S. RAJA (Coach, Tamilnadu Senior Table Tennis Team) and Shri. M.ASHWIN (IPL Cricketer, Kings XI Punjab).

The Entrepreneurship Development Cell of SSNCE conducted their annual event SYCon (SSN Youth Conference) on 25th February 2020. More details at https://www.ssnlakshya.in/sycon.php

On 26th February 2020, the student chapter of Institution of Engineers India was inaugurated.

Ms Kala Vijayakumar, President, SSN Institutions, writes…

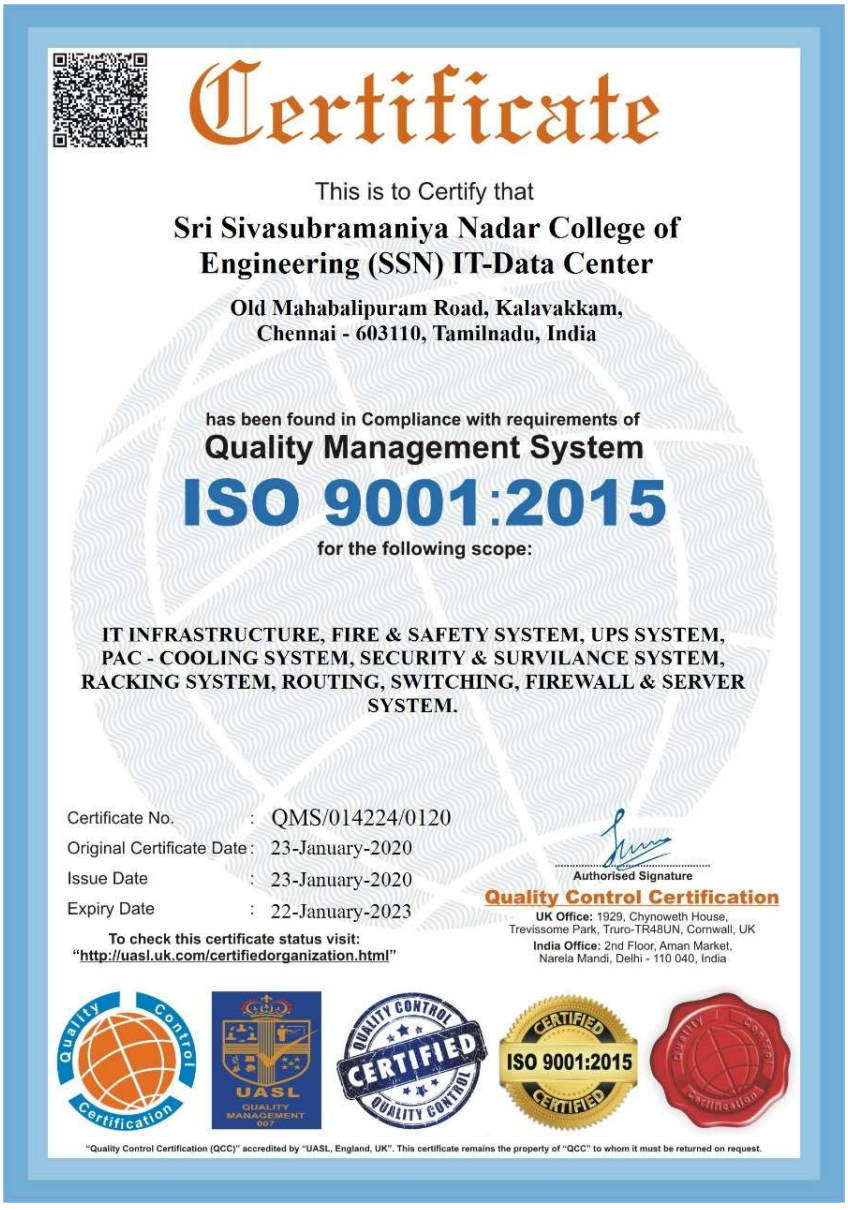
I am very happy to inform you that SSN Incubation Foundation has been registered u/s 8 of the Companies Act 2013 as a not-for-profit company. We can now formally incubate start-ups. I also look forward to our faculty and

alumni incubating their company in this centre. We need to work together to promote the SSN Incubation Foundation as a preferred destination for start-ups.

Dr Sashikant Albal writes…

1. I am happy to inform you that with effect from February 10th, our Internet bandwidth has been upgraded to 820 Mbps. We hope that the increased bandwidth will provide good support for your academic and research activities.

2. I am happy to inform you all that our new data center has been awarded ISO 9001:2015 certificate for compliance with the prescribed quality management system for IT infrastructure and other related aspects. (as of February 6,2020).



Certificate

This is to Certify that

Sri Sivasubramaniya Nadar College of Engineering (SSN) IT-Data Center

Old Mahabalipuram Road, Kalavakkam, Chennai - 603110, Tamilnadu, India

has been found in Compliance with requirements of

Quality Management System

ISO 9001:2015

for the following scope:

IT INFRASTRUCTURE, FIRE & SAFETY SYSTEM, UPS SYSTEM, PAC - COOLING SYSTEM, SECURITY & SURVILANCE SYSTEM, RACKING SYSTEM, ROUTING, SWITCHING, FIREWALL & SERVER SYSTEM.

Certificate No. : QMS/014224/0120
Original Certificate Date : 23-January-2020
Issue Date : 23-January-2020
Expiry Date : 22-January-2023

To check this certificate status visit:
"http://uasl.uk.com/certifiedorganization.html"

Authorised Signature

Quality Control Certification

UK Office: 1929, Chynoweth House, Trevissome Park, Truro-TR48UN, Cornwall, UK
India Office: 2nd Floor, Aman Market, Narela Mandi, Delhi - 110 040, India

"Quality Control Certification (QCC)" accredited by "UASL, England, UK". This certificate remains the property of "QCC" to whom it must be returned on request.

Mr.K.Ganesh Prasad, GM Facilities, writes…

As per the popular demand of the Faculty, Staff and Students of our Institutions, the “Tamilnadu Mercantile Bank”, Thiruvanmiyur Branch extension counter so far functioning in a small room has been shifted to a bigger room in the adjoining portion in the same School of Management block.

One more ATM with “Bunch Note Acceptor” has also been added in addition to the existing ATM. All are requested to make use of this facility.

The above facility was commissioned by our President, SSNI on 7th Feb’2020

First Company incubated in SSN

Prof K.Kamaraj, HoD of EEE writes...

I am happy to inform that a UK Company, **ePropelled** (http://epropelled.com/about/) have started their operation in our campus. Their focus is on electric propulsion, water pumps and motors. The company will work closely with our Department as we have considerable experience with EVs, to develop, test and validate product design. This will help us in the flow of technology, Knowledge and idea across borders

Alumni Officer SM Arun Prakash writes…

The moment has arrived to say 'Thank you and see you later", which is never easy, especially when you have been part of the SSN family for more than 3 years in the Marketing and Alumni Relations functional area. It was very hard to make the decision to move on from SSN to take the next step in my career.

February 29, being my last working day, I am writing here to thank you all for your motivation, guidance and extended support.

Info to Alumni- Department Update

NBA Accreditation-
Our NBA accreditation is valid until June 2020. We had applied for extension. The Committee visited and audited our compliance to NBA norms, on February 14th. In this connection, we had a preparatory audit on Feb 8 by the team of Prof Idichandy, Prof Ganesh Samudra and Prof Jayaparvathy. Thanks to all their support, we could face the NBA audit with confidence.

External Recognition:

Dr. Vijayan. S and Dr. Satheesh Kumar Gopal presided as the chief guest at the National Level Technical Symposium "TORPEDO 2020" organized by the Department of Mechanical Engineering, Dhanalakshmi Srinivasan College of Engineering and Technology [17.02.2020]

Dr. Satheesh Kumar Gopal presided over as Chief Guest at a school science fest organised by Adani Foundation, Kattupalli at GHSS, Kattur on account of National Science Day. [28.02.2020]

Dr. G Satheesh Kumar

Dr S Vijayan

Dr.D.Ananthapadmanaban, Associate Professor has been invited as a Technical Program Committee member for ICMSET International Conference to be held in Kyoto, Japan during October 9th to 12th, 2020 [18.02.2020]

Dr.D.Ananthapadmanaban

Dr. K S Vijay Sekar, Asso.Professor, delivered a Guest Lecture at Ford Global Technology and Business Center, Chennai on the topic "Application of CAE. Finite element methods for Product and Process", attended by Ford Engineers across functions and levels [25.02.2020]

Dr. K S Vijay Sekar

Dr. R.Vimal Samsingh, Associate Professor, delivered an invited lecture on ""“Recent Trends in Operations Management and Manufacturing Technology”" in Easwari Engineering College, Ramapuram, Chennai [27.02.2020]

Dr R Vimal Samsingh

Research news:

Dr M S Alphin’s, Associate Professor, research paper titled "Analysis of Upper body Ergonomics parameters on commuter motorbike users" with UG Student (Sri Krishna, 2018 passed out), B Jain AR T is Published in Journal of Transport and Health, Vol 16, Elsevier, 2020, Impact Factor: 2.774 [02.02.2020]

Dr M S Alphin

Dr. K. Jayakumar, Associate Professor published a paper titled, "WEDM Studies on TiB2-15% SiC Ceramic Composite Processed Through SPS Process" in Lecture Notes on Multidisciplinary Industrial Engineering, Springer Nature Singapore Journal. 2020, pp 715-723. [07.02.2020]

Dr K Jayakumar

D. Ananthapadmanaban and T.R.Vijayaram presented a paper titled - A review on Production, Properties and Applications of Nanocomposites at ICTAMDMES International Conference conducted by St.Joseph’s College of Engineering [20.20.2020]

Akshaya Ramesh, Bowsica S.P, Alphin .M S & Nanda. S presented a paper titled “Analysis of Human Factors and Psychological Impacts of Honking Sound on Light Motor Vehicle Drivers”, at the International Conference on Technological Advancements in Materials, Design, Manufacturing and Energy Sectors (ICTAMDMES’20) [20.02.20]

Abdulkadir Madraswala, Eshwar D, Raja S & Alphin M S presented a paper titled "Effects of CNTs on metal oxide doped V based catalyst for NH3-SCR of NOx" at the International Conference on Technological Advancements in Materials, Design, Manufacturing and Energy Sectors (ICTAMDMES’20) [20.02.2020]

DC Meeting:

Dr. M S Alphin convened Confirmation DC Meeting for the Full time Research scholar Mr. Raja S on 8th Feb 2020. Dr. R Senthil, SRM Institute of Science and Technology and Dr. G R Kannan were the DC external members [08.02.2020]

Dr. N. Nallusamy, Professor, conducted synopsis DC meeting in respect of Mr. V. Venkatesan, part-time research scholar on 24.02.2020 in Seminar Hall, Mechanical Engineering [24.02.2020]

Dr N Nallusamy

Project Proposals Submitted:

Dr. Satheesh Kumar Gopal as Co-PI along with Dr.S.V. Jansi Rani Assoc. Prof /CSE as the Principal Investigator and Dr.R. Priyadarsini Assoc. Prof/CSE, and Dr.S.A. Shanmugam, Dean, TNJFU and Ms. Jammila, Asst. Prof, TNJFU as the Co-Investigators have submitted a proposal titled “An Intelligent Automatic Feeding and Monitoring system for aquaculture farming based on the behavioural pattern and sensory parameters of the aquatic animals using Information and Communication Technology”, to Tamilnadu State Council for Science and Technology (TNSCST) under the scheme “Project Related Grant” 2019-2020, for an amount of Rs. 9.94 Lakh [25.02.2020]

Workshops Organised

Dr.K.S.Vijay Sekar, Asso.Professor, organized the Annual Glider Workshop for the II year Mechanical Engineering Students with able coordination from the III year Mechanical Engineering Students [08.02.2020]

Dr. N. Nallusamy and Dr. R. Prakash, conducted One day workshop on "Hands-on-training on Automotive Two-Wheeler Engines" for second year Mechanical students [08.02.2020]

Dr. R. Prakash

Dr. N. Lakshmi Narasimhan

Dr. N. Lakshmi Narasimhan Organized a One Day Workshop on "Introduction to Internet of Things (IoT) [18.02.2020]

Dr K.S.Vijay Sekar and Dr.S.Suresh Kumar, Associate Professors, conducted a one day workshop on "Structural, Thermal and Vibration analysis using Abaqus software" with a combination of theory and hands on experience for the participants [22.02.2020]

Dr S Suresh Kumar

Other Events

Dr. N. Lakshmi Narasimhan, Associate Prof.Mech, and Dr. N. Nallusamy Professor.Mech attended the Inauguration function of the Students' Chapter of the Institution of Engineers India (IEI) organized at our campus on Feb 26, 2020. They both received the Official Certificate of Formation of the IEI Students' Chapter of the Dept. of Mech from Er. Ramdoss R., Chairman IEI, Tamil Nadu State Centre [26.02.2020] (for more info check the faculty write up section)

Student Activity

A Sabareesh (2nd year) helped in organizing events conducted by "Teach for India" [01.02.2020]

Venkatesan K (2nd year) attended the NSS walk for plastic campaign [16.02.2020]

Abdulkadir Madraswala, Sam Sherin Raj S and Eshwar D (2nd year) presented their project at International Conference on Technological Advancements in Materials, Design, Manufacturing And Energy Sectors (ICTAMDMES20) held at St. Josephs, Chennai. [20.02.2020]

Sam Sherin Raj S (2nd year) finished IFP “Design and Development of magnetic induction based instant water heater”. He was also placed 1st in bicycle assembly and maintenance at SAE tier-2 [24.02.2020]

Rahul K (3rd year) voluntered and helped Dr.NLN in organising the IoT workshop [18.02.2020]

Lalith Kishore K (3rd year) won the 3rd place in the Aero modelling event and 2nd place in the Hovercraft event at Anna University (Kurukshetra Techfest) [18.02.2020]

V Vishnu Srinivasa Prasad (3rd year) got shortlisted as a finalist for TECHNOVATE 2020 [20.02.2020]

Interaction With Industry

Dr Albal

Dr. Albal facilitated a meeting between LSC (Logistics Sector Skill Council) and the SSN mech team, on February 27, 2020.

LSC team- Dr.Saravanabava and Mr.V.Krishnan.
Mech team- Dr.K.S.Vijaysekar and Dr.V.E.Annamalai

- Mr. Krishnan clarified the possibilities of Consultancy opportunities in the near future.
- Dr.Saravanabava explained the efforts taken in introducing Logistics courses with an internship at Diploma and Degree levels. He gave a copy of the **proposal to introduce logistics as a specialisation in BE mech** stream.
- It was agreed that SSN will study the possibility of introducing this specialisation.

Meanwhile, SSN requested LSC to consider offering:

a) value added one credit courses for existing students of autonomous stream and
b) placement enhancement course for Lateral entry- non placed students.

Faculty Write Up

Dr M S Alphin, Assoc Prof/Mech, writes…

Dr M S Alphin

I am happy to share with you that one of my research papers with UG Student (Sri Krishna, 2018 passed out) is accepted for publication in Journal of Transport and Health, Elsevier.

Title: Analysis of Upper body Ergonomics parameters on commuter motorbike users

Impact Factor: 2.774

Faculty Write Up

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

Dr. K S Vijay Sekar

One day National level Workshop On "Structural, Thermal and Vibration Analysis using Abaqus Software"

Saturday, 22nd February 2020
Coordinators: Dr. K.S. Vijay Sekar & Dr. S. Suresh Kumar

Finite element analysis is an important subject for Mechanical Engineering graduates, especially for those who dream of working in the R&D of leading manufacturing, automotive and aerospace industries. It is also an academically trending research area where enormous amount of cutting-edge research is being conducted. Though many workshops focus on either the application of finite element simulation using available software codes or the theory behind the applications in an isolated manner, there are very few which combine the two seamlessly. This one-day workshop discussed the fundamentals of structural, thermal and vibration problems and provided hands on session using Abaqus software to

solve the above problems. The workshop was attended by under graduate students from other Engineering colleges who enthusiastically attended the day long program. They found the program useful and wished to have an extended practical session, which we promised will happen in the near future. We thank all the participants of the workshop.

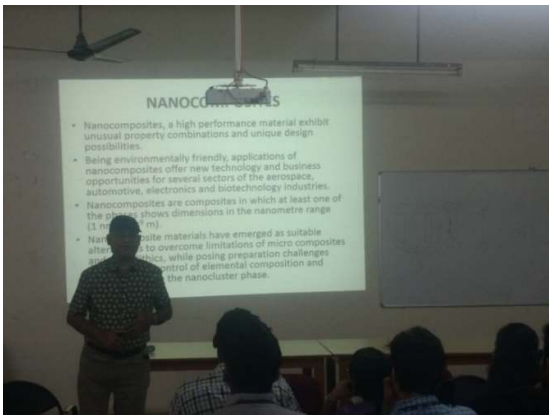
Faculty Write Up

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

Dr. Nalla Mohamed

Report on Guest Lectures Arranged

A guest lecture was arranged by Dr.Nalla Mohamed and Dr.N.Lakshminarasimhan, Associate Professors, Department of Mechanical Engineering ,SSN College of Engineering on the 5th of February. The guest speaker was Mr.S.Viswesh, Managing Director, SVP Laser Technologies Pvt. Ltd, Chennai. The topic is Patents & IPRs - An insight to budding Engineers.



A guest lecture was arranged on 6th February by Dr.M.Nalla Mohamed and Dr.Ananthapadmanaban. The speaker was Dr.T.R.Vljayaram, Former Director –Research, Galgotia Univerisity and presently doing consultancy. He has more than 20 years of experience in Universities in Malaysia and countries in Europe. Dr.Vijayaram who has vast practical experience in the field of Casting, spoke on a new area Nanocomposites. It will not be out of place to mention that our Department has bagged a DST-SERB project on Nanocomposites and hence some research scholars who are working on Nanocomposites for their Ph.D also attended the lecture. The session was interactive, went off for nearly one and a half hours. The speaker also gave his email id for further queries.

Faculty Write Up

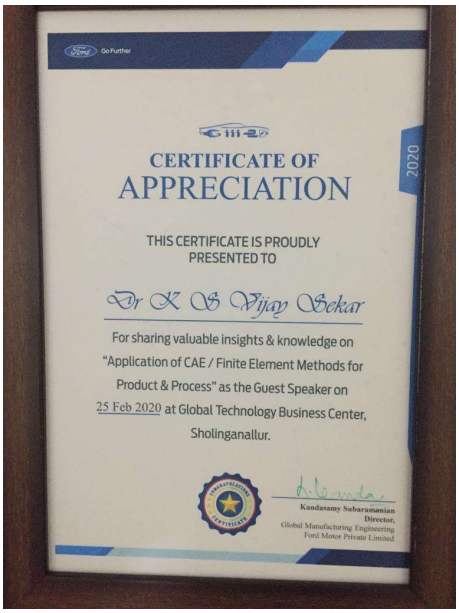
Dr K S Vijay Sekar, Assoc Prof/Mech, writes…

Guest Lecture at Ford Motors

I was invited by the Global Manufacturing Engineering Team at Ford Motors to deliver a lecture on "**Application of CAE / Finite element methods for Product and Process**" at their GTC, Sholinganallur, Chennai on 25th February 2020. The 60+ participants were Ford personnel working in various product, process functionalities cutting across levels and hierarchy. Given the background of the attendees, I tailored my talk on Finite element analysis of the drilling and milling of glass and carbon fiber materials, giving extensive pauses on the modelling, simulation and the results, peppered with clarifications on material choices and the need to use composites in the near future given the paucity of conventional metals and alloys. From an automobile industry perspective, I was able to convey why suitability of alternate materials was a dire necessity as even today a large part of their applications deals with metals and alloys. Going forward, there is a tremendous scope for fiber reinforced polymers and metal matrix composites to become staple components in the supply chain. But for the materials to find the light of day, there needs to be a comprehensive testing and understanding of their deformation characteristics, which is the core of my area of research. 90 minutes passed with ease and with well-informed questions being raised in between, I was more than happy answering them to their satisfaction.

I was elated to bump into my UG class mate **Adhi Balakrishnan**, Vice President - Material Planning and Logistics, who treated me to a warm lunch, over which we happily reminisced our college days and I was pleasantly surprised to find how much he loves globetrotting in his position at Ford.

Mr. Kandasamy Subaramanian, Director, Global Manufacturing Engineering appreciated my presence and felicitated me with a classy framed certificate, one which proudly sits to the right of my office desk with the stamp of a world class organization embossed on it.



I personally would like to thank **Mr. Suresh T Viswanath Rao**, Project Manager, who facilitated my guest lecture and helped in making my stay memorable with his presence right through shared the activities of the GME team, which is creating a university consortium, bringing together experts from Academia and Ford together for a collaborative effort on mutually rewarding areas of skill and research. He also arranged a presentation by the CAE team at GME, who shared their success stories with the finite element tools and virtual simulations and are looking forward to further their interactions with SSN in the near future.

A great day was nicely rounded off with some of my old students greeting me across the office space, students from Hindustan College of Engineering as well as SSN. Overall it was an elated, rewarding and meaningful day at Ford, one that will be remembered for a long time to come. I place my appreciations to my colleague **Dr. N. Lakshmi Narasimhan**, who was instrumental in arranging my Guest lecture with Ford. Day well spent and exciting days are to come. Thank you, Ford.

Faculty Write Up

Mr Jayakishan B, Asst Prof/Mech, writes…

SSN SAE CLUB STUDENT CONVENTION 2020 Tier-II Event report

Mr Jayakishan B

SSN SAE Collegiate Club conducted Tier-1 competitions for our student members on 8th January, 202 which included events such as Bicycle assembly and disassembly, Bridge Building, Auto Quiz, Engineering Drawing, Group discussion, How things work and Business plan competition. The winners of various events in Tier-1 moved to Tier-2 – an inter state level competition (zone wise). The tier -2 events were held in two colleges Mohamed Sathak A.J. College of Engineering, Chennai and Hindustan Institute of Technology and Science, Chennai on Feb 22nd and 23rd respectively. All the students from SSN secured first place and moved to Tier-3 – National level competition. The winners list is given below.

TIER – II RESULTS

S.NO	EVENT NAME	WINNERS	WINNING POSITION
1.	Group discussion	Vimal kumar Bharathi	1
		Shruthi Mahalakshmi	2
		Chidambaram	3
2.	How things work	Pranavram ashok Prasad P V Ragul D	1
3.	Bridge Building	Nirmal Palanichamy Raguraman R Kishore M G	1
4.	Business Plan	Tharun Kishant	1
5.	Bicycle assembly and disassembly	Sam sherin raj Senthil Kumar S	1

Faculty Write Up

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

Dr. N Lakshmi Narasimhan

FORMATION OF STUDENTS' CHAPTER OF THE INSTITUTION OF ENGINEERS (INDIA) IN OUR DEPARTMENT

At the Outset, we are extremely happy to share with you all that a Students' Chapter of the Prestigious Institution of Engineers (India) - IEI has been formed in our department. Across SSN, six Individual chapters have been formed (CSE, EEE, ECE, MECH, CHEM & CIVIL) and the Formal Inauguration of the same was made by Er. R. Ramdoss, Chairman, IEI, Tamil Nadu State Centre. A grand Inauguration was convened by our Institution on Feb 26, 2020 with Er. R. Ramdoss as our special Guest. We are pleased to acknowledge with Thanks the efforts of our Principal and Dr. N. B. Muthu Selvan, Associate Prof/EEE for all the grand arrangements as Conveners. Er. R. Ramdoss shared the history of the prestigious IEI, its dedicated services over the years, benefits of being a member of IEI, opportunities for the Chapter & Institution as a whole and so on with all of our newly inducted student members.

As a Faculty Coordinator for the SSN IEI Chapter of the Department of Mechanical Engineering, I extend my warm Welcome to all the new members!! I also extend my invitation to all the other students to enroll and strengthen our IEI Chapter. Together we can do a lot and make significant contributions to the Society at large through our Association with Professional bodies like the IEI - a World Largest Multi-Disciplinary Statutory Professional Body with over 2 Lakh members across the country. Thanks to SSN & IEI ! With a Great Start and encouragement received, we look forward to keep the momentum high & sustained!! Visit www.ieindia.org for more details.
For any queries as Regards IEI - Students' Chapter of the Dept. of Mech. Engg., SSNCE, please contact:

Dr. N. Lakshmi Narasimhan (Faculty Coordinator - IEI Students' Chapter)
Associate Professor/Mech, SSNCE
email: lakshminarasimhann@ssn.edu.in

Faculty Write Up

Honourable Chief Minister's speech on Graduation Day

-documented by Prof.VE.Annamalai

கிராமத்தில் பிறந்து வளர்ந்த எனக்கு உங்களையெல்லாம் சந்திக்க வாய்ப்புக் கொடுத்த இறைவனுக்கு நன்றி. பசுமை நிறைந்த நினைவுகளோடும் வளமான எதிர் காலத்தின் எதிர்பார்ப்புகளோடும் இருக்கிற இந்த நாள் உங்களுக்கு ஒரு முக்கியமான நாள். வேலை, மேல்படிப்பு, நட்பு, சுதந்திரம், உற்சாகம்,உத்வேகம் என்று எல்லா உணர்வுகளோடும் ஒளி மயமான எதிர்காலத்தை நோக்கி சென்று கொண்டு இருக்கிறீர்கள் .

530 ஆராய்ச்சிக்கட்டுரைகள் இந்தக் கல்லூரி உருவாக்கி உள்ளது என்று கேட்கும்போது மிகப் பெருமையாக உள்ளது. ஏழை எளிய மாணவரும் கல்வி பெற வேண்டும் என்கிற நோக்கம் பாராட்டுக்குரியது. தர வரிசையில் நீங்கள் அடைந்து இருக்கிற உயரங்களுக்கு எனது பாராட்டும் வாழ்த்தும். இதே வழியில் உலகத்தரம் வாய்ந்த கல்வி வழங்க பல்கலைக்கழக வரைவு உருவாக்கினோம். நீங்கள் பல்கலைக்கழகத்தை விரைவில் தொடங்க வேண்டும்.

அம்மாவின் அரசும் கல்விக்கு மிகவும் முக்கியத்துவம் வழங்கி வருகிறது. அம்மாவின் காலத்தில் 600 கல்வி நிறுவனங்கள் துவங்கப் பட்டன. நாங்கள் 12 அரசுக் கல்லூரிகளையும் 5 தொழில் நுட்ப நிறுவனங்களையும் உருவாக்கினோம். முதல் தலைமுறை மாணவர்களுக்கு சலுகை, மலை வாழ் மக்களுக்கு உதவி, போன்ற அரசின் நடவடிக்கைகளால் 2011ல் 34% ஆக இருந்த உயர் கல்விச் சேர்க்கை இப்பொழுது 45% ஆக உயர்ந்துள்ளது. இது இந்திய அளவில் மிக உயர்ந்த சேர்க்கை ஆகும் .

உயர் கல்வியை ஊக்குவிக்கும் விதமாக அரசுப் பொறியியல் கல்லூரியில் இருந்து மாணவர்கள் தேர்ந்தெடுக்கப் பட்டு 15 நாட்களுக்கு வெளி நாட்டு சுற்றுப் பயணத்திற்கு அனுப்பி வைக்கப்படுகிறார்கள். ஒரே ஆண்டில் 11 மருத்துவக் கல்லூரிகளைத் திறக்க மத்திய அரசிடம் அனுமதி வாங்கி உள்ளோம். கல்விக்கென்று தனியான ஊடகம் ஒன்றும் துவங்கி உள்ளோம். ருபாய் 5,052 கோடியே 84 லட்சம் உயர் கல்விக்கென ஒதுக்கப் பட்டு உள்ளது.

கல்வி, உணவு, உடை இவற்றோடு, வாழ்க்கைக் கல்வியும் சமுதாய வளர்ச்சிக்கு அவசியம்.

பொருள் இல்லார்க்கு இவ்வுலகம் இல்லை
அருள் இல்லார்க்கு அவ்வுலகும் இல்லை

என்பது குறள். எனவே பல்வேறு திசைகளில் ஓடுகின்ற சிந்தனையை நெறிப்படுத்தி ,உங்கள் கனவுகளை நிறைவேற்ற முயல வேண்டும்.

ஆசிரியர்களும் விளக்கைத் தூண்டி விடுவது போல மாணவர்களின் திறமையை வெளிக்கொண்டு வரும் படி ஒரு சில நிமிடங்களாவது செலவிட வேண்டும்.அவர்களை ஊக்கப்படுத்த வேண்டும். மாணவர்கள் வெளியே வரும்போது எதையும் தாங்கும் இதயம் கொண்டவர்களாய் , தடைக் கற்களைப் படிக் கற்களாய் மற்றும் திறன் கொண்டவர்களாய் இருக்க வேண்டும்.

"உன் கண்களை நீயே கட்டிக்கொண்டு உலகம் தெரிய வில்லை என்கிறாய்" என்பார் சுவாமி விவேகானந்தர் . நாம் அனைவருமே இன்னும் அதிகமாக சாதிக்கும் திறன் படைத்தவர்கள் தான். அதற்கு நம்பிக்கையும் உழைப்பும் தேவை.

திரு எம்.எஸ்.ஸ்வாமிநாதன் ஒரு கதை சொல்வார். ஒரு விவசாயியின் நிலத்தில் இரண்டு மலைகள் இருந்தன. விவசாயி தன் மகன்களோடு மலையை உடைக்க முயல்கிறார். உன்னால் எப்படி மலையை உடைக்க முடியும் என்று மற்றவர்கள் அவரைக் கேலி செய்தார்கள். அவர், "மலை வளரப் போவது இல்லை. வெட்டிக் கொண்டே இருந்தால், அடுத்த தலைமுறையிலாவது மலையைத் தகர்த்து விடலாம்" என்பார். அவரது நம்பிக்கைக்குப் பரிசாக இறைவன் அந்த மலைகளை அகற்றினார். நம் எல்லார் வாழ்விலும் இந்த இரு மலைகள் உண்டு- வறுமையும் பற்றாக்குறையும் தான் அவை. அந்த விவசாயியைப் போல நாமும் நம்பிக்கையுடனும் உறுதியுடனும் உழைத்தால், எல்லாத் தடைகளையும் உடைத்து விடலாம்.

"உன்னை அறிந்தால், நீ உன்னை அறிந்தால் உலகத்தில் போராடலாம்" என்ற புரட்சித் தலைவர் வாக்குக்கு ஏற்ப, உங்கள் திறமைகளைப் புரிந்து கொண்டு, அதற்கு ஏற்ப கனவு கண்டு, வேலை தேடுபவர்களாக இல்லாமல் பிறருக்கு வேலை கொடுப்பவர்களாக வெற்றி பெற என் வாழ்த்துக்கள்.

எஸ் எஸ் என் என்றால் உலகம் முழுதும் ஒரு தனி மரியாதை இருக்கிறது. இத்தகைய நிறுவனத்தில் பயிலும் வாய்ப்புப் பெற்ற நீங்கள் கண்டிப்பாக வாழ்விலும் வெற்றி பெறுவீர்கள்.

செல்வமும், அதனைப் பிறருக்குக் கொடுக்க வேண்டும் என்கிற மனமும் ஒருங்கே பெற்ற நிறுவனம். ஏழை எளிய வறிய மாணவர்களுக்கும் வித்யாஞாண் என்கிற பள்ளியின் மூலம் ல்வி கற்கவும் வாழ்வில் முன்னேறவும் உதவுகிற இந்த நிறுவனத்தைப் பாராட்டுகிறேன். இவர்களுக்கு பல்கலைக்கழகம் துவங்க அனுமதி அளித்து உள்ளோம் என்பதை மகிழ்ச்சியுடன் தெரிவித்துக் கொள்கிறேன்.

Related news:
The government of Tamil Nadu allocated a whopping Rs 34,181 crore to the School Education department for the year 2020-21. This is the highest allocation for any single department in the state's budget for the year 2020-21. https://www.thenewsminute.com/article/school-education-dept-gets-highest-allocation-tn-budget-2020-rs-34181-crore-118191

₹38,181.73 crore allocated for School Education Department, ₹5,052.84 crore for Higher Education https://www.thehindu.com/news/national/tamil-nadu/highlights-of-tamil-nadu-budget-2020-21/article30818728.ece

Placement Write Up

DXC Technology

DXC Technology, an international corporation that provides end-to-end IT services and solutions visited our campus and three students Santhosh Saran, Abdul Rahman Basheer and Crispin were placed as Trainees.

ROUND 1 (Aptitude and Coding test)

Crispin writes…

The COCUBES test had aptitude, computer fundamentals and coding assessment sections. The aptitude section consists of basic quants and few verbal reasoning questions. The second section was the computer fundamentals which had some coding MCQs which requires basic programming knowledge. The third section was coding assessment section which had three questions of only three marks. The main motive of the first round was to check your quantitative knowledge and basic fundamentals in programming.

ROUND 2 (Group Discussion)

Santhosh writes…

The shortlisted candidates from round 1 were selected for GD which was held in SRM University. In SRM University, the shortlisted candidates from various colleges were present, with a total strength around 280-300 students.GD was conducted in several panels simultaneously. Each GD panel consisted of 10 students and 5 were selected to the next round.

ROUND 3 (Technical Interview)

Abdul Basheer writes…

“Tell me about yourself” was the first question raised by them after going through my resume. Then they asked about my knowledge in Basic "C" Language which I mentioned in my resume. As I am from Mechanical, they asked me “Why you are choosing an IT Job rather than choosing your own core?” Then they asked about the toughest situation that I faced when organizing Blood Donation camps. Most of the questions were based on the content in my Resume.

ROUND 4 (HR Interview)

This process was to check your personality and your communication skills. The questions asked was to tell me about yourself, what is teamwork, your strength, weakness and goals. It is better to prepare for these questions before attending any interview, as they are the basic questions asked during all HR interviews. Do not demand for any specific location or domain because this creates an impression that you are selective and not adaptive.

Placement Write Up

CHEMFAB ALKALIS LIMITED (CCAL)

Chemfab Alkalis Limited is one of India's major manufacturers of Chlor-alkali, chlorates and O-PVC pipes. Two of our students, Varun Narayanan and Sashank C received placement offers from this organisation.

ROUND 1: ONLINE APTITUDE AND TECHNICAL TEST

Sashank writes…

The first round was an online test conducted by firstnaukri.com. There were two separate tests and both the tests were compulsory. The first test was an aptitude test, scheduled for 60 minutes and had questions from basic quantitative aptitude, vocabulary, logical reasoning and general knowledge. I would suggest RS Aggarwal book of 'Quantitative Aptitude' for preparation. The second test was a technical test, scheduled for 90 minutes and had questions from Fluid mechanics, Strength of Materials, Thermal and Manufacturing. The technical questions asked were very basic. Thorough understanding of core concepts and constantly revising the formulas would surely help you get through. Results of this round were announced a month later and 4 students were called for a face to face interview at their plant in Kalapet, Pondicherry.

ROUND 2: TECHNICAL AND HR INTERVIEW

Varun writes…

We were briefed by the HR Manager about the salary and other prospects. The interview was conducted by the HR Manager, Department HOD and the VP. The interview atmosphere was very calm and I was given some breathing time to compose myself. The questions were from the resume but they will make sure whether or not you are fully thorough about it. They asked some questions about my project where they expected a crystal-clear explanation and justification. In my case, the questions were asked about my project, on my in-plant training and the workshops I attended. Kindly schedule your preparation wisely and start preparing for placements at least from the start of seventh semester as core companies would start visiting from the month of September. Do not prepare company specific as not all the questions will be based on the domain of the company. Questions, both in test and interview will also be based on various basic mechanical subjects like Thermodynamics, Strength of Materials, Machine Design, Manufacturing etc.

Student Write Up

CONFERENCE ATTENDED

We recently had the opportunity to attend and present at the International Conference on Technological Advancements in Materials, Design, Manufacturing and Energy Sectors (ICTAMDMES'20) held on the 21st and 22nd of February by the mechanical department of St.Joseph's College of Engineering, Chennai.

We gave a presentation on our internal funded project titled 'ANALYSIS OF HUMAN FACTORS AND PSYCHOLOGICAL IMPACTS OF HONKING SOUND ON LIGHT MOTOR VEHICLE DRIVERS'. It consists of an experimental and subjective analysis of how excessive vehicle horn honking affects the stress levels of drivers and hence their driving performance.

Our paper was categorized under the Design section of the conference. We presented to a panel of judges as well as a crowd of students and faculty. The presentation, done through a PPT lasted for 8 minutes and 2 minutes of interaction with the judging panel followed. They posed intriguing questions and offered suggestions as to how we could proceed forward with our project.

We also stayed for the presentations of other participants and found many of their papers to be interesting and thought provoking. At the end of the day we were presented with our certificates. The overall experience of attending the conference was enlightening and we look ahead to participate in further events like these.

Akshaya R and Bowsica S P, II year/Mechanical

Student Write Up

Arjun, III year/Mech, writes…

GLIDER WORKSHOP

This workshop was conducted on 8th February 2020, by an organising committee consisting of third year mechanical engineering students Achyuth Ramachandran, Arvind Prakash, Lalith Kishore, Dheepak R, Shashank Baradwaj, Nikhil Jerome, Anirudh Selvam and Arjun N, under the supervision of Dr. KS Vijay Sekar, Associate Professor, SSN College of Engineering.

The workshop was conducted in 3 sessions. In the first session, the design aspects of the glider were explained and the steps for construction were demonstrated. The gliders were then constructed individually by each participant using the materials provided by the organizing committee. In the second session a seminar was conducted to deliver basic information on the parts of an aircraft, their functions and the basic aerodynamic principles governing flight. In the third session, the students were made to assess their glider performance based on the time of flight.

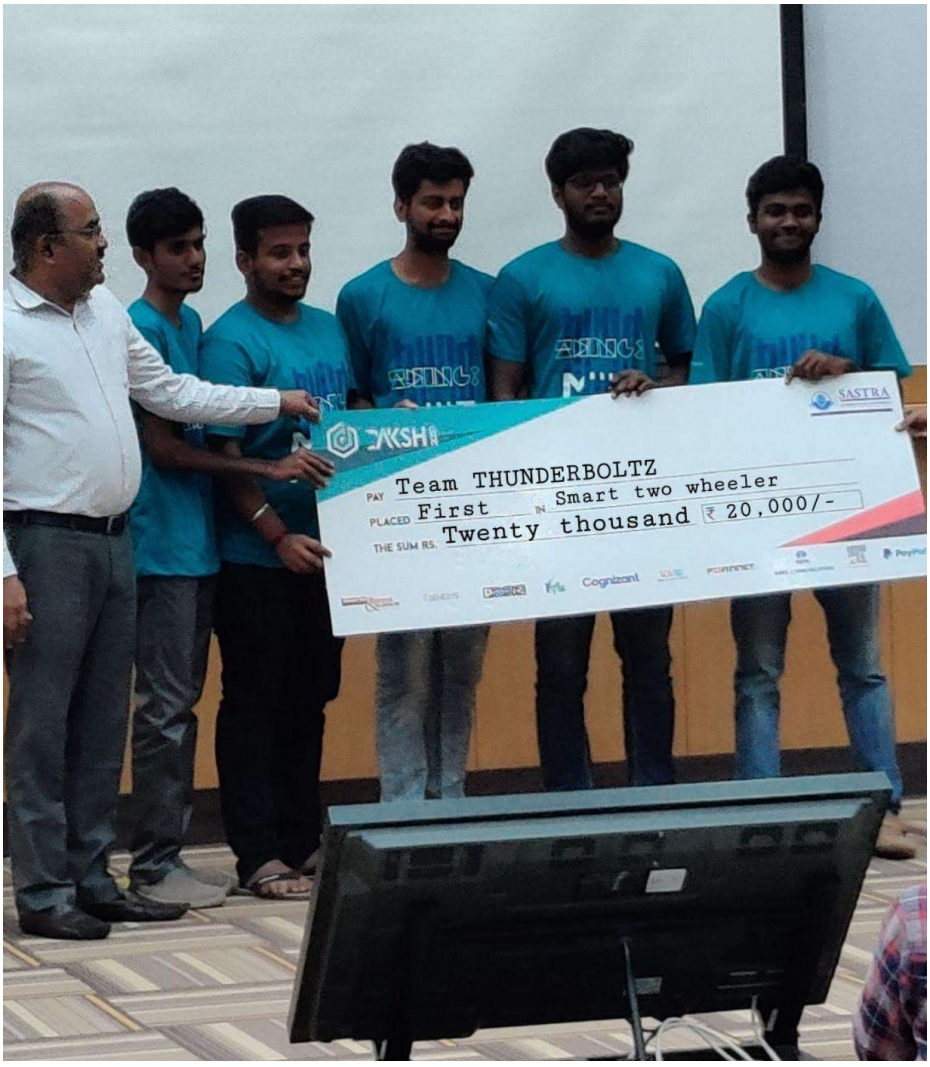
Each participant was given two trials and the top two performers, Abishek E (MECH-A 2nd Year) and Sai Charen(MECH-C 2nd Year)were selected as winners for the event. They were awarded cash prizes of Rs. 400 each.

Student Write Up

Arvind Kumar, III year/Mech, writes…

MECH STUDENTS WIN HACKATHON!

The SASTRA University of Thanjavur conducted DAKSH hackathon in which there were 8 real time problem statements. Each problem statement was given by companies like TVS, TCS, Genesys, PayPal etc. The problem statement that we chose was from TVS and the topic was “SMART TWO WHEELER SYSTEM FOR DETECTION OF PAND TO TAKE NECESSARY COUNTERACTIVE MEASURES”. There were 11 teams shortlisted for the final round in the same category. Our solution for the problem was presented in front of the mentor from TVS and taking in account the suggestions, a working prototype was made the next day and it was reviewed by a panel of two judges from TVS. Our presentation was crisply done and we were able to give satisfactory answers to the queries of the judges. The winners were announced the next day.



Mech Marvel - 63

Massive Hybrid Manufacturing Machine Pushes Boundaries of 3D Printing

Foster + Partners, a global studio for architecture, urbanism, and design, has pushed the boundaries of scale for additive manufacturing by designing and planning a 5-meter-long (16.4-foot-long) additive-steel building truss, which it produced in sections.

The project was a vital proof of concept for the Large-scale Additive Subtractive Integrated Modular Machine (LASIMM), a massive hybrid-manufacturing machine with metal additive and subtractive capabilities. Its developers project the system will reduce manufacturing time and costs by 20%, increasing productivity for high-volume additive-manufacturing production by 15%.
Funded by the European Union's Horizon 2020 research and innovation program, the LASIMM is designed to 3D-print metal parts and structures for construction as large as 2 meters in diameter and up to 6 meters long and 2,000 kilograms in weight. Foster + Partners is one of 10 partners in the LASIMM project; Autodesk is the lead software provider. I-beams or plates are a big effort to fabricate, cut and weld them back together. If it could be 3D-printed and the geometry is controlled, one could integrate lighting, ducts, airflow, heat transmission, and acoustics directly into the structure of the part. In such scenarios this machine comes in.

The additive-construction process for the cantilevered beam began with a steel plate, with components welded on in layers. The team used a generative-design workflow, evolving a set of constraints to automatically create a set of designs. The beam constraints were fairly simple. It's 5 meters long, 500 millimetres wide, and 120 millimetres deep, tapering to the end where it's 50 millimetres deep with a 500-kilogram point load. The team tested different-size beams (5 meters, 2 meters, and options in between), which showed potential uses for different scales. The generative workflow adapted its designs to different shapes and dimensions. The out of plane buckling was the driving constraint.

LASIMM could be explored for the work with other disciplines, fabricating other materials and integrating what it can fabricate with timber, carbon fibers, and so on. The technology also has the potential to transform the supply chain for architectural projects. The LASIMM is big, but its functionality could be replicated using smaller, more portable components and configurations.

Source: https://www.autodesk.com/redshift/hybrid-manufacturing/

Corporate Story 63

START UP FOCUS

PICKYOURTRAIL

How does a five-year-old start-up company, which started with a seed capital of USD 1700 and spent just USD 7000 on marketing achieve growth profitably?

Pickyourtrail did just that in the hypercompetitive space of online travel!

With a desire to spread the magic of travel using the logic of tech, Pickyourtrail delivers tailor-made, hassle-free international holidays. Their unique matching algorithm and price comparison engine gives its customers the freedom to create their own customized tour packages suited to their tastes at the best online prices. Started in December 2013, they have planned over 8000 trips and have earner numerous accolades in a short span of time. Over the years, they have helped more than 10000+ travelers from across 14 countries. They also have the highest 5-star rating on Facebook, thus, making them one of the top-ranked trip planners in India. They are originally an Amadeus Next incubated start-up and one of the top 6 finalists of the prestigious APAC Travel Innovation Summit award.

Website: https://pickyourtrail.com/

Meet the founders!: Srinath Shankar (left) and Hari Ganapathy (right)

Amazing Innovation- 153

Charging a car in five minutes

Taycan drivers in central Germany now have a new rapid charging facility called Porsche Turbo Charging, with a total capacity of seven megawatts – making it Europe's most powerful rapid charging park. The service centre has a dozen 350-kW DC charging points and four AC charging points operating at 22 kW, which are open around the clock, seven days per week.
The rapid chargers were developed by Porsche Engineering and could see electric vehicles gaining up to 100 km (62 mi) of range in just five minutes. EV drivers of any brand can rapid-charge their vehicle for free at the Porsche Turbo Charging Park in Leipzig until the end of March, 2020

Source: https://newatlas.com/automotive/porsche-leipzig-rapid-charging-park/

Amazing Innovation- 154

Shape shifting apparel

Skyscrape, the company developing the fabric and a new line of clothing is beginning with the jacket. The fabric in this new jacket will transform itself in response to the change in temperature—so you can leave the jacket on without overheating. Inside the fabric, a new type of yarn is what's doing the transforming. The new yarn is combined with a conventional yarn, and as the new yarn expands, it makes the structure of the fabric bend—moving from a flat shape to a wavy shape like the inside of corrugated cardboard. The little pockets of air formed results in more insulation. If a traditional jacket might be comfortable to wear within a 10- to 15-degree temperature range, the new jacket has a range of 20 to 30 degrees.

Manufacturing:
It involves tweaking the machinery to manipulate the "four Ts" of making yarn—time, temperature, tension, and twist. Then the new yarn can be combined with conventional yarn and made into fabric for finished garments. In one design that the company is considering, all of the components of the jacket are made from polyester, so that it can easily be recycled.
The start-up is working with manufacturing partners now, and plans to scale up to begin its first large fabric production runs in the coming months. A limited number of garments will be produced by the end of the year.

Source: https://www.fastcompany.com/90465936/

Amazing Innovation- 155

Robots for pollination

In an almond orchard in Israel earlier this month, a machine topped with a column of tiny cannons stopped in front of a tree, beamed lasers at it to map out the shape of the branches, and then fired pollen at the almond blossoms. The technology is a glimpse at what agriculture could look like in a world without bees.

Each year, farmers in California alone rent around 2 million hives to perform the essential task of pollinating almond blossoms so the fertilized flowers can become almonds. To successfully pollinate an almond blossom, bees need to travel between trees, but most of their movements are between blossoms on the same tree. They only work in certain temperatures. If the trees that need to be cross-pollinated aren't blooming at the same time, the bees can't work. Eylam Ran, cofounder and CEO of Israeli start-up Edete, which built the new artificial pollination robots, sees his role in part as helping bees. Instead of using 2 million beehives in California in a season, the industry might use less than half, while accomplishing twice as much pollination. The cost of the service will be comparable to bee rental. The startup is currently testing its technology in both Israel and Australia, and by 2022, plans to begin working at a large scale in California orchards.

Source: https://www.fastcompany.com/90463417/

Amazing Innovation- 156

Hydrogen powered electric mining truck

Anglo American and Williams Advanced Engineering (WAE) have joined forces to develop what will become the world's largest hydrogen or electric powered mining truck, aiming to help bring carbon neutral mining within reach.

This colossal ultra-class beast will be gutted and retrofitted with a monster 1,000-plus kWh lithium battery pack, built by WAE to be scalable if further capacity is needed in the future. That alone would give this thing nearly twice the energy storage of Switzerland's eDumper, which holds the current "world's biggest electric vehicle" record.

A hydrogen fuel tank will be added, with a fuel cell to generate additional power or top up the battery as needed. Having the hydrogen tank onboard means the truck can stay in constant operation without needing to be taken offline for long battery charging sessions. Peak power is said to be "significant," in the way that Donald Trump has been called "controversial," and the truck will recoup a lot of its spent energy when it rolls downhill thanks to a regenerative braking system. Testing will begin in South Africa later this year, as Anglo-American aims to fulfil its commitment of reducing its carbon emissions by 30 percent by 2030.

Source:https://newatlas.com/automotive/worlds-largest-hydrogen-electric-mining-truck-fcev/

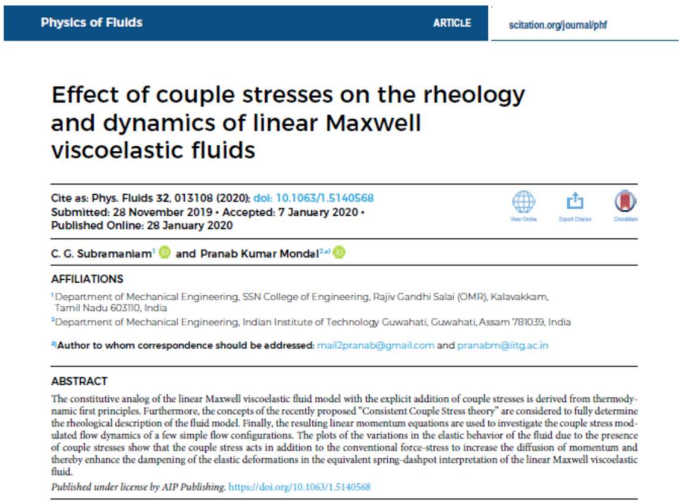
Alumni Update 1

ACCOMPLISHMENT OF C.G. SUBRAMANIAM
- A SPECIAL WRITE-UP FROM THE DEPARTMENT AS A MARK OF OUR APPRECIATION -

With all Appreciations as "Teachers & Mentors", We would like present for this Aspire Issue, a small note on the Great Achievement of our 2019 Batch Student Mr. C.G. Subramaniam (312215114018), fondly called as CGS!! CGS, as we have observed from the First Year, has been very bright and demonstrated a great skill in the understanding of fundamentals. He aspired to build a strong foundation in Math & Mechanical Engineering. To be specific, he became very strong in Fluid Mechanics & Tensors over a two-year period through his sincere and continued efforts. He went on to finish adequate online courses in both of his favourite subjects through NPTEL even before his 7th semester.

During his II year, he did a Mathematical Modelling of Nano-particles as a fractal aggregate and came out with an Effective Medium Theory (EMT) similar to that of the well-known Maxwell's EMT! He compiled his findings as a Research Paper and got it published on his own as a single Author in the Very Prestigious ASME J Heat Transfer. Imagine a II Year UG Grad publishing an ASME paper and that too as an individual!!

Later, he went on to do summer internships at IIT Madras, IISc Bangalore and IIT Guwahati under eminent Professors. The outcome was Obvious and Envious too!! With a super-bright mind like CGS, a yet another milestone was achieved very recently with ease & style! The summer internship work he had done under a Professor at IIT Guwahati resulted in a Great Publication in yet another very high-quality Journal - "THE PHYSICS OF FLUIDS". It is well known to the academic world that only papers of High Quality are considered for publication by the Journal. Followed by ASME, it is the Physics of Fluids for CGS!!



Physics of Fluids ARTICLE scitation.org/journal/phf

Effect of couple stresses on the rheology and dynamics of linear Maxwell viscoelastic fluids

Cite as: Phys. Fluids 32, 013108 (2020); doi: 10.1063/1.5140568
Submitted: 28 November 2019 • Accepted: 7 January 2020 •
Published Online: 28 January 2020

C. G. Subramaniam[1] and Pranab Kumar Mondal[2,a]

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ABSTRACT

The constitutive analog of the linear Maxwell viscoelastic fluid model with the explicit addition of couple stresses is derived from thermodynamic first principles. Furthermore, the concepts of the recently proposed "Consistent Couple Stress theory" are considered to fully determine the rheological description of the fluid model. Finally, the resulting linear momentum equations are used to investigate the couple stress modulated flow dynamics of a few simple flow configurations. The plots of the variations in the elastic behavior of the fluid due to the presence of couple stresses show that the couple stress acts in addition to the conventional force-stress to increase the diffusion of momentum and thereby enhance the dampening of the elastic deformations in the equivalent spring-dashpot interpretation of the linear Maxwell viscoelastic fluid.

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With these credentials of high quality, a high GRE & TOEFEL as well ably supported by a very high CGPA at SSN, there was nothing to stop his admission to a direct Ph.D. in The City College of New York, USA with a full Merit Scholarship!! In fact, he got admissions in different Universities of repute! He recently cleared in style the Qualifiers for his doctoral research in the University.

We, as Teachers are confident that with his strong Acumen, discipline and perseverance, CGS can easily cross milestones one after another in his Professional Journey ahead! We wish him all the Very Best and Feel proud of him!! We are sure that at SSN we have many such bright students year on year and our legacy of nourishing the Bright minds keeps going on and on with the able support of the Institution and the ambience our Institution provides for all of our students. Congrats! CGS!!

This write-up is only for a Motivation to all the students aspiring for a great Professional Career. Let them bring more laurels to this Mighty Institution in the years ahead!!

Compiled on Behalf of the Department by Dr. N. Lakshmi Narasimhan, Associate Prof/Mech, SSNCE.

Alumni Update 2

Sathianandan Dharmaselvan (2013 - 2017 batch)

Sathianandan is currently employed as a Drilling Engineer at Ensign Energy Services, Denver, Colorado. After completing his undergraduate studies at SSN, he went on to pursue his Masters in Petroleum Engineering at the Colorado School of Mines.

He writes…

Don't ever be afraid to choose the road less taken. Before you read this article, this is just my take on career goals so don't let this deter your drive if you have already figured out your professional path. I chose Petroleum Engineering over the other sought-after majors for a guy with a Mechanical background because of the sole reason that I could stand out. Now be careful about what you ask for, just pursuing something that's out of the norm doesn't get us anywhere unless you feel that's where your heart lies and most importantly you can carry over at least a portion of your 4-year undergrad curriculum to your next venture. That being said, we are fortunate to have chosen one of the broadest streams in science and engineering which could open a million doors if looked at from a correct perspective.

I would always suggest going for higher studies if you are able to factor in all the variables like financial aid, personal goals, etc and you are passionate about it. Just don't let peer pressure weigh in on this. A key tip that I found useful when you start getting your feet wet in your career would be that don't be afraid of saying you don't know. The best approach would be, to be honest upfront about your skill set and let them know that you could learn what it takes instead of a blunt no, I truly believe this is the attitude that got me my job. The second tip would be to not to say no when there is a chance to learn something completely new, there is always room to add skills on your palette. You never know what you will end up doing for the rest of your life, in my case I was never a big fan of programming during school, ironically the majority of my work now includes machine learning and data analytics that I picked up after my graduation.

Inculcate an inquisitive attitude and learn to work beyond your comfort zone while you are in college it helps in a work environment. I wish we got more equipped about investments and savings while in college but it's never too late to learn those things or at the minimum be aware of your cash flow. I don't want to make this sound like a goal cast motivational speech, but my last piece of advice would be to start your day early, you'll realize how much you can get done and be more productive. The key takeaway I want to project here is that don't always look for trails set by someone, rather be a trailblazer.

Cheers!

Forthcoming events

Workshop/Seminar

March

- All India Seminar on "Manufacturing and Quality Engineering: Industrial Perspective" is being organized by West Bengal State Centre under the aegis of Mechanical Engineering Division Board of the Institution of Engineers India Ltd., during **March 20-21, 2020** at Narula Institute of Technology, Agarpara, Kolkata.

Details at https://www.ieindia.org/webui/IEI-Activities.aspx/Call_Papers)

- IIT Indore is organizing a Short Term Course for faculty members on "Advanced Welding Technologies and Failure Analysis" from **16 March 2020 to 20 March 2020** and

"Advanced Materials for Structural Application" from **23 to 27 March**.

In this course, there will be a series of interactive lectures by expert faculties and scientists from renowned institutions of India. There is no registration fee.

The Department of Mechanical Engineering, SSNCE is planning to conduct the following one day workshops:

1.Genetic Algorithm & Fuzzy Logic - on **4th March ,2020**.
Co-ordinators - Dr. K. Babu, Dr. K.S. Jayakumar and Dr.R.Vimal Sam Singh

2.Non Destructive Testing-An Experiential Learning - on **March 12th, 2020**.
Co-ordinators- Dr. K.Jayakumar, Dr. R. Damodaram and Dr. A.K.Lakshminarayanan

3.Mettal Additive Manufacturing- on **March 14th, 2020**.
Co-ordinators - Dr. S R Koteswara Rao, Dr. KL. Harikrishna, Dr. A K Lakshminarayanan

4.Fabrication of Polymer Matrix Composites- on **March17th, 2020.**
Co-ordinators – Dr K Raj Kumar, Dr B Anand Ronald, Dr L Poovazhagan

Conference

March

- Confederation of Indian Industry (CII) is organizing a one day Conference on Digital Agriculture on **6th March 2020** at Hotel Feathers, Chennai.
- CII Southern Region is organizing a flagship Summit on 'Changing Face of Business' with the theme, "*Staying Ahead in Disruptive Times"* on **13th March 2020** at Hotel Taj Coromandel, Chennai.
- The Tamil Nadu Technology Development & Promotion Center of CII is organizing the 12th Edition - Conference on Automotive R & D Trends on **19th March 2019** at Hotel ITC Grand Chola, Chennai with the theme of "Sustainable Solutions to Transform Indian Mobility".
- The Department of Mechanical Engineering of SSNCE, is organizing the 3rd National Conference for Mechanical Engineering Research Scholars (MERS-2020) on **20th March 2020 (Friday).**Last date for submission of abstract: 3rd March 2020.
- 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

May

- International Conference on Aspects of Materials Science and Engineering (ICAMSE-2020)" to be held during **29th and 30th May 2020** at Punjab University, Chandigarh. All accepted papers will be published in Scopus indexed journal of Elsevier: Materials Today: Proceedings subject to the condition that at least one author must register and present the accepted paper during the conference. Last Date 16th March. Conference website www.icamse2020.com

June

- The Department of Mechanical Engineering, CVR College of Engineering, Hyderabad, India is organizing the "International Conference & Exposition on Mechanical, Material and Manufacturing Technology" (ICE3MT2020), during **June 12-13, 2020**. Please visit the website (www.icemmmt.com) for full details.Deadline for submission of full paper is 25th March, 2020.All accepted, registered and presented papers in ICE3MT2020 will be published in a Materials Today: Proceedings (ELSEVIER) Journal. The journal is indexed in Scopus (Elsevier) and the Conference Proceedings Citation Index (Thomson Reuters, Web of Science).

- 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)**

- The Department of Industrial and Production Engineering of NIT Jalandhar, is organising an *"International Conference on Industrial and Manufacturing System (CIMS—2020)"* at Dr B. R. Ambedkar National Institute of Technology, (NIT) Jalandhar during **26-28 June, 2020**.Last date for submission of abstracts is March 15, 2020. All the accepted and presented papers of the CIMS—2020 will be published as conference proceedings and will also be considered for publication in Scopus indexed journals/ Springer/ Emerald/ CRC press Taylor & Francis/ IGI Global book series. Manuscripts can be submitted by Easy Chair portal, https://easychair.org/conference?conf=cims2020. For more details, kindly visit conference website http://www.nitj.ac.in/cims2020/

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

October

The 50th Golden Jubilee conference of The International Conference on Computers and Industrial Engineering will be held at Egypt-Japan University of Science and Technology Campus, Alexandria, Egypt, **during 25-28 October 2020**. This year the conference theme will be "Sustainable and resilient systems for a smart dynamic world", emphasizing the important role industrial engineering will play in the future smart and dynamic world of the Fourth Industrial Revolution (Industry 4.0) to meet disruption challenges in a sustainable way. More details at https://ejust.edu.eg/cie50 . Last date for submission of papers/abstracts is May 1 2020 **(info from Akhilnandh Ramesh-alumnus)**

Research News from MSP

Dr Muthu Senthil Pandian

Attention PG Students!

1.Online applications are invited for Ph.D. (Full time and Part time), by Anna University. Date of Closure of Online Applications and Fee: 07-03-2020

Website Links:

https://cfr.annauniv.edu/research/index.php

https://cfr.annauniv.edu/jul20/index.php

https://cfr.annauniv.edu/jul20/phd-broucher.php

2.SERB - Call for Project Proposals under Scientific and Useful Profound Research Advancement (SUPRA-2020) Scheme

SERB has developed a newly approved scheme that seeks to explore new scientific breakthroughs, with long-term impact on our fundamental scientific understanding, and offer disruptive technologies at the cutting edge. SERB-SUPRA (Scientific and Useful Profound Research Advancement) is a scheme beyond normal core grants and purposefully designed for high quality proposals consisting of new hypothesis or challenge existing ones, and provide 'out-of-box' solutions. Transformative and disruptive research concepts based on innovative and unproven hypothesis, possessing a high degree of uncertainty, yet having conviction to produce a lasting impact across discipline boundaries qualify for support under SERB-SUPRA. Last date for submission of project proposal: **01 April 2020**

Website Links

https://serbonline.in/SERB/Supra

https://serbonline.in/SERB/HomePage

3.DST - Applications are invited for the SwarnaJayanti Fellowships Scheme - 2020 (Science/ Engineering/ Medicine)

The Government of India had instituted a scheme titled **"SwarnaJayanti Fellowships"** to commemorate India's fiftieth year of Independence. Under this scheme a selected number of young scientists, with excellent track record, are provided special assistance and support to enable them to pursue research in frontier areas of science and technology. The fellowship is scientist specific and not institution specific.

The award consists of a Fellowship of **Rs.25000/- per month** in addition to the salary drawn from the parent Institute along with a Research Grant of **Rs.5 lakh per annum** by Department of Science and Technology for a period of 5 years, while the project submitted by the selected Fellows will be considered for funding by the Science & Engineering Research Board (SERB) as per SERB norms, for recurring and non-recurring heads.
The fellowship is open to scientists between **30 to 40 years of age** as on December 31, 2019.

Applications for the "**SwarnaJayanti Fellowships Scheme 2020**" are invited from eligible candidates. Candidates may log on onlinedst.gov.in from **15-02-2020**.

The last date for submission of applications is **March 31, 2020** by 23:59 hrs.

Website Links

https://dst.gov.in/callforproposals/advertisement-swarnajayanti-fellowships-scheme-2019-20

https://dst.gov.in/sites/default/files/Advertisement%20for%20the%20%E2%80%9CSwarnaJayanti%20Fellowships%20Scheme%202019-20%E2%80%9D_0.pdf

4.INSA - Nominations are invited for INSA Teacher Award - 2020 for Science and Technology including Medical and Engineering Sciences, Indian National Science Academy (INSA), New Delhi-110002

To recognize and value excellence, consistency and high level of teaching in Indian Colleges, Universities and Institutions the Academy has instituted the INSA Teachers Award.

A teacher may be nominated by Fellows of INSA, NASI, IASc, Principal of a College, Vice-Chancellor of a University, Director of an Institution, a colleague or by a former student who is associated with an academic / R&D institution. The nominator may forward only one nomination in a year. A nomination shall remain valid for consideration for two consecutive years.

Deadline for submission: **April 10, 2020**.

Website Links:

http://www.insaindia.res.in/pdf/Teachers_Award_Nomination.pdf

http://www.insaindia.res.in/

5.SERB - Call for Project Proposals under (i) Core Research Grant (CRG-2020) and (ii) Start-up Research Grant (SRG-2020)

(i) Core Research Grant (CRG-2020)

Objective:
The scheme provides core research support to active researchers to undertake research and development in frontier areas of Science and Engineering.
Last date for submission of project proposal: **9 March 2020**

Website Links:

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

https://serbonline.in/SERB/HomePage

https://serbonline.in/SERB/AbstractFilePath?FileType=E&FileName=OTD_EMR.pdf&PathKey=DOCUMENT_TEMPLATE

(ii) Start-up Research Grant (SRG-2020)

Objective:

The Start-up Research Grant (SRG) scheme aims to assist researchers to initiate their research career in a new institution. It is a two-year grant meant to enable researchers working in frontier areas of science and engineering to establish themselves and move on to the mainstream core research grant (CRG). Criteria for selection would be based on the track record of the applicant and the proposed research plan.

Last date for submission of project proposal: **2 March 2020**

Website Links:

https://serbonline.in/SERB/srg_Instructions?HomePage=New

https://serbonline.in/SERB/HomePage

6.SERB - Call for Project Proposals under Teachers Associateship for Research Excellence (TARE - 2020) Scheme

This scheme aims to facilitate mobility of faculty members working in a regular capacity in State Universities / Colleges and in private Academic Institutions to carryout research work in an established public funded institution such as IITs, IISc, IISERS, National Institutions (NITs, CSIR, ICAR, ICMR labs and other central institutions) and Central Universities, located preferably nearer to the institution where the faculty member is working. Research work will be carried out in such a manner to ensure that PI continue to work in the host institute as well as his / her parent institute on mutually agreed terms between the PI and Mentor.

Research fellowship of Rs. 60,000/- per year (in addition to the researcher's own salary) will be provided subject to completion of minimum 90 days research work per year in the host institution. Research grant of Rs. 5 lakhs per annum (50% each to host and parent institution) and overheads (as per SERB norms) will be provided.

Last date for submission of project proposal: **16th March 2020**

Website Links: https://serbonline.in/SERB/Tare https://serbonline.in/SERB/HomePage

Other Dept Round Up

Chemical Engineering Department wins Rs. 2 crore project!

Dr Parthiban

Professor Parthiban, HoD/Chemical, writes…

I am very much happy to inform that Dr B.Ambedkar has received the Mission Innovation- Innovation Challenge (IC3) CCUS project titled , " **Bench Scale design and development investigation of high frequency, High Intensity ultrasonics for carbon-rich solvent regeneration in solvent based post combustion Carbon di oxide capture process for reducing carbon di oxide capture energy demand"** from the Ministry of Science and Technology, DST, TMD with a total cost of Rupees Two Crore Eight lakhs ninety six thousand eight hundred thirty three only.

Dr B Ambedkar

The department and myself would like to congratulate him for receiving this grant. It is one of the major achievements by Dr Ambedkar in his career. I would like to wish him on this achievement.

Guest lecture by Ford GM & Tech Lead

As part of IIChE student chapter, **Mr. Dr Santhoji Katare**, Technical Leader & General Manager, Global Data Insight & Analytics, Ford Motor Private Limited, Chennai was invited to deliver the Dr.B.Jagannadhaswamy Endowment Lecture on Feb 22. 2020. He spoke on how Artificial intelligence is used for automotive product development.

Government News

A "Comprehensive Training Policy for Technical Teachers" under the initiative of AICTE towards Govt of India MHRD's 100 day initiative was released on 11 Sept 2019 by the Hon'ble Minister MHRD for promoting quality of technical education in the country.

It is requested that maximum new inductee teachers and teachers into service with less than five years of experience be advised to register under this initiative of AICTE on the portal http://nittt.ac.in/

PFA:- https://drive.google.com/file/d/1M3NLhfziv2nYtHgHkUuIK8ONp0pQ4Os_/view?usp=sharing

For many of us, life never seems to go our way.

Our job is too stressful, we are either over or under qualified for it, our boss never leaves us alone, or coworkers are annoying and our clients are too demanding. Our relationships don't go the way we want, we are rarely appreciated for who we are, what we do, or the hard work we put in. And we never get enough of anything, we don't get enough good food or sleep, we don't make enough money and we spend too much, and our belongings are too few and too cheap to be truly satisfying to us.

Do you feel like I'm describing you and your life? What if I were to tell you that this is a mindset shared by people up and down the country, men and women, young and old, even shared by the wealthy and by celebrities?

It may be hard to believe that someone with a net worth of over a million, bringing in a six or seven figure income, could feel they aren't appreciated and don't have enough, but they do, and just as often as anyone else.

So what gives? Why is it that there are so many people, coming from radically different backgrounds, all with the same complaints? And if everyone feels like this, what can you do to stop feeling this way? Money, status, love, or possessions will not make you feel any better, after all.

Somewhere out there in Asia is a rickshaw driver right now. He is probably in his late thirties or early forties. He lives in a little sheet metal and plastic shack with his wife and four children. Water comes in every time it rains, and they all eat, sleep, and generally live in the center of this one-bedroom shelter. Every morning he eats a bowl of plain rice for breakfast, then runs around pulling his rickshaw all day, just to put rice on the table for dinner for his family. His feet are sore and he is tired every day. His life sounds miserable. I'm sure very few of us would trade places with him. **But, believe it or not, he is happy.**

How can this be? How can an incredibly poor, ill man with mouths to feed be happier than us, or than a single, childless, wealthy celebrity? What does he have that we are all lacking?

He has positivity.

You see, you can't ever truly be satisfied with your life. Not if you want to make progress. You need to look at what you've got and not think it's enough, crave more, crave better.

You can only get fit if you are unsatisfied being unfit. You can only get wealthy if you are unsatisfied with your income. **And dissatisfaction is good in that sense. The more dissatisfied we are, the more progress we will make.**

But when we link satisfaction to happiness, we sentence ourselves to a lifetime of being unhappy.

We allow ourselves to feel miserable and we linger on our sufferings and failures, in the hope that when we are finally satisfied we will be able to love and respect ourselves.

But we will never be satisfied, so, under this system, we will never be happy.

Instead, what we must do is we must disconnect our happiness from satisfaction and connect it to 1) self-worth, 2) gratitude for what we already have, and 3) the process (of building a better life, becoming a better person every day, and gaining control over our destiny)

For example, we can love ourselves and be proud of all our bodies do for us at the same time as we are dissatisfied with our appearance.

A person who is too satisfied would say "I love myself as I am", a person who links satisfaction to happiness would say "I hate myself", but a healthy, positive person would say **"I love myself and I love my body, but that is why I want to get fitter and look after myself".**

This change in mentality will really turn the world on its head for you. **When you accept you can be dissatisfied *and* positive at once, you will discover that you are respecting and loving yourself more, and you will be much happier as a result.**

All the best, friends!

Ian
Positive Psychology

(Reproduced from a received email)

Corporate Wisdom 75

Understanding Anger

Anger is basically an expression of helplessness.

- **The feeling " I am not in control of the situation" expresses itself as anger.**
- **Anger is a result and effect of the inability to handle a situation.**
- **Anger is not born out of deficiency in others, but out of our own inadequacy to deal with a situation.**
- **Anger is more a message for you than the world.**

Become aware of your anger; become aware of the futility of anger; become aware that everybody including you lose because of anger.

Hence burn anger before it burns you.

However, talking about someone's weakness won't help them overcome that weakness.

- The more you keep focusing on weaknesses- the more you will fuel their growth.
- You can't give up something, but you can always embrace something.
- When I embrace strength, I weaken the weakness.
- It is natural that when one's attachment for the lower grows into an attachment for the higher, the lower falls on its own accord.
- We don't give up in life, but we go up. Human beings are designed to step out of the lower rungs of the ladder because of his or her inclination to step onto the higher rungs.
- All of us need a relationship in which we won't be held against ourselves.
- Each of us have our strengths and we also have our weaknesses.
- We all come as a package.
- We all as individuals, have short comings.

- What we need is a relationship in which our lesser side is not constantly provoked and instigated.
- We want someone who will always relate to our better side.
- We want that one relationship in which our positives will always be brought to the surface, the presence of which, will make our negatives fade away in the course of time.

#WishingMostAndMore

Have a wonderful day & great weekend

R.Ramakrishnan

This issue has an annexure on Shiv Nadar Foundation's Leadership Conclave 2020

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

Vinaya Krishna

Saran Prasanth

Akshay Kanna

Anupa Sri

Mohitha U.M