ASPIRE

ACHIEVEMENTS IN SPORTS, PROJECTS, INDUSTRY, RESEARCH AND EDUCATION

MONTHLY NEWSLETTER

DEPARTMENT OF MECHANICAL ENGINEERING

VOLUME - 12 ISSUE - 11 NOVEMBER

SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING

RAJIV GANDHI SALAI (OMR), KALAVAKKAM, CHENNAI, TAMIL NADU, INDIA

FROM THE HOD'S DESK…

It is a pleasure to share with all, the November edition of Aspire!!!

In the Nobel Laureates section, we profile Kajita Takaaki, a Japanese Scientist, who was awarded the 2015 Nobel Prize for his work on the oscillation of neutrinos, which proved that they have mass.

Our students S. Aditya (Mech) and B. Benediction Rohit (Civil) won the silver medals in the roller skating and swimming events at the 2022 National games, Gujarat making us happy and proud. Kudos to the SSN Mech student team, which won the contraption event at Caterpillar. It is heartening to note that two SSN students from the 2021 batch of IT and EEE won gold medals by topping the Anna University exams.

We continue to do well in the placements, with 42 students placed on date, with the recent recruitment done by companies like Wood, Mr. Cooper and Technip. Students share their experiences at placements as well as sporting achievements.

Kudos to UG students and the respective guide for publishing in a journal with an impact factor as high as 6.37, showing how we are moving forward in our research capabilities even at the undergraduate level. Mech team regularly publishes papers in high impact factor journals.

The PG orientation for the 2023 batch of Manufacturing and Energy program students was organized well with a hearty welcome to the students. In an event organized by Elsevier, one could see the implications of NEP as well as the importance of high-quality research publications in augmenting our research strengths as well as moving up in NIRF rankings. Innovation is another key area at SSN, and it was our pleasure to present potential start-up ideas to our SSN incubation foundation.

In the mech marvel section, we see about ALON, a transparent metal combination and learn about super-fast charging technology. In the alumni section, we check out students who have

successfully completed their MBA as well as one student who is now pursuing a career in green energies.

We hope to bring more of our department's activities and achievements in the next issue and wish you a memorable November!!!

Best wishes,

K.S. Vijay Sekar | *vijaysekarks@ssn.edu.in*

KAJITA TAKAAKI

Hailing from Higashi Matsuyama, Japan, the physicist, Kajita Takaaki was awarded the Nobel prize for discovering the oscillations of neutrinos from one flavour to another,(the electron neutrino, muon neutrino, and tau neutrino),along with Canadian Physicist Arthur B. McDonald.

After completing his bachelors in Saitama University in 1981 and receiving a doctorate from the University of Tokyo in 1986 he became a research associate at the International Centre for Elementary Particle Physics at the UT, working on the experiment, Kamiokande-II neutrino.

This experiment is conducted to observe the behaviour of neutrinos with water molecules; hence 30,000 tons of water was required, which was located at the Kamioka mine near Hida. Usually, neutrinos would pass through the tank without an alteration, but on rare occasions a neutrino would collide with a water molecule, creating an electron travelling faster than the speed of light

and generating a Cherenkov Radiation(It is the same radiation that we can observe from an underwater Nuclear Reactor) observed under photomultiplier tubes(extremely sensitive detectors of light in the ultraviolet, visible, and near-infrared ranges of the electromagnetic spectrum).

Kajita became a professor at the Institute for Cosmic Ray Research and director of the Research Centre for Cosmic Neutrinos there in 1999. He became director of the institute in 2008.

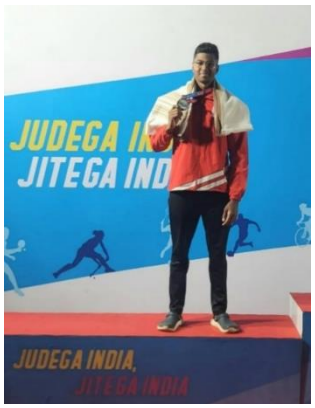
Campus Update

SSN IN NATIONAL GAMES!!!

The National games, which were conducted this year, in Gujarat, have brought laurels and victory to all SSNites. As we all know, SSN is not only the place for academicians but also sports, she started to spread her wings in athletics, games, etc. thereby opening a brand-new opportunity for these young minds.

Aditya.S (III yr Mech) secured the silver medal in the Roller-Skating event in National Games 2022, Gujarat.

He is skating his way through success. Congratulations on topping the national games.



B. Benediction Rohit, from second-year civil Engineering, secured the silver medal in the Swimming competitions (individual event) in the National Games 2022 held in Gujarat.

And a few more students brought medals, weighing them down here. Equipped with trophies and certificates, these young people encourage and motivate their juniors in all possible ways.

A perfect demonstration by them showing sports is a different path to tread on. Congratulations to all the winners. Teachers and friends who are behind this victory. And our principal for appreciating this student and felicitating them with awards and trophies.

CATERPILLAR CONTRAPTION CONTEST.

Caterpillar is the world's leading construction and mining equipment manufacturer of diesel and natural gas engines, industrial gas turbines, and diesel-electric locomotives.

Not only do they focus on delegating in machines and technologies, but also in contests and competitions to motivate college students in various fields, one contest is the Caterpillar Contraption Contest which was conducted on the 14th of October 2022.

In that contest, four 3rd Year Mechanical students won the Caterpillar Contraption Contest, Congratulations to the winners.

From left the Right: Akileshwaran, Magesh, Vijay, and Mathusha.

SSNITES HOLDING STATE RANKS.

SSN students bagged the first rank and Anna university gold medal, Congratulations to Naveen S (B.Tech IT (2017-2021)) and Manaswini (B.E EEE (2017-2021))

Both have received the award from our honorable Prime minister of India, Narendra Modi. Kudos to our seniors who have set goals high.

Department Update

Placement Update -Mech 2023 batch

Total Placement Count: 42

Eight of our Final Year Students got selected in Wood.

Wood is a global leader in consulting and engineering, helping to unlock solutions to critical challenges in energy and materials markets.

Mukesh M got placed in Mr.Cooper .

Mr. Cooper Group (NASDAQ: COOP) provides quality servicing, origination and transaction-based services related principally to single-family residences throughout the United States with operations under its primary brands: Mr. Cooper® and Xome®.

Harihara Sudhan M got placed in Technip Energies.

Technip Energies is a leading Engineering Technology company for the energy transition, with leadership positions in Liquefied Natural Gas (LNG), hydrogen and ethylene as well as growing market positions in blue and green hydrogen, sustainable chemistry, and CO2 management.

International Journal Publication - SCI /Clarivate Indexed

Krishnan, Parthiban, Poovazhagan Lakshmanan, and Gnanavelbabu Annamalai. "Impact of nano-SiCP and nano-hBNP on the corrosion performance and fatigue behavior of Mg–Zn hybrid nanocomposites." *Materials and Corrosion* (2022). Clarivate Impact Factor: 2.003

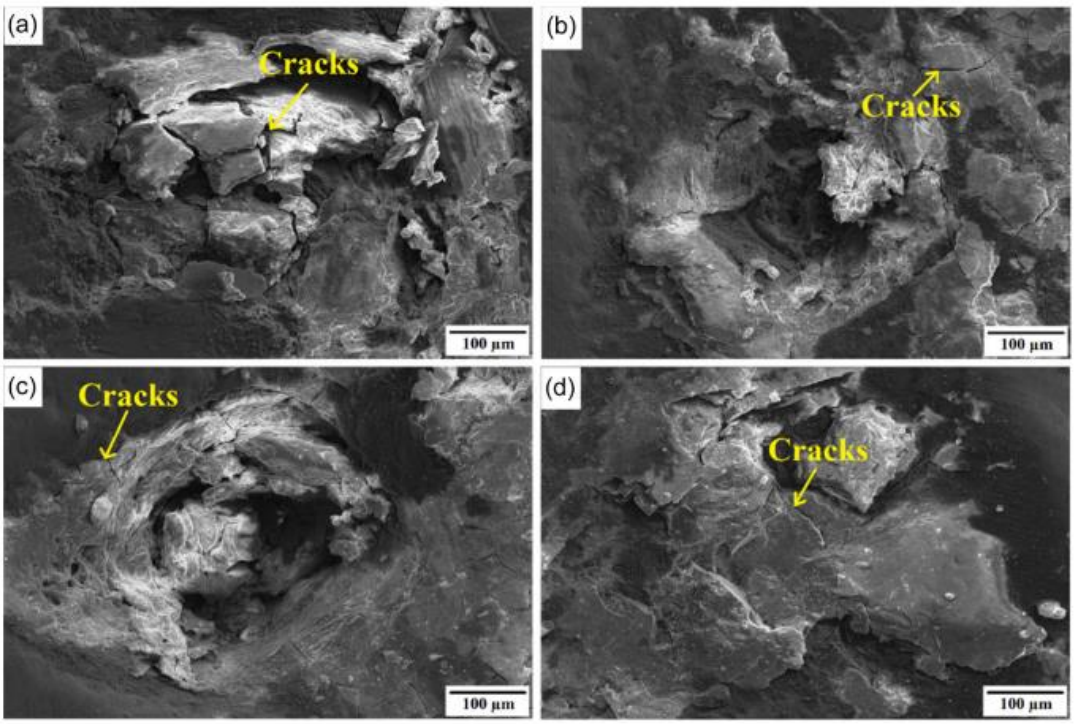


FIGURE 9 Corroded surfaces represented by scanning electron microscopy micrographs: (a) Mg–Zn alloy, (b) 1HNC, (c) 2HNC, and (d) 3HNC. HCN, hybrid nanocomposite. [Color figure can be viewed at wileyonlinelibrary.com]

International Journal Publication - SCI /Clarivate Indexed

Sharmila, B., and G. Selvakumar. "Investigations on the effect of dielectric medium and WEDM parameters on surface characteristics of Al 7068 (ordnance aluminium) alloy." *Surface Topography: Metrology and Properties* 10.3 (2022): 035031.Clarivate Impact Factor: 2.038

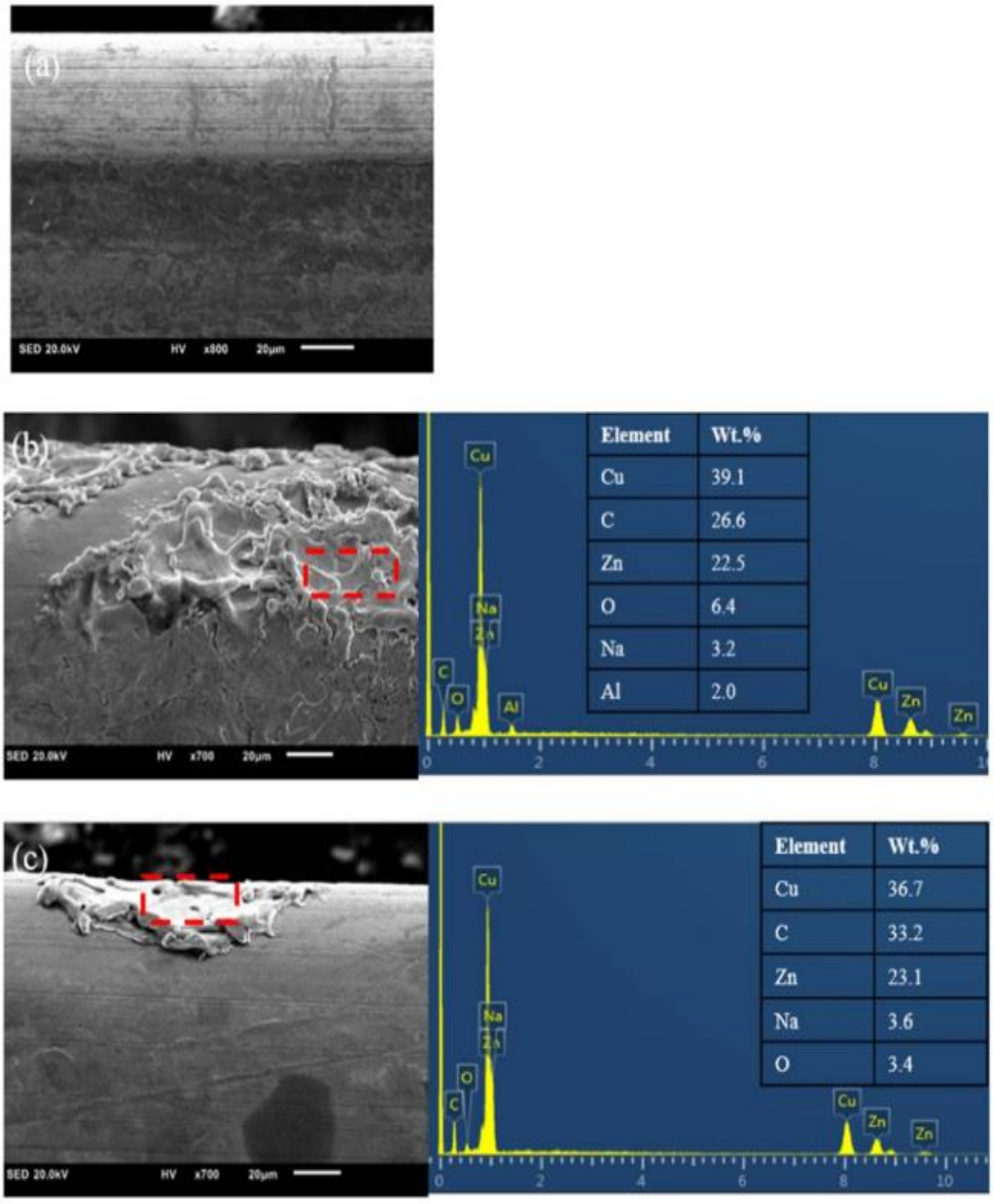


Figure 8. (a) Received condition, worn wire surfaces with EDS results of sample machined (b) with DI water (c) with EDM oil.

International Journal Publication - SCI /Clarivate Indexed

Ayyanar, S., A. Gnanavelbabu, K. Rajkumar, P. Loganathan, and K. Vishal. "Investigation on microstructure and tribological performance of zirconium boride reinforced AZ91D magnesium alloy: Effect of processing routes." *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science* (2022): 09544062221125058.Clarivate Impact Factor: 1.75

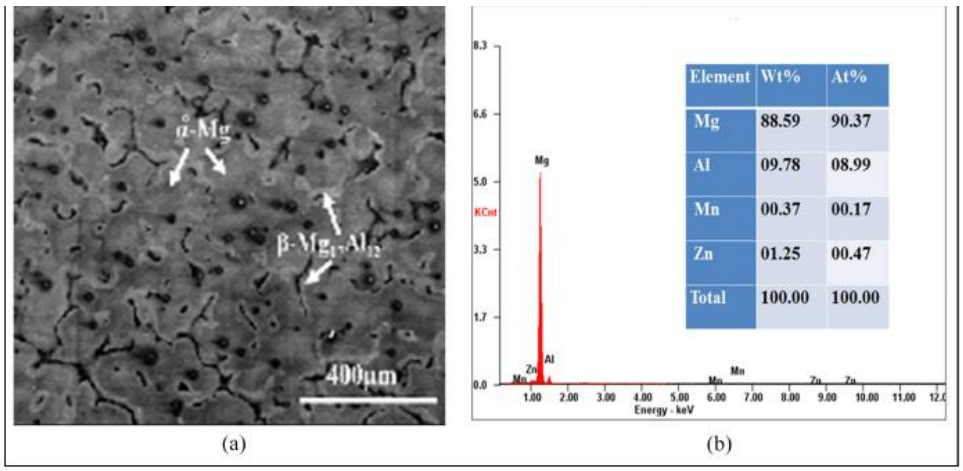


Figure 1. Microstructure and chemical compositions as received Mg alloy: (a) HRSEM image and (b) EDX spectrum.

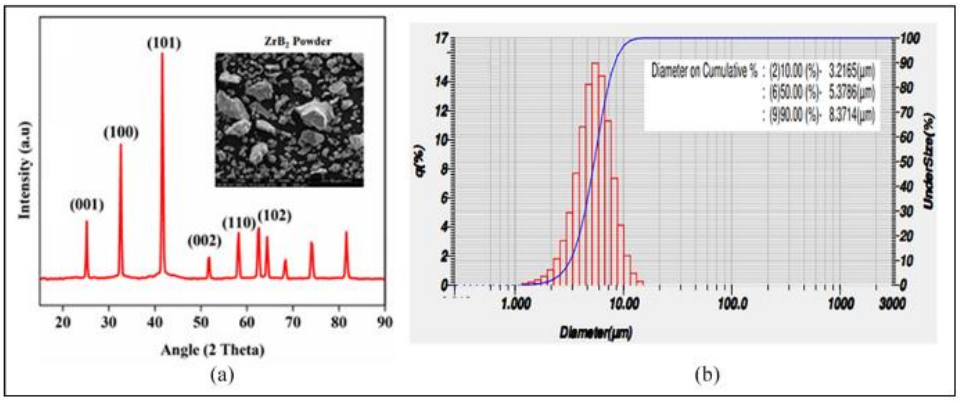


Figure 2. (a) Diffraction peaks and SEM image of ZrB_2 particle and (b) Particle size analysis of ZrB_2 particles.

PUBLICATION WITH UG PASSED OUT STUDENTS IN THE JOURNAL OF ALLOYS AND COMPOUNDS, ELSEVIER WITH AN IMPACT FACTOR OF 6.371

S.Santosh, J. Kevin Thomas, Rajkumar. K and Sabareesh A, **Effect of Ni and Mn additions on the damping characteristics of Cu-Al-Fe based high temperature shape memory alloys**, *Journal of Alloys and Compounds*, 924 (2022) 166258. https://doi.org/10.1016/j.jallcom.2022.166258


Dr. S. Santosh

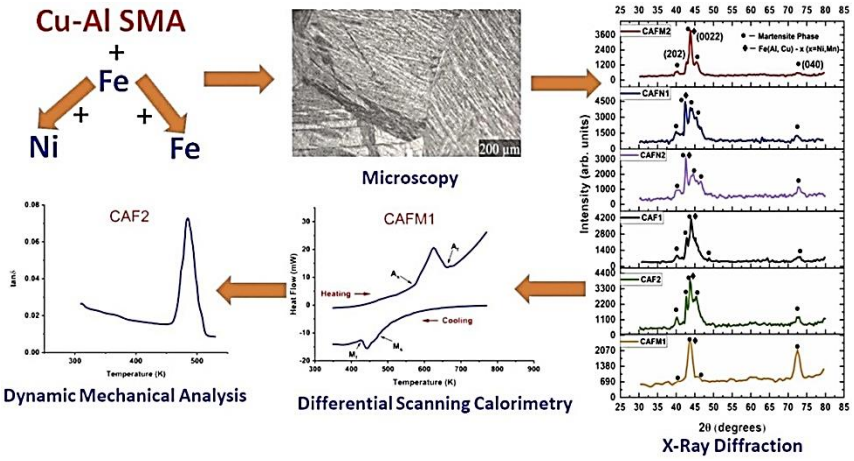

J. Kevin Thomas


Dr. K. Rajkumar


A. Sabareesh

About the work...

Shape Memory Alloys (SMAs) are smart materials that involve a transition from the martensitic phase to the austenitic phase when induced by a change in temperature or stress. SMAs have been proven to possess damping properties, which is caused by the internal friction that occurs in the martensitic phase. This work focuses on exploring the damping properties of some copper-based ternary and quaternary SMAs using Dynamic Mechanical Analysis (DMA) by calculating internal friction. The results show that the peak value of damping lies near to the martensitic start temperature of the respective alloys. The addition of quaternary elements (Ni and Mn) to the existing ternary alloy decreases the transformation temperatures, thereby decreasing the temperature at which the peak damping value occurs. The Ni-Ti alloy attains its peak value of damping at temperatures lower than the temperatures at which peak value is attained for these alloys. Therefore, the results prove that the alloys developed are promising materials for damping applications which can be used over a wide range of temperatures.



FACULTY WRITE-UP

First-Year PG Students' Orientation (Manufacturing Engg. & Energy Engg.)

- **A report by Dr. NLN and Dr. SV**

Welcome Freshers!!

We are pleased to file a brief report on the Orientation of our First Year (2022-24) Manufacturing Engg. and Energy Engg., students held on 14th October 2022 in our department. This event is a gesture of warm welcome extended to our newly joined first-year PG students. The program commenced with a Thamizthai Vaazthu, followed by a Welcome note by Prof. K.S. Vijay Sekar, HoD/Mech and introductory notes by Dr. S. Vijayan and Dr. N. Lakshmi Narasimhan about ME Manufacturing Engg. and Energy Engg., respectively.

Following that was a formal introduction of all the faculty members handling the PG courses. Dr. A. K. Lakshminarayanan and Dr. M. Suresh gave a formal outline about the First semester courses of Manufacturing Engg. and Energy Engg. respectively. The entire team of faculty members shared their best wishes to the Freshers for their upcoming two-year journey. The program ended with a National Anthem. Students after being served refreshments were taken for a department visit. We extend our sincere thanks to all the faculty members for Organizing

this program in style. We extend a Hearty Welcome to the Freshers.

Report on Elsevier Connect Program
by Dr. K S Vijay Sekar

A team from SSN attended the Elsevier connect program organized at The Park, Chennai on October 20, 2022. In attendance were Dr. S. Radha - VP, Myself, Dr. V. Rajini – HOD EEE, and Dr. G. Sethuraman, Librarian. VP made a presentation on how SSN was faring in terms of the number of publications, its quality as well as the number of citations, and why it was important for SSN to move towards higher ranked journals that fetch good citations. The program itself was designed to throw out data on the number and quality of Indian publications on the international scene, with an estimated 10 lakh publications, with an average IF of 0.93, 6.9 lakh citations, 9 lakh authors, and an average of 6.9 citations/publication over the last five years., SSN in its last 4 years has a total of 2962 articles, with 21285 citations, and 356 international collaborations with a citation impact of 0.94, but what was evident was that only 629 articles on Elsevier had garnered citations of 11,563, 154 international collaborations, and had a citation impact score of 1.91. Elsevier also presented a contrast study between SSN and other institutions and highlighted how our research strength has grown with time as reflected in the NIRF 2022 research category scores with importance given to quantity as well as quality journal publications. Dr. D. Arivudainambi, Director, University Library at Anna University gave a talk on the initiatives being considered to make research publications accessible to all affiliated institutions and how there was a possibility of one nation, one subscription template being discussed at the MHRD level. Elsevier's team also discussed the implications of NEP and how multidisciplinary research in emerging areas, scientific temperament, corporate-international collaborations, and self-sufficiency in generating funding ,were outliners for the near future.

SSN Incubation Foundation CEO visits the Mechanical Engineering Dept.

A report by Dr. KSV

Dr K. Chandran, CEO of SSN incubation visited the Mechanical department on October10th 2022, to discuss and take forward potential start-up up ideas from the Mech team. In a freewheeling chat with faculty members who have applied for patents and have incubating potential, he shared his journey and insights into the entrepreneurial world. He explained how the SSN incubation foundation was taking positive steps to convert ideas to entrepreneurial success. Our faculty members – Dr N. Lakshmi Narasimhan., Dr S Suresh Kumar, Dr G Satheesh Kumar., Dr R Vimal Sam Singh., Dr Divya Zindani, and Dr. D. Ebenezer pitched in their ideas on cruise control, automotive safety, sensors, robotics, engine efficiency improvement, bumpers, wet grinders, all of which had innovation at its heart. Some ideas he indicated can be taken from these for the next stage of incubation. In an age and time when innovation is driving technological advancements that alleviate human effort, it is only natural that the Mech team is also brimming with ideas. We hope to see some companies that ideate from the Mech team.

NON-TEACHING STAFF

10/20/2022 8:16	MR. BALASUNDARAM P / LAB ASSISTANT / MECHANICAL / COMPLETED ALISON COURSE OF Tools for working from hoGoogleggle Apps, Trello, and Zoom on14.10.2022
10/20/2022 10:2	J. Ponmuthuraja / Machinist Grade- I (Sr.grade)/ Department of Mechanical Engineering involved in Consortium Form Filling work for First Year B.E/B.Tech 2022-2023 on 21/09/2022 & 24/09/2022.

WSORG

9/29/2022 14:17	Dr. N. Lakshmi Narasimhan, ASP/Mech, and Dr. K.L. Hari Krishna, ASP/Mech, Organized a One Day National Workshop on “HANDS-ON SESSION ON CODING, SIMULATION, ASSEMBLY & TESTING OF

	APPLICATION ROBOTS" on 27.9.2022. This is part of the activities of our Institution of Engineers (IEI) Chapter in our department. This workshop was organized in association with M/s Roboram Education, Nagercoil.

FDP ATTENDED

10/25/2022 13:48	Dr. A S Ramana, Associate Professlly completed five day online FDP on the theme "Inculcating Universal Human Values in Technical Education" organized by All India Council for Technical Education (AICTE) from 19th September to 23rd September 2022.
Five-day	Five day FDP on Universal Human Values conducted by AICTE from 19th to 23rd September 2022.

SCHOLAR INFO

10/6/2022 9:47	Dr. L. Poovazhagan, ASP/Mech, conducted IV DC Meeting for his part-time research scholar, Ms. C. Gopinath, on 29.09.2022.
10/19/2022 10:53	Dr. L Poovazhagan, ASP/Mech. Attended the synopsis DC Meeting of part-time research scholar, Mr. Arun @ Department of Mechanical Engineering, UCE, Panruti.
10/20/2022 8:51	Dr. K. Jayakumar, Associate Professor, conducted the 4th DC meeting for his Ph.D. scholar Mr. K. Shine (1519299711-Part Time) on 19.10.2022 (Wednesday).
10/26/2022 12:17	Dr K.S. Vijay Sekar, Prof&Head, Mech, attended the DC meeting for a PhD scholar at Dept of Mechanical Engineering, Hindustan University, Padur on Oct 17th 2022.

PROJECT APPLIED

10/20/2022 9:46	Project Title: Wearable robot based Ambient Assisted Living (AAL) for visually impaired PI: Dr. Dhanalakshmi M/AP/ Biomed, Co-PI: Dr. Jansi SV /ASP/CSE, Co-PI: Dr. Satheesh Kumar Gopal /ASP/Mech. Total Budget (INR): 27,66,764. Funding Agency: SERB-POWER
10/20/2022 9:46	Project Title: Edge based Innovative Trap Design for Automatic Recognition and Early-Stage Detection of Rice Crop Insect Pests to Combat Biotic Stress PI: Dr. Sasirekha S /ASP/ IT, Co-PI: Dr. Joe

	Louis Paul I/ASP/IT, Co-PI: Dr. Prakash R /ASP/Mech, Co-PI: Dr. Satheesh Kumar Gopal /ASP/Mech, Co-PI: Dr. P Anandhi /ASP/TNRRI, Tanjavur. Total Budget (INR): 29,66,083. Funding Agency: SERB-POWER

EXTERNAL RECOGNITION

10/6/2022 9:52	Dr. L. Poovazhagan, ASP/Mech delivered a guest lecture on the topic of "Importance of composite materials towards engineering applications" at the department of Mechanical Engineering, Sairam Institute of Tech., Chennai on 30.09.2022.
10/19/2022 10:50	Dr. L Poovazhagan, ASP/Mech. delivered a guest lecture on "Importance of composite materials towards engineering applications" at the department of Mech., AVIT, Chennai on 18.10.2022.
10/20/2022 10:20	Dr. Satheesh Kumar Gopal delivered an invited talk on the title 'Industrial Robots: Expected Skills' in the Two-week FDP on "Robotics and Automation in industry 4.0 " sponsored by AICTE – Training and Learning (ATAL) Academy organized during October 6, 2022, to October 19, 2022, on 6.10.22, 7 PM - 9 PM IST

EVENTS ATTENDED

9/28/2022 13:13	Dr KS Vijay Sekar, Prof and Head, attended a one day "ANSYS Academic Innovation Conference" organized by Entuple technologies, Chennai on 9th September 2022.
10/6/2022 13:24	Dr. A. S. Ramana, Associate Professor attended Technologist-Industrialist Meet & Expo (TIME-2022) organized by CSIR on 30th September & 1st October, 2022 at CSIR Madras Complex, Taramani.
10/26/2022 11:20	Dr.M.Nalla Mohamed attended the train the trainer(TOT) program under the aegis of Tamil Nadu Naan Mudhalvan Scheme in Fusion 360 software organized by Centre for Excellence in Automobile Technology (CEAT), Anna University in association with M/s. Tamil Nadu Skill Development Corporation (TNSDC) and M/s. Autodesk Inc.

10/26/2022 12:24	Dr K.S.Vijay Sekar, Prof & Head, Mechanical attended a seminar titled ' Elsevier Connect" organized by Elsevier publishing house in The Park, Chennai on 20.10.2022

BOOKS

10/7/2022 15:10	Recent Advances in Energy Technologies	Dr. N. Lakshmi Narasimhan, Dr. Mahmoud Bourouis and Dr. V. Raghavan
10/7/2022 15:26	Effect of Parking Direction and Radiation Shields on the Indoor Cabin Environment of a Stationary Passenger Car: Experimental Study	N. Lakshmi Narasimhan, M. Praveen Kumar, B. Sathish, R. Sathish Kumar, V. Sivaraj
10/7/2022 15:26	Recent Advances in Materials Technologies	K. Rajkumar, Elammaran Jayamani, P. Ramkumar

OTHERS

9/30/2022 11:33	Dr. N. Lakshmi Narasimhan, ASP/Mech successfully conducted the Synopsis DC Meeting for his Full Time Ph.D. Research scholar Mr. T. Amalesh on Sep 12, 2022.

INT CONFERENCE

10/26/2022 9:48	Dr.S.R.Koteswara Rao attended an international Conference on "Additive Manufacturing Technologies AM22" at Bengaluru on 14th and 15th October 2022
10/26/2022 12:14	Vijay Sekar K S and Gobivel K, Experimental and numerical investigations in the turning of 42CrMo alloy steel, International Conference on Applications in Computational Engineering &Sciences (ICONACES 2022), VIT Chennai, 21st & 22nd October 2022.

Student Write-Up

S.NO	DATE	ACTIVITY DONE DURING THE MONTH
		SECOND YEAR
1)	08/10/2022	Raghav Subramaniam • SSNMUN- served as the chairperson of AIPPM at NPSMUN 2022 served as a chairperson at CHSVMUN 2022
2)	1/10/2022	Mithila • Wrote articles for a private blog
3)	07/10/2022	Saurabh Kumar Gupta • Two-day bootcamp on Autodesk "fusion 360 design challenge".
4)	19/10/2022	Muppalla Venkata Siri • Volunteering for Invente (hovercraft event)
5)	20/10/2022	Bhavani • Volunteering for Invente (mechathlon)
		THIRD YEAR
6)	07/10/2022	Harish S • Bootcamp on Autodesk Fusion 360
7)	07/10/22	Maalolan B • Participated in a bootcamp organized by Autodesk under 'Naan mudhalvan' scheme along and was one of the runner up in the design competition
		FINAL YEAR
8)	26/9/2022	VINAY ANGARA • Summer Research Fellowship Program
9)	25/9/2022	Sriram M • Completed NPTEL course in Product Design and Development

		and Design, Innovation and Technology
10)	30/09/2022	Naveen M • NPTEL course completion
11)	24/10/2022	SHIVANI SATYANARAYAN • Presented a paper in the conference of "Mining Youth Conclave" - part of Indian mining and engineering journal

NOW, LET US HAVE A LOOK AT THE VARIOUS STUDENT ACTIVITIES OF THE MONTH

Harish S, III-Year writes…

Learning something new is always fascinating. It doesn't matter whether you already know the concept or if you are new to it. There was a bootcamp on Fusion 360 conducted by the Department of Bio-Medical Engineering in SSN College of Engineering, which was held during 7th and 8th October. This Bootcamp introduced the participants to the basics of handing the software of Fusion 360. We were required to participate as teams comprising of 2 to 3 members. I teamed up with Maalolan B, Third Year, from the Department of Mechanical Engineering. The Bootcamp was held on a span of two days, in which the events were organized in the following way:

Day 1:

We registered for the Bootcamp and attended the inauguration ceremony, in which we were briefed on why this bootcamp is being conducted and what to expect. We were then appointed Mentors then were escorted to our venues, where we were given a brief introduction on the software and its applications. Then we were urged to get acclimatized to using the software.

Day 2:

The second day was about a mini competition between all the registered teams. The teams were urged to design 3D models and render them, as per the problem statements provided by the "Naan Mudhalvan Scheme". Our team chose to choose the topic of "Design for Healthcare" and decided to work on an MRI scanner. After 3 hours of continuous working, we were able to complete the model and render it properly. We then submitted the model on the online portal alongside a PowerPoint presentation explaining our work. Following which, officials from Autodesk corporation came to inspect our work. After their inspection was over, we were asked to report to the SSN Clocktower for a Group Picture and the Closing ceremony. During the closing ceremony, the teams with the best designs were chosen and were presented a memento. Our Hard work paid off, as we were crowned one among the Runner-Ups.

Aditya S, III-Year writes…

I have participated in the recently conducted 36th Nationals Games Championship held in Ahmedabad; Gujarat from 30-09-2022 till 1-10 2022. I participated in Roller sports games in which I won a silver medal in artistic skating under couple dance category. I participated only in one event and won silver in that event.

This was the first time roller sports was introduced in the national games and it was a proud moment for me when I participated in this competition and achieved a medal in it.

I never thought I would be able to participate in such an event due to my serious injury which happened a week before my selection for this event. But somehow I managed to perform and I was able to clear the selection and move forward to the actual competition. I wasn't even completely healed before the competition but I

worked hard with it so that I don't disappoint the people who helped me come this much in my life, so I did my best and achieved this medal. Thank you for everyone who supported me.

Nitish Aadithya L, IV-Year writes

Hello everyone! Here I have shared my selection process of Wood-PLC. The selection process of Wood was different from other companies, as it was the first company to schedule PPT to the HR interviews in the same day itself. The whole process happened Offline at our CDC. There were three rounds including:

1. General and Domain Test
2. Technical Interview and
3. HR Interview

1. Aptitude round:

a) General Aptitude:

This round had 40 questions covering questions from Quants, Verbal Reasoning, Logical Reasoning, GK questions (only 5) and Data Interpretation. A time limit of 40 mins were given to solve. The questions were not tough at the same it was not too easy. Preparation on Profit/loss, Work, time, distance, Probability will be more than enough to crack this round. Calculators were allowed to used, so time was not a constraint to finish this round.

b) Domain Test:

This round consisted of 50 questions, each carrying 2 marks. The domain test covered topics on all mechanical engineering topics such as Thermodynamics, Engineering Graphics, Fluid Mechanics, Strength of Materials, Manufacturing Technology, Automobile and Kinematics of Machinery. Revision of notes from Semester 2 to Semester 6 will be helpful to crack this round. A time liit of 1 hour was given to solve. The level of difficulty was intermediate and it was tough than General Aptitude round. For both the rounds there were no negative marking.

Around 60 people attended the above rounds and from that 14 were shortlisted for the Technical Interview.

2.Technical Interview:

The interview was based mostly on Area of Interest mentioned in the resume. Make sure the area of interest matches with the Company's Role for which they are hiring. This will create an impression that we are really interested for the role. If mentioning other areas of interest, then make sure how you will be aligning with the role they have come for. Technical questions on basics of mechanical engg. Topics were also asked. One panellist conducted the interview. The few questions as follows:

1.Tell me about yourself.

2.Questions on Valve and fittings (Since I had mentioned Hydraulics as subject, I'm good at)

3.Questions on various Flow measuring devices available

4.Questions on Pump and Compressors

5.About What you know about piping, about the job being done in the company. (Research about the company prior to the interview will help to answer)

6.Department which I was interested. (Again, knowing about the job role will help to answer)

This interview went about 20 minutes. Overall, Confident answers with good communication skills will help to crack this round. Out of 14 people they shortlisted 9 for HR Interview

3)HR Interview:

This was a short interview and the main purpose of this round was, they made sure that the candidate had no interest in Higher studies and GATE. The interviewer asked indirect questions on GATE preparation, strictly answer as "NO" to it. The interviewer asked about my whereabouts and also told me to tell any learnings about the company from PPT session. It was a very short Interview which went about 5 mins. Out of 9 people, 8 people were selected. Overall, it was a great and new Experience for us.

Mukesh M , IV-Year writeI am glad to share that I received super dream offer from Mr.Cooper (10LPA) .The process started with an offline internship (6weeks) and then followed by two coding rounds, one technical interview and finally HR discussion .

During my Internship period, I completed one IT project with a group of four people .In the first coding round there were twenty eight multiple choice questions based on aptitude and coding concepts which was followed by two coding problems. Second round is Competitive

Programming (They will give problem the statement, we should build application using OOPS concept).

In the technical interview they asked OOPS concept, data structures and implementation of the data structures with hands-on code . The selection process for the HR round is based on the Internship performance, two coding rounds and technical interview . In the HR round they asked questions based on contents present in my resume.

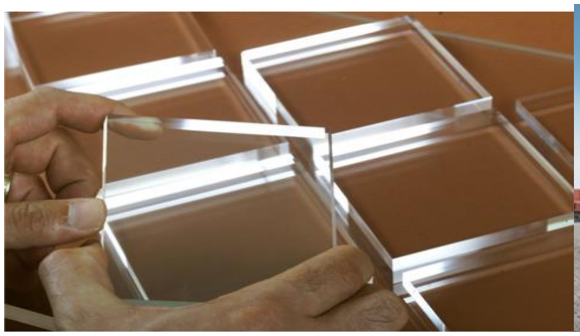
Overall, it was a great experience from attending offline internship to HR round. Thanks to Mr.Naren Sundram of MR.Cooper, alumni of our college who helped and supported us throughout this process.

Mech Marvel

Amazing Innovation 223

A metal that you can see through?

Usually known to be used for their lightness,durability and commendable strength, a new characteristic of Aluminium has been discovered.The element,now can be used to make a transparent material called Transparent Aluminium or ALON. ALON(Aluminium Oxynitride orAl2O27N5) is an optically transparent aluminium which is a crystalline substance composed of powder Aluminium powder alloys. It is manufactured by pressurizing aluminum oxynitride powder to 15,000 psi in rubber molds submerged in hydraulic fluid, later being heated to 2000 degrees Celsius and maintained at this temperature for 48 hours. After cooling,this material will become optically transparent. The material can be fabricated into rods,plates,windows, domes and other forms using the convectional ceramic powder pressing techniques. The material three times harder than steel,optically transparent and is in solid state within a temperature 1200 degrees Celsius. These properties can seemingly be used for infrared windows,bulletproof glasses,armored windows and can be used in refractories, insulators, and heat radiation plates.



Amazing Innovation 224

Wireless Charging of 8 trucks in 15 minutes.

Ideanomics passed a considerable milestone by testing the wireless charging of 8 electric trucks under 15 minutes by using their 500kW ultra fast wireless charging. The company has claimed

that installations is already underway at the Port of LA. Although wireless charging might seem to be a trivial piece of technology,it boasts the implementation of a cutting edge technology,using the principles of Electromagnetic Induction. Alternating Current passing through a wire coil produces a magnetic field that will induce a current to another coil introduced to it. Working well on a short range for charging for mobile phones, it is a a tedium in using the same technology for Electric Vehicles. The inverse law has to be countered(a magnetic field radiates in all directions, dissipating energy quickly over distance. Because of this, primary and secondary coils must be placed in close proximity for maximum efficiency.). Scientists have been travailing to find a solution to this problem,finally leading to the discovery of magnetic resonance, tweaking the resistance, induction, and distributed capacitance of the coils so they both operate at the exact resonant frequency. As a result, instead of passing from one coil to the next in all directions, the magnetic field follows a straight path. This indeed helps in wireless charging of heavy vehicles and cars. The technology can significantly improve the transportation industry, allowing customers to switch to zero-emission electric trucks without worrying about range. Heavy-duty electric trucks are a critical aspect of lowering emissions, but the charging infrastructure needs to be able to support the transition.

Alumni Write-Up

M SURAJ [BATCH 2020] SHARES…

M Suraj of batch 2020, shares his wonderful journey in SSN college and his way up to being an MBA student in Thiagarajar School of Management.

He did his schooling in St.Joseph matriculation secondary school and high school studies in the Velammal higher secondary school.

Mr. Suraj passed out SSN in the year 2020 and got placed in Emerson as the project engineer. Throughout his college days, Suraj was an inquisitive student. He actively participated in Invente-the technical symposium of SSN, and conducted the event-Robowars successfully. Moreover, to gain industrial skills, he did an internship at the Royal Enfield for a month. Additionally, he underwent Inplant training at the Rajshree Sugars & Chemicals Pvt Ltd for another month.

In addition to their passionate technical involvement, he honed the skills of Oracle, PTC Creo and Microsoft office. He worked on a design and fabrication project studying the "Performance analysis and design of frame, power and transmission system."

Academically, he was an outstanding student and was awarded a merit scholarship in 2016 from SSNCE.

Undoubtedly, with the right amount of experience, Mr.Suraj started pursuing MBA from TSM in September 2022.

He sincerely thanks the SSN faculties for laiding the building blocks for his current bright future. The roles he undertook, projects, and the baisc knowledge imbibed during his college days have definitely added wings to his abilities.

SREE MOHAN[BATCH 2019] SHARES...

Sree Mohan from batch 2019, shares his experience in SSN college from 2015 to 2019 and his journey of life till date. Let's check out what he has to say.

"Climate change is an issue which cannot be overcome by one big solution. I believe we need to make changes in every sphere of life to solve this problem. I am passionate about sustainability and am always looking to improve the efficiency of activities. My goal is to apply the knowledge and skills I have gained, to develop technologies which will help negate the damage done on our environment."

These were the lines quoted by him. It is evident through his words that it turned into actions by successfully working as an *Associate in Energy markets as a part of the Investment team in CleanCapital.*

Before that, he worked as *a DER analyst in Spruce Power for over an year in Colorado*, US. His major work included the following:

- Energy Analytics: Model Battery dispatch and optimize revenue streams such as capacity, energy, and demand response
- Research and develop internal tools for improving sales and coordination of assets
- Research and quantify effects of policy changes throughout the various markets in the US to determine corporate strategies
- Look for new investment opportunities /Markets for Spruce Power
- Due diligence on residential solar acquisitions
- Coordinate with installers and sales team to enable smooth onboarding of clients.

All this extensive work was preceded by extensive learning at the most reputed Carnegie Mellon University. He pursued *masters in Energy, Science , Technology and Policy Programme.*

The *summer intern at the Energy Ventures Analysis in Virginia, US*, helped him sail through the industrial experience and get an admission in CMU.

Moreover, his bachelor studies indeed paid great rewards and served as path to identify his interests and passion.

Sree Mohan thanks SSN faculties and owes the credit of his success to the SSN institutions and the culture of constant learning here, which proved helpful for him in all his endeavors .

Research news & Forthcoming events

Project Proposal Submission

Source: SERB Call for Proposals 2022.pdf

Programs/ Schemes		Call opening date	Call closing date
1.	Start-up Research Grant (SERB-SRG)	01-02-2022 (Tuesday)	01-03-2022 (Tuesday)
2.	Core Research Grant (SERB-CRG)	01-02-2022 (Tuesday)	18-04-2022 (Monday)
3.	Teachers Associateship for Research Excellence (SERB-TARE)	10-02-2022 (Thursday)	15-03-2022 (Tuesday)
4.	SERB-MATRICS	23-02-2022 (Wednesday)	22-03-2022 (Tuesday)
5.	Scientific and Useful Profound Research Advancement (SERB-SUPRA)	11-04-2022 (Monday)	10-05-2022 (Tuesday)
6.	Accelerate Vigyan – ABHYAAS (For Winter Events)	02-05-2022 (Monday)	31-05-2022 (Tuesday)
7.	National Postdoctoral Fellowship (SERB-NPDF)	02-05-2022 (Monday)	01-06-2022 (Wednesday)
8.	Empowerment and Equity Opportunities for Excellence in Science (SERB-EMEQ)	01-06-2022 (Wednesday)	30-06-2022 (Thursday)
9.	Science and Technology Award for Research (SERB-STAR)	15-06-2022 (Wednesday)	28-07-2022 (Thursday)
10.	Technology Translation Award (SERB-TETRA)	04-07-2022 (Monday)	03-08-2022 (Wednesday)
11.	SERB International Research Experience (SERB-SIRE)	01.08.2022 (Monday)	30.08.2022 (Tuesday)
12.	Promoting Opportunities for Women in Exploratory Research (SERB-POWER)	01-09-2022 (Thursday)	30-09-2022 (Friday)
13.	National Science Chair	01-09-2022 (Thursday)	31-10-2022 (Monday)

COMPETITIONS UPDATE

"RUN VERY FAST IN ORDER TO STAY IN THE SAME PLACE"

Article Writing Competition:

Link: Register Link

Find the CEO:

Link: Register Link

The Marketing Competition:

Link: Register Link

CORPORATE

From the desk of Ramki -– Aspire to Inspire

From the desk of Ramki -– Aspire to Inspire

Happy Morning

The difference between ordinary people who remain ordinary and those ordinary people who turn themselves into extraordinary ones is the way they deal with the failures and setbacks in life.

- At every fall the extraordinary ones refuse to remain fallen.
- They refused to quit.
- They refuse to give up.
- The refuse to accept a “No” from life.
- Their greatest glory was not in never failing, but in rising every time they fall.
- Rather than focusing on their failures, they continued to focus on their goals.

Failure is not a result, but a feedback and better way to do next time – a feed forward. Whenever you are knocked down, bounce back, learn a lesson, forget the beating and move upward. Use setbacks to propel you forward. Salvage something from every setback. Failure is only a state of mind and nothing more.

When a winner loses, he or she always comes back to be a better winner.

#WishingMostAndMore

Have a wonderful day

Have a great day

Ramakrishnan Ramamurthy

GMR Group

India

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