Newsletter

Volume 10 , Issue 11 , November 2020

SSN Mechanical Engineering

Aspire

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 83

2020 Physics Prize

Awarded with one half to Roger Penrose *"for the discovery that black hole formation is a robust prediction of the general theory of relativity"* and the other half jointly to Reinhard Genzel and Andrea Ghez *"for the discovery of a supermassive compact object at the centre of our galaxy."*

Andrea Ghez succinctly sums-up her motivation for becoming an astrophysicist in this conversation recorded after she heard the news of her Nobel Prize in a 2 am call from Stockholm.

Read or listen to the interview with Andrea Ghez.

2020 Chemistry Prize

Awarded jointly to Emmanuelle Charpentier and Jennifer A. Doudna *"for the development of a method for genome editing."*

"We had a sense that we were onto something big," says Jennifer Doudna, as she recalls the start of her "curiosity-driven" research into CRISPR and reflects on the pace of the field today, in this short conversation.

Read or listen to the interview with Jennifer Doudna

2020 Literature Prize

Awarded to the American poet Louise Glück "for her unmistakable poetic voice that with austere beauty makes individual existence universal".

Louise Glück made her debut in 1968 with Firstborn, and was soon acclaimed

as one of the most prominent poets in American contemporary literature. She spoke briefly from her home in Cambridge, Massachusetts on the day of the prize announcement.

Read or listen to the interview

2020 Medicine Prize

Awarded jointly to Harvey J. Alter, Michael Houghton and Charles M. Rice "for the discovery of Hepatitis C virus".

The Medicine Laureates' discovery of the Hepatitis C virus is a landmark achievement in the ongoing battle against viral diseases. For the first time in history the disease can now be cured, raising hopes of eradicating the Hepatitis C virus from the world population.

Read more about the discovery of the Hepatitis C virus

2020 Peace Prize

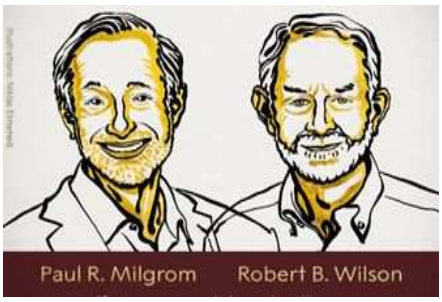
Awarded to World Food Programme (WFP) "for its efforts to combat hunger, for its contribution to bettering conditions for peace in conflict-affected areas and for acting as a driving force in efforts to prevent the use of hunger as a weapon of war and conflict."

"I believe what the committee have done today is to give recognition to the fact that we can't ignore the poor, the needy and the vulnerable that are suffering around the world," said David Beasley, executive director of the World Food Programme in this interview, recorded immediately after the public announcement of the 2020 Nobel Peace Prize.

See the interview

2020 Prize in Economic Sciences

Awarded jointly to Paul R. Milgrom and Robert B. Wilson "for improvements to auction theory and inventions of new auction formats."

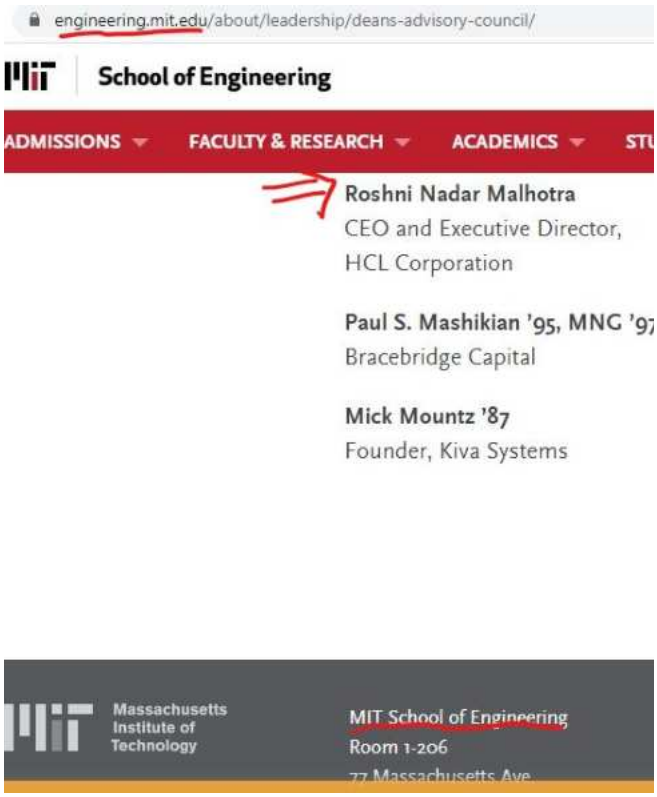


This year's Laureates, Paul Milgrom and Robert Wilson, have studied how auctions work. They have also used their insights to design new auction formats for goods and services that are difficult to sell in a traditional way, such as radio frequencies. Their discoveries have benefitted sellers, buyers and taxpayers around the world.

Read: *The quest for the perfect auction*

Campus Update

Roshni Nadar Malhotra, Chairperson - HCL Technologies, in top 25 power women list of Forbes Asia and Dean's Advisory Council in MIT's School of Engineering



I'm extremely pleased to share the amazing achievement of our Trustee, Roshni Nadar Malhotra, who has joined the Dean's Advisory Council in MIT's School of Engineering.

As you know, MIT is THE #1 ranked University in the world, especially due to its School of Engineering.

It's a proud day for all of Shiv Nadar Foundation – having Roshni on MIT Dean's Advisory Council is a great recognition.

I'm sure all of you join me in wishing her all the very best, and many many more achievements as we go forward!!!

R Srinivasan

Chairman – SSN Management Board

Shiv Nadar University Chennai Launched – *the First Private University to be Legislated in Tamil Nadu After 90 Years*

Shiv Nadar Foundation today announced the launch of its third initiative in the field of higher education- "Shiv Nadar University Chennai". The University is the first private University to be legislated in Tamil Nadu after 90 years (since Annamalai University Act in 1928), upon the passing of the Shiv Nadar University Act 2018. Shiv Nadar University Chennai will be housed in a sprawling, vibrant campus at Kalavakkam. It will be home to world-class facilities including academic and research blocks, state-of-the-art cricket stadium, library, sports centre, hostel facilitates for students and a faculty housing complex, auditorium, guest house and 24/7 internet access. The new University was virtually announced by Ms. Roshni Nadar Malhotra, Chairperson, HCL Technologies and Trustee, Shiv Nadar Foundation in the presence of Mr. R Srinivasan, Chancellor, Shiv Nadar University Chennai along with Dr. Kala Vijayakumar, Pro-Chancellor, Shiv Nadar University Chennai.

Speaking on the occasion, Ms. Roshni Nadar Malhotra, Chairperson, HCL Technologies and Trustee, Shiv Nadar Foundation said, "My father, Mr Shiv Nadar, is a product of education and strongly believes in its power to transform people's lives. The Shiv Nadar Foundation was created with this vision and has established institutions offering world-class education to contribute to nation building. The Foundation has been on this journey for the last 26 years and our institutions are testament to how education can be a force multiplier, transforming not just individual lives, but those of groups and communities at large. We are, therefore, thrilled to set up a world-class private university in Chennai that has been envisioned with a core raison d'etre of moving beyond disseminating knowledge. Shiv Nadar University Chennai will be a catalyst for new research, novel discoveries and creation of new forms of expression…eventually helping create responsible, well rounded citizens."

Mr. R Srinivasan, Founding Chancellor, Shiv Nadar University Chennai said, "Shiv Nadar University Chennai comes as a response to the overwhelming persuasion by parents and alumni of our institutions to establish a multidisciplinary university after seeing the quality of education we had to offer through our other institutions of higher education. The University will strongly focus on holistic development of students through an approach that blends academic rigor, culture of research and sustained industry engagement. While we are announcing the University today with two Schools (Engineering and Commerce and Management), our hope is that over the next five years, the University will significantly expand its offerings, including establishing a School of Law. We also want to take this opportunity to invite acclaimed academicians and scientists to join us as we set out on this journey of creating new knowledge and contributing to meeting the human capital needs of the world."

Dr. Kala Vijayakumar, Pro-Chancellor, Shiv Nadar University Chennai said, "Shiv Nadar University Chennai will offer programs that will prepare students with the skill sets needed in an ever-evolving world. The curriculum has been modeled on global best standards with a strong emphasis on interdisciplinary research, cutting across all schools, allowing the University to break disciplinary silos and institute a broad-based academic structure. We are thrilled to bring to students a university that will enable them with an enduring foundation for their future success."

The University will open for admissions in April 2021 with four specialized courses in disciplines of Engineering and Commerce. These programs have been designed in-line with the evolving educational and professional requirements within India and internationally.

The School of Engineering will offer students a strong engineering orientation through four-year undergraduate courses in Artificial Intelligence and Data Science and Computer Science and Engineering with specialization in Internet of Things (IoT). These programs will inculcate a strong theoretical foundation, systematic professional knowledge as well as powerful practical skills in their respective subjects.

The School of Commerce and Management will offer curated programs in Bachelor of Commerce (Professional Accounting) preparing students for professional destinations such as CA, CWA, CMA; and a Bachelor of Commerce offering a broad- based academic background in analytical and financial domains, preparing them to solve real world financial issues and problems.

In addition to courses offered in Engineering as well as those offered by the School of Commerce and Management, the University also plans to introduce a four-year undergraduate program in Business Management (BMS) in the following academic year (2022 – 23). Over the next five years, Shiv Nadar University Chennai will continue to introduce new programs and expand its offerings, including establishing a School of Law at the University.

An alumnus of Sri Sivasubramaniya Nadar College of Engineering Wins the "Woman of the year" at the American Business Awards

Five years ago, Charanya Kannan after graduation from SSN moved from Chennai to the US to pursue her MBA from Harvard Business School. The professional was recently nominated for the Stevie Awards – business awards that receive over 12,000 entries every year from more than 70 countries – and won the 'Woman of the Year Award' for pioneering work in the behavioural strategy in the Silicon Valley, as well as the Management Professional of the Year award in the Internet/New Media category.

Click here to know more

Sri Sivasubramaniya Nadar College of Engineering is most preferred choice among toppers for Engineering Aspirants in TamilNadu Engineering Admission 2020

- ***State rank 23,63,73,78, 95, 100 etc.. choose SSN to study Engineering.***

Open Competition	Cut-Off Mark	Cut-off Rank	Highest mark
Computer Science and Engineering	194.00	608	197.67
Information Technology	191.00	1522	193.00
Bio- Medical Engineering	191.00	1637	197.50
Electronics and Communication Engineering	191.00	1627	194.25
Electrical and Electronics Engineering	190.00	2319	193.00
Mechanical Engineering	190.00	2626	190.00
Chemical Engineering	189.00	4070	190.00
Civil Engineering	186.00	5455	190.00

Department Update

Placement Update

ZoomRX Placement

Role: Business Associate (Business Analysis)
Student Name: Ashwin Ballal (final year A section)
CTC : 5.5 LPA

TCS- DIGITAL

CTC: 7.2 LPA
Student details:

1. Aditya Bucha (312217114004)
2. Rahul K. (312217114073)
3. M. Sriram (312217114098)
4. R. Subramanian (312217114102)

MCKINSEY & COMPANY

Role: Junior Analyst
Student Details:

1. Aravind S (312217114009)
2. Karthik Krishnan (312217114045)
3. Vigneshwar Veeravagu (312217114119)

CTC : 10 LPA (Super Dream)

Placement reaches and crosses double-digits. Now it is at 12 !! Hope to have the number grow in the days to come. Let us all wish Good Luck !!

-Dr. Lakshmi Narasimhan

MECHANICAL DEPARTMENT STUDENT ACTIVITIES (OCTOBER)

S.No	Date	Activity Done during this Month
1)	03/10/2020	Enian C, 2nd year, Completed an online course on python data structures in Coursera.
2)	01/10/2020 01/10/2020 02/10/2020	Palvannan B, 2nd year, Completed online courses in Coursera: ➢ Using Databases with Python. ➢ Retrieving, processing and visualising data with python. ➢ Participated in Fit India Freedom Movement Run.
3)	04/10/2020 04/10/2020 04/10/2020 25/10/2020	Sai Charen V, 3rd year, Completed online courses in Coursera: ➢ Mathematics for Machine Learning - Linear Algebra. ➢ Mathematics for Machine Learning - Multivariate Calculus. ➢ Mathematics for Machine Learning - Principal Component Analysis. ➢ R Programming.
4)	02/10/2020	Achyuth Ramachandran, 4th year, Presented a paper titled "Python implementation of fuzzy logic for Artificial Intelligence modelling and analysis of important parameters in drilling of hybrid fiber composite (HFC)" at the 1st International Conference on Robotics, Industrial Automation and Control Technologies (RIACT 2020), VIT Chennai.
5)	01/10/2020	Graham David Rajan M, 4th year, Completed an online course and Internship program on Auto CAD in Verzeo.

2020 Passed out Mechanical Engineering Undergraduates

2020 Passed out Mechanical Engineering Postgraduates

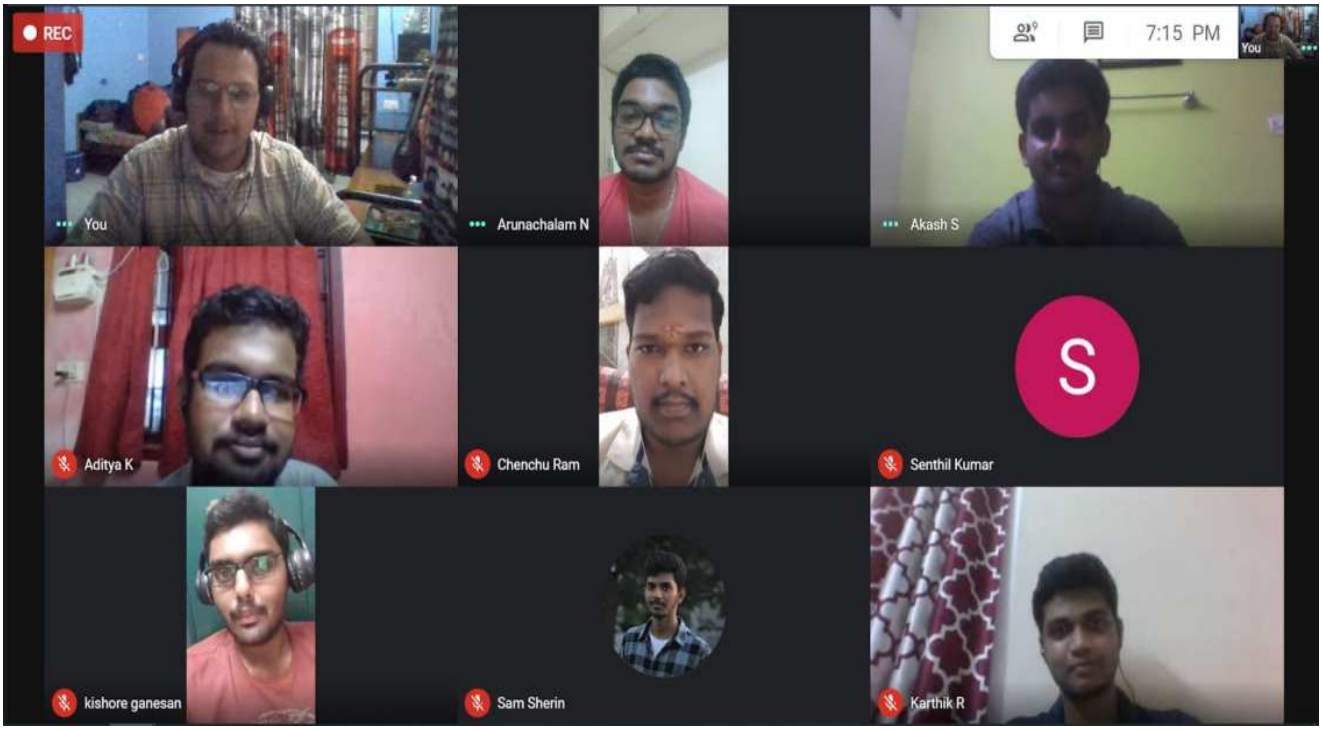
LINKEDUP REPORT – OCTOBER 2020

Coordinators list:

Kalidass S – III Year
Kevin Thomas – III Year
Venkatesan K – III Year
Gundepudi V Surya Sashank – III Year

Event 3 – Introducing yourself professionally.

On the 8th, 9th and 10th of October, 2020 Linked-Up held its third session, introducing yourself professionally where the students were expected to come prepared about how they would answer the question "Tell me about yourself." in an interview. The aim of this session was to help provide a conducive environment for students to learn the basics of English communication and also receive constructive criticism from their fellow batchmates. Nearly all sessions started off with a welcome note from Gundepudi V Surya Sashank and was followed by a description of the event and a request of decorum from the members of the meeting. Sashank then went forward to give an introduction of himself to help give some structure for the speeches that follow.



During the sessions, members started coming forward, speaking about what their achievements during their undergraduate, their skillset, their interests and also went forward to tell the "interviewer" about why they would be an asset for the company. All three sessions had students from different sections and all of them bought amazing ideas to the table. Akshaya. R had given a phenomenal

presentation and nearly all the members were extremely impressed and motivated by her pacing, content, structure and how she tackled the “follow-up” question that was asked to her after her speech.

There were many other students such as Arunraj SK, Murugaraja, Karthick R and Anushka all of whom gave really interesting introductions and received the constructive criticism given to them with open arms. Similarly, we are extremely proud to say that we had our first vocational student in attendance.

Each and every member of all three sessions were extremely interactive and helped their friends who received their advice without any hesitation. The entire session was immensely thought provoking, inspiring and educational for everyone in attendance. The sessions were wrapped up with a thank you note from Sashank. In case you wish to watch the meetings please find them here - Session 1, Session 2, Session 3.

Due to the prevailing pandemic situation and also the increase of workload with respect to practicals, records, assignments and record work, the organizing committee have thought it would be in the best interests of the students to hold only one event for the month of October. Considering the same reasons we will be holding one event in the month of November.

For any kind of feedback please mail: ame@mech.ssn.edu.in.

- Report by
Gundepudi V Surya Sashank

Best Teacher Award in the Department of Mechanical Engineering for academic year 2018-19

Dr. L. Poovazhagan, Assoc.Prof./Mech received the best teacher award (first prize) and Dr. S Suresh kumar (second prize) for the academic year 2018-19 in the Department of Mechanical Engineering during the Teacher’s Day event held on 19th September 2020.

SCI Journal Publications

Publication in Transactions of Nonferrous Metals Society of China, Elsevier

The research work carried out by Dr. S. Suresh Kumar and Mr. S. Dharani Kumar (part time research scholar) has been accepted for publication in Transactions of Nonferrous Metals Society of China, Elsevier. (Clarivate Analytics, Impact factor: 2.615).

Title of the paper: Effect of heat treatment conditions on ballistic behaviour of various zones of friction stir welded magnesium joint

Short description: in this paper, Ballistic behaviour of different zones of post-weld heat treated (PWHT) magnesium alloy (AZ31B) target against 7.62 ×39 mm armour-piercing (AP) projectile with a striking velocity of 430 ± 20 m/s has been determined. Magnesium (AZ31B) welded joints were prepared by using friction stir welding (FSW) process and they were subjected to different heat treatment conditions. The microhardness of non-heat treated and heat treated FSW joints were also investigated. High velocity ballistic experiments were conducted at GFSL (Gujarat Forensic Sciences Laboratory) Ahmedabad. The test set up is as shown in fig.1.

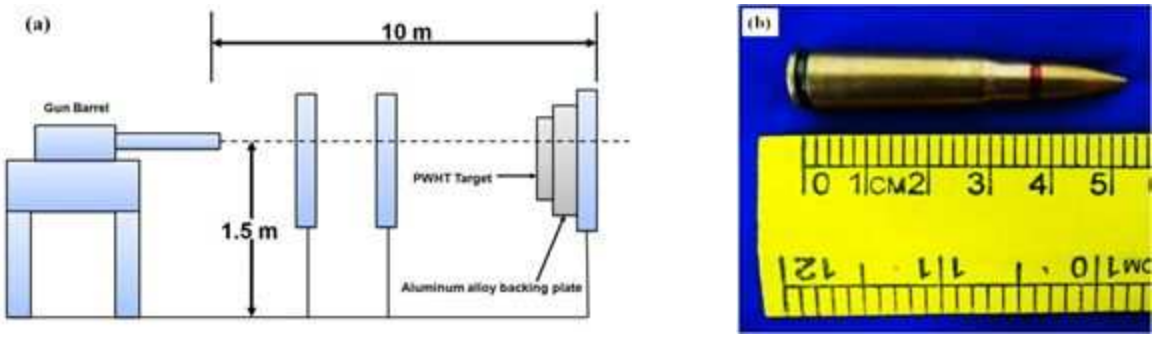
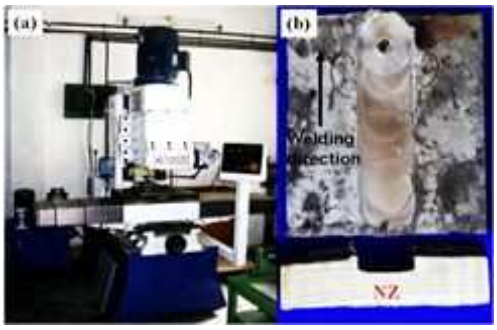


Fig1 (a) ballistic test setup (b) Projectile dimensions

The results indicated that PWHT (250°C– 1 hr) has improved the microhardness of heat treated FSW joints. The ballistic behaviour of PWHT zones was estimated by measuring the depth of penetration (DOP) of the projectile. Lower DOP value was observed for the base metal zone (BMZ) of a heat-treated welded joint. Post ballistic SEM examinations at the cross-section of all three zones of crater region showed the formation of adiabatic shear band (ASB)

Publication in Emerging Materials Research

The research work carried out by Dr. S. Suresh Kumar and Mr. S. Dharani Kumar (part time research scholar) has been accepted for publication in Emerging Materials Research, ICE Publishing. (Clarivate Analytics), Impact factor: 0.413.



Title of the paper: Numerical and Experimental Ballistic Performance of Welded Magnesium (AZ31B) Targets

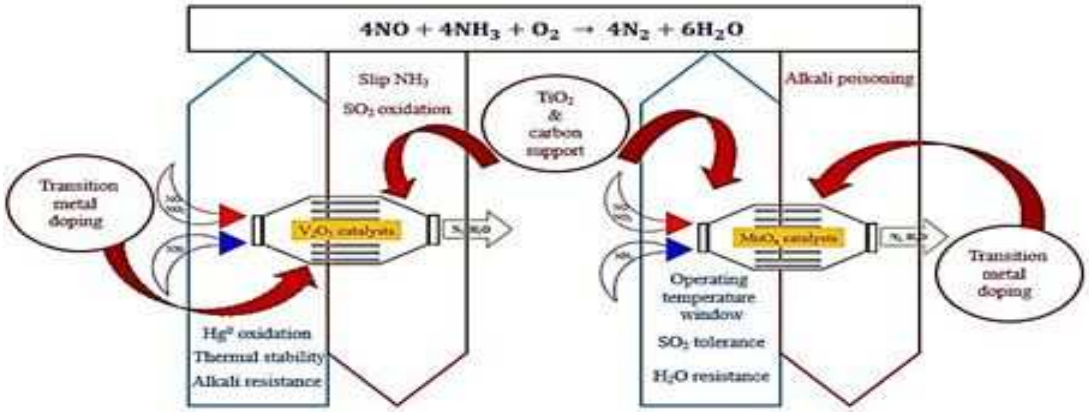
Short description: In this article, mechanical properties and ballistic performance of friction-stir- welded magnesium alloy (AZ31B) have been studied using numerical and experimental techniques. The details of FSW set up is shown in fig. Tensile test properties and microhardness of the weldment have been determined as per the ASTM E08 and E384-05 standards. Tensile properties and microhardness of the weldments were observed to be lesser than the Base Metal (BM).

The ballistic impact performance of Mg weldment and BM were analysed using numerical code and validated by ballistic experiments. Armour-Piercing Projectile (APP) of 7.62 mm with an initial projectile velocity of 456 ± 10 m/s was considered for both the studies. Primarily, numerical analysis was performed using ABAQUS 6.14 finite element software with Johnson-Cook failure criterion. For each ballistic impact test, the residual velocity of the projectile was measured. To validate the numerical observations, ballistic experiments were conducted as per the National Institute of Justice (NIJ) standard. The experimental residual velocity of each target was estimated using the Recht-Ipson analytical model. It was found that the ballistic performance of weldments is inferior (26%) when compared to BM target. A good correlation of residual velocity was noted for the numerical and experimental methods.

SCI Publication in Catalysis Science & Technology with Impact factor: 5.721

S. Raja (PhD Scholar), Alphin. M S and S. L, Catal. Sci. Technol., 2020, DOI: 10.1039/D0CY01348J.

This article reviews the promotional effects of transition metal modification over TiO2 and carbon supported V2O5 and MnOx based SCR catalysts for the reduction of harmful NOx emissions from automobiles and coal fired power plants. The modification over the V2O5 and MnOx based SCR catalysts has been discussed in different aspects like increasing thermal stability, oxidizing slip ammonia, reducing SO2 oxidation, improving Hg0 oxidation efficiency, enhancing N2 selectivity and expanding operation temperature window. The catalysts are also categorized based on the modified materials as transition metals, rare earth metals, noble metals and others.



Monthly Activities and Journal Publications in October 2020

Dr.L.Poovazhagan, Assoc.Prof./Mech., delivered a keynote lecture at the AICTE sponsored FDP organized by the IFET college of engineering, Villupuram on the topic of nano material in Industry 4.0 (Date: 08.09.2020).

Dr.L.Poovazhagan, Assoc.Prof./Mech., invited as a session chair for the virtual International Conference (EDMMT 2020) organized by B.S.Abdul Rahman University, Chennai (Date: 24.09.2020)

Dr.L.Poovazhagan, Assoc.Prof./Mech., received the best teacher award (first prize) for the academic year 2018-19.

Dr.L.Poovazhagan, Assoc.Prof./Mech., published a research article titled "Experimental investigations of electrochemical micromachining of nickel aluminum bronze alloy" in Materials and Manufacturing Processes Journal.

Dr.L.Poovazhagan, Assoc.Prof./Mech., published a research article titled "Wire-Cut Electric Discharge Machining on Nickel–Aluminium–Bronze Using Brass Wire Electrode" in Lecture notes in mechanical engineering Journal.

Dr.L.Poovazhagan, Assoc.Prof./Mech., published a research article titled "Friction and Wear Study of Laser Surface Textured Ti-6Al-4V Against Cast Iron and Stainless Steel Using Pin-on-Disc Tribometer" in Lecture notes in mechanical engineering Journal.

Dr. D .Ananthapadmanaban, Associate Professor, has been invited as a reviewer for the 10th Spring World Congress on Engineering and Technology to be held in Xian, China during April,2021.

Dr. D. Ananthapadmanaban has been elected as Fellow and Life member, Indian Manufacturing and Quality Engineers

Dr. S. Vijayan, Associate Professor, Mechanical Department as the Principal Investigator , Dr I.Jayakaran Amalraj, Associate Professor, Mathematics Department , and G.Satheesh kumar Associate Professor, Mechanical Department and as the Co-Investigator has submitted a Funded project entitled " Tribal syndicate: One stop solution for Tribal community" to Division :SEED, Programme Scheme : STI Hub for ST Community,

Dr. K.S. Vijay Sekar, Associate Professor successfully completed a course titled "Be Your Best Creative Self " on Coursera, delivered by Prof. David Underwood, University of Colorado Boulder.

Dr. K.S. Vijay Sekar, Associate Professor, participated in the AICTE Sponsored One Week Online Short Term Training Programme (STTP) on "Recent Advances in Materials and Manufacturing - RAMM2020" , conducted between 5th and 10th October, 2020, by GVPCE, Affiliated to JNTU Kakinada

Dr. K.S. Vijay Sekar, Associate Professor, attended a webinar on "Prestigious titles of Elsevier for SSN" delivered by Mr Dhruv Khurana, Elsevier on 7th October 2020.The program was attended by Dr.V. Rajini, Professor, EEE as part of the NIRF Team and arranged by Dr. Sethuraman, Librarian, SSN.

Dr.L.Poovazhagan, Assoc.Prof./Mech., convened the confirmation DC meeting for his full scholar Mr.K.Gowtham on 19.10.2020 through ZOOM online platform.

Dr.L.Poovazhagan, Assoc.Prof./Mech., convened the synopsis DC meeting for his full scholar Mr.P.Sarangapani on 17.10.2020 through ZOOM online platform.

Dr.L.Poovazhagan, Assoc.Prof./Mech., delivered a webinar talk on the topic of "Sustainable Manufacturing Systems" for Mechanical Engineering students of Rajalakshmi Institute of Technology.

Dr. N. Lakshmi Narasimhan, Associate Prof/Mech, Organized a Webinar jointly with WhiteBlue Cloud Services (Hyderabad) on "Cloud Computing", as part of the activities of the Institution of Engineers India Chapter of the Dept. of Mechanical Engineering, on 22.10.2020 at 2 p.m. Mr. Sekhar Muthaluru Senior Architect, WhiteBlue was the invited speaker.

Dr. N. Lakshmi Narasimhan, Associate Prof/Mech conducted the DC-Confirmation meeting of his Ph.D. (Full Time) Research Scholar, Mr. T. Amalesh on 16.10.2020 at 11 a.m. The DC meeting was held online as per the guidelines of the CFR, Anna University. The scholar gave his confirmation seminar talk on the same day at 8.30 a.m.

Dr. R. Vimal Samsingh of Department mechanical engineering presented a paper titled "Python implementation of fuzzy logic for artificial intelligence modelling and analysis of important parameters in drilling of hybrid fiber composite (HFC)" along with Final Year UG Students - Achyuth Ramachandran, Anirudh Selvam and Karthick Subramanian in the First Virtual International Conference on Robotics, Intelligent Automation and Control Technologies - (RIACT 2020) conducted by Vellore Institute of Technology

Dr. Satheesh Kumar Gopal and Dr. S. Vijayan as Co-PIs along with Dr. Vijayalakshmi (PI), ECE and Dr. T. Nagarajan (Co-PI), IT submitted a proposal on “Speech and Gesture enabled Robotic arm for Wheelchair” towards AWS scheme for a budget of USD 17,525 on 11.10.2020

Dr. R. Vimal Samsingh , Associate professor at the Department of Mechanical Engineering completed 5 Day Faculty Development Programme conducted by AICTE on the Title "AICTE Incorporating Universal Human Values in Education(UHV-SI) "

Dr. K.S. Vijay Sekar, Associate Professor, presented the papers titled " Experimental Investigations and Finite Element Analysis of Milling of Inconel 718 Alloy" at the International Conference on Applications in Computational Engineering & Sciences (Icon ACES 2020) on 30th & 31st October 2020, organized by the School of Mechanical Engineering VIT Chennai.The coauthors are Akhil C. Kuriakose , Balakrishnan R , Harshvardhan (UG students)

Dr. K.S. Vijay Sekar, Associate Professor, presented the paper titled " Finite Element Analysis of the slot milling of Carbon Fiber Reinforced Polymer composites " at the International Conference on Applications in Computational Engineering & Sciences (Icon ACES 2020) on 30th & 31st October 2020, organized by the School of Mechanical Engineering VIT Chennai.The coauthor is C.Prakash (PhD completed student)

Dr. K.S. Vijay Sekar, Associate Professor, presented the paper titled " Finite Element Analysis of the Drilling of Glass Fiber Reinforced Polymer Material " at the International Conference on Applications in Computational Engineering & Sciences (Icon ACES 2020) on 30th & 31st October 2020, organized by the School of Mechanical Engineering VIT Chennai.The coauthor is C.Prakash (PhD completed student)

Dr. K.S. Vijay Sekar, Associate Professor, presented the paper titled" Impact of Cutting Parameters on Machining of Ti-6Al-4V Alloy: An Experimental and FEM Approach ", at the International Conference on Applications in Computational Engineering & Sciences (Icon ACES 2020) on 30th & 31st October 2020, organized by the School of Mechanical Engineering VIT Chennai. The coauthors are K. Gobivel and G. Prabhakaran.

Dr. C. Arun Prakash, Assistant Prof, Paper titled PERFORMANCE STUDY OF A SOLAR GREENHOUSE DRYER by U. Yokeshwaraperumal, A. S. Ramana, C. Arun Prakash, and V. Kannan was published in AIP Conference Proceedings Vol.2161, Issue 1.

Dr. A S Ramana's student Chemmal Swami Durai C, ME (Final Year -Energy Engineering) under the guidance of Dr. A S Ramana, Asso. Prof. with assistance of Mr. Faris Ahmed AICTE NDF Research Scholar, project titled "Experimental Analysis of Energy Recovery ventilator combined with UVGI for IAQ Enhancement" sanctioned for a financial funding of Rs.50,000/- on 29th Oct 2020 under ISHRAE –PG student Research Project Grant.
Dr. M S Alphin served a Session Chair for International Conference IConACES 2020 at Vellore Institute of Technology Chennai campus held on 30 Oct 2020
Dr. Alphin MS, served as a Doctoral committee external member for a PhD scholar Synopsis presentation at VIT Vellore
Dr. M. Nalla Mohamed organized a guest lecture for third year mechanical engineering students on 5th October 2020.The speaker was Dr.Balakrishnan, Secretary, Indian Institute of Production Engineers, Chennai Chapter and General Manager, G.M Pens. near Kelambakkam
Dr. M. Nalla Mohamed organized a guest lecture for final year mechanical engineering students on 28th October 2020. The speaker was Dr.Margam Chandrasekar ,Director, Wise Consultants and Services, chennai
Dr .K. S. Vijay Sekar, Associate Professor, presented a paper titled" Experimental investigations on the drilling of titanium metal matrix composite" in the International Conference on Applications in Computational Engineering and Sciences (IConACES2020) organised by the School of Mechanical Engineering, VIT Chennai on 30th and 31st October 2020. The Coauthors are Arun Rajesh M, Bala Kumar SS and Ashok R (UG Students).
Dr. M S Alphin research paper, Promotional effects of modified TiO2 and Carbon supported V2O5 and MnOx based Catalysts for selective catalytic reduction of NOx: A Review is published in Catal. Sci. Technol., 2020 . (Impact factor: 5.721) . https://doi.org/10.1039/D0CY01348J, Co Authors: S Raja and Sivachandiran L
Dr. R. Vimal Samsingh delivered a Guest Lecture on the Topic 'Artificial Intelligence for Sensor based Systems' in the event "AIMBIGATHON 2.0" conducted by the Computer Science department of Sairam Institute of Technology - Chennai
Dr. K. Jayakumar, Associate Professor has attended one day Webinar on "Automated Robotic Welding and Applications" Organized by IWS and PSG College of Technology, Coimbatore on 30th October 2020.
The research work carried out by Dr. S. Suresh Kumar and Mr. S. Dharani Kumar (part time research scholar) has been accepted for publication in Transactions of Nonferrous Metals Society of China, Elsevier. (Clarivate Analytics, Impact factor: 2.615).
The research work carried out by Dr. S. Suresh Kumar and Mr. S. Dharani Kumar (part time research scholar) has been accepted for publication in Emerging Materials Research, ICE Publishing. (Clarivate Analytics), Impact factor: 0.413.
Dr. S. Suresh Kumar has delivered an invited lecture titled "Mechanical Engineering Failure Analysis" for the SAE India Collegiate Club of PA College of Engineering, Pollachi. On October 19, 2020,
Dr. Satheesh Kumar Gopal delivered a lecture on Kinematics and DH representation of Robotic Manipulators on Centre for Automation and Robotics (ANRO) for Hindustan Institute of Technology and Science, Padur on 5th October 2020
Dr. Satheesh Kumar Gopal chaired a session at the First Virtual International Conference on Robotics, Intelligent Automation and Control Technologies, VIT Chennai on 3rd October 2020

Faculty Write up

Report on NPTEL Courses Registered by Students

We, in our Department, are very happy to note that around 60 students have completed NPTEL courses in the last academic year 2019-2020. Our NPTEL monitoring team from the Department headed by our HoD, Dr.Nallusamy and comprising Dr.Ananthapadmanaban, Dr. S. Sureshkumar and Dr. A. S. Ramana has been monitoring the completed courses and has submitted all documents to the Controller of Examinations. The results of the courses have also been published.

This academic year, registration for courses was delayed to September,2020. A meeting was held among the committee members and the list of approved courses in the Professional Core and Open elective categories have been sent to the present 2nd year and 3rd year students well in advance. Registration for the course is now complete and around 145 students have registered for NPTEL courses this year. We are now in the process of short listing the courses which have been approved by the Department. These approved courses can be substituted for 8th semester elective.

- Dr. D. Ananthapadmanaban

Completed Coursera - Courses

NAGARAJAN S, Lab Instructor, Department of Mechanical Engineering

1. Digital Manufacturing and Design Technology Specialisation
2. Excel Skills for Business Essentials
3. Write Professional Emails in English
4. Critical Thinking Skills for University Success
5. Problem Solving Skills for University Success
6. Autodesk Certified Professional - AutoCAD for Design and Drafting Exam Prep

Alison – Courses

1. Diesel Engine Cycles Maintenance & Control
2. Diploma in Food Safety - Revised 2017
3. Introduction to Hydroelectric Power plants

4. Wind Energy - From Wind Turbine to Grid Integration
5. Advanced Diploma in Heat Exchangers - Fundamentals and Design Analysis
6. Diploma in Solar Photovoltaic - Principles Technologies & Materials

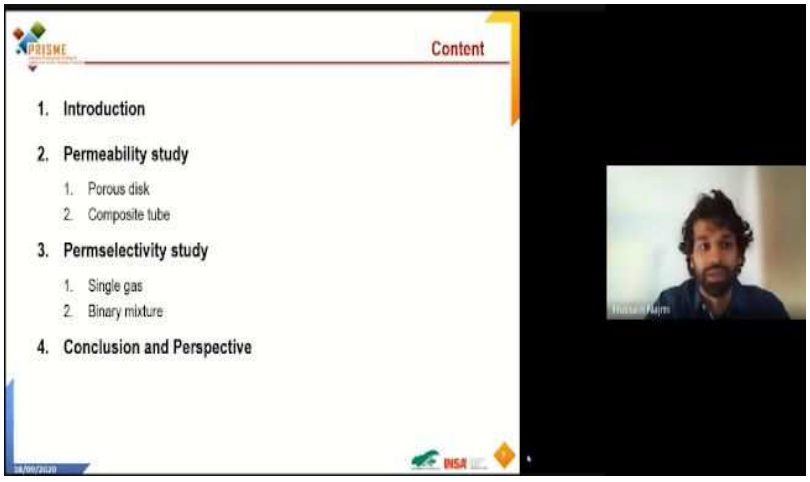
International Webinar Series - Dr. K L Hari Krishna and Dr. Vimal Samsingh R

The Department of Mechanical Engineering of SSN College of Engineering organized three webinars on 19th and 20th September 2020.The webinar series received a warm response from participants across colleges of Tamil Nadu. Over 450 participants benefited from the Webinar Series. The details of the session are as follows

WEBINAR 1: SELECTIVITY OF POROUS COMPOSITE FOR FUEL CELL IN AEROSPACE APPLICATIONS

Dr.Hussain Najmi, Research Engineer – ISAE ENSMA, France delivered the session on 19th September 2020 which witnessed about 100 participants participating in the session .The session commenced by welcoming Dr.Hussain Najmi followed by a brief introduction about the speaker. The session started with the speaker stressing on the importance of controlling emission in aircraft with increase in air Traffic. In recent days, the aircraft industry is looking to use fuel cells in aircrafts which can be used as a source of local energy production.

He also pointed out that Solid Oxide fuel cells have emerged as a suitable candidate to be considered in Scramjet and Space shuttle. He threw light on how ceramic matrix composites are being used for this application and indicated the importance of permeability and permselectivity study to be performed on composite tubes of fuel cells to make it more efficient for air craft industry. The speaker concluded by thanking the organization for giving him an opportunity to speak about his research and he answered a couple of questions from the participants.



WEBINAR 2: ETHICAL LEADERSHIP

Dr. David Zettel, Adjunct Professor at Mount Mary University, Wisconsin, USA delivered the session on ethical leadership from 8.30 am IST on 20th September 2020. Almost 252 participants participated in the session. The session started with a warm welcome address followed by a brief introduction about the Speaker . Dr. David spoke about the significance of leadership in the 21st century and how certain leaders stood apart in world history by citing examples of Abraham Lincoln, Mahatma Gandhi and Nelson Mandela. He spoke on how they were able to inspire millions of people without compromising on their sense of moral values. This unique trait made them evolve as a universally accepted ethical leader.

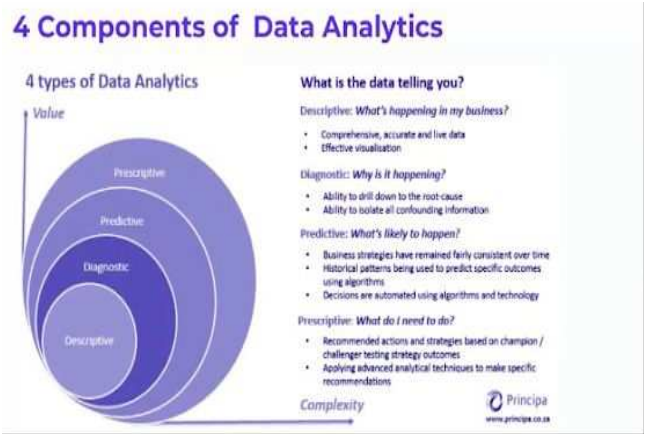
He spoke about cardinal virtues of a moral soul: Courage, Temperance, Justice and wisdom that are essential for someone to develop as an ethical leader. These are characters exhibited by ethical leaders and he quoted the Thirukural 'Not to hurt those who have caused harm before'. He concluded by proclaiming the importance of these virtues on oneself to mature into an ethical leader. The session ended with Dr. David interacting with participants and taking questions from them.

WEBINAR 3: SKILLS ON DATA ANALYTICS FOR A MODERN DAY ENGINEER

Mr.Umesh Ramakrishnan working as Data Analyst Lead with Traveloke, Pte ltd from Singapore delivered the session on the evening of 20th September. The session was attended by 115 participants. The session started by greeting the speaker followed by a brief introduction about the speaker. The speaker started by making participants understand about Data and Data Analytics. He explained how data is being processed and the areas where data is applied. He spoke about the 4 components of Data Analytics and how predictive modelling is gaining significance with use cases. He also pointed out that Industry 4.0 emphasizes on the employment of Data Analytics in the field of Manufacturing Industry and also in Autonomous vehicles.

He threw light on various career opportunities available across the world in the field of Data Analytics and explained to the participant with a flowchart on how to start and progress in the field of data analytics by acquiring various skill sets. He also pointed out that it is always not necessary to become a full time data analyst and indicated that many process engineers employ these skills to play a significant role in their domain especially in the field of Mechanical and Chemical engineering. The

program concluded with speaker interacting with the participants by taking questions and addressing each one of them patiently.



Guest lecture delivered by faculty - October 19, 2020.

On October 19, 2020, Dr. S. Suresh Kumar delivered an invited lecture titled *"Mechanical Engineering Failure Analysis"* for the SAE India Collegiate Club of PA College of Engineering, Pollachi. The lecture was arranged by the department of Mechanical Engineering. Around 70 final year students attended the webinar. The lecture mainly covered the fundamentals of various failure modes, case studies and failure investigations in the field of aerospace and automobile areas. The certificate of appreciation is given below.

- Dr. S. Suresh Kumar

-

Learning on the course "Be Your Best Creative Self " on Coursera

I had the opportunity to learn this creative course delivered by Prof. David Underwood, University of Colorado Boulder and would like to share some salient points of the course for the benefit of the readers. I learnt that Creativity is a practice, not a gift, Everything you create matters, Fix problems, not blame, Reputations are based on successful collaborations, Be good, but be easy, Take criticism like a professional, Opinions and principles are two different things, Know when to take a stand, Be a teacher, not a gatekeeper, Never stop growing and Stay playful. I also learnt that Procrastination is growth's arch-rival, Without familiarizing yourself with the bigger picture, it's likely you'll encounter similar problems again, There's nothing quite like joy-riding, and it has its place. A better use of time and fuel, though, is to have a destination in mind. You'll see just as many interesting things along the way, The next time you commit to teaching yourself something new, write up a short syllabus as well. Having a plan never hurts. Seeing a hard copy of that plan is even better. There's almost always a little pain involved with true growth. Overcoming fear is uncomfortable for most of us

at first, but we'll almost always look back later and wonder what all the fuss was about. Growth flattens fear. We take notes in class. Why not do the same when we're learning on our own? There's a very good chance that, in the process of documenting your progress, you'll unveil new directions for exploration. Be certain to write these down as well. A lot of marathoners train with a friend. The buddy system, which strikes a fine balance between moral support and guilt-tripping, can get them out of bed for an early-morning training run when nothing else works. If you're finding it difficult to move ahead on your own, look for a partner to help you with motivation and mutual cheerleading.

- Dr. K.S. Vijay Sekar

Attended a AICTE Sponsored One Week Online Short Term Training Programme (STTP) on "Recent Advances in Materials and Manufacturing - RAMM2020", conducted between 5th and 10th October, 2020, by GVPCE, Affiliated to JNTU Kakinada.

The primary aim of the course was to discuss threadbare the modelling and simulation of a wide variety of manufacturing processes - both at the molecular level as well at the macroscopic level, from machining to casting to welding to forging and provide the attendee with hands on experience on various software's. In particular Dr. M P Gururajan, IIT Bombay gave a demo on Octave software. Dr. Gaurav Manik, IIT Roorkee discussed on the Modeling and molecular Simulations of high specific strength hybrid polymer composites, while Dr. Mamilla Ravi Sankar, IIT Tirupathi, discussed the fundamentals of Empirical Modeling of Manufacturing Process and stressed on the need to model Abrasive Based Nano finishing processes. In a reply to my question on getting quality articles published in marquee journals, he replied that Journals look for creativity on one end and in depth explanation of results on the other end for a balanced paper. Dr. S. Savithri, Chief Scientist & Head, Materials Science & Technology, NIIST, CSIR, Trivandrum, extensively delved on her experiences with Casting Process Simulation for defect Predictions, mentioning in her reply to my question on difficulties in making the Industry warm up to modelling and simulations, that one can convince the client provided we are backed by our rehearsals and bring to the table something novel and acceptable. The 6 day event was an eye opener for me in how to collaborate and organize an event of this scale bringing together affluent minds from top notch institutes such as IIT/ NIT/ BITS along with R&D'S such as CSIR and Industry such as DHIO. The knowledge disseminated was both fundamental as well as in-depth and provided a nice blend of theory and practice.


GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING
(Autonomous)
Approved by AICTE, New Delhi and Affiliated to JNTU-Kakinada
Re-accredited by NAAC with "A" Grade with CGPA of 3.47/4.00
Madhurawada, Visakhapatnam - 530048

AICTE Sponsored One Week Online Short Term Training Program (STTP)
on
Recent Advances in Materials and Manufacturing: Part III
(RAMM 2020:3)

PARTICIPATION CERTIFICATE

This is to certify Dr./Mr./Ms. VIJAY SEKAR KS, Asso.Professor of Sri Sivasubramaniya Nadar College of Engineering has actively participated in AICTE sponsored One Week Online Short Term Training Program on "Recent Advances in Materials and Manufacturing: Part III" conducted by the Department of

Dr. K.S. Vijay Sekar

Department guest lectures organized

We jointly organized a series of guest lectures for third year and final year mechanical engineering students:

5th October, 2020: The speaker was Dr. Balakrishnan, Secretary, Indian Institute of Production Engineers, Chennai Chapter and General Manager, G.M Pens near Kelambakkam.

Dr. Balakrishnan, who has more than 25 years of Industrial experience, gave a talk on Manufacturing 4.0. He talked about the evolution of manufacturing over the years and the present scenario, where Manufacturing 4.0 is the reality. The concepts of Cobots, Exoskeleton, different types of sensors and an actual scenario where Manufacturing 4.0 is being used were explained in great detail. Videos were shown at the end of the lecture explaining difficult concepts.

The organizers and the Management, SSN thank Dr.Balakrishnan profusely for having accepted our invitation during these COVID times and giving valuable insights into Manufacturing 4.0. We also intend to use the services of Dr.Balakrishnan in our Faculty Development programs in future.

28th October, 2020**:** The topic was commercialization of research with ISO standards. The speaker, Dr.Margam Chandrasekar, Director, Wise Consultants and Services started with the types of standards. He touched upon problems faced during commercialization and talked about the different stages of risk. Dr.Chandrasekar stressed upon the needs of standards and their benefits. He talked about the major causes of recall in products. The speaker explained ISO 9000,9001,27001 and 50001 as also ISO 14000 standards.

We, at the Department of Mechanical Engineering value our association with Dr.Chandra and appreciate his dynamism for giving a guest lecture using MS-teams, even during these COVID times.

- *Dr.M.Nalla Mohamed and Dr.Ananthapadmanaban*

Session Chair for International Conference IConACES 2020 at VIT

Dr. M S Alphin served a Session Chair for International Conference IConACES 2020 at Vellore Institute of Technology Chennai campus held on 30 Oct 2020.

Student write-up

VIRTUAL RECRUITMENT

I am M. Sriram, a 4th year mechanical engineering student. I was recently offered a job at TCS Digital and would like to share my experience about their placement process.

The placement process comprised of two rounds:

1. WRITTEN ROUND

This round consisted of two parts, PART A and PART B.

PART A consisted of verbal, logical, quants and reasoning questions. All the quants questions were based on the concepts found in the Agarwal book and logical reasoning questions were easy. The only place where I faced some difficulties was in the verbal section. Verbal questions were easy, but the time given was less and a lot of comprehension type questions were asked. PART B consisted of coding. Coding was based on simple concepts and they can be found in CodeVita. So, if you prepare from CodeVita, then you can easily clear this round. They didn't have any specific coding language. Therefore, you can code in your strongest language.

Scores from both the rounds were combined and top candidates were shortlisted.

2. INTERVIEW ROUND

This round had 3 sub-rounds: Technical, Managerial and HR. This round lasted for 50 minutes.

a. Technical panel

In this round, questions from coding and core concepts were asked. They also asked questions from my projects.

b. Managerial panel

Questions from my resume and general questions were asked. This round was to know more about me.

c. HR panel

They asked questions that would tell your character to them. They will test if you will accept their company rules or not. Only thing here is to be confident and try to be yourself.

My personal advice for the written test is: prepare from Agarwal and Indiabix for quants and verbal questions respectively. For part B, study concepts from CodeVita. For the technical round, revise the language that you know thoroughly and be strong in the basic concepts. For the managerial round, add all the content you are strong into your resume. Finally, for the HR round, be confident.

I am S Aravind and I would like to share my interview experience at McKinsey & Company. I applied for McKinsey on 10th October. The application involved resume, education qualifications etc. I would suggest students to have a covering letter which will help the recruiter know you better. Make sure it's unique and personal. Spend time on your Resume and covering letter, make sure every word is authentic and justifiable.

McKinsey & Company shortlisted 350+ students for writing the Problem-solving game. It is the new and most advanced test which replaced the previous PST. McKinsey Problem Solving Game, set in an abstracted, natural environment to help you demonstrate problem-solving skills. It had 2 games one was ecosystem building and other was plant defense, a strategic game to protect native plants from invasion. These games are designed to test your problem-solving ability, critical thinking where each and every move is analyzed.

Post the test we had a Pre-placement talk on 14th October. 100 students were shortlisted based on the test. The first round of interviews was scheduled the next day that's 15th October. Slot given to me was at 10:30 AM but I got interviewed by 4:40 PM. So, I would suggest students to keep up good moral and stay high spirited and relaxed. Because in the given 30 min at whatever time of the day, one is expected to perform well. During my wait, there were several candidates entering for the 2nd round of interview but I was yet to give my 1st. In such a situation many people get stressed and will feel some uncertainty but keeping up with that is a part of the interview process. This interview is a general role fit check followed by a guess estimation.

31 students were shortlisted for Day 2 interview on 15th October. I had 3 interviews lined up back to back. The interviews are all about your behavior, and how well you handle a given situation. The case interview is a crucial part and the interviewer doesn't expect the perfect answer, all they want is to understand your approach. So, practice a few case interviews from the McKinsey career, which will help you understand the approach.

On 17th October the final interview took place for the shortlisted 9 candidates. At the end of the day I got selected and was given an offer.

My personal advice would be to be yourself, don't stress too much and go through the career website of McKinsey thoroughly. Sometimes you may get things wrong in the interview that's ok, handle that mistake properly and try to round it up to a stable situation. I made mistakes in my case interview but the interviewer helped me understand the mistake and I got back on track. Listen to the interviewer carefully, think that they are here to help you. Positive intent matters a lot.

Ashwin Ballal, IV-year, writes…

ZoomRx's placement process consisted of 4 rounds, less than previous years, and was conducted online over a period of one to one and a half weeks.

While the other companies usually asked quantitative and aptitude questions, ZoomRx had a much simpler test that focussed on identifying if students could complete simple questions under a time constraint. We had to complete 50 questions in just 12 minutes. While the questions themselves weren't that difficult, it was challenging to complete the test within the given time and those that did only just managed to complete it a few seconds before time.

After this round, 17 students were shortlisted from around 400 that had initially applied and were sent to the Group Discussion round. Here we were split into 3 batches of 5 or 6 people each and were given a topic to discuss. They wanted to test how we approach a problem and if we were able to come up with relevant and significant ideas within a minute. Apart from the approach, they were also looking to test our fluency in language and thoughts and to see how we fared when working with a group.

The 3rd round was a technical interview round and this was the longest round that we had. The interview started off with a few basic questions to get to know you before moving into the technical questions. These were all mathematical questions. They advised us to have a pen and paper ready as we would have to solve these questions on the spot and they gave us the time we needed to solve the questions. However, more than the final answer itself, they were once again interested in the approach to the problem as they looked to test your understanding of the question and whether or not you were able to systematically come to a conclusion within the short period of time. The interviewer was very friendly through the entire technical interview and as long as you voiced out your approach and thought process, they seemed content with the answers and even nudged us in the right direction sometimes in case of any silly errors. This round lasted about an hour for me with 5 questions and definitely was the most grueling as it was quite literally a pressure test to solve the problems with the interviewer on the other side.

The final round was more of a general interview where they asked about our resumes and wanted to identify our short term and long-term goals. The interviewers varied for everyone and the interviewer that I had was very direct and looked to put me on the spot with some of his questions. They clearly were trying to see how I would react when put on the spot and I found that responding honestly and frankly helped me answer his questions. On top of this, they also asked us if we were interested in pursuing higher studies as well. They were very open about this subject and said that they encourage people to pursue their higher studies if need be and that they just wanted to know that if we were willing to work for a period of one to two years before that, how impactful would we be in their environment. All in all, it was a very open interview that felt like a conversation more than a question and answer session and this round took about 40 to 45 minutes.

All in all, the process is quite different when compared to the other companies in terms of the way they carried out the discussion and interviews and it was certainly an interesting experience. As long

as you were clear in your thoughts and could voice them out systematically, the discussions and interviews were manageable and you would be able to do well. Do make sure that you do not panic as well as they do try to see how you react under pressure and staying calm and composed will certainly give you a better chance. Hope this helped and all the best!

Divyadarshan GM, IV-year, writes…

Hey cricket enthusiasts! Check out my engrossing article published in this renowned sports blog.

Why Sam Curran opened the batting against SRH: IPL 2020 – Data Analysis -

https://totalcricketanalysis.com/analysis/data-analysis/why-sam-curran-opened-the-batting-against-srh-ipl-2020-data-analysis

Sai Charen V, III-year, writes…

A DELIGHTFUL JOURNEY WITH MATHEMATICS THROUGH MACHINE LEARNING

As we move on to the next level of industrialization, we as engineering students need to update ourselves with the rising importance of AI, IOT, Cloud Computing and Machine Learning. Coursera was an excellent platform provided by SSN to equip ourselves with competitive skills through various courses. Well then, I found that the course - Mathematics in Machine Learning was bound with 3 other courses: Linear algebra, Multivariate Calculus, and Principal component analysis. Since I always had an inclination towards mathematics, I gave it a start.

Starting off with linear algebra, this topic nailed the basics of vectors, matrices, eigenvalues and eigenvectors which were then implemented into python coding. With this, my knowledge on the basics of vectors and matrices gained more precision. Then came the most interesting part of Mathematics which is Multivariate Calculus. Here learning the basis of calculus was challenging which were then implemented in the form of graphs and charts with coding in python. This part gave a clear idea of how statistics of Big data analysis is done. The most important feature of this course is the PCA (Principal component analysis) where dimensionality reduction and data compression are done. This part deals with statistics of data, means and variances which were then later used to compute the data covariance matrix. This helped in dimensionality reduction and data compression with the help of coding.

Though these topics were more challenging, learning them was very exciting and interesting as well. I would personally recommend learning these courses not for the sake of getting a certificate but to gain more knowledge. This is very useful for getting into the field of data analytics if interest lies in the field of mathematics.

Mech Marvel - 71

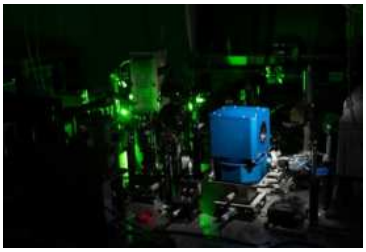
Superconductivity at room temperature

Since its discovery more than a century ago, superconductivity has come to play a powerful role in many modern day technologies, such as maglev trains and MRI scans, but its utility has been limited by the need for extremely cool operating temperatures. Scientists are now claiming a big breakthrough in this area, creating what they say is the first material capable of superconductivity at room temperature.

The work was led by Ranga Dias at the University of Rochester, and aims to overcome one of the major roadblocks in expanding the uses of superconductive materials. These materials exhibit no electrical resistance and expel a magnetic field, but because they typically only function at temperatures below -140 °C (-220 °F), they require expensive equipment to maintain.

“To have a high temperature superconductor, you want stronger bonds and light elements,” he says. “Those are the two very basic criteria. Hydrogen is the lightest material, and the hydrogen bond is one of the strongest.”

One downside of this approach is that pure hydrogen can only be converted to a metallic state at extremely high pressures, so the team instead turned to alternative materials that are rich in hydrogen, but maintain the desired superconductive properties and can be metalized at far lower pressures.



The winning formula involves a mix of hydrogen, carbon and sulfur, which was used to synthesize organic-derived carbonaceous sulfur hydride in a high-pressure research device called a diamond anvil cell. This carbonaceous sulfur hydride demonstrated superconductivity at around 58°F (14.5 °C), and at pressures of around 39 million psi.

Some of the applications for this type of material include more efficient power grids that transmit electricity without great losses caused by resistance in today’s wires, more powerful maglev trains or other futuristic transport solutions, and improved medical imaging technologies.

Before any of that happens, however, the team will work to address one problem with the current approach, which is the monumental pressure required to create the material inside the diamond anvil cell. Coming up with a way to produce the superconducting material at far lower pressures will be key to producing it in useful quantities at a reasonable cost, the researchers say. They also note that fine-tuning the makeup of ingredients could allow for superconductivity at even higher temperatures.

Watch this YouTube video of Dias explaining the work, and read their research article in Nature to know more.

Corporate Story 71

Ather Energy

Ather Energy Pvt. Ltd. is an Indian electric vehicle company founded by Tarun Mehta and Swapnil Jain in 2013. It manufactures the electric scooter Ather 450 and the Ather 450X. It has also established the electric vehicle charging infrastructure Ather Grid.

The automobile industry is in the midst of a huge technological disruption. Today, electric is the preferred choice because of its inherent efficiency that will shape urban commute and the cities of tomorrow. In parallel, the world around us is getting connected, enabling integration of devices and making our life experiences seamless. Intelligent vehicles will revolutionize our commute experience in the future. Ather Energy bases itself around this fundamental ideology.

The Ather 450 is constructed using an all-aluminium frame, comes with a 5.4 kW (7.2 BHP) Brushless DC electric motor, and a 2.4 kWh lithium-ion battery pack. The scooter can accelerate to 40 km/h in 3.9 seconds, attain a top speed of 80 km/h, and can travel 75 km on one charge in city-riding conditions.

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Ather has set up its own charging network, dubbed Ather Grid, in Bangalore & Chennai. These DC-fast-charging stations use Ather's proprietary charging method and connector to charge the Ather scooters at a rate of 1 km/min. The charging points are also equipped with a 3-pin socket to supply AC power to other electric vehicles that do not use Ather's connector. Other vehicles can connect to the charging point and start charging using the Ather Grid app for iOS and Android. Ather has plans to set up around 60 points in Bangalore & Chennai, and set up more Ather Grid in other cities as it expands. Ather also sets up a home charging point at customer's homes which will charge the Ather 450 to 80% in 2 hours 40 minutes and to 100% in 4 hours 18 minutes.

Take a peek at their website here to know more, and definitely visit their careers page for possible job openings if you can see yourself in a budding dynamic environment looking to shape the future of transportation.

Amazing Innovation- 179

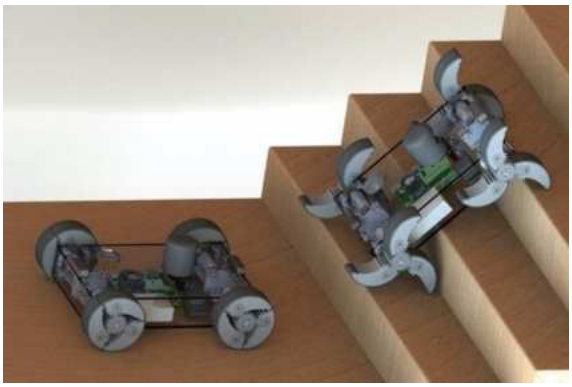
WORLD'S MOST ENERGY EFFICIENT VEHICLE

The student-built railroad car called Eximus IV has taken to the tracks at the annual Delsbo Electric contest for the world's most energy-efficient vehicles, setting yet another record on its way to yet another title. The Eximus team have triumphed in every event they've entered since debuting in 2016, and continued to make small efficiency gains with a new record set every year. This began with a 0.84 watt-hour per person per kilometer effort in 2016, with last year's outing resulting in a record efficiency of 0.603 Wh/person-km. None could quite match it with the Eximus IV, with the reigning champion again outpacing its rivals to post an energy efficiency of 0.517 Wh/person-km. In theory Eximus IV can transport a person nearly halfway around the world using the energy contained in just one liter (0.26 gal) of petrol.

Source:https://newatlas.com/transport/worlds-most-energy-efficient-vehicle-record-eximus-iv

Amazing Innovation- 180

ROBOT WITH WHEELS THAT ARE ALSO LEGS



The α-WaLTR (Wheel-and-Leg Transformable Robot) device is being developed by a team at Texas A&M University as part of DARPA's OFFSET Sprint-5 swarm robotics program. While traversing relatively flat, even terrain, α-WaLTR will roll quickly and efficiently along on four rubber-treaded wheels. Once the robot encounters obstacles such as stairs, rocks or disaster site debris, however, a gearing system within the center of each wheel will cause it to open up into three claw-shaped sections. As each of those claws turns forward, it will grab hold of the uneven terrain, pulling α-WaLTR up and over it. Plans call for the robot to operate autonomously, automatically switching between wheeled and legged modes as determined by onboard sensors and imaging systems. While the current focus is on defense and other military applications, these types of adaptable mobile robots can be applied to many other areas, such as space, domestic service, surveillance and agriculture.

Source: https://newatlas.com/robotics/waltr-robot-wheels-legs/

Alumni Info

ALUMNI INTERACTION SERIES

Ask the experts!
Ep 01: MRF TYRES

11th October, 2020
10:30-11:30 AM

Alumni speakers: (Batch 2020)
Mr. Niranj Kumar
Mr. Rupesh shan
Mr. Gautam Nair

Interaction:
The three speakers shared their placement experience with MRF Tyres Private Limited to the budding placement aspirants of SSN CE.
The different stages of the MRF recruitment process were elucidated. The do's and dont's during the interview along with several other valuable insights were shared.
There was an open question and answer session, the students raised their queries and garnered valuable takeaways on conversing with the alumni.
The students found the session to be informative and add to the current placement season.
The Department of Mechanical engineering and the SSN Alumni Association would like to extend its thanks to the alumni for their time and insights.

Ask the experts!
Ep 02: With Zeal to Zealand

14th October, 2020
11:30 AM-01:30 PM

Alumni speaker: (Batch 2016)
Mr. Akhilnandh Ramesh

Interaction:

Akhilnandh Ramesh gave a talk about his experiences in India and New Zealand. He's currently pursuing his PhD in New Zealand. He got placed in Brakes India during campus placements in 2016. He then went on to pursue his Masters in Engineering Management from New Zealand.

Dr.V.E.Annamalai, Principal also attended this Alumni Interaction. Around 40 students attended the virtual talk. Akhil talked about his college life and why he decided to go for placements in his final year. He then took us on his journey right from college to his decision to pursue Masters in New Zealand. He also talked about New Zealand's market and prospects for students pursuing higher studies there. Finally, he answered all the questions and queries that were posed to him by students.

The Department of Mechanical Engineering and the SSN Alumni Association would like to extend its gratitude to the alumnus for his time.

Mr. Naren M Sundaram

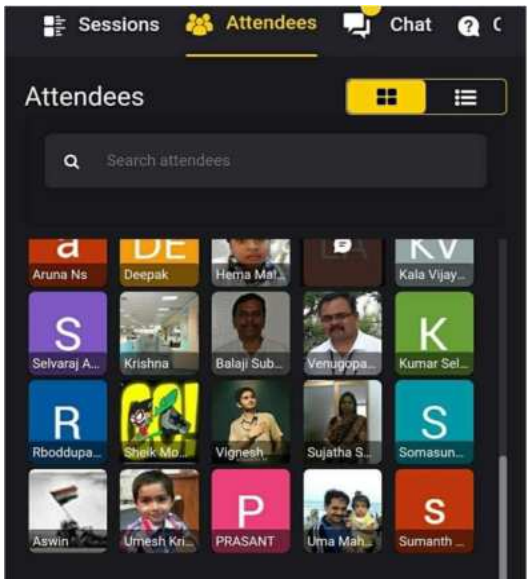
President of SSN Alumni Association writes...

SSN Alumni — BATCH OF 2002–20 YEARS COMPLETION

In January 2020 during our Tribute — our SSN Annual Alumni Meet, SSN Alumni Association was planning to organize the first batch of our SSN Institutions Alumni Meet-up in Campus. We were discussing the details of conducting a meet-up during May month so we could bring more Alumni to campus to stay for a night with their families.

The proposed plan went like this:

- Start gathering the Alumni members of the 2000 batch as we don't have the contacts or email address.
- Start branding about the Alumni meet with a separate agenda for them to live a "Back to Campus" Experience
- SSN International Hostel is an amazing facility for families to stay and we saw it during our Tribute event.
- Conduct a Movie evening in the Theatre for the Alumni
- Conduct a Campfire
- Virtual Meet to connect with the Alumni members who couldn't make to the event in-person
- Provide a Campus walkthrough as the campus grows every single day
- Meet the Department Staff and Non-teaching Staff



What a great plan!!! Nature had different thoughts… But we didn't give up and always had it in our "To-do" List for this year. We wanted to make the 20th Year a special one.

We got to change the plan during COVID and we got the best person in charge Harini Dhanasekar. We have heard only great stories about her organizing capabilities. None of the Students / Alumni Affairs is complete without Sunita Nair Mam guidance and personal connections. She shared the contacts of a few of our seniors and Harini created the WhatsApp group. The Virtual plan started to roll out…

1. Created a Whatsapp group, reached out personally to the Seniors who got connected to know other influencers of the batch
2. Batch of 2000 had 98 members and we got connected to close to 85+ members spread across geographies
3. Did a basic survey to understand the Time Zone / Date, Interest areas. PS: Gulf Members had a challenge to conduct on a Saturday evening as their weekend holiday schedules are different.
4. Reached out to our Retired Dean Dr. Kasturi K Sir, Ms. Kala Mam, Dr. Annamalai Principal Sir to join the event and Staff who continued for the last 20 years with the institutions.
5. We decided to go with AirMeet for the virtual meet planned for an hour. Saranya who introduced us to the AirMeet platform has been a great advocate moving us to the virtual platform as we also got a Tech Support joining in the beginning of the event. So Cool!!! :)
6. Harini collated good old pictures from the 2000 batch mates and pictures from SSN institution during the initial days.
7. Anand helped in getting the videos of the Campus and other college collaterals
8. And we need a compere to manage the virtual meet, Abishek living in Zurich acknowledged to host the event. Big Thanks to him for sparing his Saturday.

Kala Mam shared her experience of starting the campus in the Marriage Hall, calling the first batch as their children and the focus everyone of them had.

Great to see Dr. Kasturi Sir after many years who acknowledged to meet us virtually just to meet the Alumni Members. Sir was sharing his experience of setting up the Labs, class room and every foundation of building a great institution. In the Picture: Saranya, Dr. Kasturi, Dr. Sunita, Dr. Abishek, Ms. Kala Vijayakumar, Dr. Venugopal, Ms. Harini and Gleaming Naren

Dr. Sunita Mam Sharing so much of insights about the Batch of 2000 and literally took us back...She is our SSN Time Machine

Ananth sharing his memories with the group. We had Hema, Lakshmi, Saji, Vijay sharing their experiences as well. Missed to capture their pictures.

Iconic Clock Tower and wonderful virtual campus video shared to the Batch of 2000 during the event

Forthcoming events

Department of Science and Technology (DST)

Announcement for inviting applications for participation in 1st SCO-Young Scientist Conclave Hyderabad, India

Thematic areas are chosen to promote collaborative work in Science, Technology and Innovation (STI) among Member States:

1. Agriculture and food processing
2. Sustainable energy and energy storage
3. Biotechnology and bio-engineering
4. Combating COVID-19 and emerging pandemics through research and innovation
5. Environmental protection and natural resource management

PARTICIPANTS & ELIGIBILITY

Participants from each SCO Nation, 22 participants are expected to participate.

- 15 young scientists – three for each thematic area
- Five Mentors – one for each thematic area
- one Head of Delegation-representative of the STI Ministry
- One liaison officer from each SCO nation

Last date for submission of project proposal: 02-Nov-20

https://dst.gov.in/sites/default/files/SCO%20Young%20Scientist%20Conclave%20Announcement.pdf

Geometric Analysis National Science Foundation

Geometric Analysis-Science and Technology and other Research and Development Mathematical and Physical Sciences

Last date for submission of project proposal: 03-Nov-20

https://www.grants.gov/web/grants/search-grants.html

Topology National Science Foundation

Topology-Science and Technology and other Research and Development Mathematical and Physical Sciences

Last date for submission of project proposal: 03-Nov-20

https://www.grants.gov/web/grants/search-grants.html

Department of BioTechnology (DBT)

India-U.S. Collaborative Vision Research Program Funding Opportunity Announcement-2020 India-U.S. Collaborative Vision Research Program (R01 Clinical Trial Not Allowed) -R01 Research Project Grant (for DBT)

Last date for submission of project proposal: 09-Nov-20

http://dbtindia.gov.in/sites/default/files/Final%20FOA%28DBT%29_September2020.pdf

Department of Science and Technology (DST)

DST Jointly launches Accelerating CCUS Technologies (ACT) Call

Last date for submission of project proposal: 10-Nov-20

https://dst.gov.in/sites/default/files/DST%20Jointly%20Launches%20Accelerating%20CCUS%20Technologies%20%28ACT%29%20Call.pdf

Department of Health and Human Services – Centers for Disease Control and Prevention – ERA Research Grants to Develop or Identify Effective Strategies to Prevent Overdose Involving Illicit Stimulants and Polysubstance Use Involving Stimulants Last date for submission of project proposal: 13-Nov-20 https://www.grants.gov/web/grants/search-grants.html
Department of State U.S. Mission to Indonesia U.S. Ambassadors Fund for Cultural Preservation (AFCP) Last date for submission of project proposal: 15-Nov-20 https://www.grants.gov/web/grants/search-grants.html
Department of Science and Technology (DST) Call for Project Proposals under the Waste Management Technologies Program Last date for submission of project proposal: 15-Nov-20 https://dst.gov.in/sites/default/files/Call%20for%20Proposals%20under%20Waste%20Management%20Technologies%20Program%20of%20DST.pdf
Department of Health and Human Services Health Resources and Services Administration Service Area Competition -Health (Opportunity Zone Benefits) Last date for submission of project proposal: 16-Nov-20 https://www.grants.gov/web/grants/search-grants.html
Department of Health and Human Services Centers for Disease Control and Prevention – ERA Grants to Support New Investigators in Conducting Research Related to Preventing Interpersonal Violence Impacting Children and Youth Last date for submission of project proposal: 19-Nov-20 https://www.grants.gov/web/grants/search-grants.html
Department of the Interior Fish and Wildlife Service Arctic Goose Joint Venture Notice of Funding Opportunity – Fiscal Year 2020 Last date for submission of project proposal: 20-Nov-20 https://www.grants.gov/web/grants/search-grants.html
Department of Science and Technology (DST) Call for proposals – DST NWO joint Indo Dutch call on “Cleaning Ganga and Agri Water” – Call with revised timelines Last date for submission of project proposal: 26-Nov-20 https://dst.gov.in/sites/default/files/DST%20NWO%20joint%20Indo%20Dutch%20call%20on%20Cleaning%20Ganga%20and%20Agri%20Water.pdf

Biotechnology Industry Research Assistance Council (BIRAC) BIRAC SITARE – GANDHIAN YOUNG TECHNOLOGICAL INNOVATION GRAND AWARD SITARE – GYTI Last date for submission of project proposal: 30-Nov-20 https://birac.nic.in/cfp_view.php?id=56&scheme_type=22
Swissnex India & DST Globalstars Call for Proposals An exciting opportunity to submit proposals for joint R&D projects between the Government of India and the EUREKA member countries Austria, Belgium (Flanders Region), Finland, France, the Netherlands, Sweden and Switzerland. This call invites projects within the scope: "Key Enabling Technologies for Healthcare, Agriculture and Water". Last date for submission of project proposal: 30-Nov-20 https://www.swissnexindia.org/upcoming-programs/globalstarscall/
Biotechnology Industry Research Assistance Council (BIRAC) BIRAC ANNOUNCES CALL FOR PROPOSALS UNDER BIPP Last date for submission of project proposal: 30-Nov-20 https://birac.nic.in/cfp_view.php?id=75&scheme_type=1
Biotechnology Industry Research Assistance Council (BIRAC) BIRAC ANNOUNCES CALL FOR PROPOSALS UNDER PACE Last date for submission of project proposal: 30-Nov-20 https://birac.nic.in/cfp_view.php?id=76&scheme_type=3
Biotechnology Industry Research Assistance Council (BIRAC) BIRAC ANNOUNCES CALL FOR PROPOSALS UNDER SBIRI Last date for submission of project proposal: 30-Nov-20 https://birac.nic.in/cfp_view.php?id=45&scheme_type=2

SSN COLLEGE OF ENGINEERING

Rajiv Gandhi Salai (OMR), Off Chennai, Kalavakkam – 603 110, TN

Founded by Dr. Shiv Nadar, Chairman, HCL Technologies Ltd.

Position	Eligibility	Dept.
Professor	Ph. D. with minimum 12 years experience	EEE, ECE, CSE, IT, Mechanical and Civil Engineering
Associate Professor	Ph. D. with minimum 9 years experience	
Asst. Professor*	M.E./M.Tech	
Junior Executive	Any degree with computer knowledge (Regular college)	

*Candidates on the verge of completing Ph.D. can also apply.

The eligible candidates can send applications within 10 days to:

The Administrative Officer
SSN Trust, 211 / 95, V.M. Street, Mylapore, Chennai - 600 004.
Email: recruitments@ssn.edu.in
Phone: 044-2498 6474 / 2746 9700
Web: www.ssn.edu.in

SSN

Faculty Recruitment at SSN

Advertisement for faculty recruitment is released on 28 Oct. 2020 (Refer the Hindu newspaper).

We need a minimum 3 faculty under the Assistant Professor category for Mechanical Engineering.

Dr. Nallusamy N

Inspiring Life Stories

The Pointer

The Zen teacher's dog loved his evening romp with his master. The dog would bound ahead to fetch a stick, then run back, wag his tail, and wait for the next game. On this particular evening, the teacher invited one of his brightest students to join him – a boy so intelligent that he became troubled by the contradictions in spiritual doctrine.

"You must understand," said the teacher, "that words are only guideposts. Never let the words or symbols get in the way of truth. Here, I'll show you."

With that the teacher called his happy dog.

"Fetch me the moon," he said to his dog and pointed to the full moon.

"Where is my dog looking?" asked the teacher of the bright pupil.

"He's looking at your finger."

"Exactly. Don't be like my dog. Don't confuse the pointing finger with the thing that is being pointed at. All our spiritual words are only guideposts. Every man fights his way through other men's words to find his own truth."

Source: https://highexistence.com/7-zen-stories-that-give-you-a-glimpse-of-enlightenment/

Corporate Wisdom 81

From the desk of Ramki — Aspire to Inspire

Happy Morning

We are happy at times. Sometimes we are peaceful, not always. We aspire to be peaceful and happy all the time!

How can we do this?

The secret of life is to make a temporary high, permanent.

People often say " Why me" for all my troubles, then shouldn't they also be asking " why me" for all their blessings. If the focus is on the shadow, then we are missing the sunshine. Either we are seeing the stars or muds. No denying the thorns, but let us not miss the roses. If we start counting our blessings and with that strength we can face our challenges and troubles. In fact, ever since, even troubles seem to be the doors to what eventually turns out to be a blessing. I don't think we can expect somebody to keep on reminding us every time we face a challenge or trouble, "Hey, your life is a blessing".

We do need a force outside of us to cause the realization. But, then it is up to us either let the realization pass by us as a fleeting " Wow!, moment or live an ever since transformed life" based on that realization. Christ and Krishna cannot keep on keeping up with us. Messengers come once, Messages have to live through us always.

- The secret is to make a once-realization, an always realization.
- The secret is to transform the " Start" into an " ever since" moment of life.
- "Once" is life's responsibility. To make it " Always" is human's responsibility.

In my view if we work on this positive mind-set " It is Possible"

#WishingMostAndMore
Have a great wonderful day & great week
R. Ramakrishnan

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